

SIX WICHITA BIKING EXPERIENCES: STUDYING LIVED BICYCLING
EXPERIENCES TO INFORM URBAN STREETSCAPE IMPROVEMENTS FOR
DOWNTOWN WICHITA

by

DANIELLE S. DEORSEY

A REPORT

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Department of Landscape Architecture and Regional & Community Planning
College of Architecture, Planning & Design

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Approved by:

Major Professor
Mary Catherine (Katie) Kingery-Page

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Major Professor:

Mary Catherine (Katie) Kingery-Page, Associate Professor

Committee Members:

Blake Belanger, Associate Professor

Anne Beamish, Assistant Professor

Department of Landscape Architecture, Regional and Community Planning
College of Architecture, Planning and Design
Kansas State University

ABSTRACT

Human happiness is often overlooked in urban revitalization. Many studies have proven the benefits of regular exercise for overall health and happiness. Active transportation adopted as a major form of transportation has the potential to provide similar benefits.

Wichita, Kansas, like many other mid-sized, American cities, prioritizes the car over the pedestrian. Currently, the plans for Douglas Avenue, the major thoroughfare, includes only minimal bicycle infrastructure, shared lane symbols (City of Wichita 2013). Lack of focus on the pedestrian and bicyclist only reinforces the auto-dominated downtown. Douglas Avenue is a missed opportunity and needs a re-envisioned strategy based upon current needs.

I hypothesized that better understanding the lived biking experience of Downtown Wichita would help me to develop design recommendations that address current streetscape issues as they occur in daily life. This exploratory study documents the experiences of a small group of people who bicycle in or through downtown Wichita on a regular basis.

First, participants recorded their experience visually and verbally by using GoPro cameras during a typical bike ride. Next, each participant reviewed their video with me, clarifying their comments and the overall experience. Dominant themes included: urban environment, bicycling infrastructure, road/traffic, safety and motorist behavior. The analysis of the bike rides and follow-up reflections were mapped over each participant's route to reveal positive, negative, and neutral experiences categorized by theme. Final design strategies for selected areas (determined through analysis of experiences) were then produced based upon feedback and streetscape best practices.

Bicyclists of Wichita are faced with many stressful situations during their daily routes. I have realized that downtown Wichita has more than a design problem to fix—an entire bicycle culture must be developed. I learned that while each participant was unique, they wanted the same things: safety, a pleasurable ride, and to be respected by motorists.

Not all bicyclists' needs can be answered through design; however, this proposal can help to create a safer and more pleasurable bicycling experience in downtown. An improved bicycle network provides humans with increased health, freedom to move, encourages and strengthens social connections, and provides a resilient form of transportation.

I JUST SCREAMED THERE. I HAD A FEW CLOSE CALLS UP HERE [BROADWAY]. NOT CRAZY CLOSE, BUT CLOSER THAN I AM COMFORTABLE WITH.

AH, IT'S JUST SO UGLY EVERYTHING. THERE'S NO LIFE, LOOK AT THIS, THERE'S NO LIFE IN THIS WHOLE STRETCH.

Few people walking. Not much going on.

AHH! Just almost died.

More bikes! Nobody is in the street though.

YEAH, I DIDN'T SEE PERSON BIKING IN STREET THE WHOLE

SIX WICHITA BIKING EXPERIENCES

I am going biking in construction area. This is what it should be like.

I am going to attempt to make a left turn. See, I am busy going to make the right turn. AHH! That's stressful

MY OWN LANE, HOW NICE THAT BE? LOOK AT THAT! THE PERFECT AMOUNT OF

STUDYING LIVED BICYCLING EXPERIENCES TO INFORM URBAN STREETScape IMPROVEMENTS FOR DOWNTOWN WICHITA // BY DANIELLE DEORSEY



SIX WICHITA BIKING EXPERIENCES

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IMPROVEMENTS FOR DOWNTOWN WICHITA // BY DANIELLE DEORSEY**

Master's of Landscape Architecture // Professor Mary Catherine (Katie) Kingery-Page // Spring 2015

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Finally, I would like to thank all of my wonderful family for all of their love and support. Thank you especially to my mom for being such an inspiration throughout my entire life.



Fig. 2. After work rush hour bicycle traffic in Copenhagen, Denmark (author 2014)

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MY EXPERIENCE

During the Spring of 2014 I spent seven months abroad in Copenhagen, Denmark, both studying and interning. Copenhagen is a city known for its quality of life. Denmark has ranked number one on the United Nation's World Happiness Report since its debut in 2012 and continued to hold the title in 2013. The report assesses happiness based on aspects such as healthy life expectancy, freedom to make life choices and social support (Helliwell et al. 2012). Denmark was followed by Finland, Norway and the Netherlands in 2012 and Norway and Switzerland in 2013. Denmark values their people, which can be seen through the pedestrian-oriented design of its cities (fig. 1-6).

Copenhagen is the capital and largest city in Denmark with an urban population of 1,246,611 (VisitDenmark 2013). While in Copenhagen I was able to experience and understand the roles that places have on our overall happiness. In my experience, the pedestrian-oriented built environment contributes largely to the quality of life in Copenhagen. Other unique characteristics of Denmark are health care as a basic human right, gender equality, biking as a major form of transport, trustworthiness and responsibility to others, support of parents, and attention to happiness and positivity through the Danish cultural concept of *hygge*.

The Danish term *hygge* refers to a sense of coziness that lies at the core of every Dane's idea of happiness (VisitDenmark 2013). *Hygge* is a feeling that revolves around the idea of enjoying the good things in life with good people around you. *Hygge* is a strategy that gets Danes through the harsh and gloomy winter months, which make up much of their year. Many days were spent during the winter indoors with candles and great conversation,

or out in the summer sun picnicking in one of the many public spaces within the city. Many believe that the Danish *hygge* is one of the main reasons why Denmark is home to some of the happiest people in the world. This awareness of the present and overall goal of happiness in life serves as the inspiration for my master's project.

Using the bike network was one of the most important physical experiences during my time in Denmark. The extensive and cohesive infrastructure system provided a quick and easy mode of transportation unlike most vehicular-oriented city seen in much of the United States. My bike commute to and from school is still vivid in my mind. The happiness I gained and the stress I released during this time of my day was what I looked forward to most every day. I knew that after a long day of classes or a tough review I had twenty minutes to myself while biking home, listening to life happening around me. Bicycling in Copenhagen, and through most of Denmark, is the preferred way of transport and occurs year round.

Bicyclists and pedestrians own the streets of Copenhagen. Even when there are cars present, people and bicyclists are clearly the ones in control. The cohesive biking infrastructure of Copenhagen fuels this confidence on the road. The ultimate goal of this research is to design for positive urban bicycling experiences, similar to what I experienced in Copenhagen.

Bicycling plays a very important role in my life. It continues to bring happiness to my life through its mental and physical health benefits. While in Copenhagen I was able to bicycle as my primary form of transportation, providing a lifestyle, I believe, we all deserve to experience in our own cities.



Fig. 3. Bicycling on cold, winter nights in Copenhagen, Denmark (author 2014)



Fig. 4. Rush hour bike traffic on “hipster bridge” in Copenhagen (author 2014)



Fig. 5. My neighborhood of Nørrebro in Copenhagen (author 2014)



Fig. 6. Summer jazz festival in King's Garden in Copenhagen (author 2014)

INTERFACE

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ATION

WICHITA, KANSAS

Located in South-Central Kansas, Wichita is the largest city in the state with a population of around 386,000 (fig. 7). Known as the “Air Capital of the World”, Wichita has been considered the hub of U.S. aircraft production since the 1920s. Several well-known universities and colleges are also located in Wichita, including Wichita State University. Today, Wichita is the commercial and industrial center of the state.

Vehicular transport is still the major mode of transport in Wichita. According to the U.S. Census Bureau and American Community Survey from 2008-2012, only 1.3% of Wichitans walk to work and 0.3% bike to work. (McKenzie 2014). Vehicular forms of transportation are currently highly prioritized in Wichita. For example, currently only 1% of the city’s budget for roads, bridges, sidewalks, paths and parking lots is used for bicycle infrastructure, planning and facilities (City of Wichita 2013).

Wichita, Kansas, like many other mid-sized, American cities, prioritizes the car at the cost of the pedestrian. In Wichita, lack of emphasis on bicycling may prevent an increase in bicycling as a major form of transportation, since it is widely known that inadequate bicycling infrastructure causes a sense of feeling unsafe in streets, which ultimately prevents cycling (Cripton 2009).

Wichita, Kansas is beginning to implement the bicycle infrastructure called for in the city’s ten-year bicycle master plan (City of Wichita 2013). The city plans to implement some form of bicycle infrastructure in the Downtown area (fig. 8-10). Douglas Avenue is a major vehicular thoroughfare between the



Fig. 7. Downtown Wichita boundary (aerial image from Google Earth)

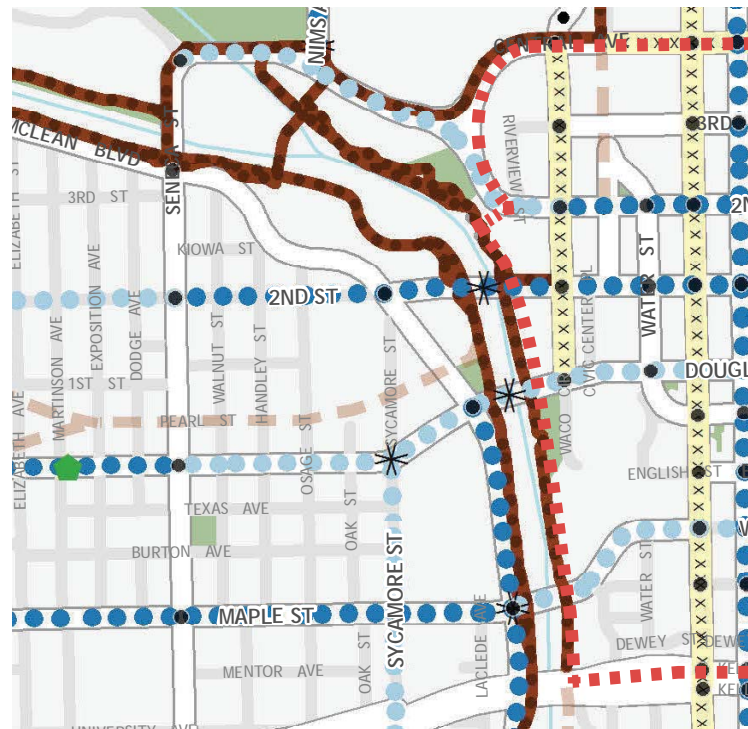
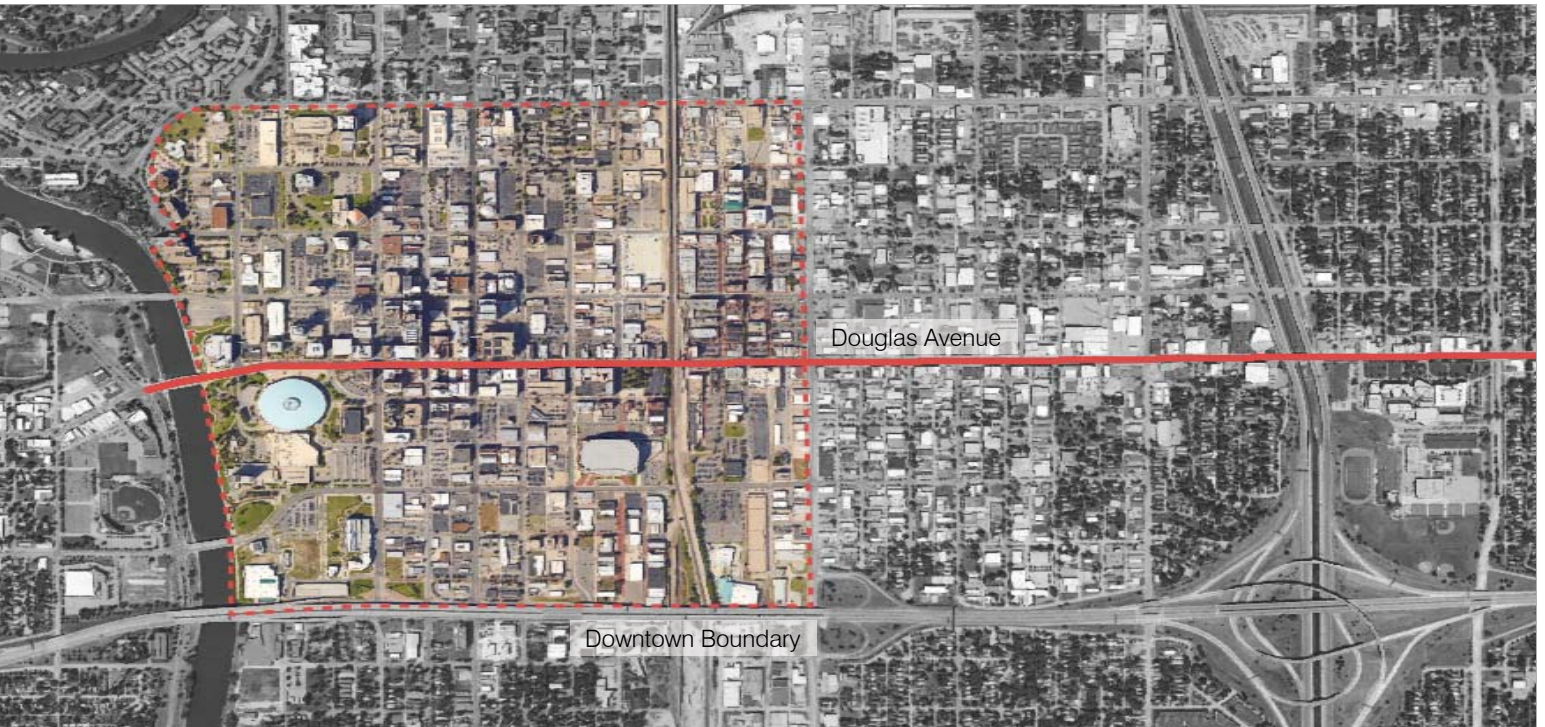
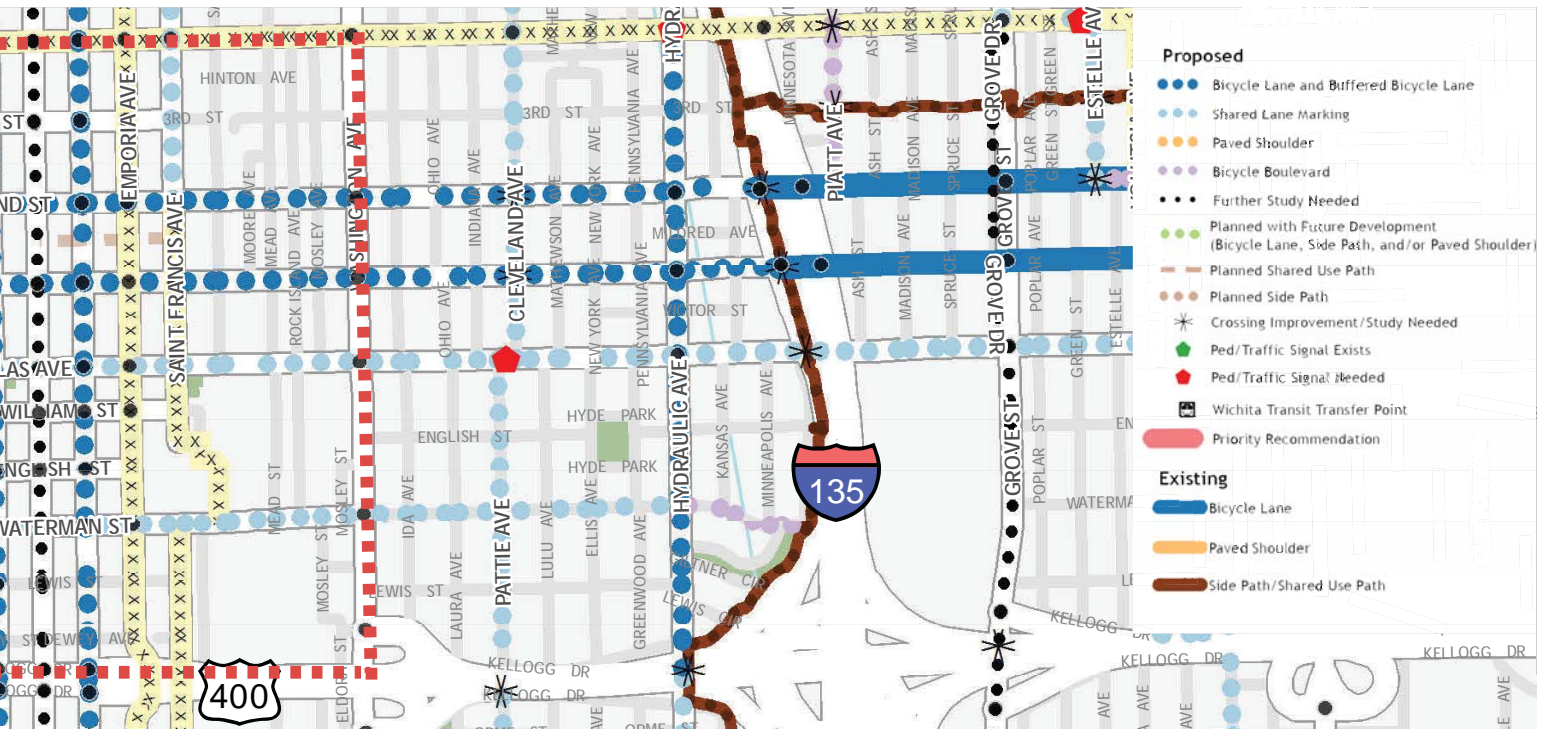


Fig. 8. Downtown Wichita bike plan (City of Wichita 2013)



adapted by author (2015)



east and west sides of downtown Wichita, Kansas, and has been resurfaced and improved over the past few years. Douglas Avenue is one of the main transit streets in the existing bus transit system with close proximity to the Downtown transit center located a block south on William Street. Douglas Avenue is also home to amenities in the downtown area such as a wide variety of dining and retail.

Currently, the city has planned only minimal bicycle infrastructure for Douglas Avenue, such as shared lane symbols painted on the street, and no dedicated bicycle space. This lack of focus on the pedestrian and bicyclist only reinforces the auto-dominated downtown core.

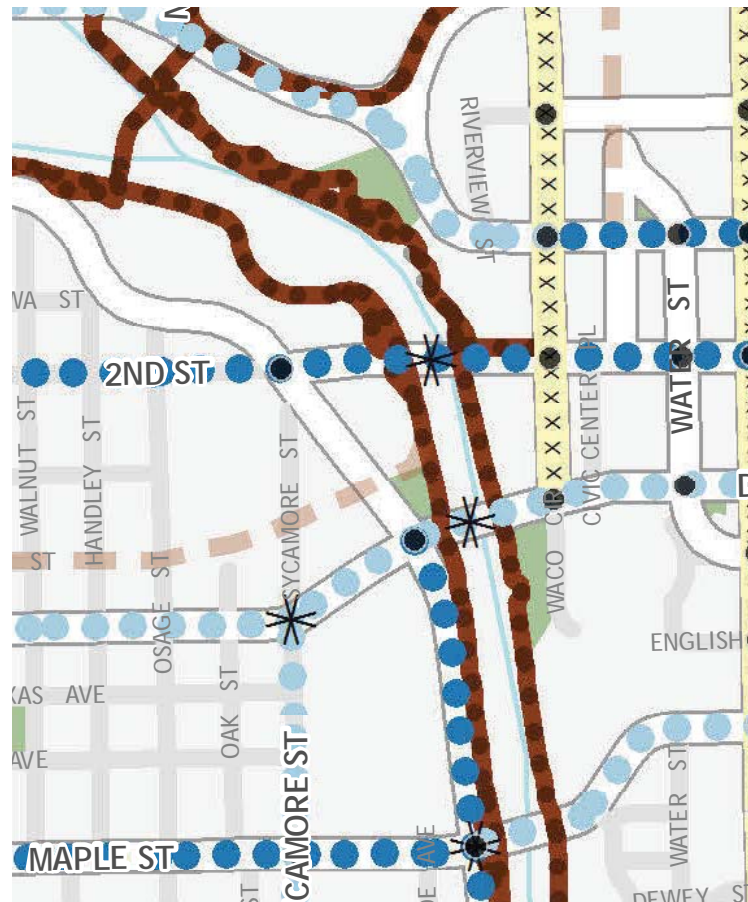


Fig. 9. Douglas Avenue within the bike plan (City of Wichita 2013)

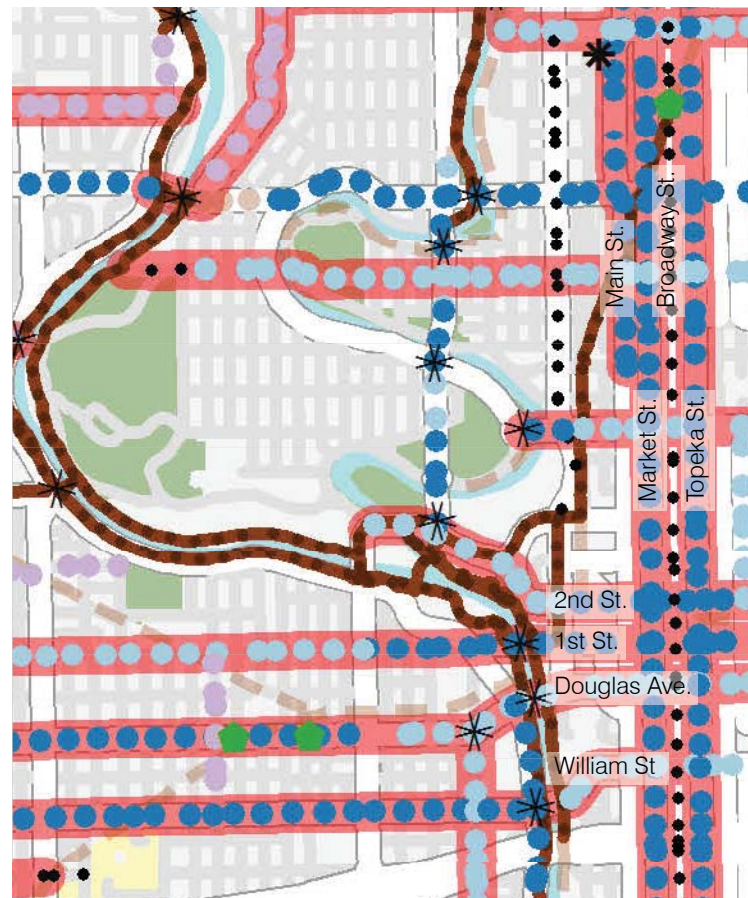
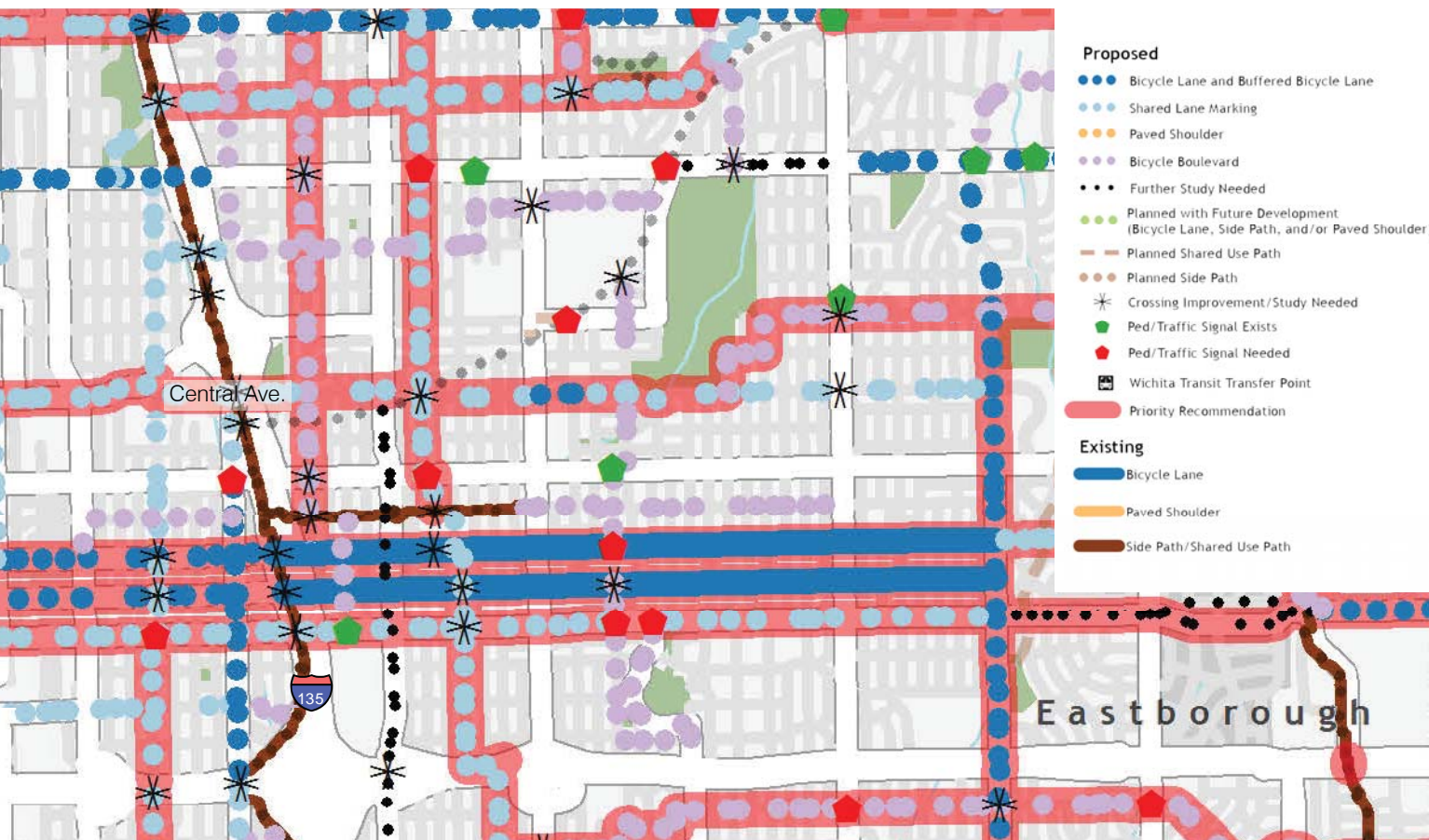
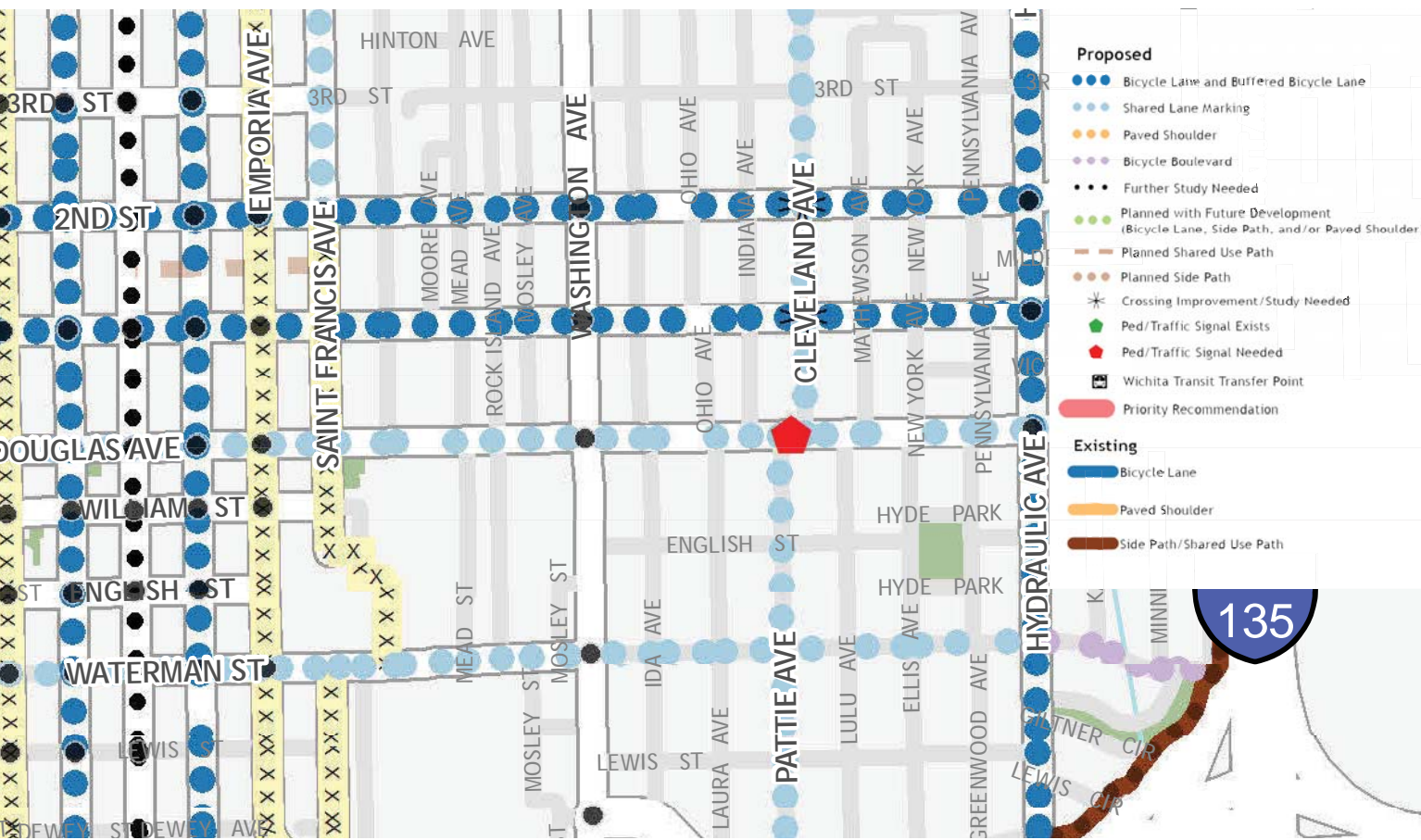


Fig. 10. Prioritized bike plan in downtown (City of Wichita 2013)



DILEMMA

Because Douglas Avenue is a major corridor through downtown Wichita, Kansas, it is an important part of many regular bicycle commuters' daily routes. The master plan aims to redirect the bicycle traffic from Douglas Avenue to the two one-way streets located north of Douglas, 1st and 2nd Streets. This strategy to keep bicyclist off the main thoroughfares, many planners believe, is what bicyclists want. However, through studies of best practices (NACTO 2015) and personal experience, the bicyclist wants the same things as a vehicular driver—they want to get from A to B quickly and directly. It is a lot to ask of a bicyclist to go two streets to the North, and possibly out of the way, in order to safely bike across downtown.

The current streetscape design proposal of Douglas Avenue plans to provide only minimal bicycle infrastructure. This made me question whether planners were designing based on real user's experiences and needs downtown and motivated me to create new design proposals that were a direct result of bicyclists' experiences.

THESIS

A deeper understanding of the bicyclist's current experience is needed in order to make the downtown core more bicycle friendly and encourage increased bicycling. I hypothesize that gaining an understanding of the biking experience of Downtown Wichita will help me to develop streetscape design recommendations for a better bicycling environment. This study explores the current lived experiences of five regular bicyclists (as well as my own, first person experience) and utilizes these experiences as a tool to re-envision two urban streetscapes in downtown Wichita.

RELEVANCE

As many cities develop and implement Bicycle Master Plans, they are often comfortable with providing minimal infrastructure such as shared lane markings due to cost limitations. It is important to provide the proper infrastructure bicyclists need on a daily basis in order for bicycling to become a major form of transportation and to encourage new bicyclists.

While the overall attention to bicycling in Bicycle Master Plans is positive, the city could do more. Safety is one of the most important determinants in daily bicycling. Unsafe biking environment leads to a lack of people willing to substitute regular trips made by vehicles. The more visibility of regular bicyclists seen on the roads provides a sense of safety and has proven to result in more participation in regular bicycling (Cripton 2009).

While local bicyclists' opinions were incorporated into the Wichita Bicycle Master Plan through public meetings, focus groups, online surveys, and interactive maps, a deeper understanding of the current biking experience is imperative to designing a safer, more enjoyable bicycling experience in Downtown Wichita. This study aims to better understand the current bicycle experience of a small group of participants' who regularly bike downtown.

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BICYCLE FUTURE

The Wichita Bicycle Master Plan has already adopted a prioritized bicycle infrastructure plan. Douglas Avenue is planned to implement minimal bicycle infrastructure, such as shared lane markings and forcing the bicycle traffic north, to First and Second Streets. Both First and Second are one-way streets and will provide a safer bicycle route with painted bicycle lanes. However, this strategy diverts cyclists away from the high retail and amenity activity on Douglas Avenue. The future streetscape plan provides planted medians along most of Douglas Avenue (City of Wichita 2012). The space allotted for medians could easily be redistributed for improved bicycle and pedestrian infrastructure.

While Wichita currently provides little bicycle infrastructure, the Wichita Bicycle Master Plan is a promising, ten-year, master plan for \$12.5 million dollars of improvements that began in 2013. The master plan provides three goals with benchmarks to achieve the bicycling city vision. According to the Wichita Bicycle Master Plan (2013) these goals include:

1. Increase the amount of bicycling in Wichita: triple the amount of bicycling in Wichita over the next ten years.
2. Improve the safety of bicyclists in Wichita: reduce the rate of bicycle crashes by one third over the next ten years.
3. Foster and promote a culture where bicycling is a viable and acceptable form of transportation: increase by 50 percent the percent of survey respondents rating ease of bicycle travel in Wichita as “excellent” or “good”.

Along with goals, the master plan provides

a series of strategies to achieve plan vision, goals, and objectives, along with a set of actions for each strategy. Strategies are broken down into sections including the bicycle network; education and encouragement; policies, funding and staffing; and accountability and performance measures. These strategies according to the Wichita Bicycle Master Plan (2013) include:

The Bicycle Network:

- Provide bicycle facilities on designated streets and off-street bicycle facilities.
- Install a Signed Bicycle Route Wayfinding System.
- Improve bicycle safety and access at arterial roadway crossings.
- Improve bicycle access to transit stops and stations.
- Increase the availability of bicycle parking throughout Wichita.
- Determine if a bike share program would be good for Wichita.
- Prioritize and fund bicycle facility maintenance.
- Incorporate the facility recommendations from this plan into the WAMPO Metropolitan Transportation Plan and other related plans.
- Provide printed, online, and mobile device bicycling guides.

Education and Encouragement:

- Educate Wichita transportation system professionals and users about new bicycle facility types, planning, design and bicycle-related issues that may arise.
- Promote bicycle education and encouragement in Wichita through partnerships with community organizations and businesses.
- Support efforts to obtain funding for bicycle

- education and enforcement programs.
- Increase enforcement of bicyclist and motorist behavior to reduce bicycle and motor vehicle crashes.
- Work with school districts to develop collaborative partnerships to encourage children to bike to school.
- Coordinate increased participation in bicycling events.
- First achieve the League of American Bicyclists' Bicycle Friendly Community bronze and then silver status designation.
- Work with area businesses and colleges to engage them in the League of American Bicyclists' recognition program.
- Enlist opinion leaders in promoting bicycling.
- Engage area businesses in using bicycles in their advertising and other promotions.

Policies, Funding and Staffing:

- Adopt policies to ensure that the City's project planning and review processes account for bicycle facilities.
- Update the Unified Zoning Code to provide encouragement for both office and retail developments/redevelopments to provide secure and conveniently located bicycle parking.
- Create a policy for installing bicycle facilities that are isolated segments.
- Create a policy for reserving space for future bicycle facilities.
- Prioritize funding to complete gaps in the bikeway network.
- Fund through CIP, annual programs and grants.
- Allocate staffing to implement this plan.
- Accountability and Performance Measures
- Create a bicycle advisory board.
- Update the bicycle master plan on a regular basis.
- Publish an annual implementation work plan.

Other documents related to improvements regarding Wichita's urban bike network include:

- WAMPO Metropolitan Transportation Plan 2035
- Project Downtown: Downtown Master Plan
- Wichita Parks, Recreation, and Open Space (PROS) Plan
- Wichita-Sedgwick County Comprehensive Plan

Current planning and design focuses on First and Second streets in downtown Wichita. Bicycle lanes will extend the existing lanes from I-135 to the Arkansas River. Bike lanes on Second Street will also extend from the Arkansas River to Hoover. While many other American cities are providing quick, cost effective design strategies to implement an increased bicycle culture in a matter of years, Wichita's plan lacks a strong vision that tests the boundaries and capabilities the downtown core area. Replacing short vehicular journeys in urban areas with active transportation, walking and bicycling, can help to reduce traffic congestions, increase mental and physical health, improve the urban environment and also contribute to a reduction in carbon emissions (Pooley et al. 2011).

Because of its central location and context, Douglas Avenue has the opportunity to act as a catalyst for urban biking throughout the rest of the city and state. As studied by my colleague Steven Holt in *Using Urban Triage to Plan for Walkability*, a continued development focus along Douglas Avenue and specifically throughout the Old Town district would provide the largest benefit to the city of Wichita based upon the study of its relationship to urban anchors, the quantity of existing amenities, and existing urban fabric studies (2015).

DOUGLAS AVENUE POP-UP PARK

The Wichita Downtown Development Corporation (WDDC) was recently awarded a Knight Foundation grant to temporarily develop a vacant parcel of privately-owned property located on Douglas Avenue.

Located between Main Street and Market Street, this site has the potential to act as a catalyst for urban revitalization. Locally known as the hole on Douglas”, this site has been an eyesore in the downtown landscape for many years. Ever since development plans were derailed, the site has been vacant.

The Creative Placemaking research team, under the leadership of Katie Kingery-Page, worked to develop a design for the Douglas Avenue Pop-Up Park during a day long charrette with local architects, downtown residents, developers and other stakeholders on January 16, 2015 (fig. 11-13). The park is planned for three to five years duration with the hopes to move it to another location afterwards. The site is intended to create a place for public and community gatherings and activities as well as serve as a place for local food truck vendors during lunch time hours. The project is intended to break ground in the spring of 2015.

Our research team includes Master's of Landscape Architecture students Rachel Fox, Abby Glastetter, Steven Holt, and Nick Mercado. Fox's research developed a typology of temporary landscapes, Glastetter focused on placemaking for socially resilient site design, Holt used the concept of urban triage (Speck 2012) to plan for walkability, and Mercado's research focused on public light art. Together we worked to develop a conceptual site design during the charrette

and Mercado and Glastetter worked to further develop the site plan following the charrette.

The Douglas Avenue Pop-Up Park project helped to determine my project scope. Knowing that there was interest and investment in public spaces along Douglas Avenue and realizing the lack of planned pedestrian and bicycle infrastructure called for in the city's Downtown and Bicycle Master Plan indicated there was an opportunity for future research.

My individual master's project uses an exploratory, phenomenological study to provide an alternative series of design recommendations that challenges and expands the existing bicycle master plan for downtown Wichita.



Fig. 11. Site visit of future pop-up park site in downtown Wichita, Kansas (WDDC 2015)



Fig. 12. Engaging with local professionals during charrette in Wichita (WDDC 2015)



Fig. 13. Engaging with local residents during charrette in Wichita (Kingery-Page 2015)

CREATIVE PLACEMAKING

Many American cities have been struggling with issues of revitalization for years. Pop-up parks and other forms of temporary landscapes are currently being used to ignite revitalization. Creative placemaking is a strategy that focuses on the arts and culture of a place in hopes of revitalization. Rather than proposing an arts center or cultural institution, creative placemaking “envisions a more decentralized portfolio of spaces acting as creative crucibles” (Markusen 2010, 3). According to the National Endowment for the Arts (NEA), “creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired” (Markusen 2010, 3).

Ronald Lee Fleming, a researcher and expert on urban design, public art, historic preservation, and environmental education, believes urban spaces can be revitalized through creative initiatives. Placemaking, he argues, has the power to produce unique experiences and inspires imagination. Most contemporary placemaking work has successfully focused on creating a sense of place. Neglected urban spaces, or “dead spaces,” however, still exist due to lack of connection to the place or urban design trends that failed to plan for public space. Four urban design objectives (Fleming 2007, 19-21) need to be addressed when reclaiming these dead spaces:

- Orientation – Research that reveals the layers of meaning, and relates the content to the community; some accessible clue to the meaning
- Connection – Incorporating meaning in a

holistic way throughout the design; ability to bind a site together through visual and conceptual relationships

- Direction – Visual clarity among placemaking elements allowing the visitor to navigate the space
- Animation – How varied uses and activities can result, and surrounding spaces become further complex

Placemaking strategies should aim to provide inspiration and unique experiences for users. Fleming writes, “Placemaking, then, seeks to create conditions in which culture and art are not separated. The objective is to construct procedures that can nourish and sustain place” (Fleming, 2007, 28). Public art is one type of temporary installation that can have a potential influence on forming a sense of place. These can be in the form of small-scale, site-specific installations that engage people’s imagination and exploration within the surrounding region’s history, culture, and geography. In doing so, we allow the underlying meanings of public space to be restored and made apparent to the public, which restores a vision of place (Fleming 2007).

This project aims to apply creative placemaking theories to current urban streetscape conditions in order to develop strategies and recommendations for better bicycle infrastructure.

URBAN DESIGN RE-FOCUSED

Streets are a powerful element in cities, able to influence the way people experience spaces. The automobile changed how people use and move through cities. Cities as we know them today are designed around vehicular movement rather than pedestrian movement. However, it was not always this way. In the past movement was conducted primarily by foot or bicycle. Jan Gehl is a world-renown Danish architect and urban designer who specializes in pedestrian-oriented research and design. He is well known for his pedestrian focused city improvement projects including: Copenhagen, Stockholm, Seattle, New York City, and many others. Gehl argues that cities and public spaces serve three primary uses: a meeting place, a marketplace, and a traffic space (Gehl and Gemzøe 2003). With the introduction of personal vehicles in the beginning of the 20th century Gehl writes, "Transportation patterns changed dramatically... New patterns of traffic, trade and communication were so radical that they interrupted centuries of tradition as to how people used the city" (Gehl and Gemzøe 2003, 13).

After World War II vehicular traffic began to develop even more, causing streets to change entirely. City marketplaces, which consisted of trade from open booths, were now moved to small shops along the streets and eventually to larger stores and malls. Print and electronic news media provided people with an endless stream of information about their communities and world. There was no longer a need to rely on people or places to obtain this information. This indirect communication created a separation from the existing town center and social

street life. There was no longer a need for such an area to exist. The city's traditional role as a meeting place changed completely.

Copenhagen serves as a model not only for pedestrian-oriented design, but also bicycle-oriented design. As one of the best biking cities in the world, Copenhagen proves that it is possible push back the shift towards vehicular dominated cities and return to the bicycle as a major form of transportation. It also proves that adopting the bicycle as a major form of transportation has the ability to have a large effect on the quality of life in a city. In Copenhagen 50% of all citizens commute by bike every day (VisitDenmark 2013).

In the United States, New York City (NYC) is currently one of the major cities transforming its street culture towards more pedestrian-oriented spaces. With the help of the New York City Department of Transportation (NYCDOT), NYC is showing the world that a bicycle network and culture can be both quick and cost-effective through the use of simple elements and design. However, NYC's streets did not always used to be this way. The streets of NYC were like many seen across the United States, vehicular dominated and provided only minimal pedestrian infrastructure.

Under the leadership of Mayor Bloomberg from 2002-2013, NYC initiated street redesign projects to create complete streets. According to Project for Public Spaces, "With multiple goals such as cutting annual traffic fatalities, treating streets as public spaces, increasing bicycle commuting, and implementing a system of rapid bus lines,

many of those transportation projects can be described as a quick-action approach using paint and temporary materials (as opposed to traditional construction methods) to implement complete streets (Morlet 2015).

The desire to create lively, pedestrian-oriented urban spaces and transportation is beginning to be seen in cities across the United States. A few of these cities include New York City, Seattle and Portland. However, these design concepts have been an integral part of many European cities for quite some time. Gehl writes, “The policy of pushing back cars and giving urban life better conditions continues to be a European phenomenon primarily, but it is interesting to note that corresponding urban policy strategies can now be found in cities in North and South America, Asia, and Australia” (Gehl and Gemzøe 2003, 13).

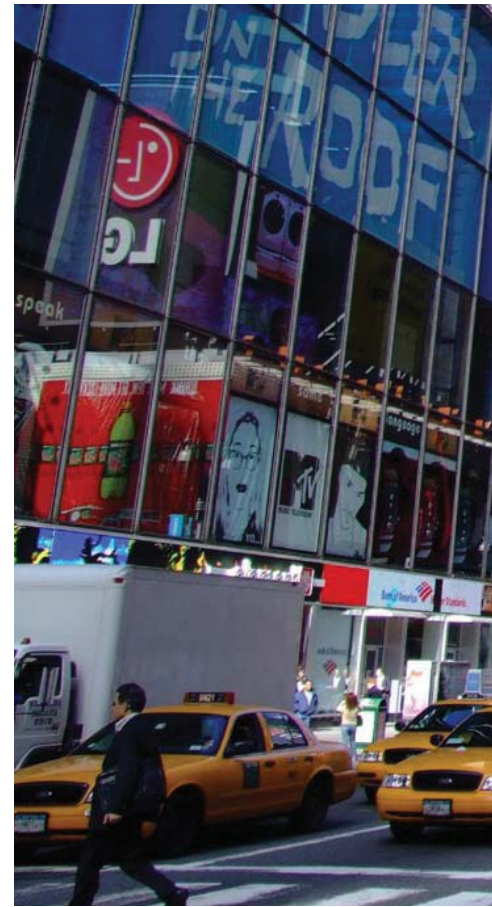


Fig. 14. Times square in NYC before it

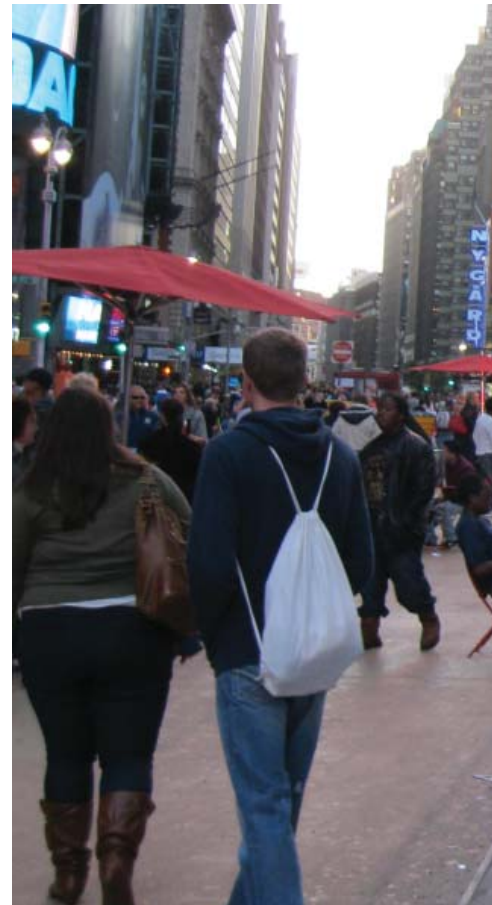


Fig. 15. Times square flooded with



was pedestrianized (New York-Times Square 2015)



people now that only limited vehicular traffic is allowed (Kingery-Page 2012)

LITERA

REVIEW

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HAPPINESS BY DESIGN

The goal of landscape architecture is to protect public health, safety, and welfare. The Council of Landscape Architectural Registration Boards, CLARB, defines public welfare as follows, “public welfare rests on the well-being of the natural world. Public welfare in the context of landscape architecture means the stewardship of natural environments and of human communities in order to enhance social, economic, psychological, cultural and physical functioning, now and in the future” (CLARB 2014). This project aims to assist the city of Wichita, Kansas to improve the urban bike network in the downtown core of the city to increase the public health, safety, happiness and welfare of its residents.

An understanding of happiness is important in order to design for happiness. Happiness, however, is not simply defined. Psychologists define happiness, or subjective well-being, as “a combination of life satisfaction and having more positive emotions than negative emotions” (PBS 2011, 1).

Happiness can also simply be considered the absence of misery. Since happiness is so subjective, measuring it has also been a topic of debate for decades. The three things that nearly all theories have in common include (PBS 2011):

1. Happiness is made up of pleasure, engagement, and meaning;
2. It involves both daily positive emotions and a global sense that life is worthwhile;
3. And people can accurately report their own levels of happiness.

Montgomery writes, “One thing is certain: we all translate our own ideas of happiness into form. It happens when you landscape your garden or choose where to live... It is impossible to separate the life and design of a city from the attempt to understand happiness, to experience it, and to build it for society. The search shapes cities, and cities shape the search in return” (Montgomery 2013, 18).

As stated above, happiness cannot be compressed into a simple definition. Happiness is also frequently referred to as subjective well-being (SWB). When it comes to urban revitalization, human happiness is often overlooked. Happiness is a term that is rarely used within the design world and is seen more within the fields of neuroscience, psychology and anthropology. According to the World Happiness Report of 2013, “... mental health is the single most important determinant of individual happiness... About 10% of the world’s population suffers from clinical depression or crippling anxiety disorders.” (Helliwell et al. 2013, 4). Cities in which we live play a large role in our overall happiness (fig. 16).

The science of happiness is not a new topic of study. Philosophers have studied the science of happiness since the ancient insights of people such as Buddha and Aristotle. However, the correlation between urban design and happiness is a fairly new topic. Charles Montgomery’s book entitled *Happy City* begins the conversation of how urban design affects societal happiness and claims that, “The city itself could be a device for happiness. Life could be improved, even

amid economic doldrums, by changing the shapes and systems that defined urban existence” (Montgomery 2013, p. 6). Charles Montgomery is both a writer and an urbanist whose book intersects the findings from fields of psychology, neuroscience, urban planning, and social experimentation with urban design theories. He uses this strategy to make a case for retrofitting our cities for happiness in order to face the current problems we see within our urban environments.

Adopting active transportation as a major form of transportation also has the potential to increase our happiness. The Danish Philosopher, Søren Kierkegaard writes, “Above all, do not lose your desire to walk. Every day I walk myself into a state of well-being and walk away from every illness. I have walked myself into my best thoughts, and I know of no thought so burdensome that one cannot walk away from it” (Kierkegaard, quoted in Gehl 2010, v). Montgomery believes that the same is true of cycling. He writes, “...cyclists report feeling connected to the world around them in a way that is simply not possible in the sealed environment of an automobile or a bus or a subway car. The journeys are both sensual and kinesthetic” (Montgomery 2013, 184). Only recently has this happiness or well-being begun to drive the urban transformations of cities. However, there is an urgent need for more data, research and experiments.

Happy City looks at all the reasons why our cities are decreasing or ignoring our happiness as well as examples of cities truly taking happiness into consideration when revitalizing or planning a city.

While we often hear of how the automobile ruined American cities, it is not necessarily the whole problem. In Jane Jacob’s book,

Death and Life of Great American Cities, “Automobiles are often conveniently tagged as the villains responsible for the ills of cities and the disappointments and futilities of city planning. But the destructive effects of automobiles are much less a cause than a symptom of our incompetence at city building” (Jacobs 1961, 7). Jacobs was one of the first activists for human-scaled cities.

The built environment has the power to evoke happiness as well as suppress our happiness. According to Alain de Botton, philosopher and author of *The Architecture of Happiness*, “Our sensitivity to our surroundings may be traced back to a troubling feature of human psychology: to the way we harbor within us many different selves, not all of which feel equally like ‘us’, so much so that in certain moods, we can complain of having come adrift from what we judge to be our true selves” (De Botton 2006, 106). He also writes, “We depend on our surroundings obliquely to embody the moods and ideas we respect and then to remind us of them. We look to our buildings to hold us, like a kind of psychological mold, to a helpful vision of ourselves. We arrange around us material forms which communicate to us what we need—but are at a constant risk of forgetting we need—within. We turn to wallpaper, benches, paintings and streets to staunch the disappearance of our true selves” (De Botton 2006, 107).

Since this report is grounded in the idea of cities acting as a device for happiness and providing a better quality of life based upon current needs, it is important to understand the ideas of urban happiness. According to Montgomery (2013, 43), the basic recipe for urban happiness means that the city should:

1. strive to maximize joy and minimize hardship
2. lead us toward health rather than sickness
3. offer us real freedom to live, move, and build our lives as we wish
4. build resilience against economic or environmental shocks
5. be fair in the way it apportions space, services, mobility, joys, hardships, and costs
6. enable us to build and strengthen the bonds between friends, families, and strangers that give life meaning, bonds that represent the city's greatest achievement and opportunity

The urban happiness recipe is drawn from the insights of philosophers, psychologists, neuroscientists, and happiness economists. It addresses what a city should accomplish after it meets humans basic needs of food, shelter, and security. Active transportation systems such as urban bicycling networks easily fit into this recipe, providing humans with increased health, freedom to move, encourages and strengthens social connections, and provides a resilient form of transportation.



Fig. 16. Popular rock



climbing wall in Copenhagen, Denmark (author 2014)

ACTIVE TRANSPORTATION

Human happiness and well-being is often overlooked in urban revitalization. Many studies have proven the benefits of regular exercise on our health and happiness. Specifically looking into the benefits of endorphin release during exercise, according to the British Medical Association (BMA), “Research has suggested that stimulating the body helps the brain to release endorphins, which can lift mood in the same way as helpful psychoactive drugs can” (BMA 1992, 26). Active transportation adopted as a major form of transportation has the potential to provide similar benefits. Cities are dominated by automobiles and pedestrian-oriented design is only now beginning to become a part of the urban revitalization conversation.

Jeff Speck’s book entitled *Walkable City* looks at what is wrong with American cities and how to fix it, but it is not necessarily an argument for more planning. He writes, “How can [Providence, Grand Rapids, and Tacoma] these typical cities provide their citizens a quality of life that makes them want to stay? While there are many answers to that question, perhaps none has been so thoroughly neglected as design, and how a comprehensive collection of simple design fixes can reverse decades of counterproductive policies and practices and usher in a new era of street life in America” (Speck 2012, 5). Speck argues that bringing people together on foot is what cities do best, but we have lost track of this togetherness.

It is easily understood and widely proven that regular exercise is beneficial for our physical health, however, the mental health

benefits of regular exercise are dramatically less documented and are harder to evaluate. According to the BMA, a review of the subject drew three relevant conclusions. These conclusions include: 1. There is evidence for both acute and long-term changes in brain monoamine turnover with exercise. 2. There may be acute but not chronic changes in opioid peptides in the brain with exercise. 3. The benefits of exercise for treatment of depression may occur as a result of social interaction rather than any specific physiological effect (BMA 1992, 25). While much of the research is geared specifically how regular exercise affects mental health, active transportation, when implemented correctly, could serve as a substitution for regular exercise.

The link between endorphin release and exercise is one that can be very applicable to active transport benefits. Endorphins are a substance produced by our brains that have a calming effect (BMA 1992, 26). BMA writes, “Research has suggested that stimulating the body helps the brain to release endorphins, which can lift mood in the same way as helpful psychoactive drugs can. It has been suggested that aerobic exercise may be as good as drug therapy in mild to moderate cases of depression” (BMA 1992, 26).

BICYCLING AS TRANSPORTATION

Bicycling has the potential to improve both health and environmental issues. Even with benefits such as improved fitness and reduced air pollution, noise and greenhouse gases that are associated with travel, biking in many cities still face challenges. Terrain, weather, and lack of a cohesive network can be major obstacles; but, safety and lack of infrastructure have proven to be two of the largest barriers to a successful urban bike network.

While safety proves to be an issue, physical inactivity in the long run can also serve to be detrimental to our health. According to Cripton, “There are significant economic costs of physical inactivity, and benefit-cost analyses suggest that the benefits of increased cycling are worth approximately four to five times the costs of investing in new cycling infrastructure” (Cripton et al. 2009, 2).

While lack of infrastructure causes a physically unsafe environment, a lack of bicyclists can also cause a perception of a lack of safety. Cripton writes, “It is likely that public perception of a lack of safety acts as a deterrent to cyclists in North America: in surveys asking about factors that affect the choice of cycling as a mode of transportation, concern about safety is one of the most frequently cited deterrents” (Cripton et al. 2009, 4).

Increased ridership rates can be improved by simply improving safety and connectivity of urban bike networks. Cities are beginning to promote cycling as an alternative to driving and are beginning to invest in larger networks of cohesive bicycle infrastructure.

Jessica Schoner writes, “between 1999 and 2011, total United States (US) federal and state government funding on bicycling and pedestrian infrastructure exceeded \$7 billion” (Schoner and Levinson 2014,188).

“It is likely that public perception of a lack of safety acts as a deterrent to cyclists in North America”
(Cripton et al. 2009, 4)

STREETSCAPE DESIGN STRATEGIES

The National Association of City Transportation Officials (NACTO) provides best practices for both urban bikeway and urban street design strategies. NACTO is an association that is the first of its kind, facilitating the sharing of the most up to date bicycling infrastructure best practices based upon the changing landscapes. NACTO challenges the way designers and planners look at streets. The design guide combines extensive literature review of design guidelines worldwide as well as real-life experiences. Many urban streetscape situations are complex and while this guide provides best practices, design solutions are dependent upon each individual situation (fig. 17-18). The goal of the guide is to “make the public realms of our cities safer and more enjoyable” (NACTO 2015, vii). Each design treatment provides three levels of guidance. These levels include required features, recommended features, and optional features.

NACTO provides best practices for design solutions intended for multiple levels of infrastructure implementation. These levels range from bike lanes, cycle tracks, intersections, and signals. A bike lane is defined as a dedicated portion of the roadway for bicycle traffic. The lane can be delineated by striping, pavement markings, or signage. A cycle track is different from a bike lane in that it provides some form of a physical barrier, whether with bollards, raised curbs, or medians that protects the dedicated bike lane from vehicular traffic. (NACTO 2015). While elevated cycle tracks, like those seen throughout Copenhagen, are ideal, they are not always the best solution because of their cost. Downtown Wichita is

in desperate need of bicycle infrastructure that responds to the current needs, in a way that is less permanent and allows for a change in needs over time. Another method of bicycle planning and design that is based in these best practices but offers flexibility, tactical urbanism, could prove to be more effective for Wichita's growing urban streetscapes and biking network.



Fig. 17. A creative and effective bicycle design solution, "cycle snake", in Copenhagen, Denmark (author 2014)



Fig. 18. Intersection of bicycle superhighway in Copenhagen (author 2014)

TACTICAL URBANISM

Temporary landscapes and pop-up parks, such as the Douglas Avenue Pop-Up Park, closely tie into the theory and growing phenomenon of tactical urbanism. Most often tactical urbanism is used in streetscapes to test out different pedestrian and bicycle oriented design solutions. Commonly referred to as “guerrilla urbanism”, “pop-up urbanism”, or “DIY urbanism”, tactical urbanism provides short-term actions with intentions to effect long-term change. This process provides cities with low cost design solutions that have the potential to create real change in streets and public spaces. Tactical urbanism is an approach that features five specific characteristics. According to Street Plans Collaborative (The Street Plans Collective 2015), an organization who has written two volumes dedicated to the concept of tactical urbanism, these characteristics include:

1. A deliberate, phased approach to instigating change
2. The offering of local solutions for local planning challenges
3. Short-term commitment and realistic expectations
4. Low-risks, with a possibly a high reward
5. The development of social capital between citizens and the building of organizational capacity between public-private institutions, non-profits, and their constituents

The tactical urbanism approach responds to the current needs or experiences of a streetscape or public space. The flexibility of the approach allows for change to occur based on analysis of initial design. This process helps cities to try out various design

configurations to ultimately choose the one that works best in each individual situation. Through the tactical urbanism approach, NYC tests out inexpensive streetscape designs using simple elements and materials to learn from each implementation. Many of NYC’s street transformations shown in figures 19-22 utilized tactical urbanism with elements including paint, plastic bollards, and movable tables and chairs.

The design solutions provided by this master’s project could be tested through a tactical urbanism approach as a form of incremental design. This idea is explored in both the findings and conclusions chapter of this document.



Fig. 19. NYCDOT tactical urbanism implementation (Kingery-Page 2012)



Fig. 20. NYCDOT tactical urbanism implementation (Kingery-Page 2012)



Fig. 21. NYCDOT tactical urbanism implementation (Kingery-Page 2012)



Fig. 22. NYCDOT tactical urbanism implementation (Kingery-Page 2012)

PHENOMENOLOGY

Tactical urbanism and other theories that respond to current and future needs are typically based upon the thorough understandings of lived experiences. Phenomenology is grounded in this understanding. A phenomenological approach to this project allowed the researcher to understand the embodied experience of bicycling in downtown Wichita. According to David Seamon, an environment-behavior researcher and professor of Architecture at Kansas State University, phenomenology is, “the interpretive study of human experiences. The aim is to examine and clarify human situations, events, meanings, and experiences (Seamon 2000, 1) as they occur in everyday life. A phenomenological approach discourages isolating variables within a lived experience. Instead, a phenomenological approach studies the experience itself.

Phenomenological methods are important in today’s research field because it provides an “important intellectual means for healing the rifts between art and science, seeing and understanding, knowledge and action, and design and building” (Seamon 1993, 1). While phenomenology is sometimes discredited due to often unmeasurable data, phenomenology can help researchers understand human environments and allows designers to design “more in tune with our experiences and lives as human beings in the everyday world” (Seamon 1993, 2).

The term Phenomenology originates from philosophy and is based on a “cognitive or mentalist view of reality” (LeCompte Schensul 1999, 48). Phenomenology is a philosophical world view that informs ethnographic research. The book, *Designing and Conducting Ethnographic Research* provides the basic principles and methods for adapted ethnographic research used in this report.

The experience studied here is urban bike rides through downtown Wichita, Kansas, within a sub-culture of downtown bicyclists. Information gleaned from this experience was compared to documentation of existing physical conditions in downtown and inspired design and policy recommendations for selected areas.

EXPERIENTIAL BIKING RESEARCH

Phenomenological methods in biking studies are not very common, but a few examples do exist. A study documenting the urban sensescape, or everyday embodied experience, aims to understand the act of passing through different territories of the city on a bike. This study is entitled, *Retracing Trajectories: The Embodied Experience of Cycling, Urban Sensescapes and the Commute between 'neighbourhood' and 'city' in Utrecht, NL*. According to the study, “to actually encourage cycling practices, a better understanding is needed of what it means to cycle between home and work on a daily basis” (van Duppen and Spierings 2013, 234). The research compared the embodied experience of bicycling between a specific neighborhood and the city of Utrecht, the Netherlands.

Data was collected from fifteen participants during ride-along interviews that occurred during regular commutes or routines. The daily biking experiences were then compared with planners' perspectives in order to determine the difference between the planned design and the actual lived experience. The analysis found that, according to van Duppen, the experiential studies, “paints a much more complex picture of intra-urban divisions and connections than the planners' perspective” of the focus area (van Duppen and Spierings 2013, 234).

Similarly, this study will compare Wichita bicyclists' experiences to the proposed Wichita Bike Master Plan improvements.

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INTRODUCTION

This project aimed to re-envision Wichita's downtown bicycle network based on the understanding of bicyclists' experience. In order to obtain this information, a phenomenological approach was used to better understand the current lived experience of bicycling through downtown Wichita. Using a phenomenological approach, this research study "employs different philosophical assumptions; strategies of inquiry; and methods of data collection, analysis, and interpretation (Creswell 2009, 173). Creswell's book, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, explores the benefits and diversity mixed research methods provide.

Creswell writes, "Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell 2009, 4). Qualitative data offers the opportunity for a report with a flexible structure, due to the exploratory nature of the data. Exploratory research is research for a problem that is not yet clearly defined. This study uses mixed methods to explore the current lived experiences of five regular bicyclists and my own experience and utilizes these experiences as a tool to help me to re-envision the urban streetscapes in downtown Wichita (fig. 23). Quantitative methods were used to analyze and map data from the study. Phenomenology proved to be the most effective approach to explore my research thesis with its flexibility and lived experience focus.

Phenomenology is a philosophy that guides some forms of ethnographic research. Ethnographic research methods investigate

an identified population's cultures and values. LeCompte and Schensul write, "The conventions of ethnographic design call for exploratory investigation; selective investigation of targeted topics; collection of data on cultural domains; and generalizable survey data on individuals and networks" (LeCompte and Schensul 1999, 65).

Ethnography data collection methods vary and are specific to each intended research outcome. Therefore, the methods and findings of ethnographic methods are locally specific not intended for generalized use. Any ethnographic method could be used alone; however, the complexity seen through ethnographic research often requires multiple sources of data. (LeCompte, and Schensul, 1999). This study does not conduct a complete ethnographic study; instead, it uses adapted ethnographic methods. These adapted methods, including observations and interviews, were used to gather people's reflection about their places (routes); however, it's not a full fledged ethnographic study of Douglas Avenue or the entire downtown Wichita biking experience. LeCompte and Schensul write, "Applied ethnographic research is concerned with understanding sociocultural problems and using these understandings to bring about positive change in communities, institutions, or groups" (LeCompte and Schensul 1999, 6).

Data Collection:

Individual, experiential, bike ride studies were conducted over the course of three weeks. The final three studies were conducted on March 10th and 11th of the same year. The video and audio footage from the bike ride studies was carefully documented and

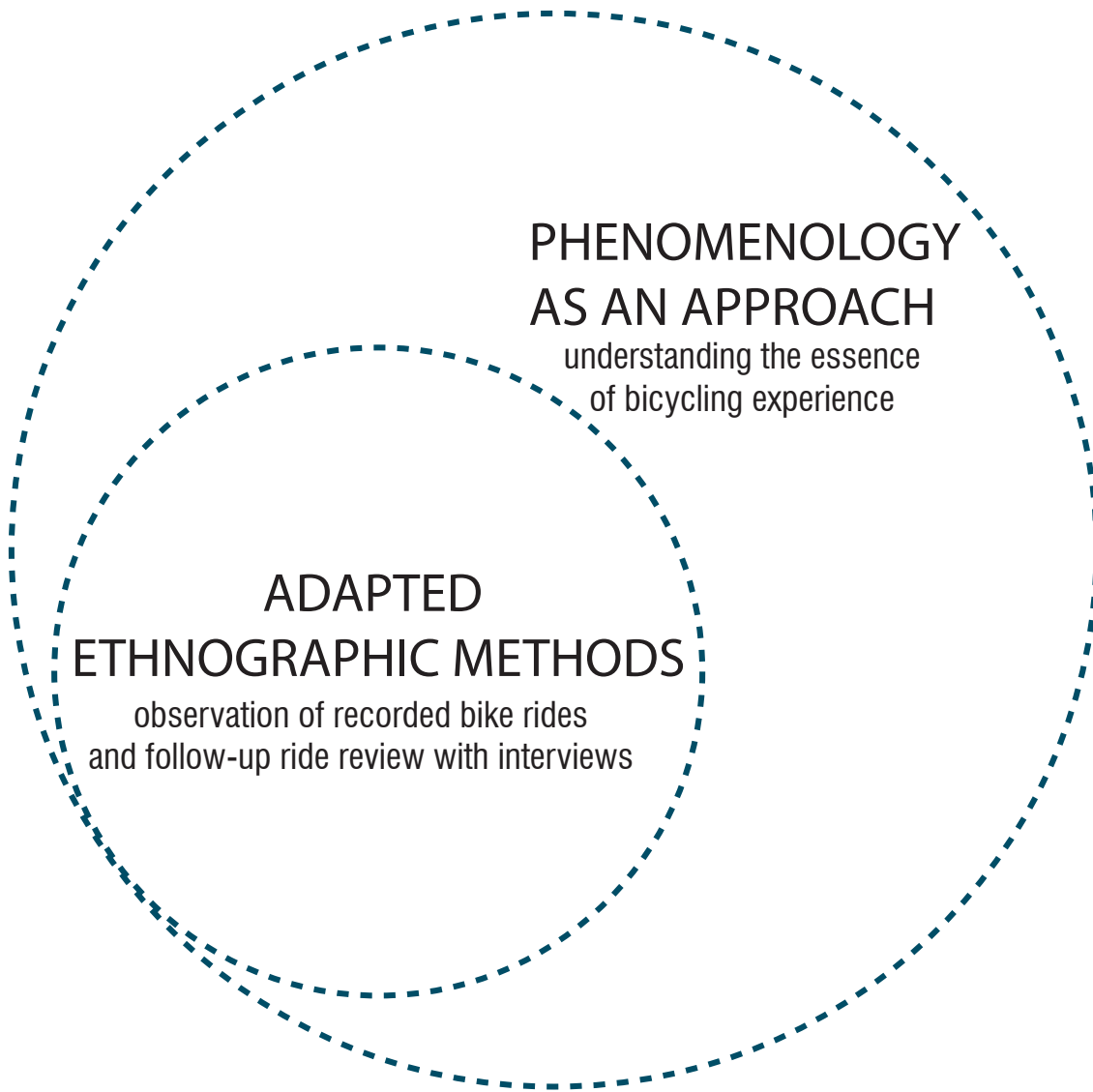


Fig. 23. Methods overview showing the use of adapted ethnographic methods was used within the overall phenomenological approach (author 2015)

analyzed. Each participant's bike ride data was analyzed prior to follow-up interviews.

This study used observations of recorded bike rides, ethnographic interviews, content analysis of visual data, audiovisual methods, and spatial mapping methods. Ethnographic first person (researcher introspection) experiential reflections, participant experiential reflections, and follow-up interviews and reflections became the critical methods used in this research report. Each of the five participant's role included two parts: recorded bike rides with verbal reflections on current biking conditions, and follow-up interviews via Zoom video conference call with the same participants. The data collection process included the following:

1. First person (researcher) experiential bike ride with GoPro
2. First person reflection upon bike ride
3. Participants were selected based upon a certain criteria
4. Participants conducted experiential bike ride studies of their regular routes via GoPro provided by me
5. Follow-up interviews and reflections were conducted via Zoom video conference calls. The bike ride was played and the participant was asked to reflect upon specific elements of the experience

Analysis:

The data collection and analysis happened simultaneously. The steps included in the analysis included:

1. Repeated viewing of video records (observation) and coding of first person bike ride
2. Data analysis and coding of first person reflection
3. Repeated viewing of video records (observation) and coding of participant's

bike rides

4. Data analysis and coding of follow-up interviews and reflections
5. Data from bike rides and interviews were combined, mapped, analyzed, and coded

Interpretation:

These exploratory methods were used to produce three major products:

1. Maps of current lived biking experience of participants that identify selected focus areas
2. Montages portraying the current bicycling experience
3. A series of goals and strategies
4. A series of design recommendations based upon deeper understanding of focus areas

The interpretation process included:

1. Findings from the bike rides and interviews informed a series of goals and strategies for future urban bikeway design in Wichita.
2. Streetscape Improvements for focused areas in downtown Wichita were developed based upon findings

The synthesized findings from the documented rides and follow-up interviews will be shared with the WDDC. As a whole, these products demonstrate to the Wichita Downtown Development Center (WDDC) and the City of Wichita strategies and design recommendations inspired by lived biking experiences and grounded in bicycle design principles described in the literature review portion of this study.

PARTICIPANT SELECTION

Participants were selected who have a daily routine that includes bicycling in a sub-district of downtown Wichita. Participants were identified through a snowball sample based upon contact with multiple groups and individuals in the Downtown area. Scott Wadle, a senior planner for the city of Wichita was an essential part of the participant search. Wadle distributed a brief project statement of this project in the city's weekly bicycling and walking email asking participants to contact me if they were interested in participating in my study. The statement read:

Help researchers learn about the Wichita bicycle experience! Researchers from KSU are looking for participants who bicycle in or through downtown during their daily routine / commute. Study participants will be provided a GoPro device (or you can use your own) to record both audio and video footage of their bicycle ride. Participants will be asked to record and narrate one ride of their routine bicycle travel. This study is seeking participants who expect to bike regularly before March 18, 2015.

If you are interested in participating in this study, then please contact Danielle DeOrsey by Wednesday, March 4th at ddeorsey@ksu.edu.

I contacted two cycling groups: Bike Walk Wichita and the Oz Bicycle Club. Both clubs distributed the same project statement in their weekly email. A total of seven participants met the criteria and were

available in the short time frame allotted. Due to technical difficulties and time restraints only five participants were included in the study.

In order to minimize risks to participants, they were not asked to vary their regular bicycling routines, only to narrate the experience.

EXPERIENTIAL BIKE RIDE STUDIES

Data Collection:

In order to gain initial impressions of the current downtown bike network of Wichita, Kansas, I conducted a recorded bike ride. The ride documented my stream of consciousness, biking from the Arkansas River on the west edge of downtown, past the proposed pop-up park (located at 115 Douglas Avenue) and onward on Douglas Avenue, terminating at Old Town. A GoPro video/audio recorder was strapped to my helmet, documenting my verbal comments and views during the entire bike ride (fig. 24).

The same method I used for my experiential bike ride study was used with the five bicycling participants who regularly bike in or through downtown Wichita. I met with each participant before and after the bike ride in order to pass off the GoPro, head strap or chest harness, and optional safety gear. My initial bike ride was conducted on January 31, 2015. This bike ride helped to gain general insight into the biking conditions of downtown Wichita. The first two participant bike rides were conducted on February 24th and 25th of the same year.

Participants were asked to the GoPro via head strap or chest harness during their daily bicycling routine. The GoPro device provided a hands-free audio and video recording of the participant's daily route (fig. 25). The participants were asked to verbalize their stream of consciousness and thoughts that come to mind while on their daily route. It was important not to disclose any further information about the purpose of the study before the recordings took place, in order to receive unbiased results and also to not guide the data in any way. It was also

important for the participant to experience the ride like they normally would, so not guiding this ride allowed for their ride to maintain its normalcy as well as reduce the risk of the study by not asking them to think about anything new.

Analysis:

The GoPro videos were thoroughly observed multiple times in order to completely understand the experience as a whole. Each participant's GoPro recordings was transcribed into a Word document in order to keep data organized separately. Transcription took shape in a careful noting process. Each recording was individually documented to reflect the major thoughts and patterns described by participants.

Transcribed data was separated into data points, or points where comments were made, and applied geospatially to their route in GIS (Geographic Information System). I was able to thoroughly analyze specific areas of downtown more closely determined by the identified data points. The bike ride study data was analyzed and noted prior to the follow-up interviews in order to identify initial themes, direct the interviews, and to clarify any unclear statements or to expand upon specific comments.



Fig. 24. GoPro footage shot from my ride along Douglas Avenue (author 2015)



Fig. 25. GoPro footage shot from George's ride on Main Street (author 2015)

FOLLOW-UP INTERVIEWS

Data Collection:

Individual in-depth interviews were used to clarify comments made during the recorded bike ride as well as provide focused feedback. Interviews allowed the participant to reflect upon their ride as I replayed the recorded data from the experiential bike rides. Using Zoom, a video conference program, the interviews were recorded for later analysis. During the interview, I shared my screen and played the participant's GoPro footage while we watched the video together. Figures 26-27 portray the Zoom follow-up interviews. Participants faces have been blacked out to protect their identities.

While the bike ride study was very open-ended, the follow-up interviews were conducted with a more specific focus. However, I still welcomed any feedback from the participants regarding their bicycling experience. I began the interview with guided questions and asked the participant to reflect upon them during the duration of their recorded bike ride. I encouraged participants to narrate their answers and expand on thoughts they felt were important. This flexibility allowed the ethnographic interviews to explore new ideas and perspectives, sometimes not yet discussed. The guided questions used during the interview were:

1. What would you change about the biking experience in Downtown Wichita?
2. What would have made your ride a better experience?
3. What made you feel safe/unsafe?
4. What do you enjoy the most about your route?
5. What are your least favorite parts of your route?

Analysis:

The focused feedback helped to further identify biking issues throughout Wichita. The follow-up interviews were analyzed and noted after all six were completed. Themes were identified after the notes were coded. Themes were identified based upon their occurrence and the issues that the participants felt the strongest about. All of the identified themes were generally present within each participant's bike ride and follow-up interview. All data was then mapped with GIS and assigned values on the overall experience and its theme based on this analysis.

The focused feedback from participant reflections and interviews was critical to identifying biking issues throughout Wichita. The analyzed and synthesized data from research participants was the primary influence during the streetscape design process; however, streetscape design literature and precedent laid the foundation. Participant feedback was combined with literature review and personal experience to ultimately develop a design strategy for downtown Wichita streetscapes.

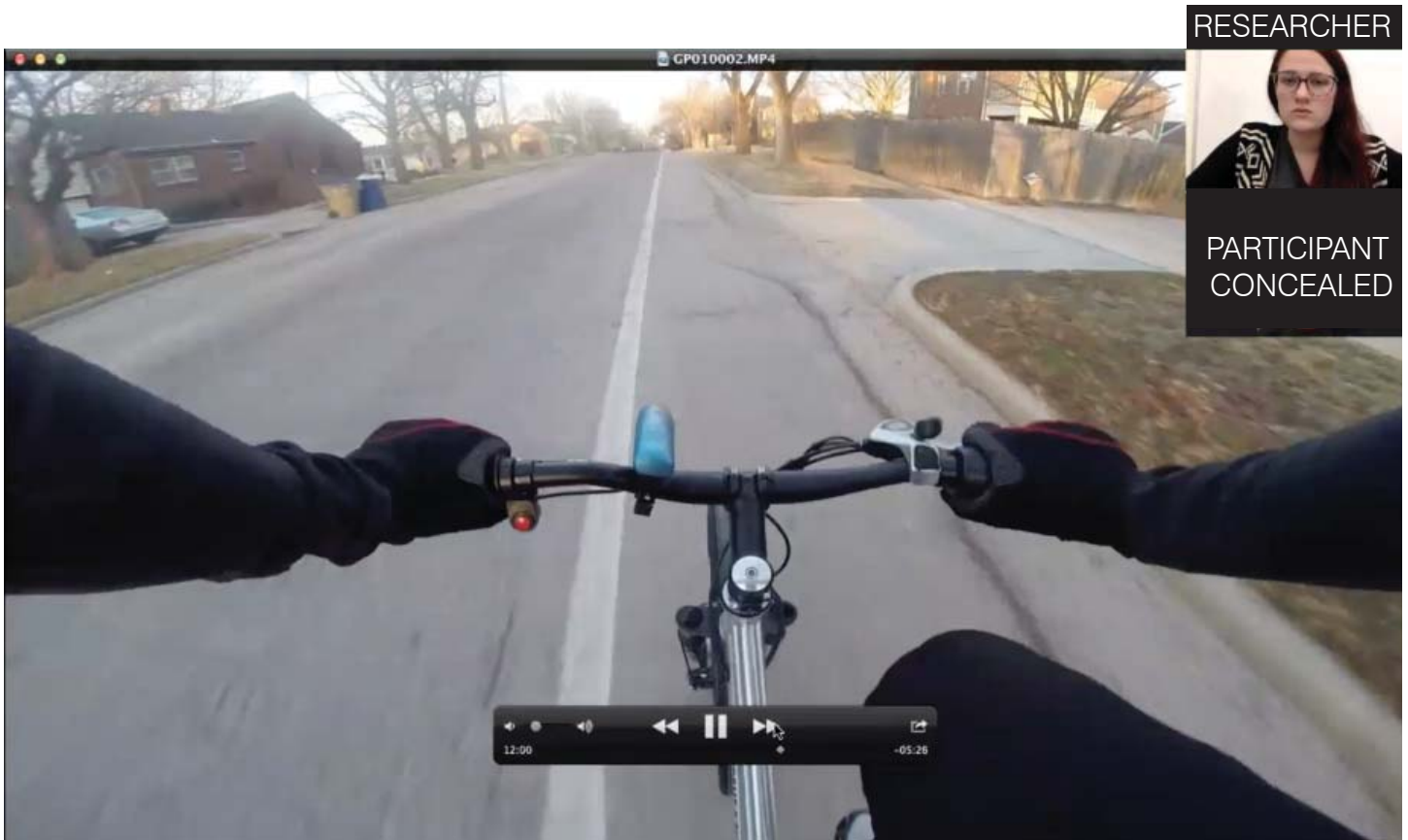


Fig. 26. Follow-up interview footage with George (author 2015)

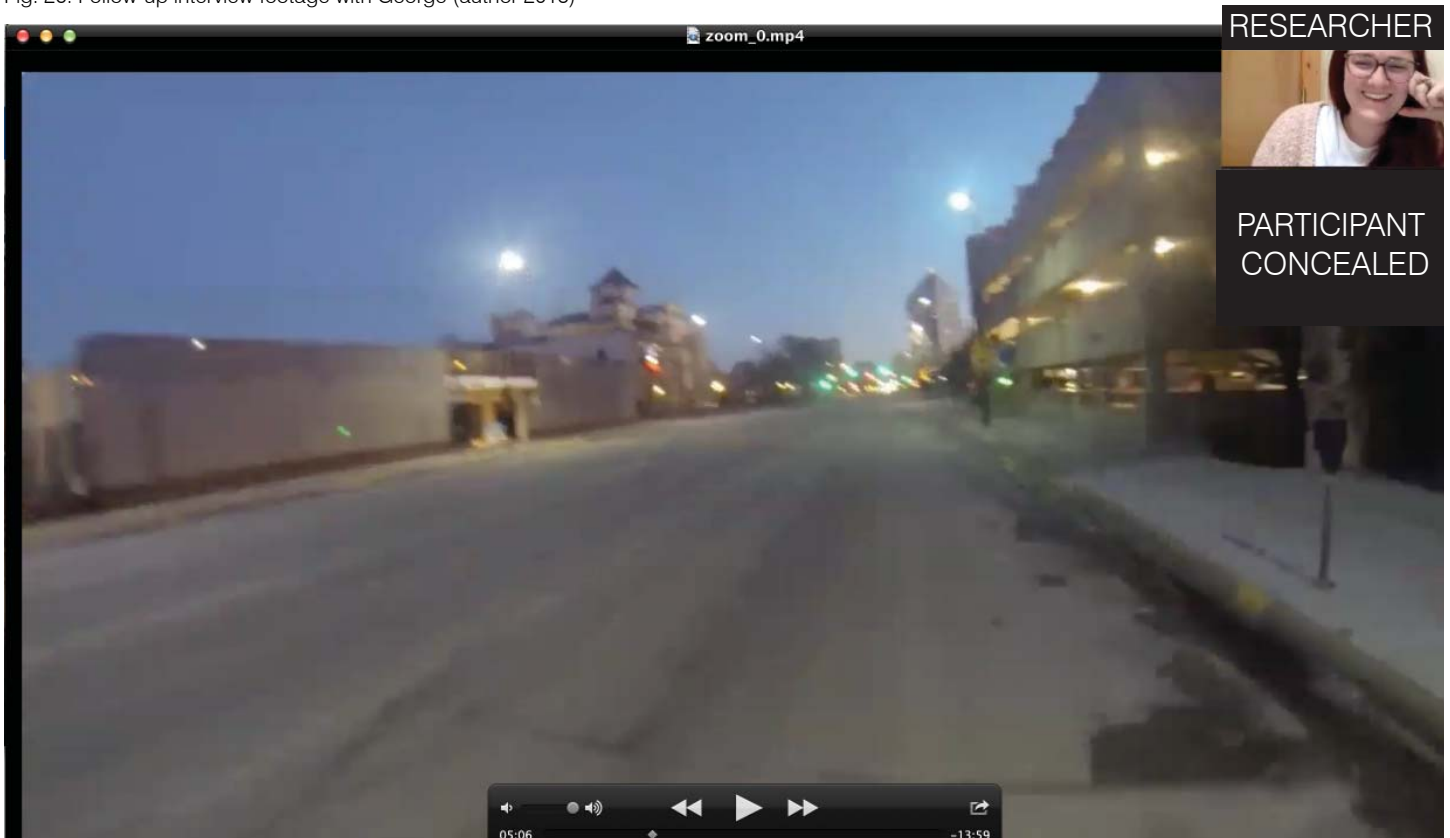


Fig. 27. Follow-up interview footage with Seymour (author 2015)

ANALYSIS

Initial Coding:

Thematic coding techniques were used for content analysis of the video and sound data. Data collected from experiential bike rides and follow-up interviews was transcribed and coded based upon themes that appeared. Themes are data patterns that emerge from the data over and over again (LeCompte and Schensul 1999). Themes were identified in this report based on the number of times the thought was mentioned and the emphasis placed on certain comments during the bike ride studies and follow-up interview reflections. The initial coding analysis was used to determine focus areas within the experiential data maps.

Value Classification:

The two major categories of thematic coding of interest were the overall experience rating and the subject matter of the comments. I interpreted all data using basic vocabulary cues and themes. Experiential data was divided into three categories: negative, neutral, and positive in an attempt to explain the observed data. These experience ratings were based on each individual's language pattern. These language patterns were then combined into the general language rating system mentioned above.

Areas for opportunity or areas with the highest density and quality of negative experience data points dictated focus areas. An in-depth look at what was being said occurred for the densest areas of negative comments.

Themes:

The data was also coded by subject matter. Six major themes emerged during the initial coding process: urban environment, biking experience/infrastructure, road/traffic, safety, motorist

behavior, and other. These themes emerged during initial analysis and will be explored further throughout the findings section of this report.

Figures 28-29 show an example of the noting and coding analysis used to identify major issues and themes, both individually and collectively. The entire document can be found in Appendix A and Appendix B.

While the original project plan called for design-rich products, including a framework plan and streetscape design strategies, through data analysis it was clear that a deeper analysis of the data was needed. Thus, following thorough content analysis of rides and interviews, a conceptual series of goals and strategies was developed. A series of design strategies was developed based upon the understanding of each focus areas as well as the developed goals and strategies. The nature of phenomenological research stresses the importance of flexibility within methods and products because the outcome of data cannot be predicted when considering lived experiences.

The value classification and identified themes helped to develop the list of goals and strategies for the City of Wichita. This data was then graphically portrayed in a sequential form through an exploratory montage graphic style.

Data Point	Quote	Experience	Theme
1	Everytime when I'm at this spot right here I commit, I think, the only traffic violation while I ride my bike. I head down this alley the wrong way. You see the "do not enter" sign right there. If I head around the block I have to hang out with a lot of busses, the bus station is over there. So, I just head down this alley that barely has any traffic. And we will be on the main roads in just a moment.	Negative	Road/Traffic
2	I LOVE riding my bike. I love it love it love it. I started bike commuting about a year ago and I've done it most days since. If it's icy or snowy I don't. But if it's not icy or snowy I tend to be on my bike. Unless I have some meeting out of town or something.	Positive	Other
3	The one thing I love about it is the way it makes me feel. It's not a very long ride home, about 12-15 minutes. It's just enough to get my blood pumpin' and my energy up, and get a little bit of exercise.	Positive	Other
4	Turn here. I go home on this is, uh, first street. I go home on first street because eventually, about a mile or so up the road there'll be a bike lane	Neutral	Biking Infrastructure
5	Until then it's a little scary at times. Especially this part up here when we go past this underpass the road narrows and you can see there is sand on the right hand side of the road, so I can't be quite as far over as I'd like.	Negative	Safety
6	It makes me nervous when cars pass that close.	Negative	Motorist Behavior
7	Right about now I'm usually thinking about how much I'm going to like it when the city puts a bike lane on this road. Down here on this part of town, supposedly that's on the	Neutral	Biking Infrastructure

Fig. 28. Bike ride analysis example: Ted (author 2015)

Data Point	Quote	Experience	Theme
1	so, you know, i left from the back of our building there. I love, Danielle I love it. I love getting on my bike. This was a beautiful day outside and it just feels awesome	Positive	Other
2	I always feel guilty right here because for the only time on my ride, I think, I break the law. I go down this alley I'm not supposed to go down.	Negative	Road/Traffic
3	Sometimes there are a lot of busses coming in and out so if I go around the block I go right by the central station and sometimes its just crowded with busses and exhaust fumes and things like that. I think this is also just a little bit shorter and it's kind of fun to feel like I can go off of the main drag. I'm usually the only one in the alley. There was a car coming out of the alley, and that's highly unusual.	Negative	Road/Traffic
4	So, you know I feel pretty safe on, this is Emporia street. I'm on it for about a block.	Positive	Safety
5	There's not much traffic,	Positive	Road/Traffic
6	there's no bike lane but there's not much traffic at all. One way.	Neutral	Biking Infrastructure
7	I'm always real careful about those cars on the right. I'm looking for lights if they're going to back up. (have you ever had any close calls with parked cars?) No, I haven't.	Negative	Road/Traffic

Fig. 29. Follow-up interview analysis example: Ted (author 2015)

INTERPRETATION

An exploratory montage technique was first used to interpret the bike rides and follow-up interviews. These montages were a way to apply the comments made by participants to the physical urban environment (fig. 30) and begin turn this experiential study into a spatial conversation with the city of Wichita.

Montage graphics were developed based on comments from the participants, looking specifically at the participants' wants, thoughts, and issues with each area. The re-envisioned design strategies were grounded in streetscape and bicycle design principles, and shaped by the participants' experiences. The montages helped me deepen my analysis of specific locations graphically. The montages created graphic representations of location potential based on participant feedback and streetscape design precedents.



Fig. 30. Bicycle amenities in Copenhagen, Denmark (author 2014)

FINN

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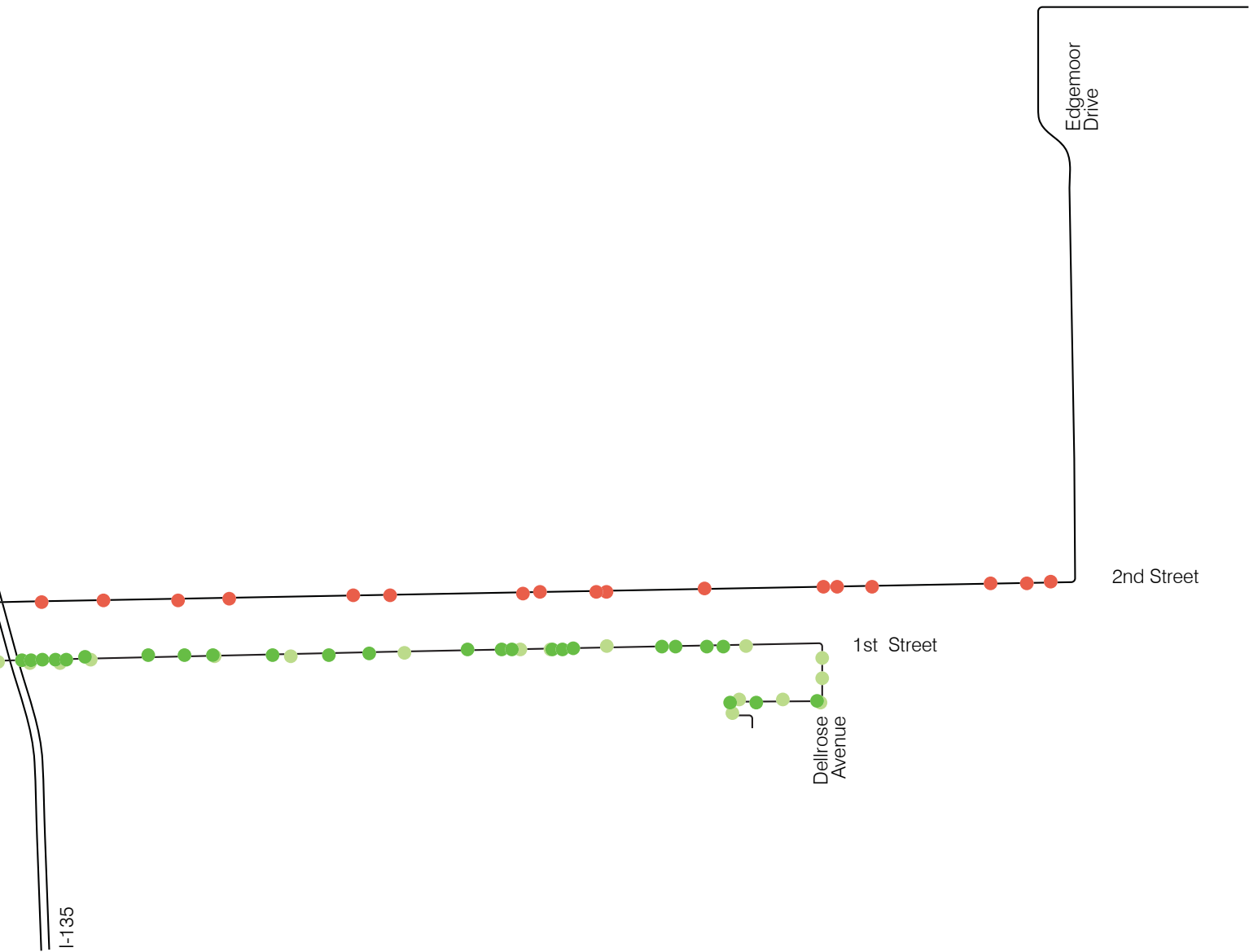
DATA POINTS

A data point was placed every time a participant made a comment during their individual bike ride or during the reflective follow-up interview. Each participant has their own individual color that pertains to comments made on their own routes. The lighter colors symbolize the comments made during their individual bike ride while the darker points symbolize comments made during the follow-up interview (fig. 31). Points were then input into GIS, georeferenced and assigned values based upon their quality and reference. Participant's routes all intersect downtown, though many travel throughout the city.



⊕ Not to scale.

Fig. 31. Data points from all six participants (author 2015)



BIKE RIDES + INTERVIEW FINDINGS

Each participants most influential comments are noted as is the comment's corresponding theme. The quotes written in italics are comments made during the follow-up interview while the regular font refers to comments made during their individual bike ride. An example of the noting and analysis process/organization can be found in Appendix A and B.

I used a montage graphic process to relate the verbal comments made by the participants to their actual physical experience recorded via GoPro. A sequential graphic style was important due to the continuous movement of the data and was necessary in order to better understand the experience as a whole.

The comic strips shown on the following pages use a series of image frames that were extracted directly from each participant's bike ride data to develop a comic book strip style montage in order to understand this data. This process helped to highlight the most important moments of each participants route in a sequential format and was paired with direct quotes from both the bike rides and follow-up interviews. Comments made during the participant's bike ride are illustrated with a quote bubble and comments made during the follow-up interviews are illustrated with text boxes. Due to errors in communication and technical difficulties, two participants did not record audio during their bike rides.

The takeaways collectively drove the goals and strategy recommendations as well as design solutions (fig. 32) later represented in this chapter.

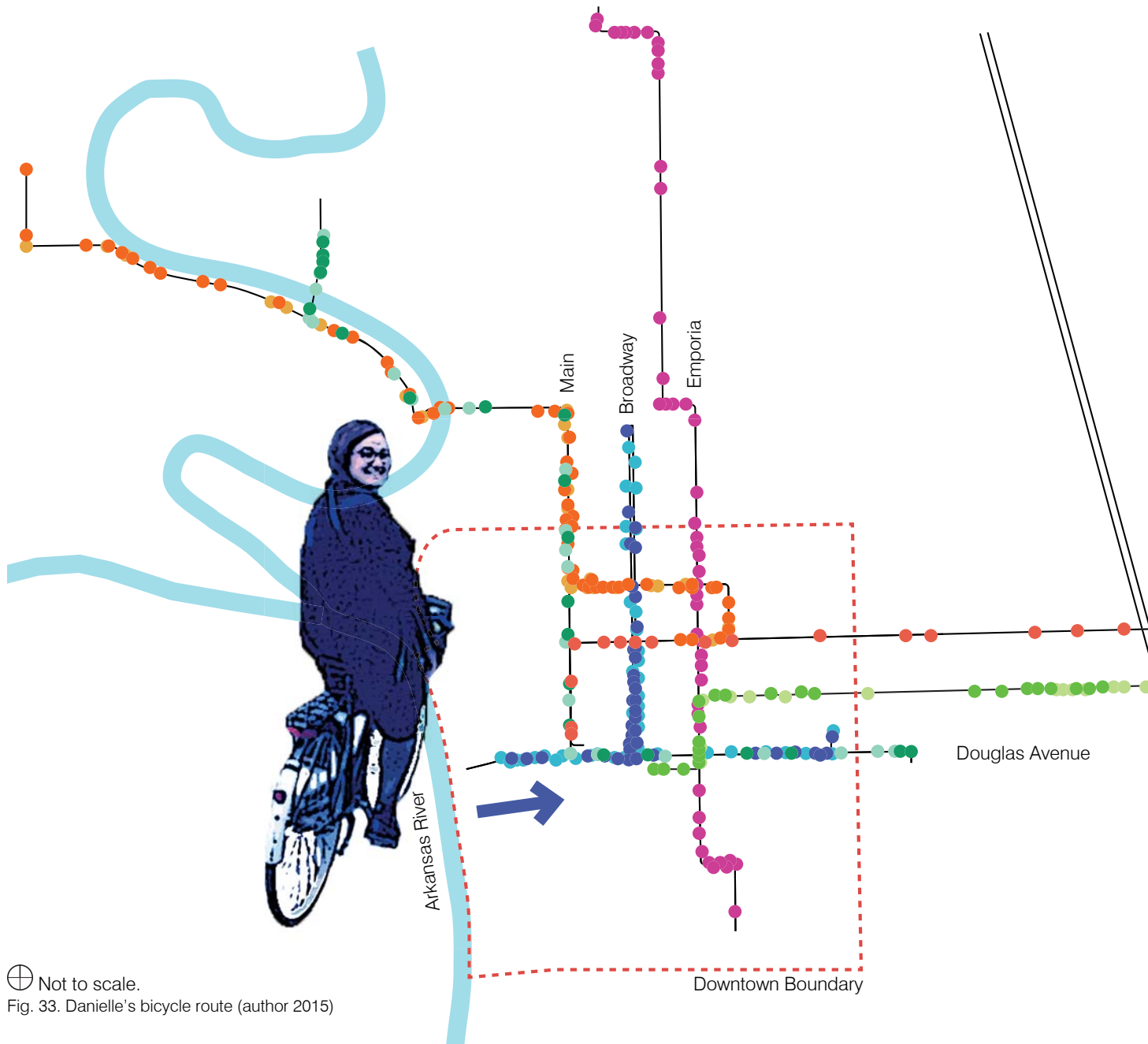
*The portraits of the bicyclists are only symbolically representing the participants and do not use their real identities, except mine.



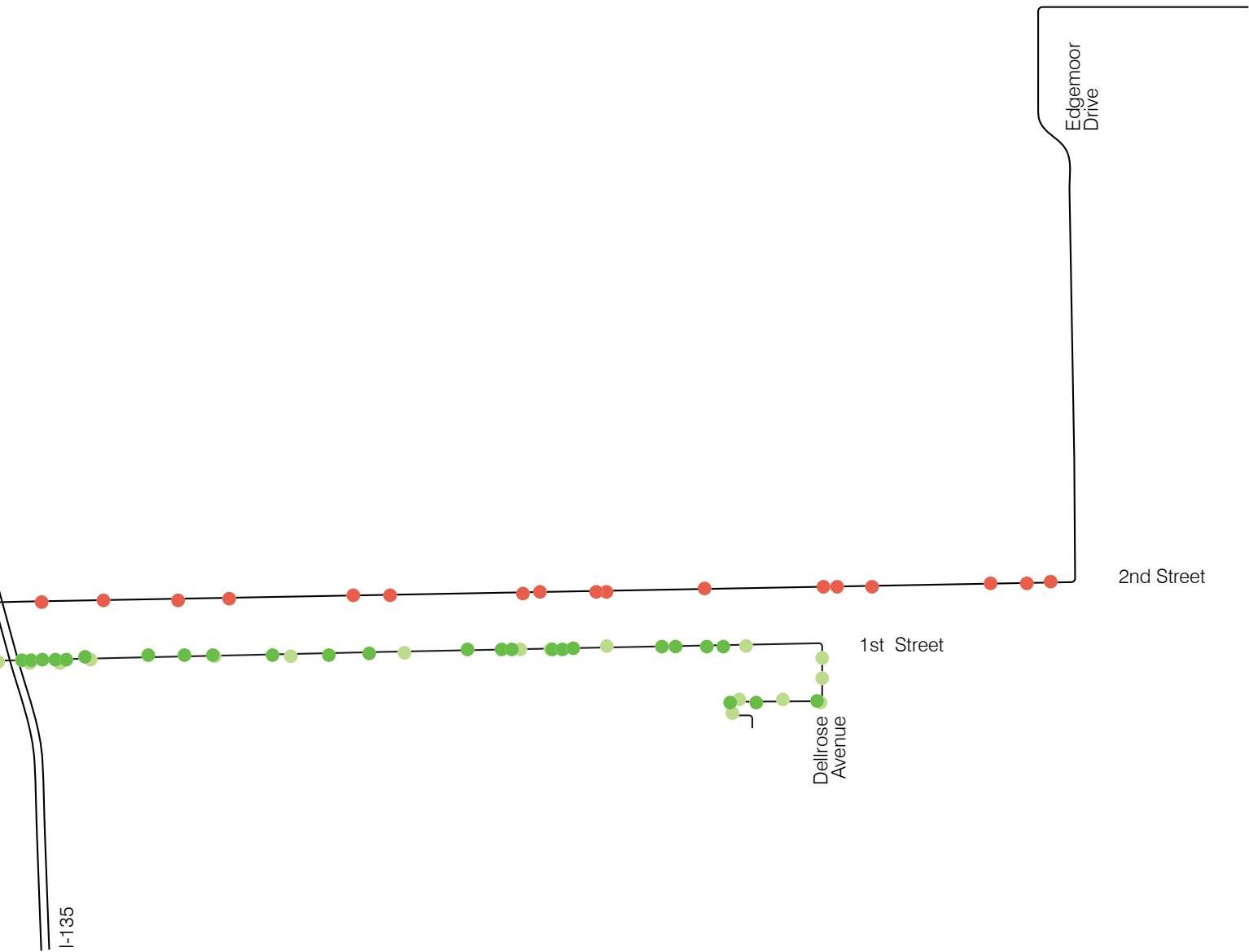
Fig. 32. Bicycle tracks in Copenhagen, Denmark (author 2014)

ROUTES: DANIELLE

While I am not a regular bicycle commuter in this area, my ride (fig. 33-34) was focused on experiencing major thoroughfares in the downtown core, specifically Broadway and Douglas Avenue. Broadway was a street identified as an area for further study within the Bicycle Master Plan.



⊕ Not to scale.
Fig. 33. Danielle's bicycle route (author 2015)



I-135

1st Street

2nd Street

Edgemoor
Drive

Dellrose
Avenue

FINDINGS: DANIELLE

Urban Environment:

Loved seeing the changing environment

“Oh my gosh cool! Pop up park, pretty sweet.”

“Yeah, it was really cool to see the signs for the pop-up park. Seeing the change happening is great!”

Not much of a lively and urban atmosphere

“Few people walking, not much going on.”

“There is a major lack of people in this area.”

“All these weird statues.”

“Yes, everything is like the same color there is just nothing very exciting. I know it’s because maybe the weather and season but still I need some color, something exciting.”

“I also talk about it later. There’s just no one walking [on Broadway] and I don’t blame them.”

“Ah, it’s just so ugly [Broadway]. Everything. There’s no life, look at this, there’s no life in this whole stretch.”

Biking can be a great way to develop a closer community

“[Saw Steven], hey! Seeing friends, biking is a great social activity”

Biking Infrastructure:

A lot of bikers are not confident biking on streets

“More bikers! Nobody is in the street though.”

“Yeah, I didn’t see one person biking in the street the whole time. Or whenever I’m in downtown. “They always bike on the sidewalks. Which obviously tells us that they feel more comfortable in the sidewalk. However, I believe it is illegal.”

Everything is still very car oriented

“So annoying that I have to wait behind

everybody. The lights really don’t give you much time.”

“I am going to attempt to make a left turn [Douglas and Broadway]. Try and go down Douglas. See I am barely going to make the light. ahh! That’s stressful.”

“Just going to bike in construction area, this is what it should be like.”

A lot of busy roads don’t have the proper biking infrastructure

“Broadway would also be a really good locations for bike lanes because it was so much busier than I thought it was going to be and this was on a Friday at 1-2 o clock.”

Road/Traffic:

Current road materials aren’t very bicycle friendly

“Horrible and bumpy road [parts of Douglas], needs to be changed”

“Again with the brick, it’s the worst.”

“The brick is aesthetically pleasing, but as far as biking it’s not too great. I say it again there. Something a little less bumpy would be nice, something paved.”

A new turning strategy needs to be considered

“It is very hard to turn on these streets (last minute) [on Douglas]”

“Here [Douglas and Broadway] I was trying to get over last minute but it’s kind of impossible here. Which is fine because I’m used to doing Copenhagen left turns, which is what I like to do. In order to fit in with the traffic it’s kind of hard to be the only bicyclist doing this kind of turn.”

“This [Douglas and Broadway] is where I barely even make it. The lights are obviously programmed for cars. It take me a little bit of time to get up and go so I barely made the light. Then that leaves me with the option to what, run the light last minute, risking my

safety or waiting for the next light. Silly!”

Douglas Ave. has plenty of room for bike infrastructure

“This road is soooo big.”

Safety:

Too many cars come very close when passing you

“Ahhh. Just almost died.”

“I just screamed there. I had a few close calls up here [on Broadway]. Not crazy close, but closer than I am comfortable with and used to.”

Under the bridge was a very uncomfortable experience

“Oh this is scary! [underpass on Douglas]”

Motorist Behavior:

The cars seemed very irritated by me biking

“Car is not happy behind me.”

“Sassy drivers here. Do not make me feel welcome at all”

“The drivers are very aggressive. That’s why I made so many of the silly comments. And I’m even kind of used to it.”

Other:

Comments about other issues were not mentioned.

BRICK IS JUST NEVER FUN TO RIDE ON.

OMG cool! Pop-up park. Pretty sweet

Horrible and bumpy road. Needs to be changed.

YEAH , IT WAS REALLY COOL TO SEE THE SIGNS FOR THE POP-UP PARK [ON DOUGLAS]. SEEING THE CHANGE HAPPENING IS GREAT!

IF I HAD MY OWN LANE I WOULD NEVER HAVE TO WAIT BEHIND ALL THESE CARS!!!

It's so annoying that I have to wait behind everyone. And the lights really don't give you much time.

THIS [BROADWAY/DOUGLAS] IS WHERE I BARELY EVEN MAKE IT. THE LIGHTS ARE OBVIOUSLY PROGRAMMED FOR CARS. IT TAKES ME A LITTLE BIT OF TIME TO GET UP AND GO SO I BARELY MADE THE LIGHT. THEN THAT LEAVES ME WITH THE OPTION TO WHAT, RUN THE LIGHT LAST MINUTE, RISKING MY SAFETY OR WAITING FOR THE NEXT LIGHT? SILLY!

HEY STEVEN! Biking is a great social activity.

Oh, this is scary

I KNOW THAT THERE ARE PLANS TO LIGHT THIS [DOUGLAS UNDERPASS] UP AND I MEAN, I THINK THAT THAT'S GREAT BECAUSE IT'S VERY UNCOMFORTABLE DOWN THERE AS A PEDESTRIAN OR BICYCLIST.

Fig. 34. Danielle's experience (author 2015)

I JUST SCREAMED THERE. I HAD A FEW CLOSE CALLS UP HERE [BROADWAY]. NOT CRAZY CLOSE, BUT CLOSER THAN I AM COMFORTABLE WITH.

AH, IT'S JUST SO UGLY EVERYTHING. THERE'S NO LIFE, LOOK AT THIS. THERE'S NO LIFE IN THIS WHOLE STRETCH.

Few people walking. Not much going on.

AHH! Just almost died

More bikes! Nobody is in the street though.

YEAH, I DIDN'T SEE ONE PERSON BIKING IN THE STREET THE WHOLE TIME.



I am going to bike in construction area. This is what it should be like.

I am going to attempt to make a left turn. See, I am barely going to make the light. AH! That's stressful

MY OWN LANE, HOW NICE WOULD THAT BE? LOOK AT THAT! IT'S THE PERFECT AMOUNT OF SPACE.

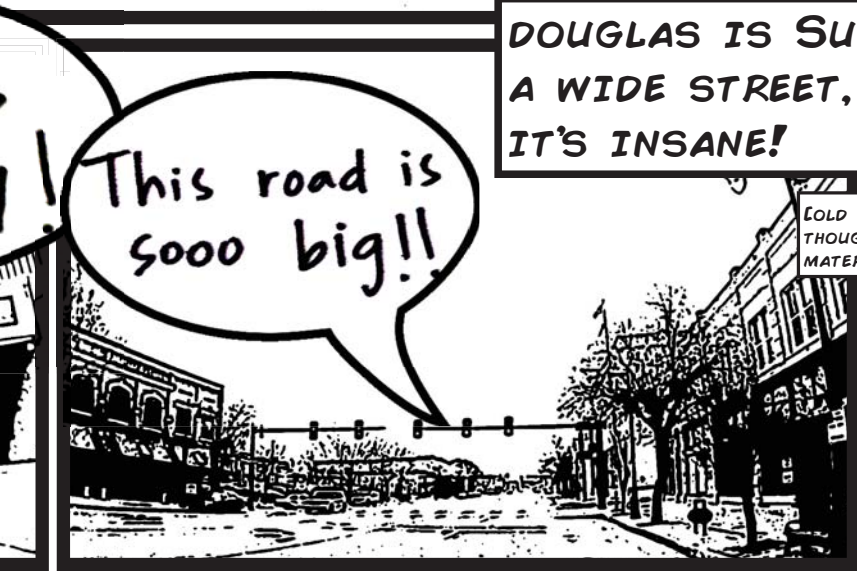


DOUGLAS IS SUCH A WIDE STREET, IT'S INSANE!

I LOVE THIS AREA IN WICHITA.

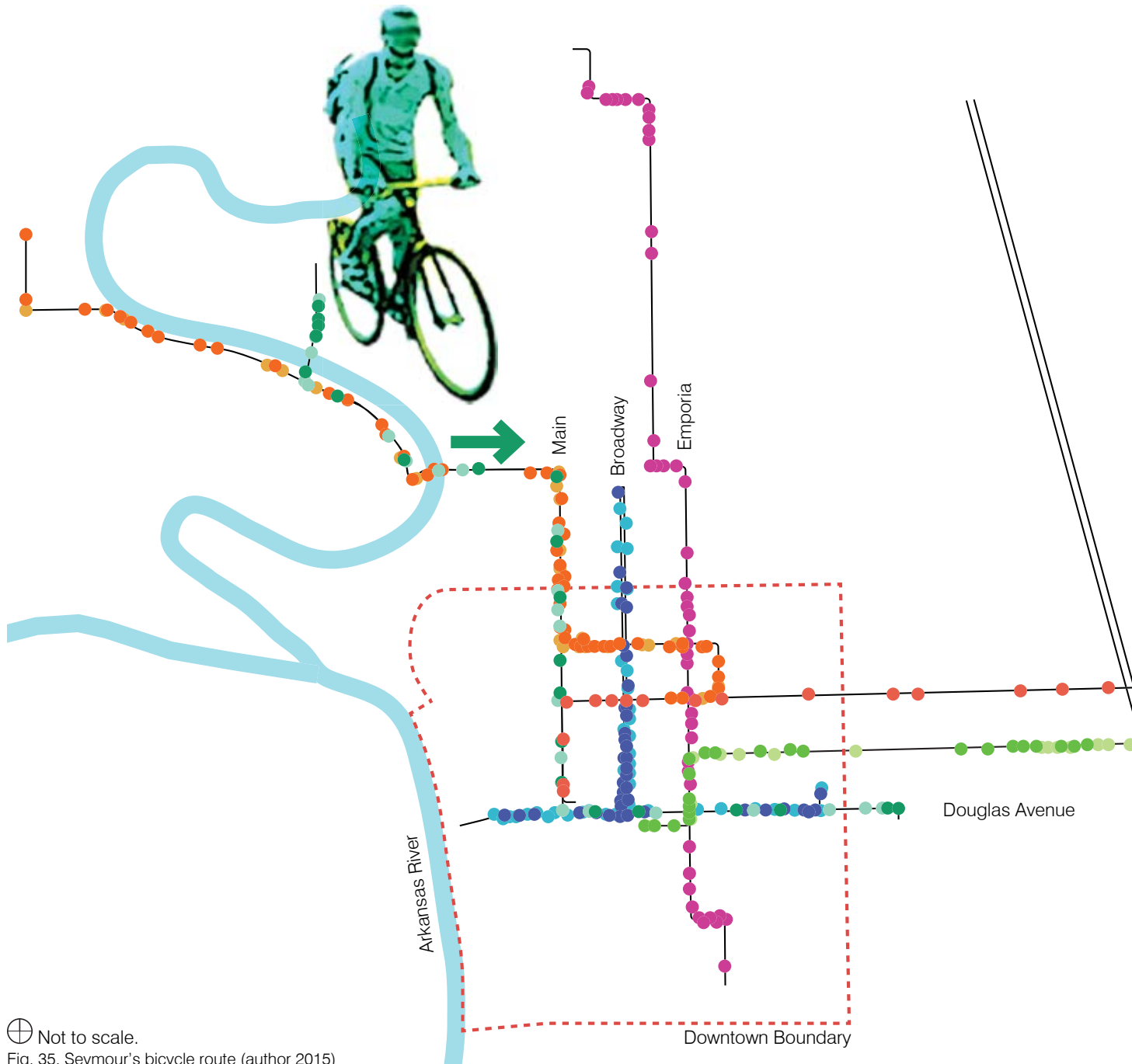
[OLD TOWN] IT'S NOT FUN FOR BIKERS THOUGH BECAUSE A LOT OF THE PAVING MATERIAL IS BRICK.

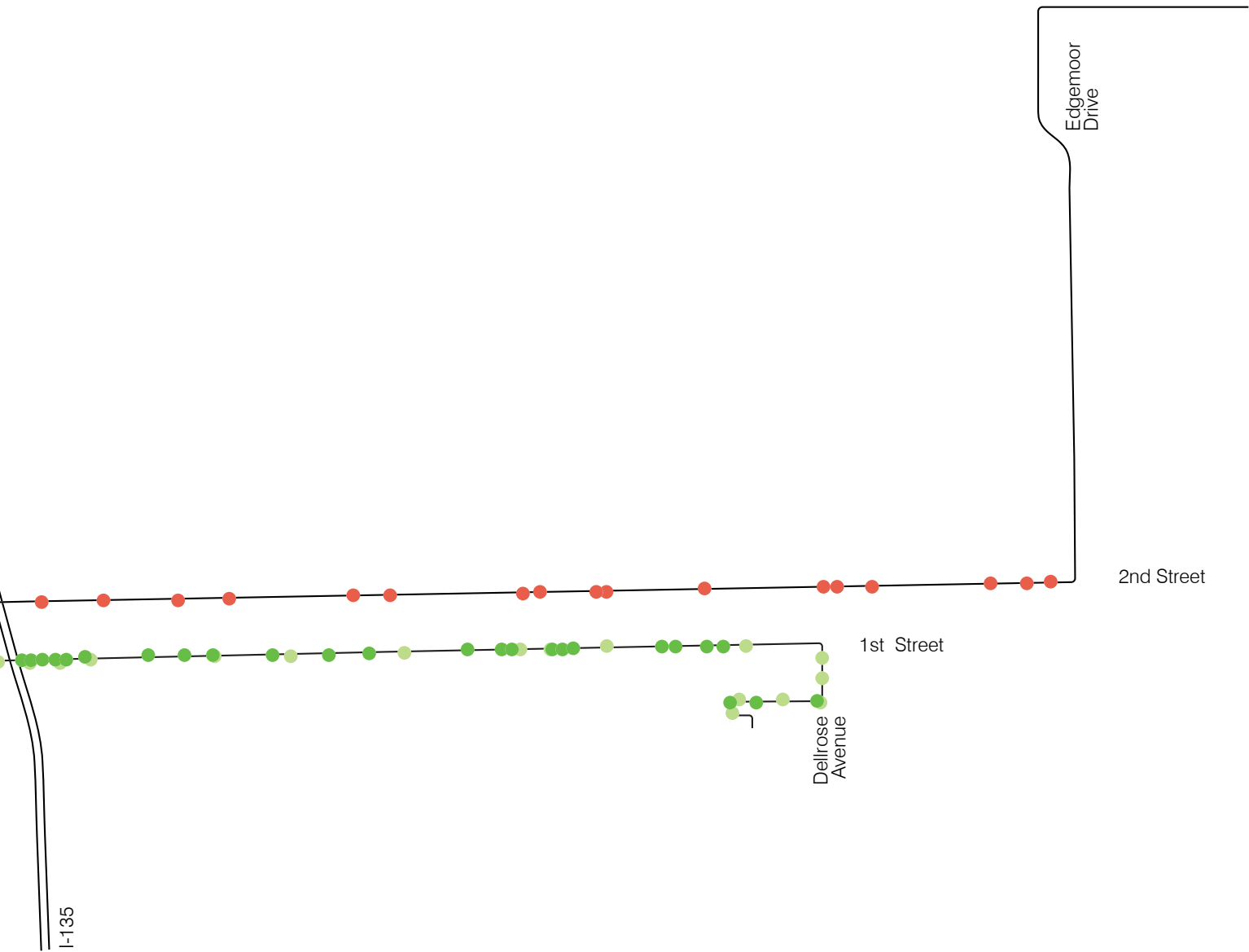
Again with the brick. It's the worst.



ROUTES: SEYMOUR

A single man in his twenties who lives in the nearby neighborhood of Riverside. Selling his car two years ago, Seymour has relied on his bike to get around ever since. Seymour bikes downtown (fig. 35-36). a few times a week to grab groceries at a local shop.





FINDINGS: SEYMOUR

Urban Environment:

He enjoys an ever-changing environment

"I'm a singer, I tend to sing pretty much all the time when I ride. Which, I guess the paths become so familiar, you gotta do something to change it up."

"New taco place!"

Downtown has a different energy than Riverside neighborhood

"Hello, Downtown! Woohooo!"

Lack of activity prevents people in area

"I remember thinking when I was in this light [Main/Central], that it's just an odd part of town, you know, walking, you're usually not walking to a restaurant or to a bar or anything like that."

More street trees would create a better environment

"Uh, as far as aesthetics go, in the summer it's really lovely, like, I wish there were more trees downtown"

Biking Infrastructure:

Enjoys riding on the bike lanes nearby

"We have a couple [bike lanes] on 1st street and 2nd street on the East side of town.

Those are awesome, really good streets and I love riding on those lanes."

He feels that a shift is beginning to happen

"I've noticed a difference in the past few years, people being out on the paths more, see them walking a lot more or riding their bikes. Excited for all these changes. Makes me feel safer, for sure, to know it's all happening."

Road/Traffic:

Believes that his biking presence is making a difference

"This is my second full year on a bike. And I like to imagine I've become a fixture

and, uh, a fixture on the road. Of course that won't stop me from getting plowed, whatever!"

Feels safer biking on wider streets

"I love this street [Main]. Cause it's four lanes wide and it's one way, so there's plenty of room for cars and bikes And it's like the main downtown road, you know, main street."

Safety:

He relies on the timing of lights a little too much

"Eventually you get to know how the lights work in this city. When to start and when to stop. Which can be dangerous to rely on, so I try not to. But you can't help it, it's like muscle memory."

Feels safest in Riverside neighborhood and when cars know he is there

"Riverside is extremely safe, I mean it's got a really, i think it's got like the densest bike population. So the cars, they all know there are bicyclists out and about. Yeah, it's good."

Motorist Behavior:

Motorists expect you to ride on the bike lanes, even if it means going out of your way

"I've been yelled at a number of times when, you know, a car... if I'm like on a street that's parallel to 1st and 2nd cause I have to use it to get somewhere else, you know, I'll get yelled at and people will go 'the bike lanes over there' they really expect [you to use those dedicated lanes]."

He does not expect much from motorists anymore

"But I mean it might just be like, idk over the last two years riding I've become pretty coarse, like uh, about my expectations"

about other motorists out there, my expectations are not high because you know I've realized i have to ride very defensively and um so I've gotten used to that now, so it doesn't bother me anymore."

A better transition from the downtown to surrounding neighborhoods is important

"This road is uh, this is where it gets a little dangerous. [Douglas Ave. and Ida St.] Like if you keep going East now, now that you're out of the downtown area with all the life people just start, they start speeding really heavily. And even though the road is wider here I don't know, for some reason they check out when they get past downtown. They're just like, now they're not paying attention anymore. I've had a couple close calls on this road. Here it would be more helpful, more than anywhere else to have shared biking lanes [means designated bike lanes]. It's a pretty important, I would say, commuting area"

Other:

People aren't very used to seeing people biking

"You know, I already get a lot of looks on this bicycle, but I suspect I'm getting a lot more with this gizmo on my head."

He believes that education would fix a lot of the current biking issues

"The biggest thing that would make everybody safer would be for motorists to be educated about the fact that bicyclists are out there and what bicyclists are allowed and not allowed to do."

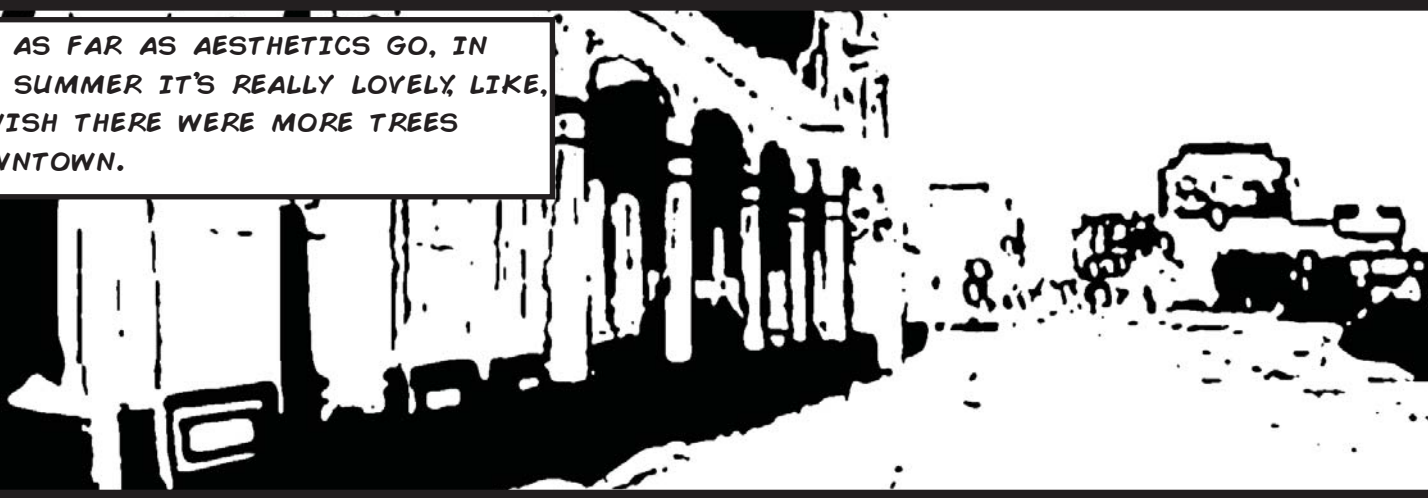


I tend to sing pretty much all the time when I ride. I guess the paths become so familiar, you gotta do something to change it up.

RIVERSIDE IS EXTRE

This is a really quick and easy way to get into downtown. And lovely too!

UH, AS FAR AS AESTHETICS GO, IN THE SUMMER IT'S REALLY LOVELY, LIKE, I WISH THERE WERE MORE TREES DOWNTOWN.



Eventually you get to know how the lights work in this city. When to start and when to stop.

New taco place!

Fig. 36. Seymour's experience (author 2015)



This is Riverside.
It's a pretty awesome
area to bike through

VERY SAFE.

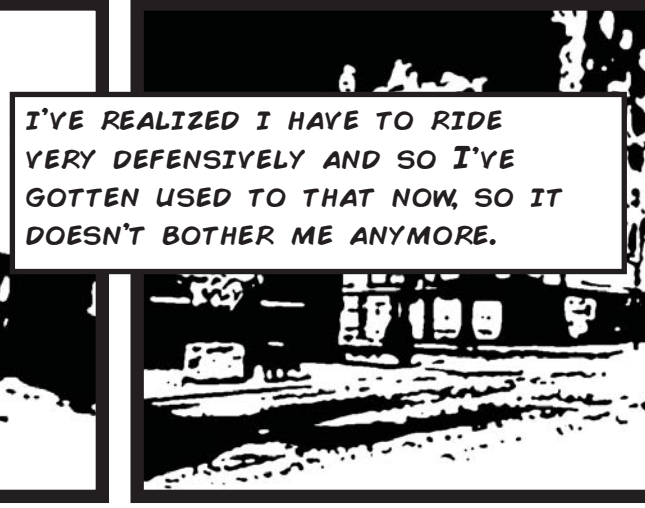
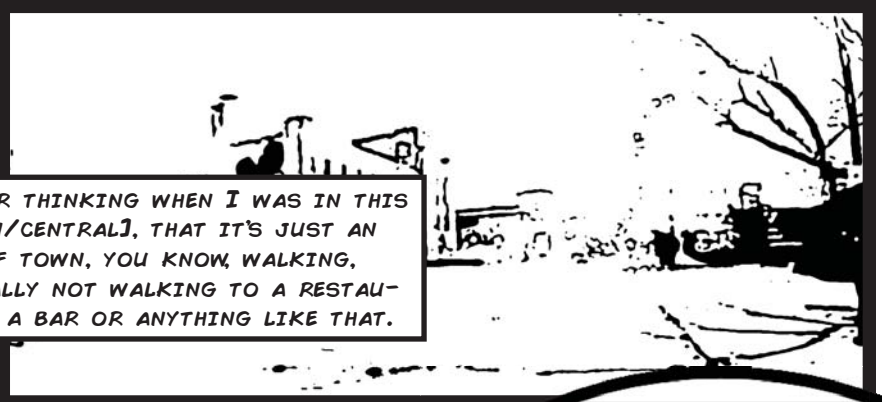
I LOVE THIS STREET [MAIN].
CAUSE IT'S FOUR LANES WIDE AND
IT'S ONE WAY, SO THERE'S PLENTY OF
ROOM FOR CARS AND BIKES.



This is Main St.
A nice, wide, four lane
street. Cuts through
downtown.



I REMEMBER THINKING WHEN I WAS IN THIS
LIGHT [MAIN/CENTRAL], THAT IT'S JUST AN
ODD PART OF TOWN, YOU KNOW, WALKING,
YOU'RE USUALLY NOT WALKING TO A RESTAU-
RANT OR TO A BAR OR ANYTHING LIKE THAT.



I'VE REALIZED I HAVE TO RIDE
VERY DEFENSIVELY AND SO I'VE
GOTTEN USED TO THAT NOW, SO IT
DOESN'T BOTHER ME ANYMORE.

HELLO, DOWNTOWN
WOOHOOOO!



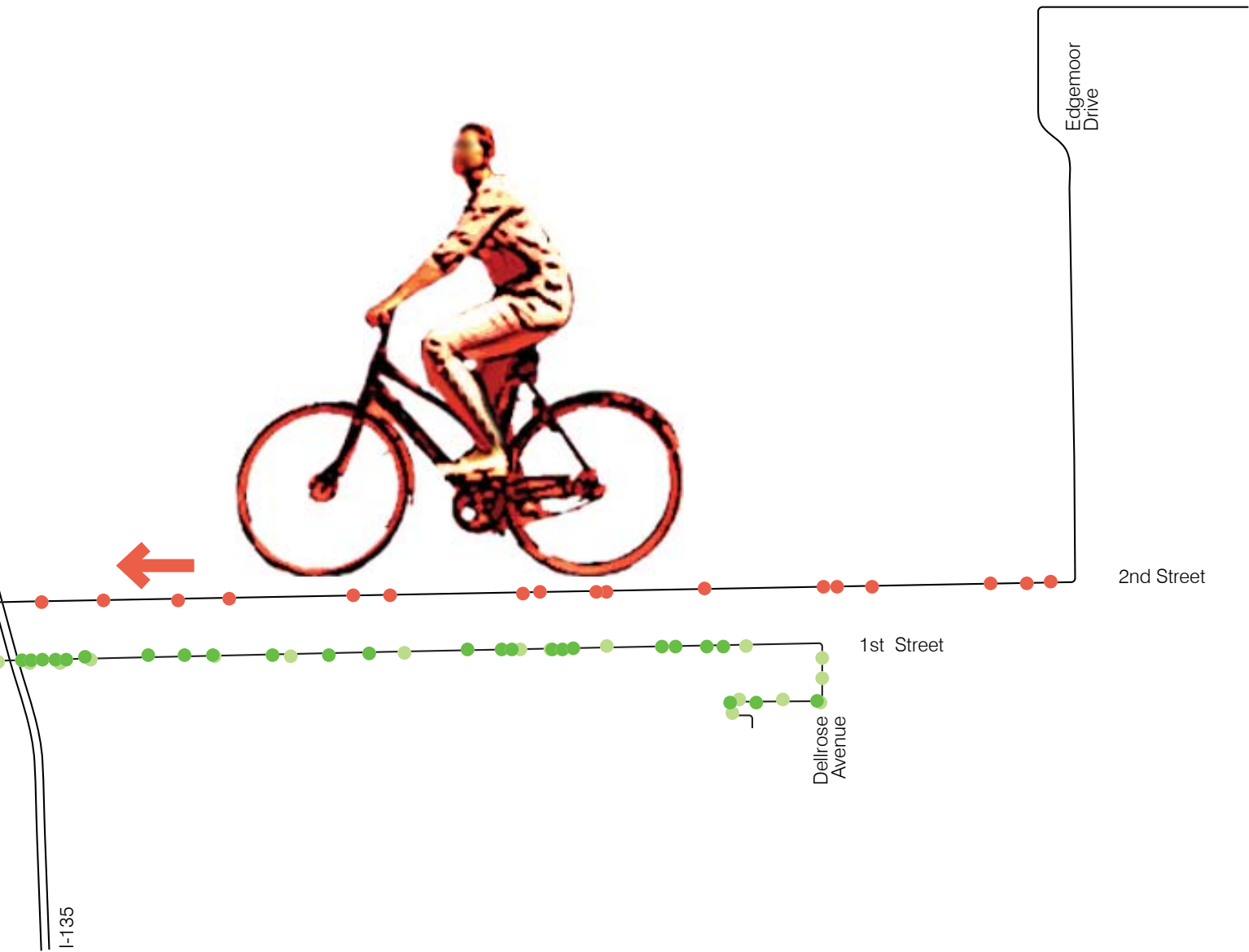
THIS IS WHERE IT GETS A LITTLE DAN-
GEROUS. [DOUGLAS AVE. AND IDA ST.]
LIKE IF YOU KEEP GOING EAST NOW, NOW
THAT YOU'RE OUT OF THE DOWNTOWN AREA
WITH ALL THE LIFE PEOPLE JUST START,
THEY START SPEEDING REALLY HEAVILY



ROUTES: GEORGE

With his twelve mile commute into downtown (fig.37-38), George uses a motor-assist bicycle. Past experiences living in a more bicycle friendly city fuels his desire to improve Wichita's bicycle infrastructure and experience.





FINDINGS: GEORGE

Urban Environment:

He did not speak much about the urban environment

Biking Infrastructure:

He is willing to go out of his way to use the bike lane and have less traffic around him

"I would say that I would generally take that [2nd St.] because of the bike lane and this section is usually a little less traffic than major thoroughfares."

Bike lanes/areas should be better maintained

"The thing that makes this [2nd st. bike lane] difficult, especially this time of the year, it's hard to see in this video but with the snows that we had in the winter. A lot of times the bike lanes aren't cleaned the best or swept."

Biking on the sidewalk is more dangerous

"The other thing and i, it may seem counterintuitive, you'll notice a lot of the spots, not only this section that you see here but a couple of different places there is a sidewalk. I used to take that sidewalk but I feel like some times that could be perhaps even more dangerous because you're coming through maybe an intersection where those sidewalks are, people pull generally pass that and will be looking left or right so having that lane and using this is something I generally prefer whereas some people may want to take the sidewalk."

"Since I'm traveling a long ways I need to get there quickly and by using a lane or by using a road I can move along at a faster pace."

More infrastructure will bring more people

"I guess i would like to see more infrastructure put in place to accommodate bikes. I think it's one of those things if you do you'll get more. If you get more then

people just become more aware."

Road/Traffic:

Traffic noticeable picks up when getting closer to downtown

"Now we're getting, the bike lane goes away so this is where I would say, and the traffic is generally there's a little more traffic that's picking up as you're nearing downtown."

People on bikes should be accommodated at construction areas

"And sections like this [2nd/Hydraulic] where we just passed are coned off for construction. You know try to be extra careful, i don't know if you could tell from this but I glance back to make sure but those options of you know where do i go, you're making split second decisions of do I merge over into one lane of traffic that goes through or do I do something different?"

Safety:

Feels significantly safer with his own lane

"Still one way traffic on 2nd um but i feel like I don't feel i would say quite as safe in this section as I would back where I actually had the lane."

Motorist Behavior:

Motorists commit too many rolling stops, rolling right into the bike lane

"The interesting thing as I go through college hill I do have to be careful because of the roads that go North and South. People, even though there's the bike lane I would say they're not accustomed to seeing a lot of cyclists, especially this early. So, a lot of times they'll come up to maybe the stop sign, take a quick glance and go."

Motorists aren't always watching for bikers

"I don't know if you saw that person backing

out. I slow down. People aren't necessarily watching"

"Hang on just a second, this was kind of an interesting...that bus was just stopped and just trying to figure out what to do there was kind of an interesting circumstance"

A better turning strategy is needed for bike lanes

"And I would say another thing that when I come up to this [2nd/Hillside] intersection with high traffic, even though there's a bike lane. If it's backed up, not the case this way, but if there's traffic at that light... Sometimes people may not signal that they're going to do a right hand turn or so it's one of those things where I try to observe what's going on. If i need to stay back even though I do have that lane to accommodate traffic that's coming through I might do that."

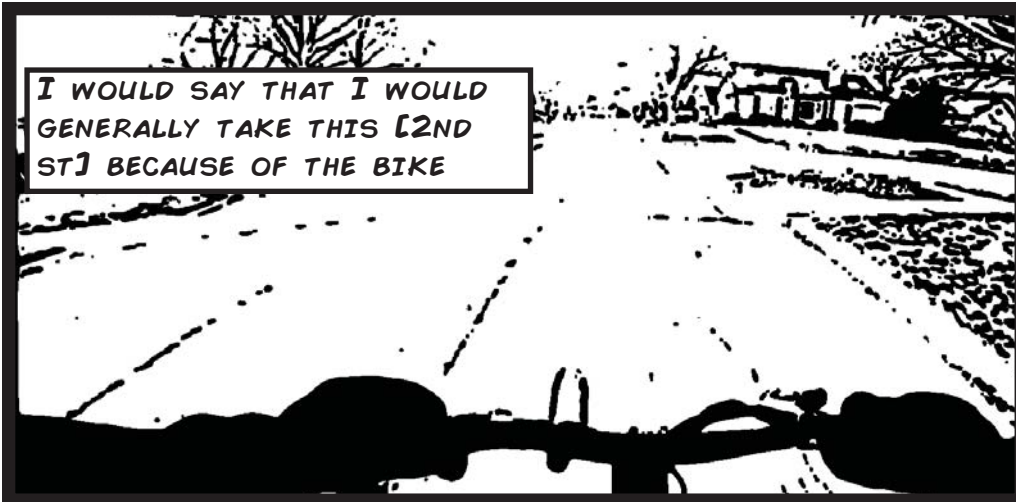
Cars definitely feel like they own the roads

"Occasionally get somebody that i don't know that is, uh gets irritated by the fact that they have to go around me and when they go around they just hit really hard with their engine."

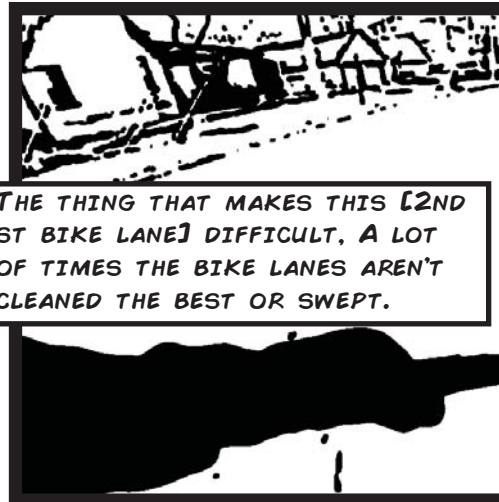
Other:

He knows what a good biking network should be like

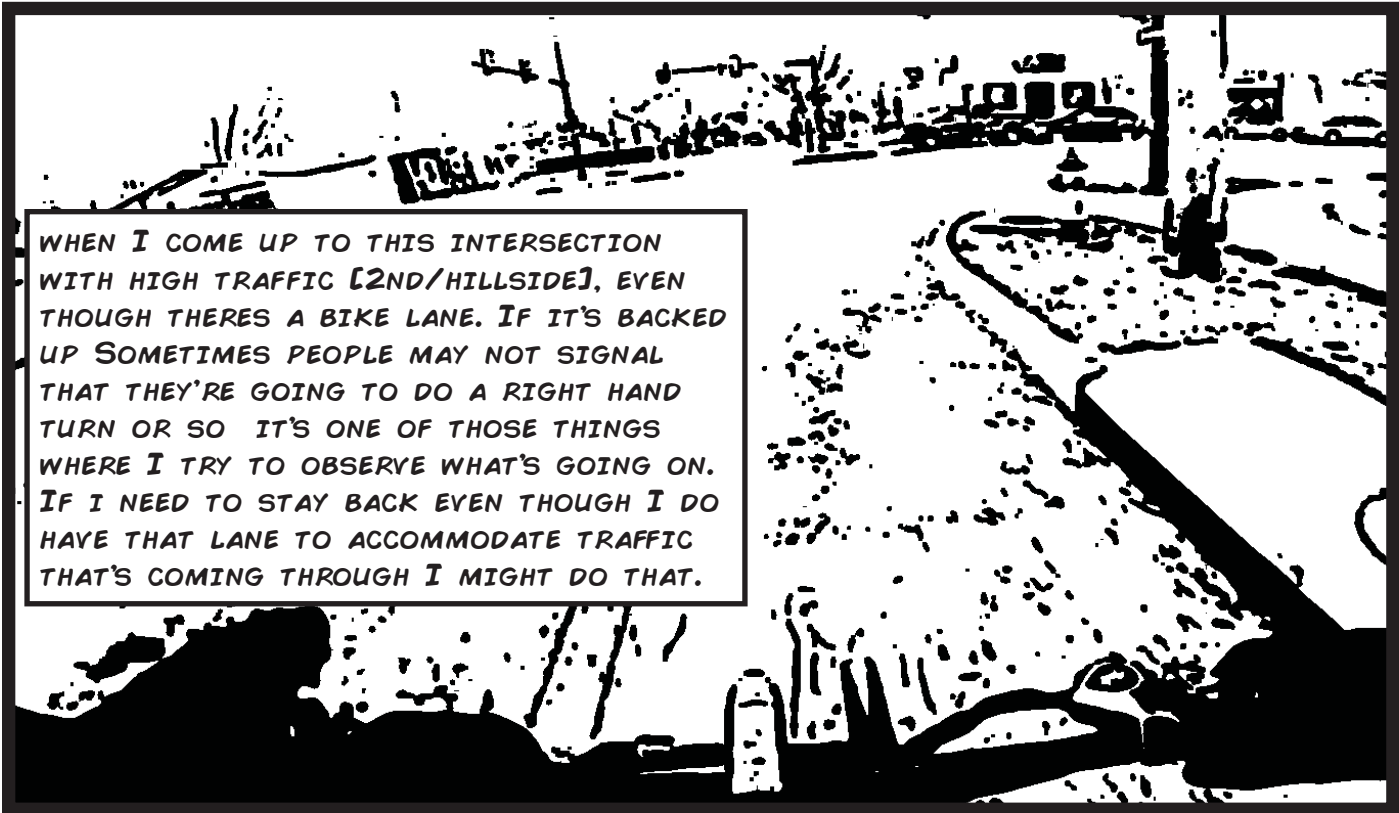
"Just my experience in Phoenix with more bike lanes, I liked having that extra space. It made me feel more safe in more traffic."



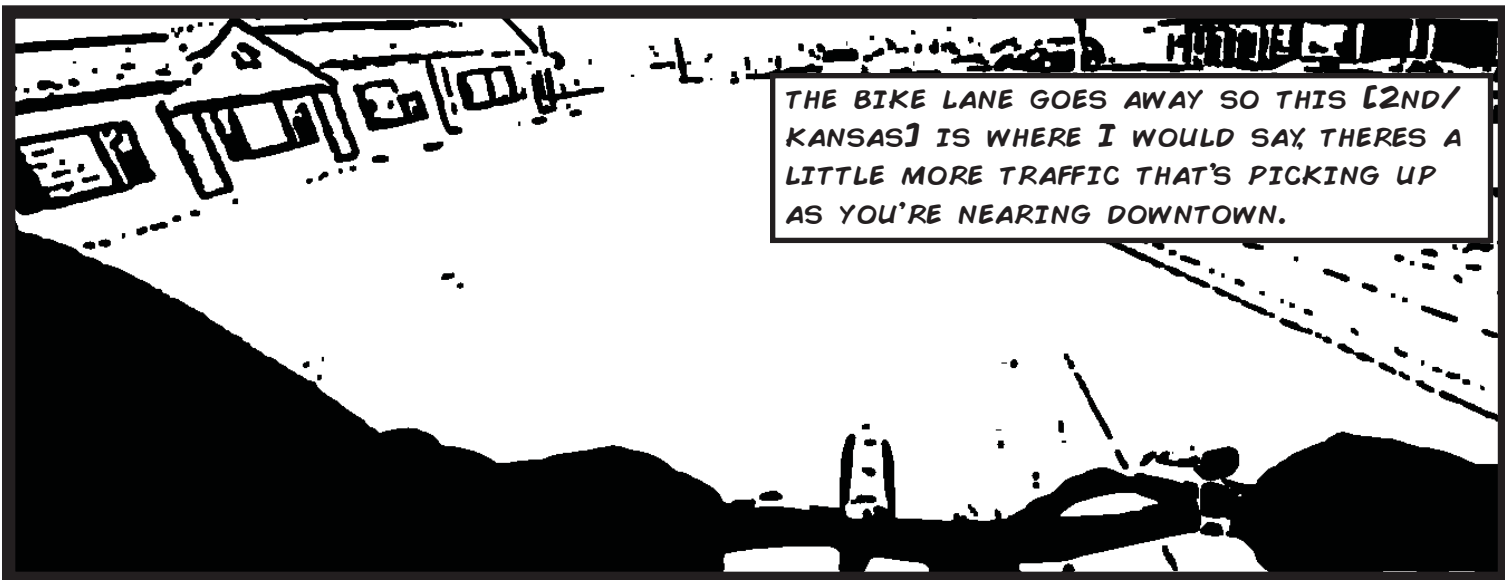
I WOULD SAY THAT I WOULD GENERALLY TAKE THIS [2ND ST] BECAUSE OF THE BIKE



THE THING THAT MAKES THIS [2ND ST BIKE LANE] DIFFICULT, A LOT OF TIMES THE BIKE LANES AREN'T CLEANED THE BEST OR SWEEPED.

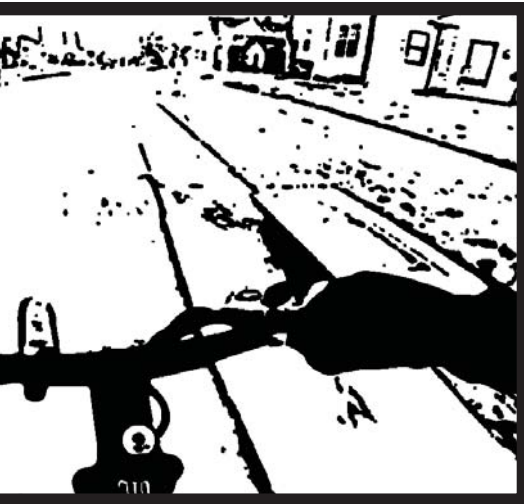


WHEN I COME UP TO THIS INTERSECTION WITH HIGH TRAFFIC [2ND/HILLSIDE], EVEN THOUGH THERES A BIKE LANE. IF IT'S BACKED UP SOMETIMES PEOPLE MAY NOT SIGNAL THAT THEY'RE GOING TO DO A RIGHT HAND TURN OR SO IT'S ONE OF THOSE THINGS WHERE I TRY TO OBSERVE WHAT'S GOING ON. IF I NEED TO STAY BACK EVEN THOUGH I DO HAVE THAT LANE TO ACCOMMODATE TRAFFIC THAT'S COMING THROUGH I MIGHT DO THAT.

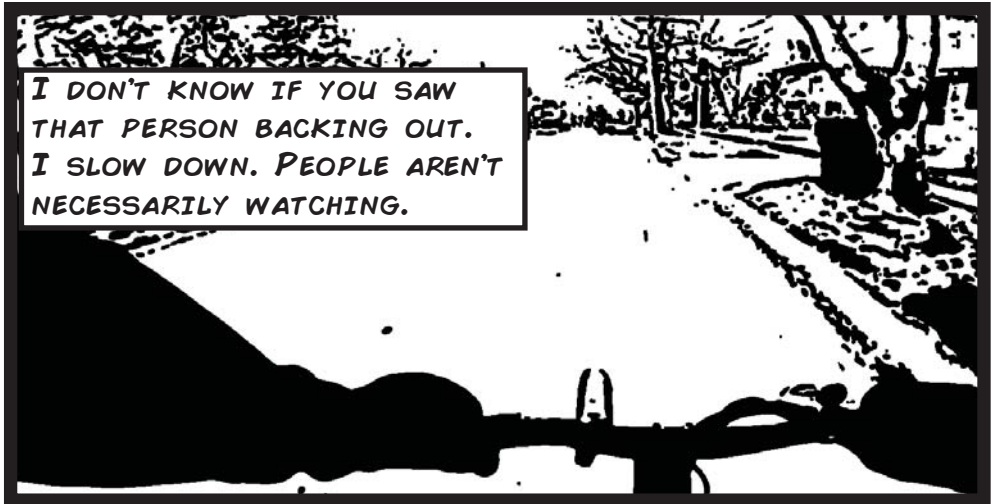


THE BIKE LANE GOES AWAY SO THIS [2ND/ KANSAS] IS WHERE I WOULD SAY, THERES A LITTLE MORE TRAFFIC THAT'S PICKING UP AS YOU'RE NEARING DOWNTOWN.

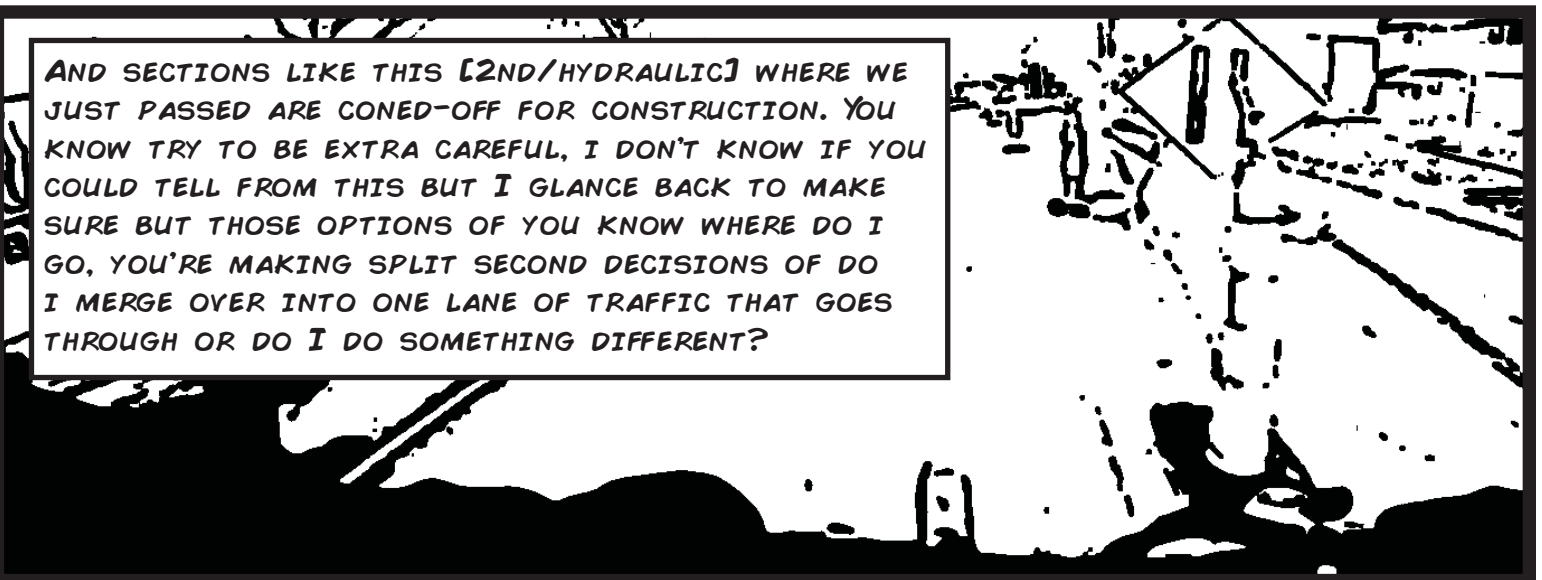
Fig. 38. George's experience (author 2015)



I DON'T KNOW IF YOU SAW THAT PERSON BACKING OUT. I SLOW DOWN. PEOPLE AREN'T NECESSARILY WATCHING.



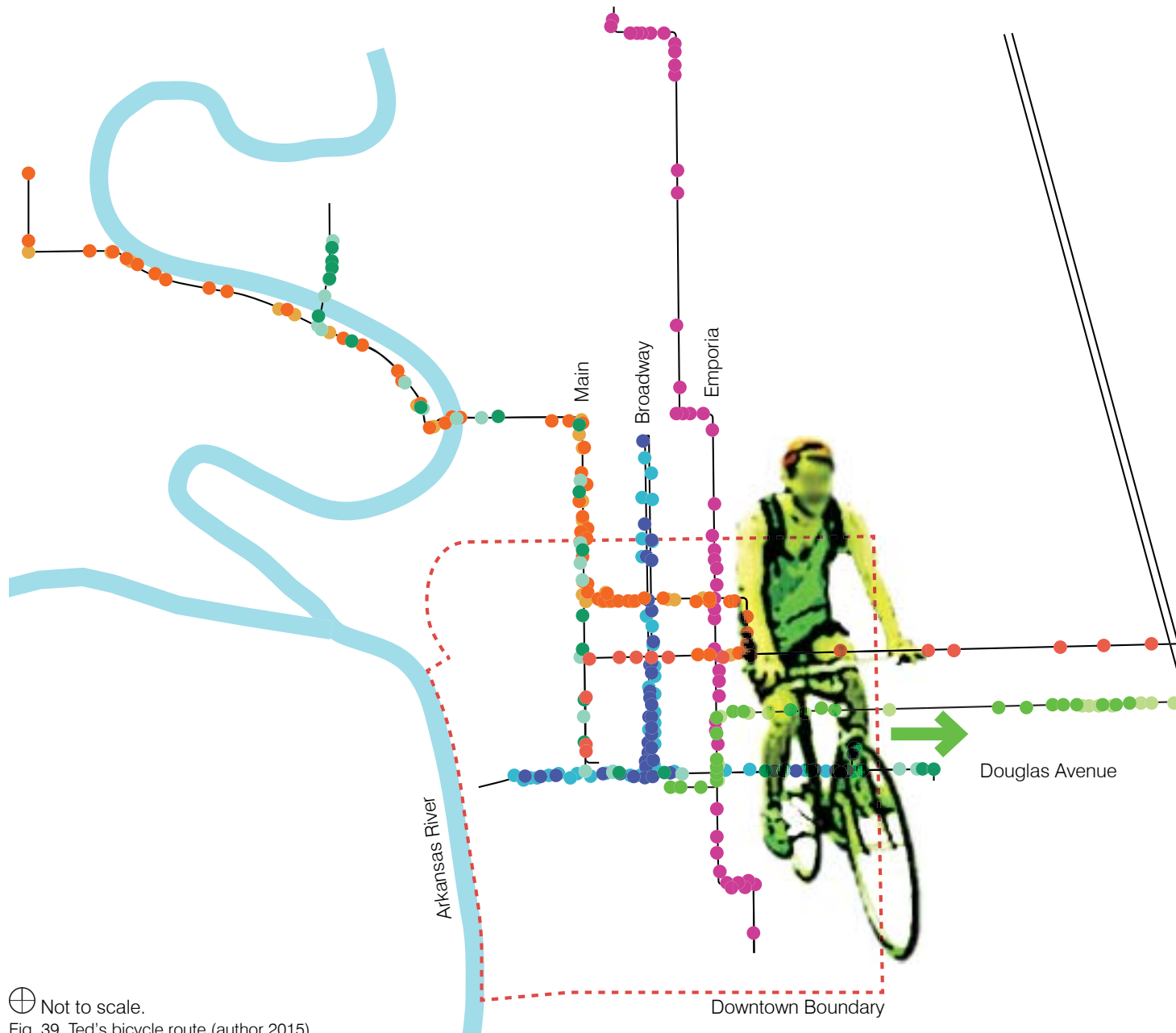
HANG ON JUST A SECOND, THIS WAS KIND OF AN INTERESTING...THAT BUS WAS JUST STOPPED AND JUST TRYING TO FIGURE OUT WHAT TO DO THERE WAS KIND OF AN INTERESTING CIRCUMSTANCE.



AND SECTIONS LIKE THIS [2ND/HYDRAULIC] WHERE WE JUST PASSED ARE CONED-OFF FOR CONSTRUCTION. YOU KNOW TRY TO BE EXTRA CAREFUL, I DON'T KNOW IF YOU COULD TELL FROM THIS BUT I GLANCE BACK TO MAKE SURE BUT THOSE OPTIONS OF YOU KNOW WHERE DO I GO, YOU'RE MAKING SPLIT SECOND DECISIONS OF DO I MERGE OVER INTO ONE LANE OF TRAFFIC THAT GOES THROUGH OR DO I DO SOMETHING DIFFERENT?

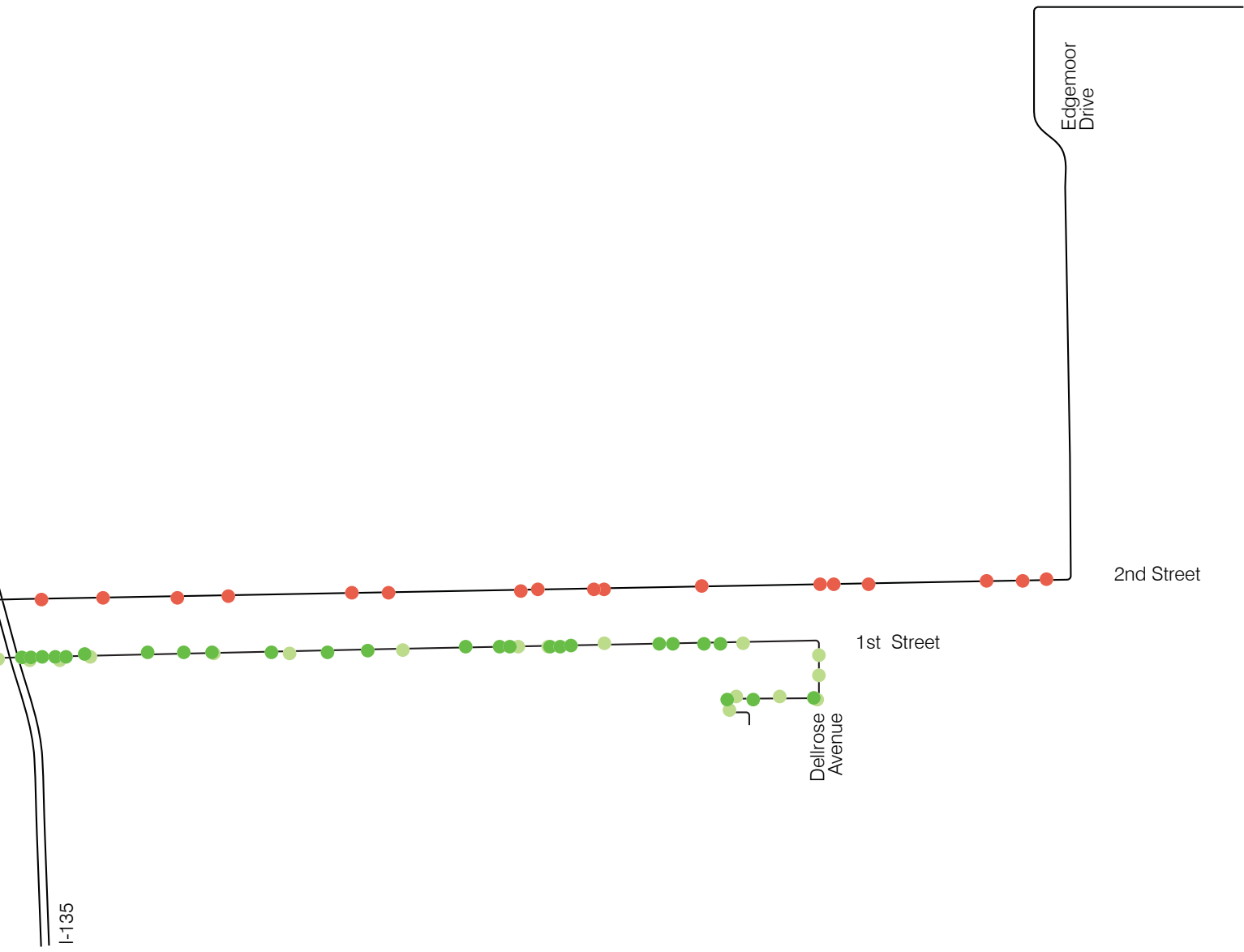
ROUTES: TED

Ted lives in the neighborhood of College Hill and commutes by bike (fig. 39-40) into downtown for work almost everyday. Being the president and CEO of a company located downtown, Ted is currently working to offer incentives for alternative forms of transportation at his company.



⊕ Not to scale.

Fig. 39. Ted's bicycle route (author 2015)



I-135

Edgemoor
Drive

2nd Street

1st Street

Dellrose
Avenue

FINDINGS: TED

Urban Environment:

He feels that biking helps to connect him to his community

“Hello! [waves to runner] Good seeing so many people outside.”

“It [biking] does make me more at one with the community I think, um definitely.”

Biking Infrastructure:

He is always looking forward to the parts of his ride with a bike lane

“I go home on first street because eventually because eventually, about a mile or so up the road there’ll be a bike lane”

“Good news is the bike lane will start in about 200 meters. I tend to relax quite a bit when I get on that bike path.”

“I notice myself, every time I’m up in this area, I’m noticeably more calm with the bike lane. I’m still aware of what’s going on around me, I’m still paying a lot of attention. But, I’m just able to relax a little bit. I don’t feel the need to look back as much. I don’t feel as much stress.”

“I love this part here [1st st. bike lane]. It’s comfortable. It’s amazing how that one little white line helps people, helps cars, i think, just be more aware.”

Old town is not comfortable to bike through

“I love going through old town right here, it’s a fun little part of Wichita. But, it’s a little nerve wrecking”

Road/Traffic:

He will use alternative routes to avoid traffic congestion

“Every time when I’m at this spot right here [alleyway] I commit, I think, the only traffic violation while I ride my bike. I head down this alley the wrong way.”

Intersections should be better designed for

people on bikes

“This [1st/Santa Fe] part up here is a little tricky. The road at this stoplight jogs to the left and a lot of times cars don’t jog to the left as much as they need to, so it’s a little tricky getting through this intersection”

He feels he has to be more aware of road/traffic in the stretches with no dedicated bike space

“But between the office and the bike path I tend to always be aware, more aware, of what’s around me”

Safety:

The sand on side of road makes biking very unsafe

“There’s a lot of sand in the bike lane, which will hopefully wash away when rains come this spring. Right now it’s a little inconvenient.”

“Until then [bike lane] it’s a little scary at times. Especially this part up here when we go past this underpass the road narrows and you can see there is sand on the right hand side of the road, so I can’t be quite as far over as I’d like.”

Bike lanes aren’t necessary on all roads, especially if the traffic is fairly low

“So, you know I feel pretty safe on, this is Emporia street... There’s no bike lane but there’s not much traffic at all. One way.”

A lot of people only bike during nicer weather and not year round

“Through the winter when it got cold, a lot of those folks [who bike during nice weather] quit riding. A little scarier in the winter too. Darker, darker faster in the evenings, bad weather that freaks people out so, I don’t know.”

Cars don’t always look for bikers or stop completely at stop signs

"The only thing that makes me feel unsafe [in the College Hill area], I'm not worried about the cars passing me, I worry about the cars who are coming up from the side, coming onto the street."

"I'm always real careful about those cars on the right. I'm looking for lights if they're going to back up."

He feels safest in the Hillside neighborhood

"I think the part I like the most is definitely up in the neighborhood...I like old town but while I'm riding through it I'm hyper aware of what's going on around me and where the cars are. I can't think or do anything neat like that."

Motorist Behavior:

Motorists don't follow the minimum passing distance law

"It makes me nervous when cars pass that close."

"It's weird, there are three huge lanes here and yet it still, you still have cars that will come up in your lane."

Not all motorists respect bikers and sometimes even harass people on bikes

"uh always nervous for some drivers that don't appreciate us cyclists."

"I found if I just look around every once and while like that it send a little signal to them that, those behind me that is, that I appreciate them giving me a little space."

"AH!! [someone from car yelling]. I'm not sure why people do that. I'm not sure if the camera could pick up that car screaming at me. I don't know if they think they're being funny or what. But, it drives me nuts. Especially on a busy road, it kinda scares you sometimes. Those of us that cycle to work have probably all had close calls where we've been almost hit. People joking

around don't make things any easier."

Cars get anxious when nearing the Interstate

"Cars who are getting on to I-135 are back there and they're just anxious to get on the highway and I think that makes them frustrated with me."

Other:

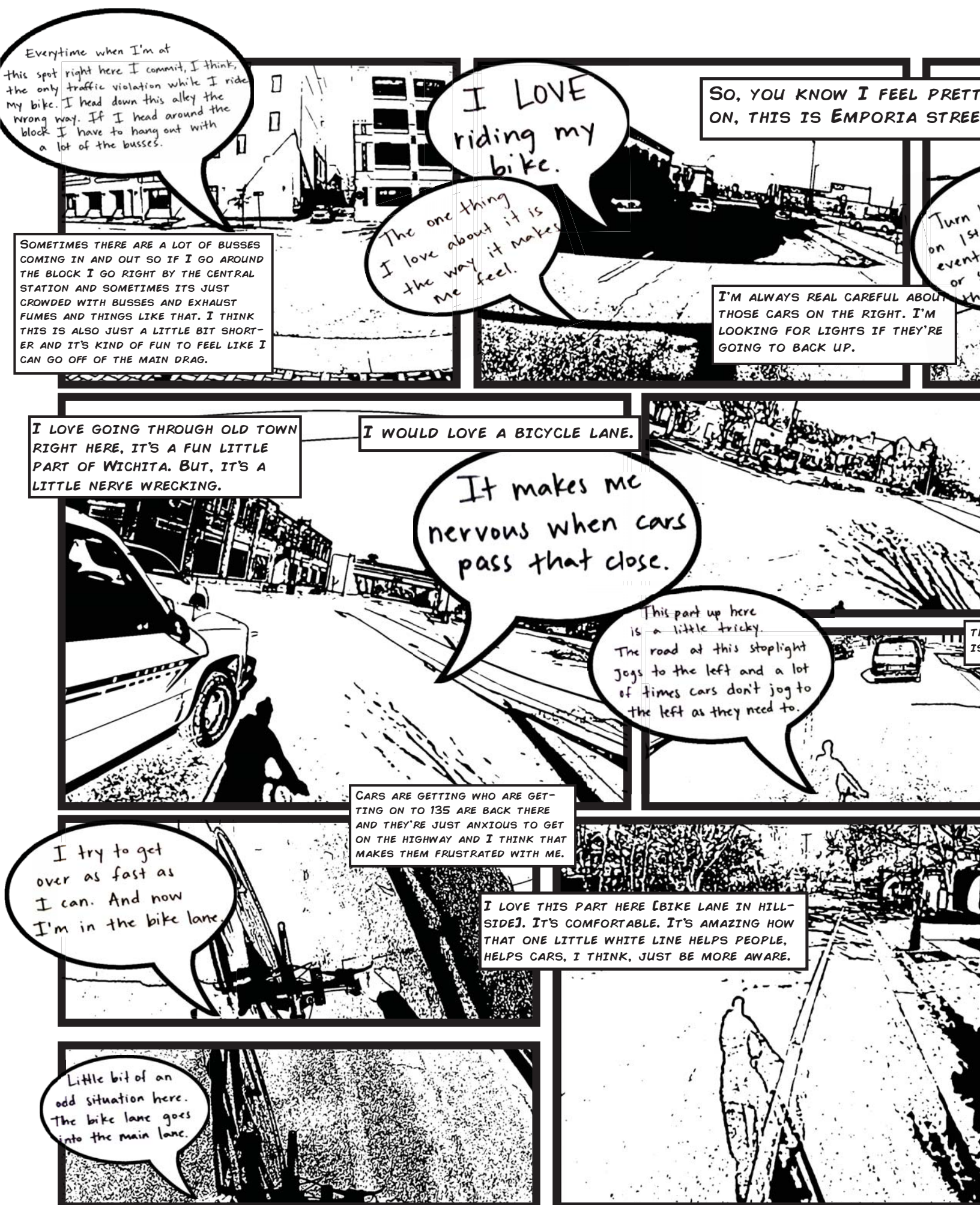
He loves riding his bike because of the way it makes him feel

"I remind myself why I like it [commuting by bike] so much. Keeps me healthy, keeps me fit, doesn't beat up my body and I get home in the evening and I'm energized just from a brief bike ride."

"I LOVE riding my bike. I love it love it love it. I started bike commuting about a year ago and I've done it most days since. If it's icy or snowy I don't. But if it's not icy or snowy I tend to be on my bike. Unless I have some meeting out of town or something."

Trying to get more people at his office to start commuting by bike/walking

"What I've thought about doing, Danielle, I thought about trying to justify if i could get more people here at my office to ride I could justify us leasing a vehicle to leave at our office. So if people ride their bike and have to go to a meeting, they could then borrow the car."



Everytime when I'm at this spot right here I commit, I think, the only traffic violation while I ride my bike. I head down this alley the wrong way. If I head around the block I have to hang out with a lot of the busses.

SOMETIMES THERE ARE A LOT OF BUSES COMING IN AND OUT SO IF I GO AROUND THE BLOCK I GO RIGHT BY THE CENTRAL STATION AND SOMETIMES ITS JUST CROWDED WITH BUSES AND EXHAUST FUMES AND THINGS LIKE THAT. I THINK THIS IS ALSO JUST A LITTLE BIT SHORTER AND IT'S KIND OF FUN TO FEEL LIKE I CAN GO OFF OF THE MAIN DRAG.

I LOVE riding my bike.

The one thing I love about it is the way it makes me feel.

SO, YOU KNOW I FEEL PRETTY ON, THIS IS EMPORIA STREET

I'M ALWAYS REAL CAREFUL ABOUT THOSE CARS ON THE RIGHT. I'M LOOKING FOR LIGHTS IF THEY'RE GOING TO BACK UP.

Turn on 1st event or

I LOVE GOING THROUGH OLD TOWN RIGHT HERE, IT'S A FUN LITTLE PART OF WICHITA. BUT, IT'S A LITTLE NERVE WRECKING.

I WOULD LOVE A BICYCLE LANE.

It makes me nervous when cars pass that close.

This part up here is a little tricky. The road at this stoplight jogs to the left and a lot of times cars don't jog to the left as they need to.

CARS ARE GETTING WHO ARE GETTING ON TO 135 ARE BACK THERE AND THEY'RE JUST ANXIOUS TO GET ON THE HIGHWAY AND I THINK THAT MAKES THEM FRUSTRATED WITH ME.

I try to get over as fast as I can. And now I'm in the bike lane

I LOVE THIS PART HERE [BIKE LANE IN HILLSIDE]. IT'S COMFORTABLE. IT'S AMAZING HOW THAT ONE LITTLE WHITE LINE HELPS PEOPLE, HELPS CARS, I THINK, JUST BE MORE AWARE.

Little bit of an odd situation here. The bike lane goes into the main lane.

Fig. 40. Ted's experience (author 2015)

Y SAFE
T.

here. I go home
street because
usually about a mile
up the road
there'll be a bike lane.

AND THIS [1ST/ST. FRANCIS] TIME
THERE WAS A LOT OF SAND ON THE
GROUND. SO, I COULDN'T RIDE AS FAR
INTO THE GUTTER AS I WOULD HAVE
LIKED WITHOUT FEELING UNSAFE.

WHEN I TURN UP HERE [1ST/EM-
PORIA], THIS IS THE SCARIEST
PART FOR MY RIDE.

Until then [bike lane]
it's a little scary at times.
Especially this part up here
when we go past this
underpass the road narrows

RIGHT IN HERE IS THE MOST
SCARY FOR ME. I LOOK BACK A LOT. JUST
REALLY TO GIVE A WARNING TO THE CARS
THAT I APPRECIATE THEM.

I like long stretches
like this because there
is no traffic.

THIS [1ST/SANTA FE] STRETCH HERE
ISN'T ALWAYS VERY COMFORTABLE.

IT'S WEIRD, THERE ARE THREE HUGE LANES
HERE AND YET IT STILL, YOU STILL HAVE
CARS THAT WILL COME UP IN YOUR LANE.

WOAH!
That guy is
going fast

I'M NOT WORRIED ABOUT THE CARS
PASSING ME, I WORRY ABOUT THE CARS
WHO ARE COMING UP FROM THE SIDE,
COMING ONTO THE STREET.

AHHH!!

I'm noticeably
more calm with
the bike lane.

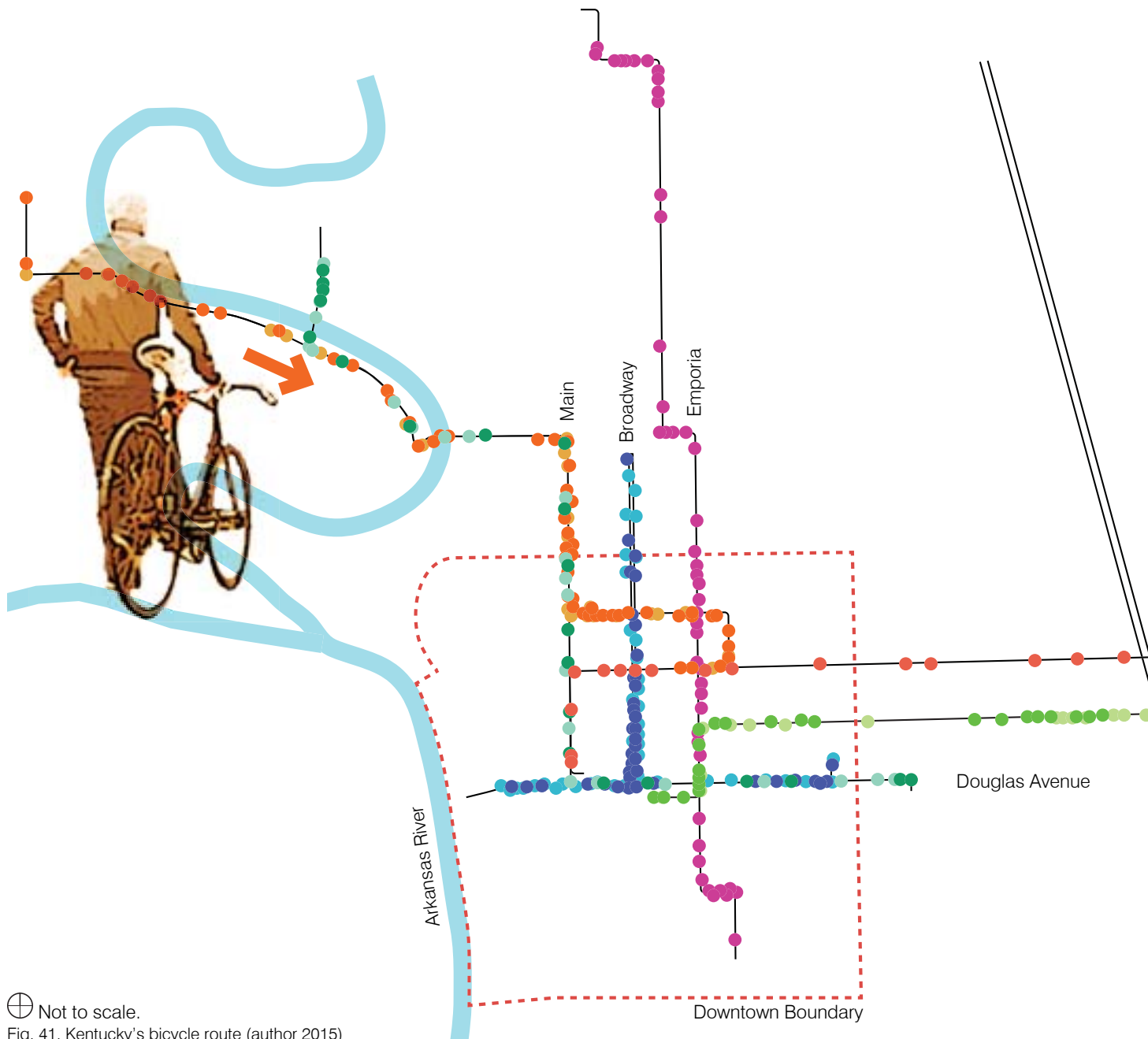
I don't know if they
think they're being funny
or what. But, it drives
me nuts!

YEAH, WHAT WAS THAT ALL ABOUT??

WHEN IT [PEOPLE SCREAMING] HAPPENS
WHEN YOU'RE ON THE ROAD ON A BIKE,
WITH CARS, IT'S SCARY, I DON'T LIKE IT.

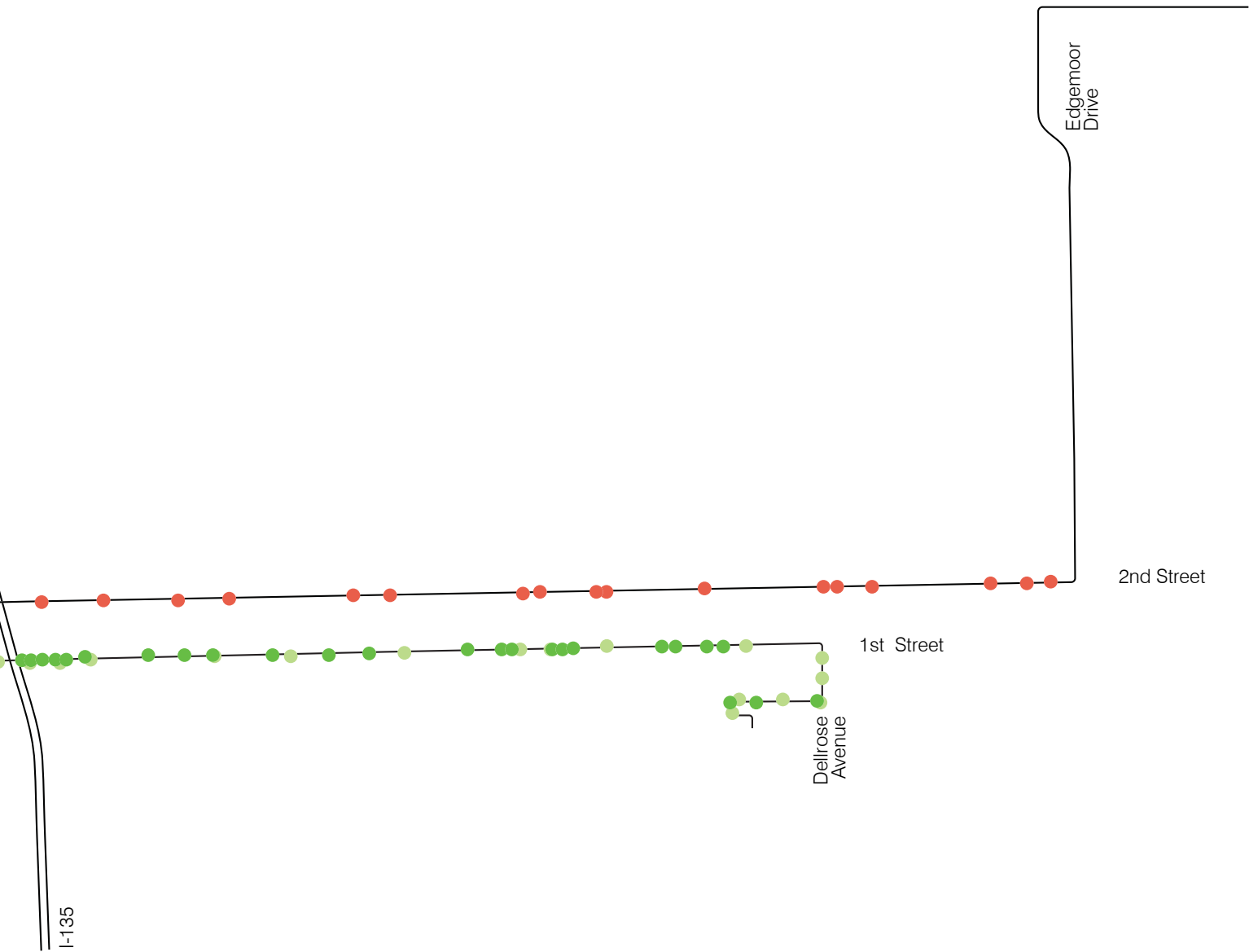
ROUTES: KENTUCKY

A retired, yet fully active member of his community, Kentucky runs a bicycle advocacy group in Wichita. He began bicycling as a major form of transportation almost ten years ago. His route begins at home in Riverside and ends with his destination in downtown (fig. 41-42).



⊕ Not to scale.

Fig. 41. Kentucky's bicycle route (author 2015)



FINDINGS: KENTUCKY

Urban Environment:

He really enjoys his ride in Riverside

"It's a beautiful ride in. [from Riverside]"

His familiarity with the area makes his ride more comfortable

"And familiarity with the area [downtown], I'm just on those streets all of the time and I'm very comfortable knowing where I was going."

Biking Infrastructure:

He's comfortable biking roundabouts

"So, were coming down to a roundabout. It's Murdock street and um I like the roundabout, it keeps things moving."

Not all bicyclists follow the rules

"There's another cyclist coming through. He kind of did a crazy thing"

More bike lanes and wayfinding signage is needed downtown

"If there was anything I could change it would be to have more bike lanes and some of our bike paths don't connect right now and we're working on connecting them."

"One thing we need that we really don't have is wayfinding signs for our bike paths"

He feels Wichita had a good human bike infrastructure

"We have a good human bike infrastructure. We have advocates we have bike shops that really promote biking and we have physical infrastructure like bike lanes and paths. And you know it's happening around the region, around the state and around the world."

Road/Traffic:

Enjoys his route downtown from Riverside

"This is the route I take on my way to downtown. It's called west river boulevard. Riverside is approximately 2 miles

from downtown. Perfect location. In a neighborhood, yet close to downtown."

Turning left on one way can be difficult

"Sometimes you have to get over three lanes [on one-way st.] if you're turning left."

Wants lights timed for bicyclists

"[he would like] Crosswalks with signs and the timing lights were there so I know how much time I have to get through the intersection."

Safety:

Wears high visibility clothing while biking

"It's important that I'm seen. High visibility clothing."

"I try to wear the right clothing, i try to obey the rules of the road. I don't do any crazy things on the bike, i try to be slow and predictable."

Feels safer on wider streets and streets with less traffic

"It's pretty wide so it I feel pretty comfortable there. Plenty of room for folks to pass."

"This [Murdock] would be more of an arterial street or a four lane street. This time of the day I felt safe on it...Well, In rush hour traffic it can be really crowded."

"Well, um i think it [street width] makes it pretty safe, I kinda like the wide streets."

"This street [3rd st.] is a little more narrow, but I felt pretty safe on it. I'm continuing east."

The leftover sand on the streets makes it very unsafe

"We still have sand on the street from the application from snow, that makes the riding a little dangerous until it's all swept up. So, I have to be super careful on turns and not to get over on the side"

The more bikers riding on the road makes it safer

"The more bikes on the road the safer it gets, because motorists start anticipating that we are going to be there."

Motorist Behavior:

He feels like the bicycle culture is changing, also changing motorist behavior

"I was not harassed by any vehicle and I think that's getting better over the years. You still do a little bit, but several years ago, 15-20 years ago it was not unusual to be yelled at or things thrown at us or people zooming us, that sort of thing, in a car. I think the culture is changing."

Other:


Wichita is transforming into a more bicycle friendly city

"Wichita is slowly becoming a more bike friendly city. Wichita has made an application to the league of American bicyclists."

"Yeah, it's [the city's initiative] moving in the right direction. It's slow and we're behind other communities. I think we're moving in the right direction."

Educating the public is key to a better biking experience


"We're slowly trying to educate the public that riding on the street is okay. We have a right to do it. By law statutes we can ride on the street, we can even ride two abreast. Some people don't know that, some policeman don't know that."




SO, I'M LEAVING MY NEIGHBORHOOD OVER TO A MORE OF AN ARTERIAL STREET CALLED WEST RIVER BOULEYARD. IT'S A BEAUTIFUL STREET THAT IS ADJACENT TO THE RIVER.



IT'S A BEAUTIFUL RIDE IN.



IT'S PRETTY WIDE SO IT I FEEL PRETTY COMFORTABLE THERE. PLENTY OF ROOM FOR FOLKS TO PASS.



THIS [MURDOCK ST] WOULD BE MORE OF AN ARTERIAL STREET OR A FOUR LANE STREET. THIS TIME OF THE DAY I FELT SAFE ON IT.



I THINK IT




IN RUSH HOUR TRAFIC IT CAN BE REALLY CROWDED.

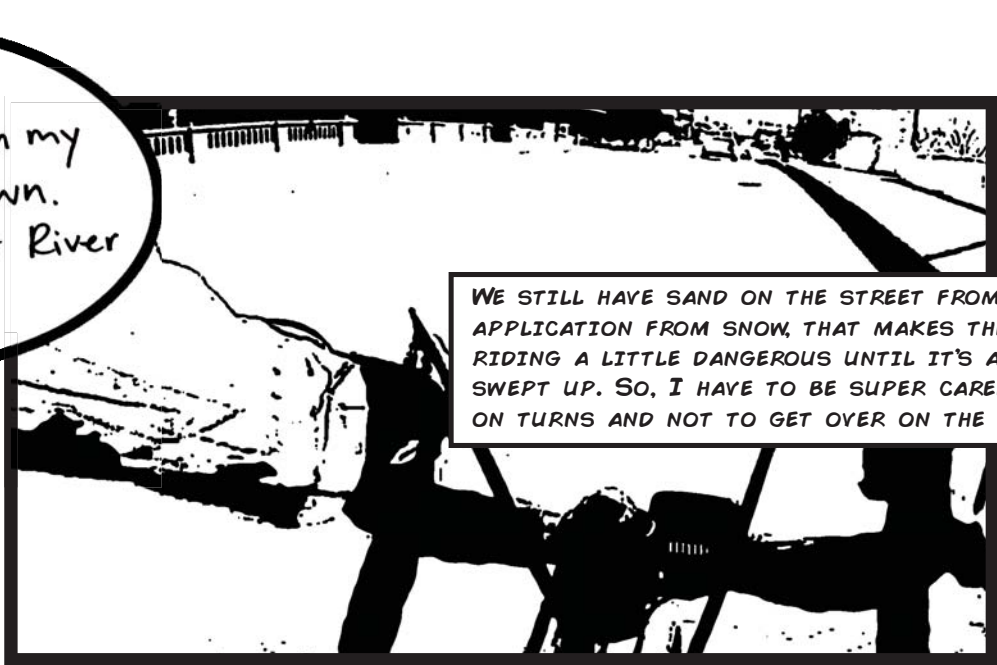


THERE'S ANOTHER CYCLIST COMING THROUGH. HE KIND OF DID A CRAZY THING.

Fig. 42. Kentucky's experience (author 2015)



This is the route I take on my way to downtown. It's called West River Boulevard.



WE STILL HAVE SAND ON THE STREET FROM THE APPLICATION FROM SNOW, THAT MAKES THE RIDING A LITTLE DANGEROUS UNTIL IT'S ALL SWEEPED UP. SO, I HAVE TO BE SUPER CAREFUL ON TURNS AND NOT TO GET OVER ON THE SIDE.



[WIDTH] MAKES IT PRETTY SAFE.

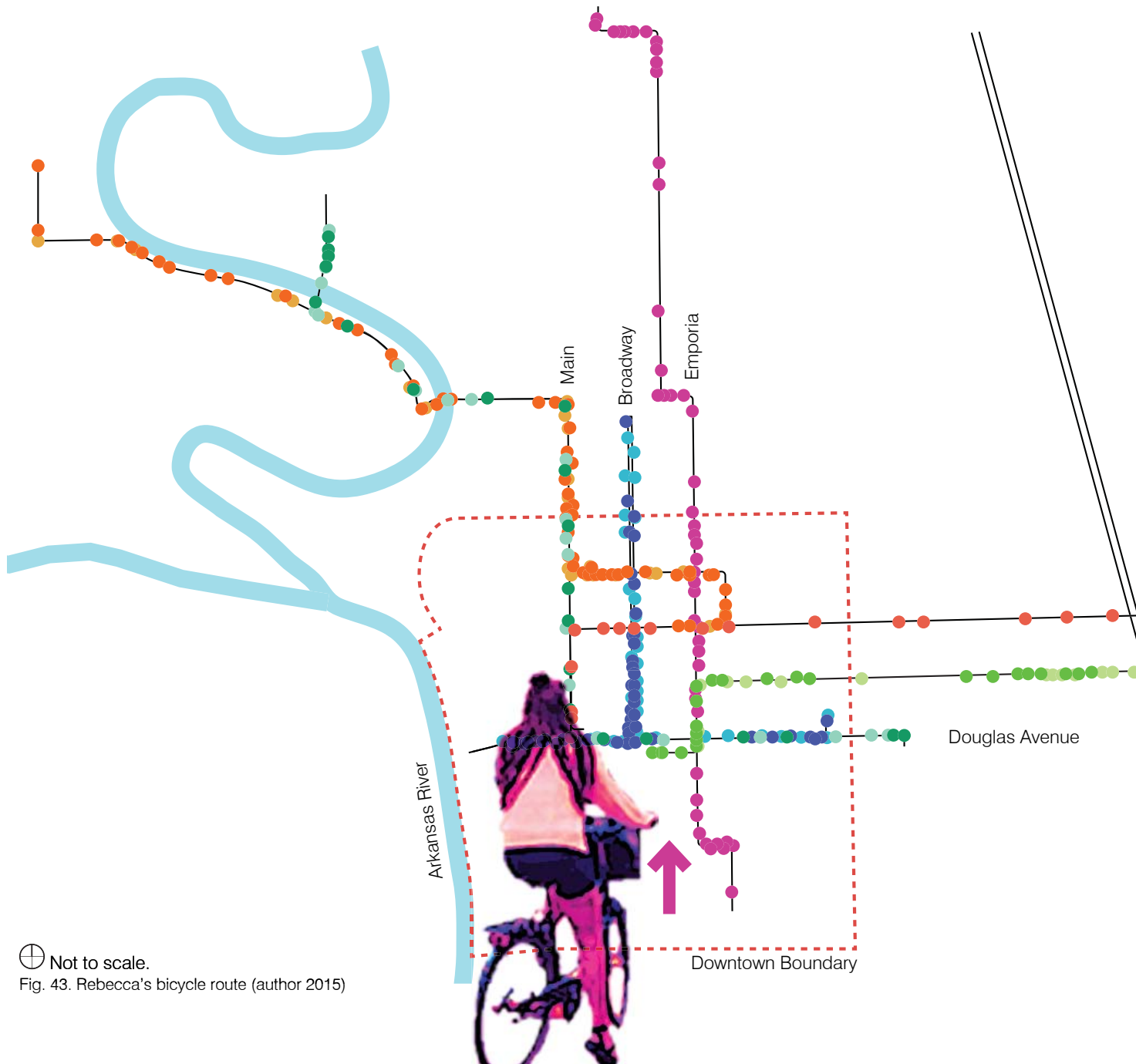
SOMETIMES YOU HAVE TO GET OVER THREE LANES IF YOU'RE TURNING LEFT [ON ONE-WAY].



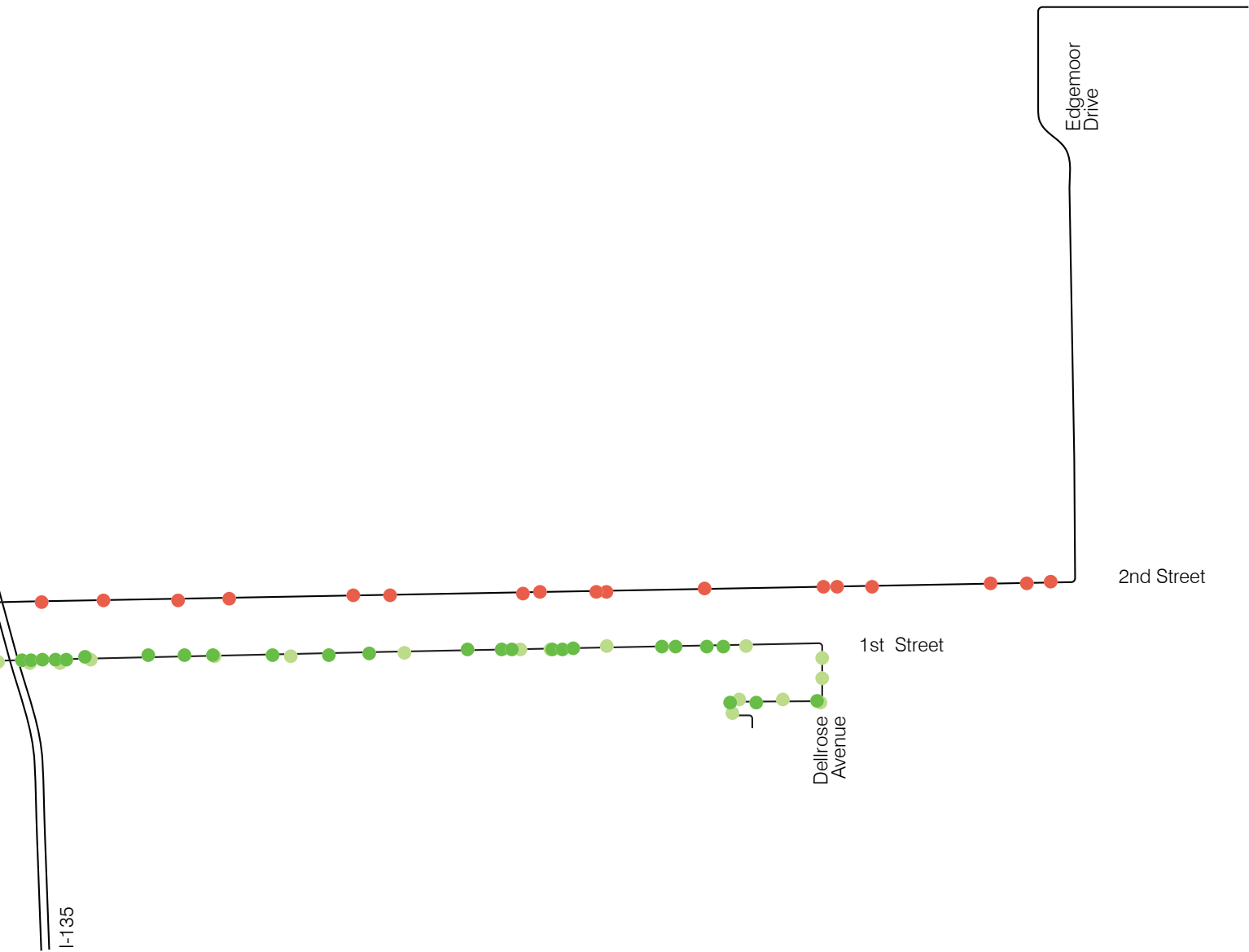
THIS STREET [3RD ST.] IS A LITTLE MORE NARROW, BUT I FELT PRETTY SAFE ON IT.

ROUTES: REBECCA

An everyday commuter bicyclist that lives and works downtown (fig. 43-44). Rebecca bikes snow or shine, she is also a strong advocate for improved bicycling in downtown Wichita, helping the city in any way she can.



⊕ Not to scale.
Fig. 43. Rebecca's bicycle route (author 2015)



FINDINGS: REBECCA

Urban Environment:

Does not find pleasure in biking most streets

"There are a lot of streets in Wichita that very ugly and there is no pleasure in cycling them."

"So, you just kind of get the job done but sometimes those streets are the busiest so you definitely don't want to be distracted by music or podcasts or whatever."

Neighborhood dogs are very scary for bikers

"If you're a cyclist in Wichita on a regular basis, I know, I talk to people. Dogs scare the shit out of people. Even if they're in their own fencing enclosure, cause they get right up on the fence. They just like slobber with their teeth and their like "ahh" It's terrifying. And you know that one of these days one of them is going to get out."

Biking Infrastructure:

Very again biking on the sidewalk

"I am 100% very anti-sidewalk like times a 100."

"I mean, these guys [sidewalk bikers] don't have helmets and usually the bicycles they're using seem to be like their daughter's bikes or something because a lot of them are girls bikes and a lot of them have a very low seat and so it looks like... and their smoking. They're not really minding the road rules so it makes sense for them to bike on the sidewalk cause they would get hit for sure if they were on the road."

Bikers won't go out of their way just to get on a bike lane

"The thing is when you're on a bicycle you're not going to go out of your way one street to hit a bike path. You're not going to."

The more people biking the better biking infrastructure

"If more people bike, that's how bike paths

happen. If there are like people biking on the side of the road, it's part of an unofficial bike path. It's just what it is."

Road/Traffic:

The arena has created increased traffic on nearby streets

"The arena you can see on the right side of the screen has made this [waterman] road a lot busier obviously cause the arena when there are arena events there are tons and tons of people. So, now it has changed a great deal...but it's a four lane main road which, you know two lanes either way, rarely are both lanes being used at the same time. So, biking on waterman is relatively safe in that you can stay in the lane on the far right. And not bothered."

Feels that there should be biking infrastructure on major thoroughfares

"But Douglas is the widest street. It's the most direct sort of going from to hillside and further. Like it's the only way you can do that without stopping."

Safety:

Very unsafe to bike during snowy weather

"No, none [bikers in snowy weather]. Like i said, it's so unsafe...The sidewalks don't get cleared...And I don't expect them to, I know it's not a cycling culture."

She feels safer biking on wide streets with less traffic

"This [Emporia] is a nice street cause it's wide and it's not very well traveled so it's always really safe. And it's one way. In Wichita at least, wide one way streets are very desirable...I wonder why there aren't bike lanes on there anyways. I mean, the city, all it would cost them is just the time

*and paint to lay that down... Emporia is a good street to bike on cause it's wide."
"Murdock is a pretty fast street. It's kind of a cross street. I don't actually really ever bike on Murdock frankly if I can avoid it."
"13th street is not a good street to bike on. Never ever ever advocate biking there"
"The streets are so wide [Douglas Ave.] you do feel a lot safer than you do on 1st street or second street"*

Motorist Behavior:

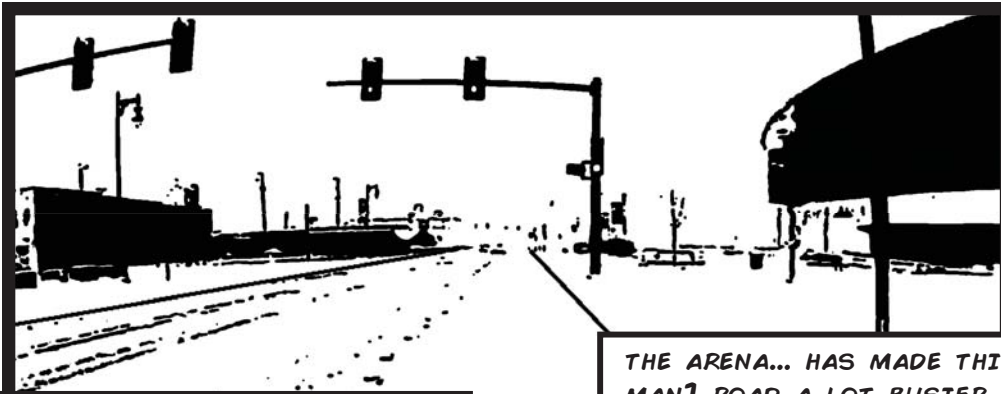
While motorist behavior is getting better, negative behavior is still far too common
*"But people are a lot more, they're becoming a lot more aware that they should absolutely change lanes when passing a cyclist. But, that's new. That's only within the last two years maybe...And even now, and i say that, I'm trying to be nice I guess. But, there are still, i still get passed you know with less than three feet to spare in the same lane very frequently when another lane is free."
"The thing is, i think a lot of it is having fun with the cyclist. I think the drivers are trying to be, are just trying to scare me."
"Except look at this guy! It was a one way street and he's going the wrong way on a snow day on a one way street. And I was shouting at him."
"Even on a good day I never ever ever bike on Broadway unless it's not avoidable cause cars zoom really quickly."*

Other:

Feels like education (both motorists and bicyclists) will help the overall biking experience
"I think it's a process of education because people in this town, like the regular cyclists are mainly homeless people and they don't

follow the rules of the road...So, people don't have a lot of respect for these people understandably so"
Starting to get burnt out of helping the city with little to no changes happening
"like I'm just so sick of talking about this because we have been... wasted so much of my life going to these meetings and talking to people and nothing changes. Nothing happens. It's just.. I'm disillusioned, that's the right word. I'm just very jaded about it. oh wow another bike study, I'm so surprised. I'm not going to go to your stupid meetings and spend an hour everyday talking about it."

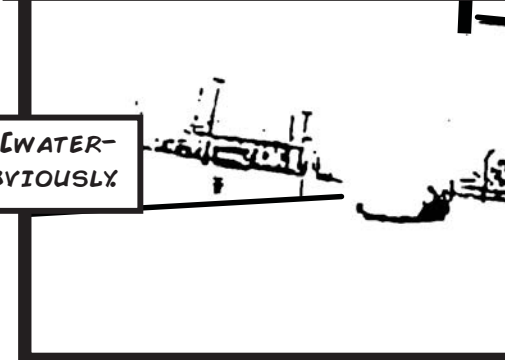
*Rebecca's ride was conducted during a very snowy day, resulting in frames that are somewhat hard to see at times.



BIKING ON WATERMAN IS RELATIVELY SAFE IN THAT YOU CAN STAY IN THE LANE ON THE FAR RIGHT. AND NOT BOTHERED.

THE ARENA... HAS MADE THIS [WATERMAN] ROAD A LOT BUSIER OBVIOUSLY.

IT WAS A ONE WAY STREET AND HE'S GOING THE WRONG WAY ON A SNOW DAY ON A ONE WAY STREET... I WAS SHOUTING, "IDIOT! ONE WAY STREET!"

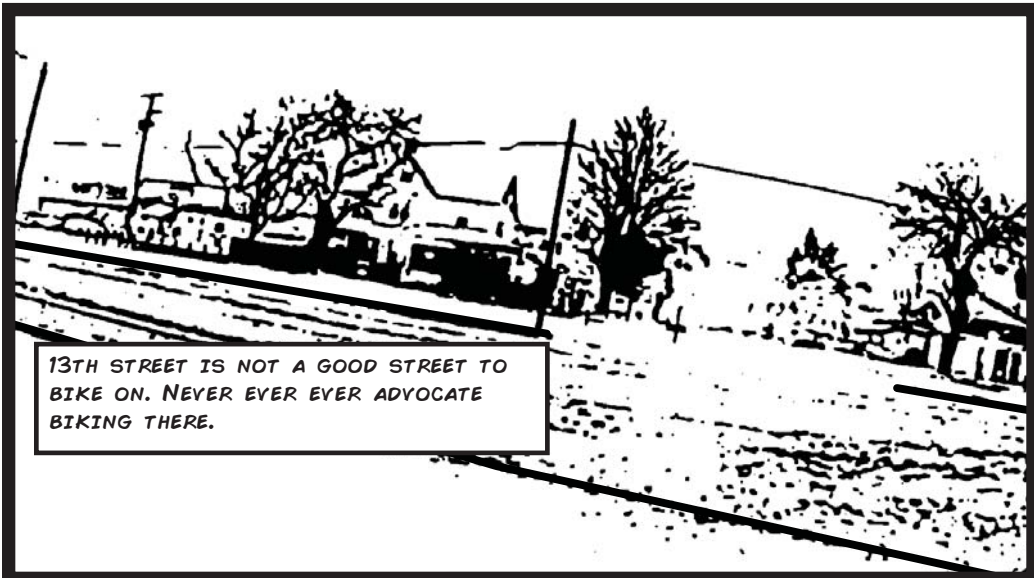
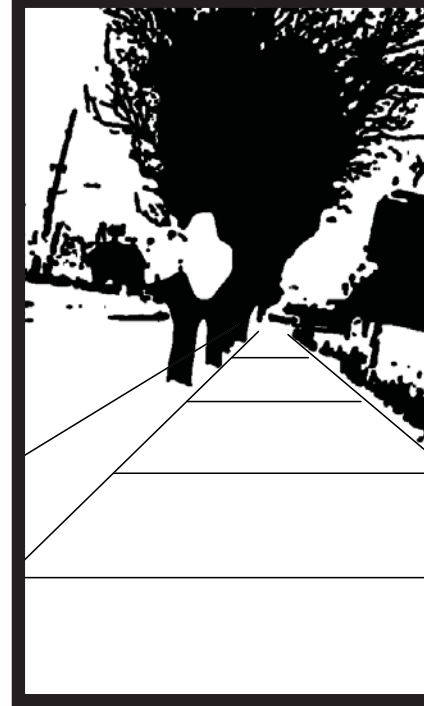


I STILL GET PASSED WITH LESS THAN THREE FEET TO SPARE IN THE SAME LANE VERY FREQUENTLY.



THIS [EMPORIA] IS A NICE STREET CAUSE IT'S WIDE AND IT'S NOT VERY WELL TRAVELED SO IT'S ALWAYS REALLY SAFE. AND IT'S ONE WAY IN WICHITA AT LEAST, WIDE ONE WAY STREETS ARE VERY DESIRABLE.

I WONDER WHY THERE AREN'T BIKE LANES ON THERE ANYWAYS???




13TH STREET IS NOT A GOOD STREET TO BIKE ON. NEVER EVER EVER ADVOCATE BIKING THERE.

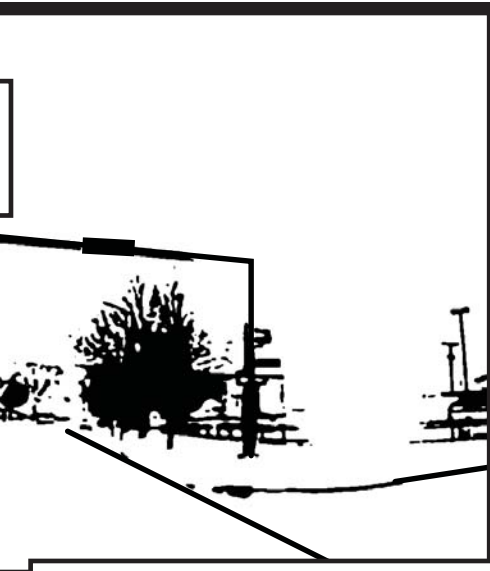


HERE I WAS DOING THE OTHER THING THAT I HATE. I'M CYCLING NOW ON THE STREET IN THE OPPOSITE DIRECTION. WHICH IS VERY NAUGHTY VERY BAD, SHAME ON ME.

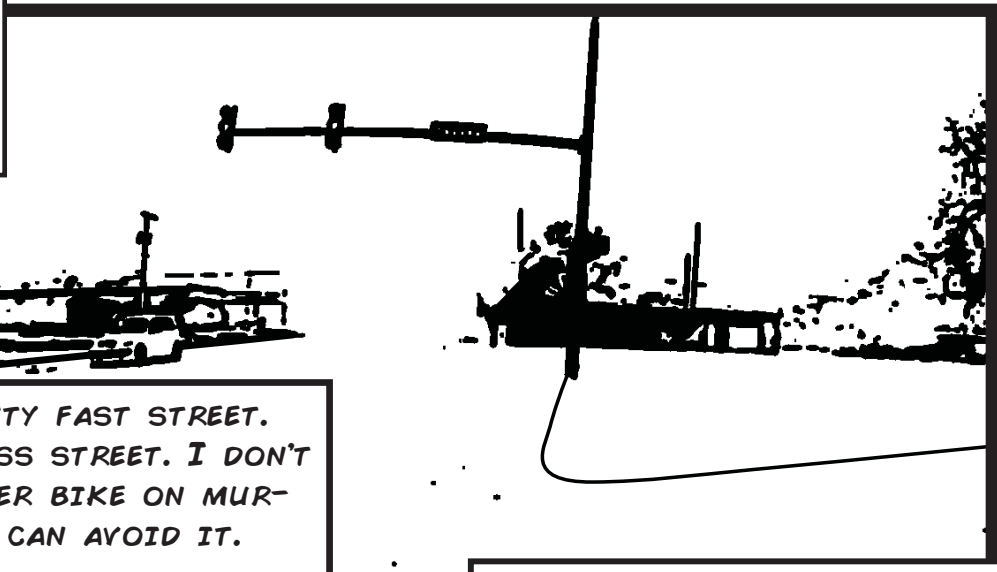
Fig. 44. Rebecca's experience (author 2015)



EMPORIA IS A GOOD STREET TO BIKE ON CAUSE IT'S WIDE.

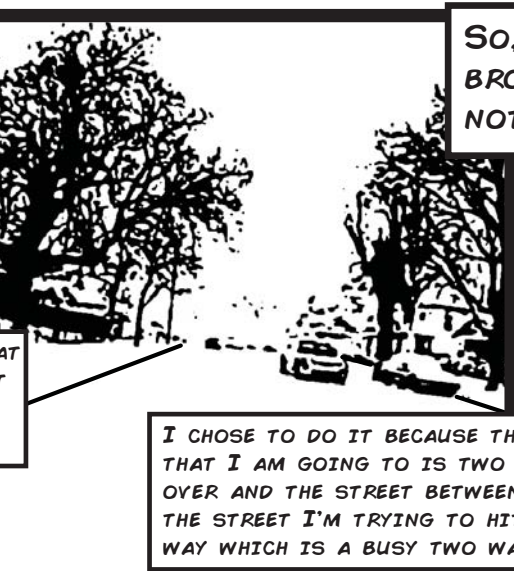


I TURN LEFT AND I THINK THIS IS WHERE I HOP UP ON THE SIDEWALK AND I EXPLAINED WHY I WAS DOING IT EVEN THOUGH I KNOW LIKE BAD KARMA AND JUJU. I SHOUT AT PEOPLE LIKE ME. "GET OFF THE SIDEWALK!" BUT, I JUST DID IT. I JUST MADE AN EXECUTIVE DECISION.



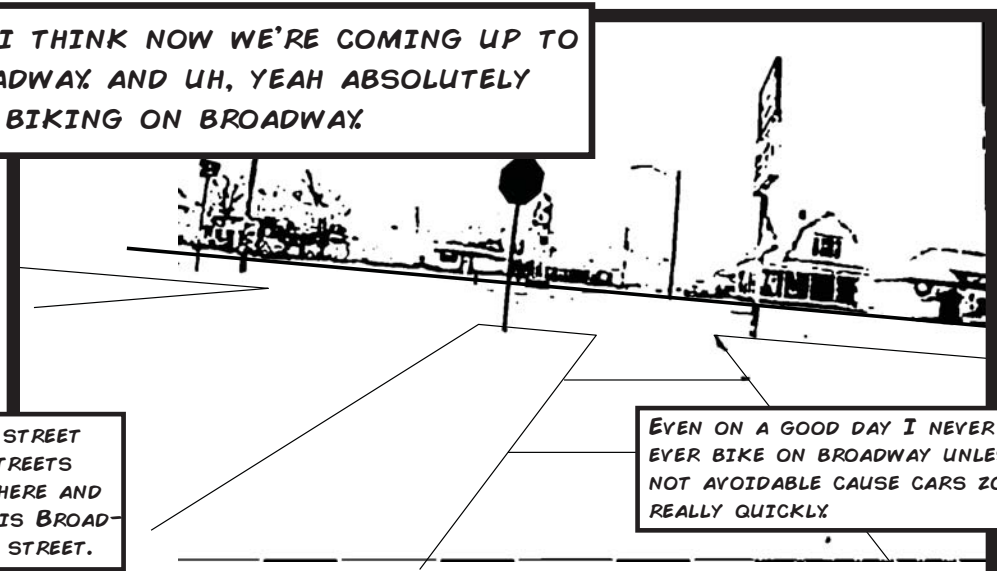
MURDOCK IS A PRETTY FAST STREET. IT'S KIND OF A CROSS STREET. I DON'T ACTUALLY REALLY EVER BIKE ON MURDOCK FRANKLY IF I CAN AVOID IT.

PEOPLE ARE USING IT TO GET ACROSS TOWN. THEY'RE NOT AS MINDFUL.



SO, I THINK NOW WE'RE COMING UP TO BROADWAY AND UH, YEAH ABSOLUTELY NOT BIKING ON BROADWAY.

I CHOSE TO DO IT BECAUSE THE STREET THAT I AM GOING TO IS TWO STREETS OVER AND THE STREET BETWEEN HERE AND THE STREET I'M TRYING TO HIT IS BROADWAY WHICH IS A BUSY TWO WAY STREET.



EVEN ON A GOOD DAY I NEVER EVER BIKE ON BROADWAY UNLESS IT'S NOT AVOIDABLE CAUSE CARS ZOOM REALLY QUICKLY.

FINDINGS REFLECTION

The initial themes identified through the first step of experiential bike ride studies only helped to shape the rest of the study. These initial themes included: urban environment, biking infrastructure and experience, road/traffic, safety, motorist behavior, and other. Within these themes, various sub-themes began to present themselves throughout the analysis of the follow-up interviews. These included the following sub-themes: educating the public, providing adequate bicycle infrastructure on major thoroughfares, better maintenance for bicycle infrastructure, developing better intersection/turning strategy, perception that width equals safety, and holding drivers accountable for their reckless behavior. Each sub-theme will be described and elaborated upon in this section.

Educating the public:

Half of the participants clearly identified education as being a major issue with the current bicycling experience and believe that educating the public could help in many ways. Education is needed both for the vehicular drivers as well as the bicyclists. Minimum passing distances of only three feet are not being met along with various other laws and cars are getting dangerously close to bicyclists.

Providing adequate bicycle infrastructure on major thoroughfares:

Many of the participants expressed the need for adequate bicycle infrastructure along the major thoroughfares they travel. Most said they would not travel out of their way just to reach a bike lane, and they shouldn't have to. Dedicated bicycle space is needed along major roads, including Douglas Avenue and Broadway.

Better maintenance for bicycle infrastructure:

The bicycle infrastructure that does exist is poorly maintained. Sand from winter weather removal is still found months afterwards. This sand, that nearly all of the participants expressed concern with, provides an unsafe experience and the increased possibility of accidents. Snow removal is another maintenance issue that Rebecca encountered during her snowy ride.

Better intersection/turning strategy:

With the large number of one-way streets located in downtown Wichita there is a need for a comprehensive turning and intersection strategy. Kentucky expressed his issues with having to turn left on a one-way, you have to sometimes cross over three lanes in order to get in the correct position to turn. The turning strategy seen in Copenhagen and many other bicycling cities avoids left hand turn crossing traffic. Rather, a bicyclist would hang to the right of a one-way, cross the intersection, and wait at that corner until the perpendicular street light turned green. I also ran into issues with the current turning strategy with all of the one-way streets and believe that this could be a simple solution achieved through more education. Many of the intersections with dedicated bike lanes act as mixing lanes, without the correct markings. A mixing lane is when cars who are trying to turn right (where there is a bike lane) slowly mix in with the bicyclists who are in their lane. Currently cars do not obey the bicycle lane and turn right without always looking for bicyclists in their lane, causing them to be cut off. George expressed this as a major concern during his daily route.

Perception that width equals safety:

All of the five participants made a comment at some point during their ride about how they felt safer on streets with larger widths. Through literature review of streetscape design, this is proven to be a false phenomenon. With more space, cars are less attentive. Wider travel lanes are also correlated with higher vehicle speeds (Urban Bikeway Design Guide, 2015). Most of these streets had little to no traffic during their rides, which makes sense as to why they felt safer. If those roads were busier, as Kentucky confessed, the safety factor no longer exists. The positive side to the wide streets of downtown Wichita is their ability to easily accommodate dedicated bicycle infrastructure.

Holding drivers accountable for reckless behavior:

While many participants admit to the issue slowly getting better, the amount of abuse that motorists use towards bicyclists needs to be stopped all together. Drivers who harass bicyclists who are obeying the laws should be punished and held accountable. There are currently no laws against this particular behavior. Multiple participants also expressed their concern with motorists not stopping completely at stop signs when turning left. Too often cars roll through the stop sign at a decent speed, causing bicyclists to be cut off or hit when the car does not see them.

GOALS + STRATEGIES

Based upon a thorough analysis and understanding of the current biking experience from the point of my participants, a series of goals and strategies was produced. This list expands upon the data reflections on the previous page and lists specific goals and strategies to help achieve a better bicycling culture for downtown Wichita. The goals and strategies are broken down into the original six themes. Figure 53 expresses this list in a visual format. It also shows which participant the goal or strategy was inspired by.

Urban Environment:

- advertise change/projects happening downtown
- reduce biking on sidewalk
- provide aesthetically interesting physical environment
- more street trees
- make biking through old town a unique experience

Biking Infrastructure:

- wayfinding signage for bicyclists
- better bike infrastructure connecting surrounding downtown neighborhoods
- physical barriers between cars and bikes
- traffic lights programmed for bicyclists and pedestrians
- bike lane wide enough for 2 bikers
- pedestrian/bicycle level lighting
- safer, more effective bicycle infrastructure with dedicated bike space (fig. 49)
- provide adequate bike infrastructure on major bike thoroughfares
- attention to paving detail where bikers are (fig. 52)
- mixing lanes for car turning right/into the bike lane (fig. 45)

- accommodating bicycles at construction areas (fig. 47)
- enforcing minimum passing distance requirements
- bike signals at intersections (fig. 46)

Road/Traffic:

- develop better turning strategy (esp. on one-ways)
- rush hour rules/higher penalty for vehicular violations
- physical barriers between cars and bikes
- traffic lights programmed for bicyclists and pedestrians
- lower speed limits on streets that don't need dedicated bike space
- better traffic transition from downtown core to surrounding areas
- developing better intersection plans (fig. 50).
- re-orienting bike lanes/protected by parked cars
- provide bus stop islands when located along bike lanes (fig. 48)

Safety:

- physical barriers between cars and bikes (fig. 51)
- reduce biking on sidewalk
- bike lane wide enough for 2 bikers
- pedestrian/bicycle level lighting
- educating drivers/bikers about rules of road
- safer, more effective bicycle infrastructure with dedicated bike space
- lower speed limits on streets that don't need dedicated bike space
- provide adequate bike infrastructure on major bike thoroughfares
- better traffic transition from downtown core to surrounding areas



Fig. 45. Vehicle and bike mixing lane in Copenhagen, Denmark (author 2014)



Fig. 46. Traffic lights for bicycle lane in Copenhagen (author 2014)



Fig. 47. Bicyclists accommodated in construction zones in Copenhagen (author 2014)



Fig. 48. Bus stop island in Copenhagen, Denmark that allows for bus riders to pass through bike lanes safely (author 2014)

- developing better intersection plans
- re-orienting bike lanes/protected by parked cars
- signage with bike rights near bike lanes
- better maintenance on bike infrastructure/all seasons
- slower speed limits by Interstate
- moving stop signs back/stopping cars from rolling into bike lanes
- securing dogs in neighborhoods
- enforcing minimum passing distance requirements

Motorist Behavior:

- rush hour rules/higher penalty for vehicular violations
- educating drivers/bikers about rules of road
- hold drivers at fault for bike accidents caused by vehicles
- slower speed limits by Interstate
- moving stop signs back/stopping cars from rolling into bike lanes
- mixing lanes for car turning right/into the bike lane

Other:

- more input from bikers as bike lanes are implemented
- companies to offer incentives for alternative forms of transportation
- health benefits of biking advertising campaign



Fig. 49. Elevated cycle tracks in Copenhagen, Denmark (author 2014)



Fig. 50. Bicycle markings at intersections in Copenhagen (author 2014)



Fig. 51. Bike lane separated by bollards in Dublin, Ireland (author 2014)



Fig. 52. Smooth pavement implemented on bumpy cobble stone streets in Copenhagen (author 2014)

URBAN ENVIRONMENT

BIKING INFRA- STRUCTURE

ROAD/TRAFFIC

SAFETY

MOTORIST BEHAVIOR

OTHER

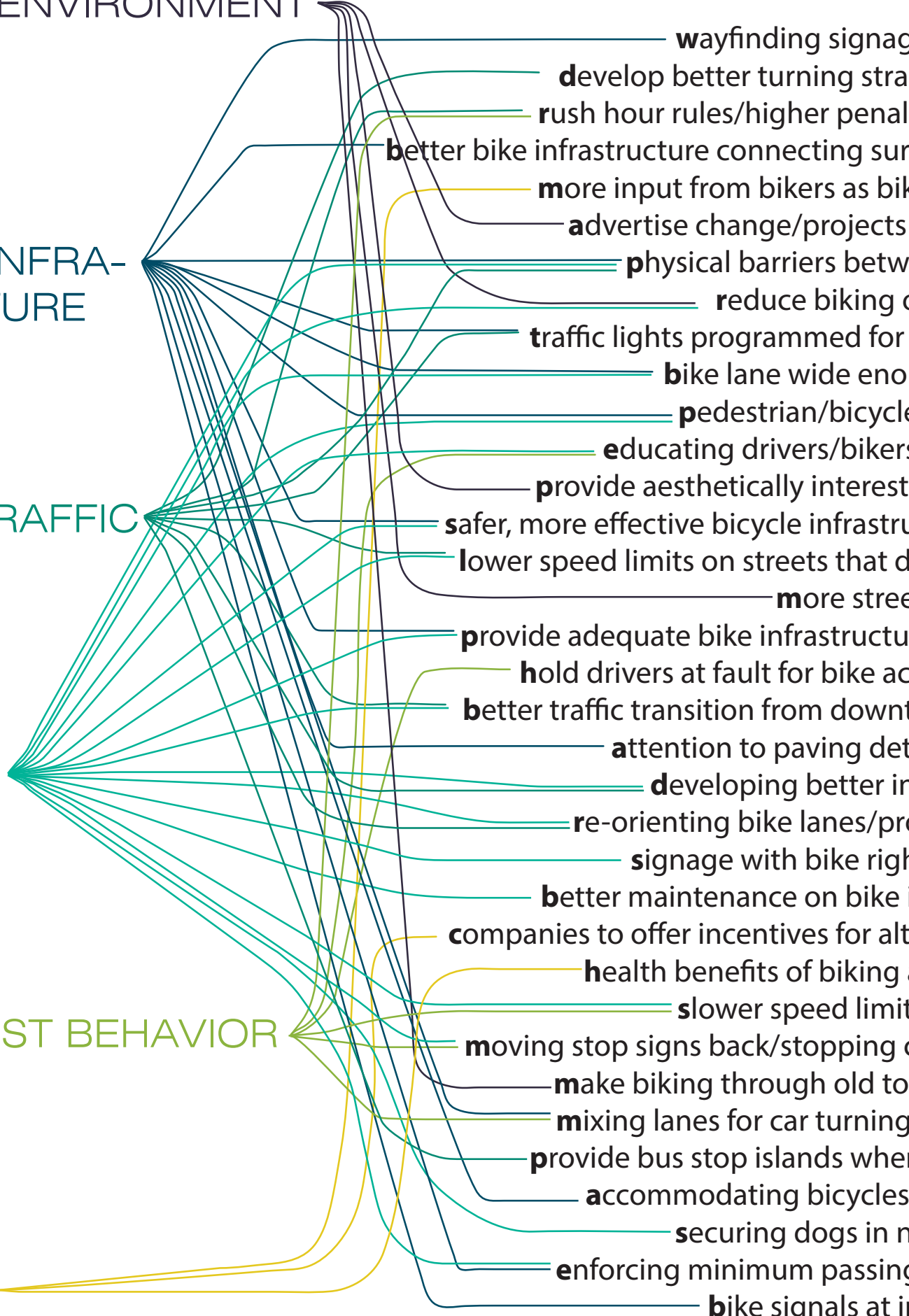
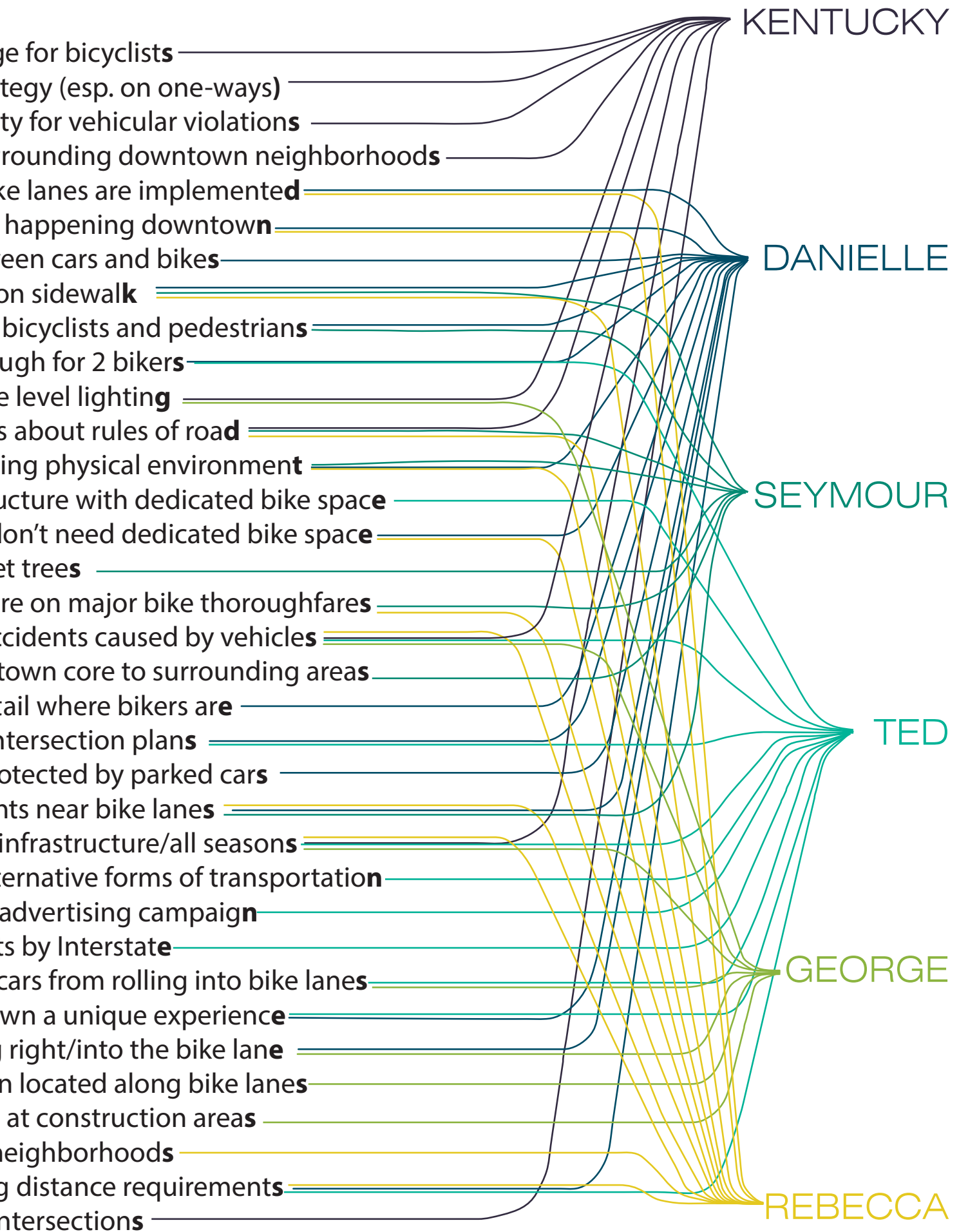


Fig. 53. Goals and strategies recommendations (author 2015)



BICYCLIST COMMENT CLASSIFICATION

Using GIS, data points were Geo-referenced and assigned the values determined through the data analysis process (fig. 54). For the participants who lived outside of the downtown area it became quite clear of the disconnected biking environment. Many participants felt drastically safer biking through their surrounding neighborhoods. This reality created a pattern of increased negative comments in the downtown core area.

Negative comment clusters (fig. 55) were initially identified based upon their overall density of comments. Once identified, the points were then cross-referenced with the actual comments from the participants (fig. 56). This process was used to determine areas (fig. 57) with the most useful comments and issues presented by the participants.

Various negative comment clusters were focused around intersections, showing the need for further design development of intersection layout and overall strategies to increase safety in those critical areas.

As seen with the focus area designs later in this chapter, area specific comments were used alongside the general list of goals and strategies to develop streetscape design strategies based upon the current lived experience.



Fig. 54. Comment classification of all data points (author 2015)



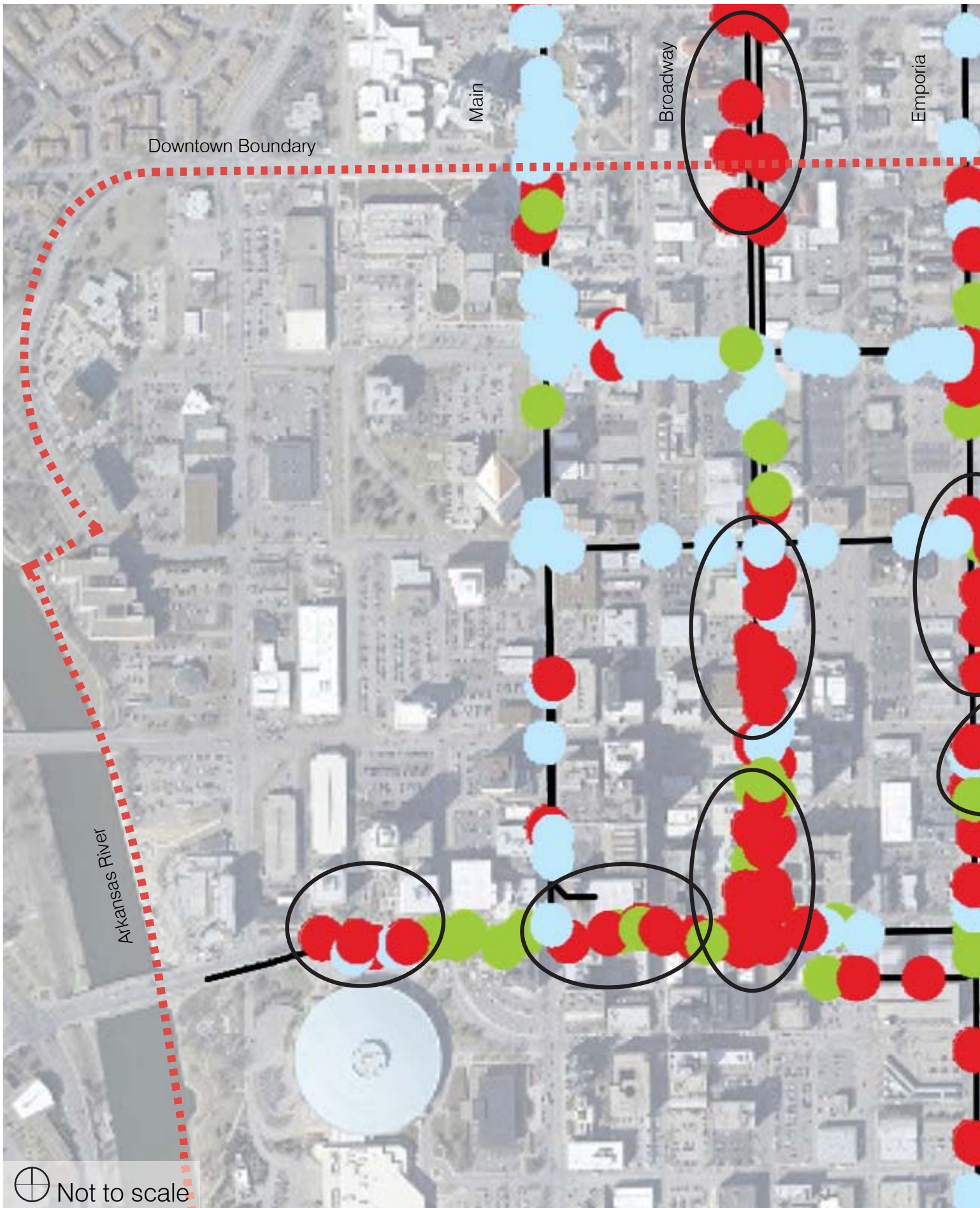
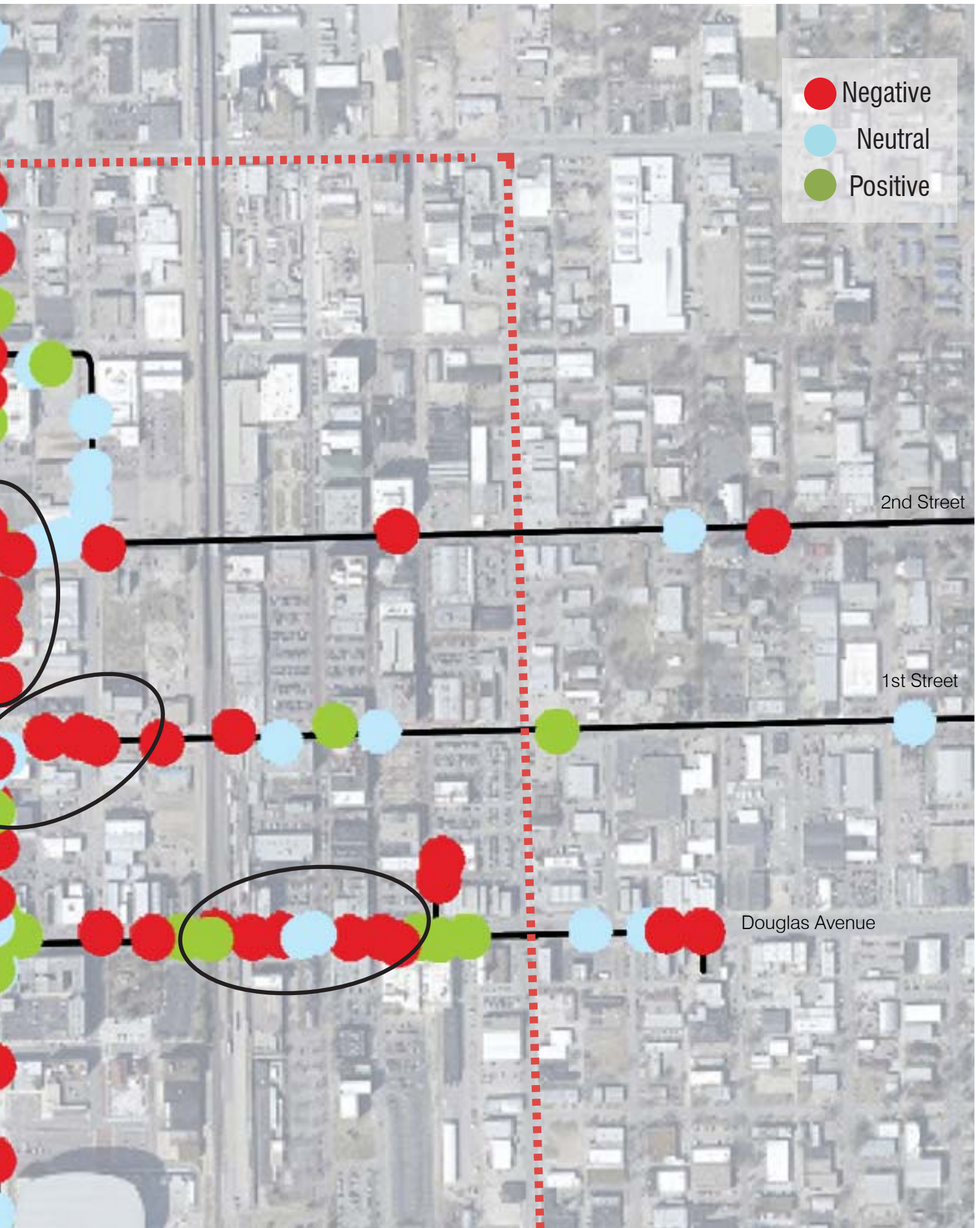


Fig. 55. Determining Potential focus areas (author 2015)



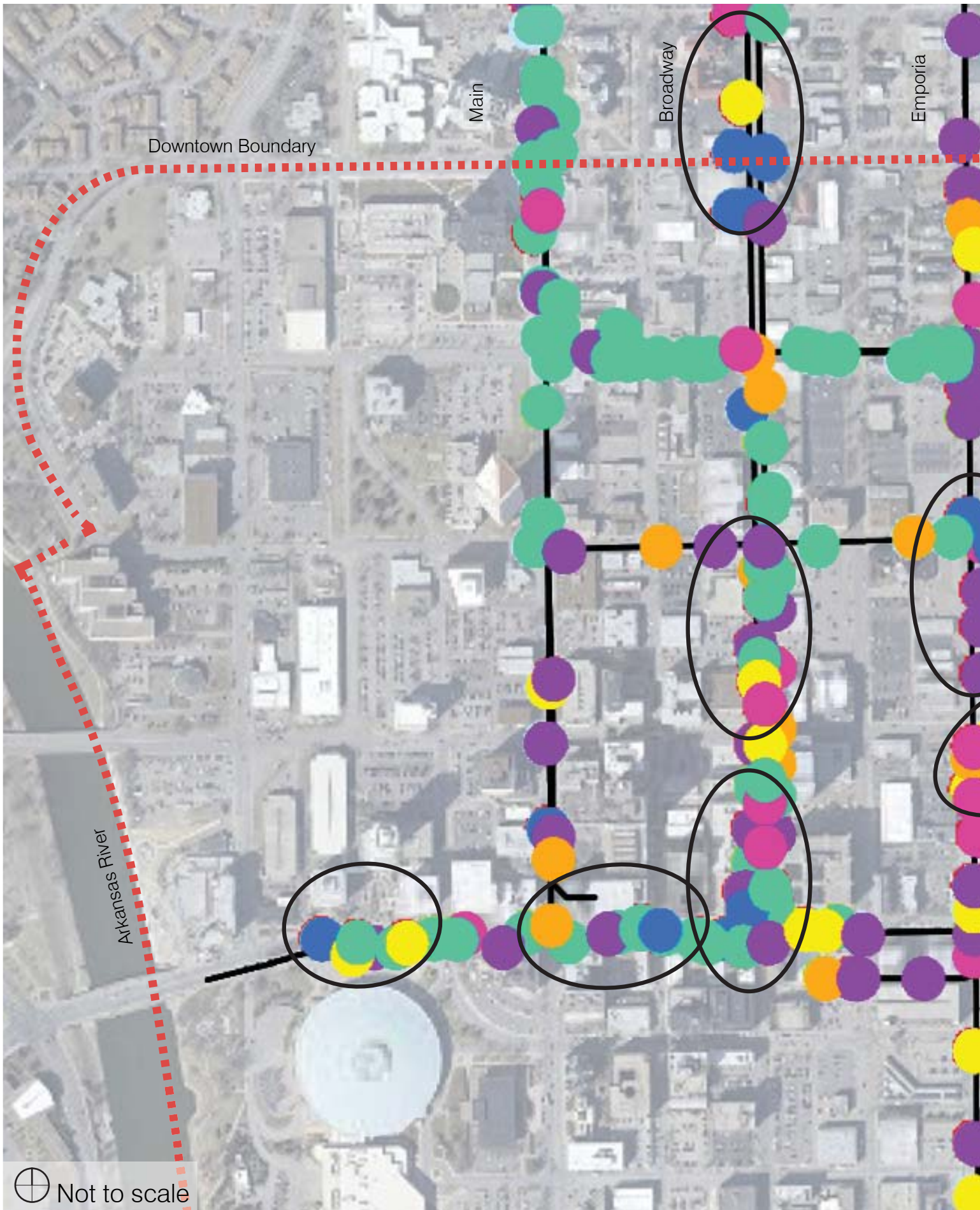


Fig. 56. Determining potential focus area comment themes (author 2015)

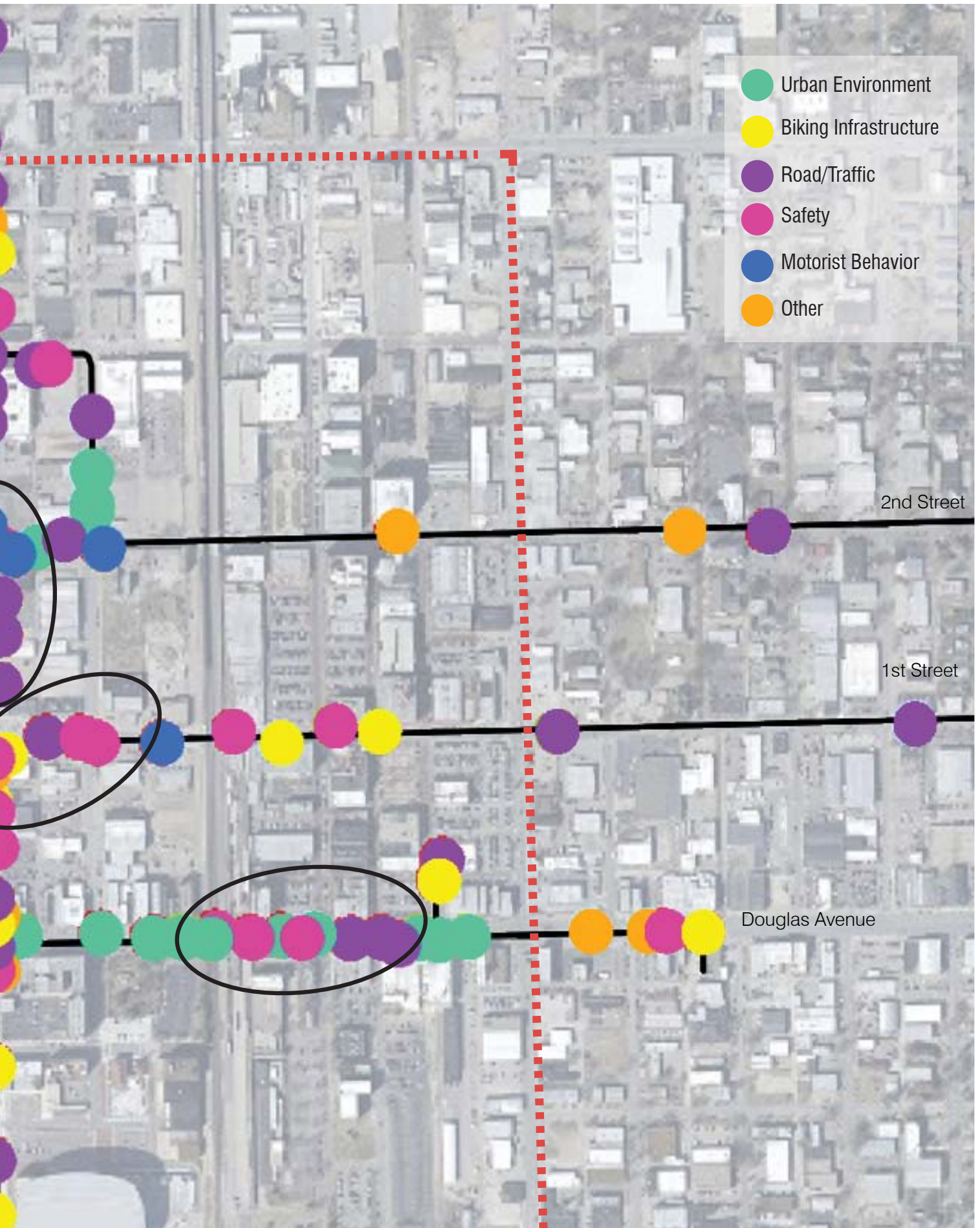




Fig. 57. Selected focus areas (author 2015)



2nd Street

1st Street

Douglas Avenue

FOCUS AREA 1: DOUGLAS AVE. + MAIN ST.

Focus area 1 is located at the intersection of Douglas Avenue and Main Street. This focus area (fig. 58) was selected due to its proximity to the future Douglas Avenue Pop-Up Park and the range of themes identified by participants. Knowing that there was interest and investment in public spaces along Douglas Avenue there was an opportunity for future research. Douglas is a two-way major thoroughfare while Main is a busy one-way street heading North.

Both Seymour and my route intersected at this point, providing two different points of view and varied comment themes.

I already
on this bic
I'm gettin
this gize

I've realized that I have to
ride very defensively. So, I've
gotten used to that now, so
it doesn't bother me
anymore



Fig. 58. Participant comments at focus area 1 (author 2015)

The brick is aesthetically pleasing, but as far as biking it's not too great. Something a little less bumpy would be nice

All these weird statues

get a lot of looks on my cycle, but I suspect I'm getting a lot more with my phone on my head

Few people walking, not much going on

OMG Cool!!
Pop-up park!!

Yeah, they have a lot of weird art downtown. It's kinda fun, but it's kinda weird

I've become pretty coarse about my expectations about other motorists. my expectations are not high

Hello, Downtown!!!
Wohooo!!!!

It was really cool to see the signs for the pop-up park. Seeing the change happening is great!



DOUGLAS AVE.

FOCUS AREA 1: DESIGN

The current plan for the intersection of Douglas Avenue and Main Street only designates shared lane marking (sharrows) along Douglas Avenue and does not even address Main Street. This design strategy aims to provide adequate bicycle infrastructure for this major thoroughfare and a safer intersection configuration.

Phase 1:

The design strategy of focus area 1 (fig. 60) first considers a tactical urbanism phasing strategy. By only utilizing paint marking and flexible delineators, a first phase was developed in order to test out an initial change in traffic configuration. Because Douglas Avenue currently has bulb-outs where there is parallel parking, a simple curb cutting process would be used to implement a bike lane in the place of parking, moving the parking to protect the bicyclists.

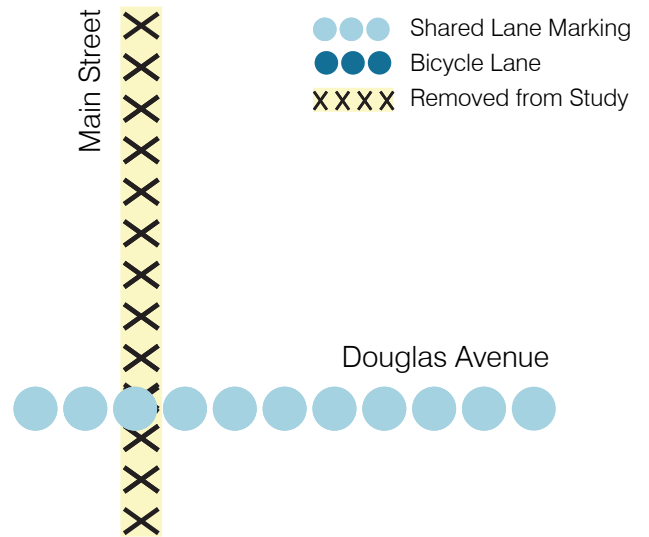


Fig. 59. Wichita's plan for focus area 1 (adapted from City of Wichita by author 2015)

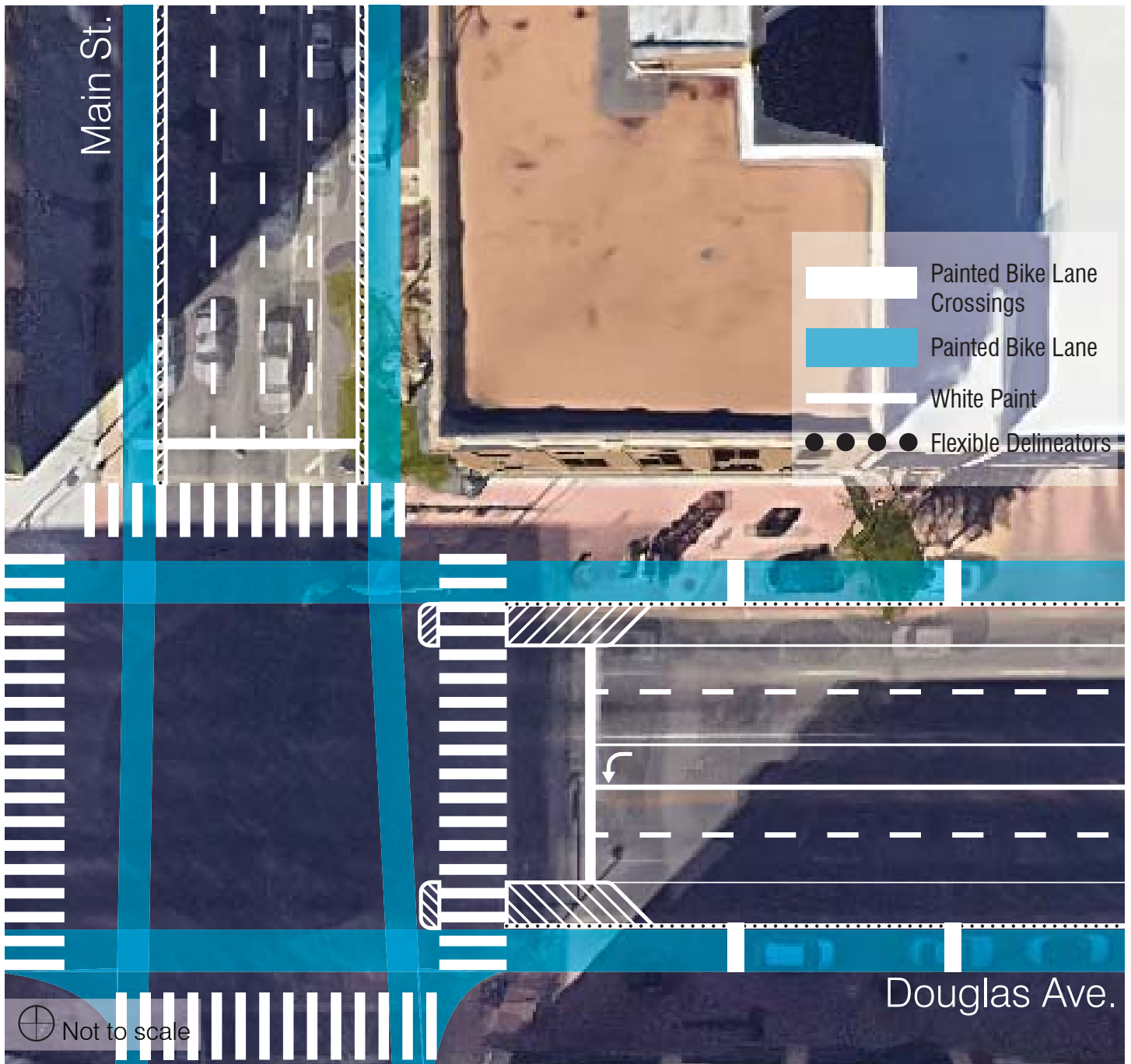


Fig. 60. Phase 1 design strategy for focus area 1 (author 2015)

Phase 2:

The diagrammatic sections shown in figures 62-63 show the detailed streetscape design that would be a permanent installation during the second phase of the strategy (fig. 61).

The participants' want of increased bicycle infrastructure on major thoroughfares was implemented on both sides of each street, providing contraflow on Main Street. The need for better intersection plan was also implemented. This design allows for full visibility with bicycle lane markings carried through the intersection.

A vegetated buffer is used to protect the bicyclists from parked and moving vehicular traffic while also serving as a stormwater management system. Existing, mature street trees will be kept. New street trees will be implemented along Main Street and Douglas Avenue as needed to provide shade for the bicyclists and pedestrians.

The participants' quotes are paired with the design solution they inspired on the following page. These comments helped to guide the design process and were also combined with streetscape best practices and personal experience. The initial identified on the quote refers to the participant from which the quote originated.

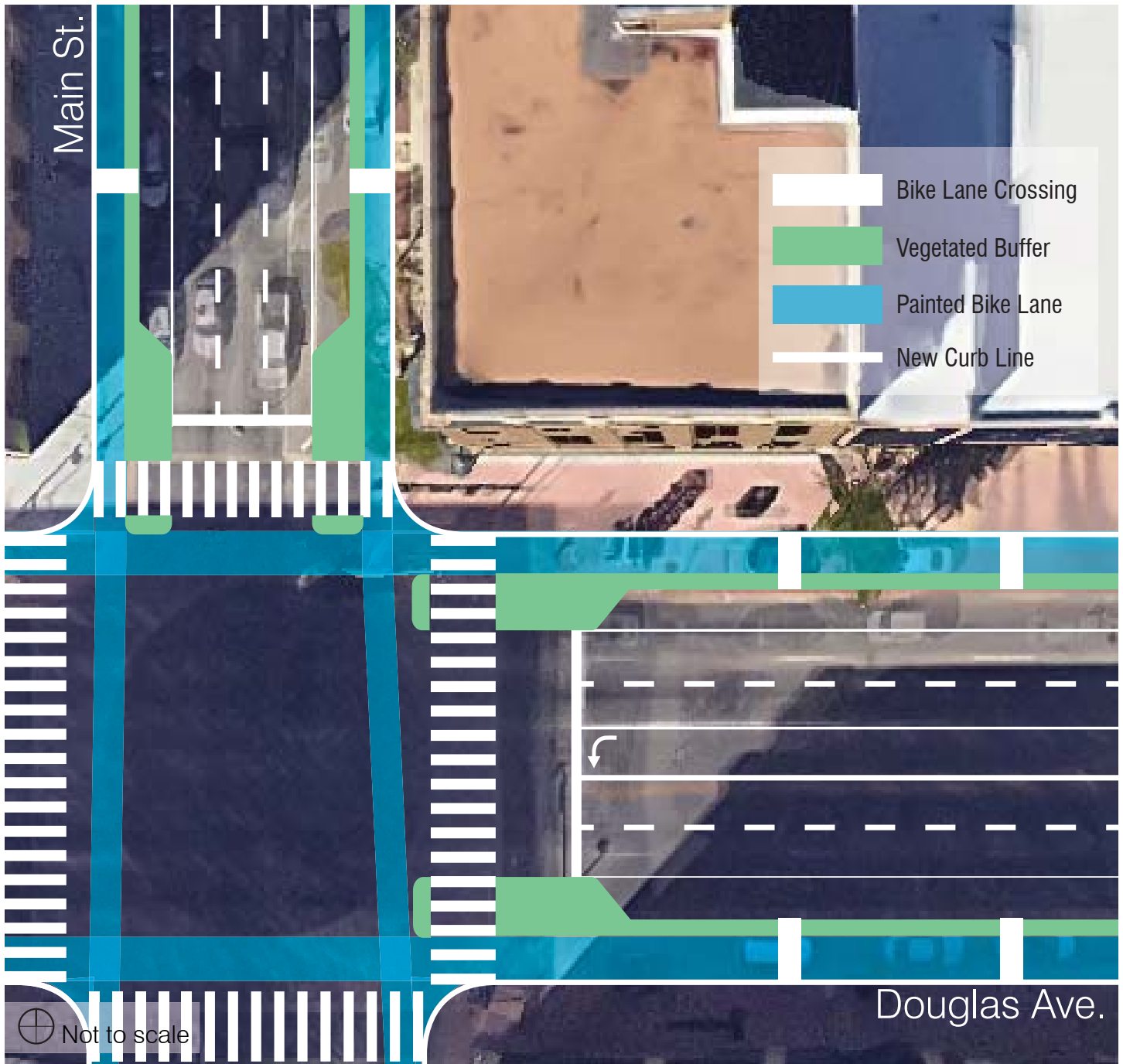


Fig. 61. Phase 2 design strategy for focus area 1 (author 2015)

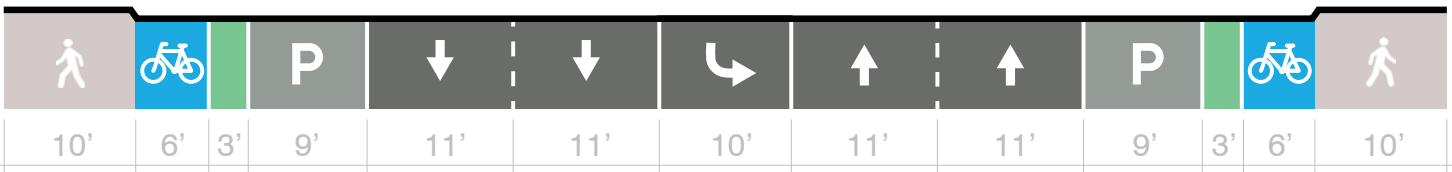


Fig. 62. Douglas Avenue diagrammatic section (author 2015)



Fig. 63. Main Street diagrammatic section (author 2015)

“I wish there were more trees downtown” (S)

“I am going to attempt to make a left turn. Try and go down Douglas. See I am barely going to make the light. ahh! That’s stressful.” (D)

“I guess I would like to see more infrastructure put in place to accommodate bikes. I think it’s one of those things if you do you’ll get more. If you get more then people just become more aware.” (G)



Fig. 64. Focus area 2 design proposal (author 2015)

“Just my experience in Phoenix with more bike lanes, I liked having that extra space. It made me feel more safe in more traffic.” (G)

“Yes, everything is like the same color there is just nothing very exciting” (D)

Sometimes people may not signal that they’re going to do a right hand turn or so it’s one of those things where I try to observe what’s going on. If i need to stay back even though I do have that lane to accommodate traffic that’s coming through I might do that.” (G)

“I just screamed there. I had a few close calls up here. Not crazy close, but closer than I am comfortable with and used to.” (D)

“The drivers are very aggressive” (D)

DUGLAS AVE.



FOCUS AREA 2: FIRST ST. + EMPORIA ST.

Focus area 2 is located at the intersection of First Street and Emporia Street. Wide, one-way streets are very common in downtown Wichita. Emporia Street is a wide, one-way street that runs north and First Street is a one-way street that runs east. The second focus area was chosen due to the variety of comments (fig. 65) and to attempt to provide a design solution for one-way intersections that are currently inadequate for bicyclists.

This intersection features biking perspectives from both Rebecca and Ted.



Fig. 65. Participant comments at focus area 2 (author 2015)

And I don't expect them [the city] to [clear snow for bicycles], I know it's not a cycling culture.

[Do people bike in winter?] No, none. Like I said, it's so unsafe. The sidewalks don't get cleared.

They're [bikers on sidewalk] not really minding the road rules so it makes sense for them to bike on the sidewalk cause they would get hit for sure if they were on the road.

The one thing I love about it is the way it makes me feel.

Until then it's a little scary at times. Especially this part up here when we go past this underpass the road narrows and you can see there is sand on the right hand side of the road, so I can't be quite as far over as I'd like.

It makes me nervous when cars pass that close.

I go home on first street because eventually about a mile or so up the road there'll be a bike lane

And this time there was a lot of sand on the ground that I think I mentioned at some point. So, I couldn't ride as far into the gutter as I would have liked without feeling unsafe.

The road narrows, you see the line moving in. Especially in about a block in a half it gets even more narrow.

This is the scariest part for my ride. And I love it, I have a great time, but between here and really getting through old town especially coming up to this bridge.

Yeah, so this usually feels pretty comfortable and pretty safe.

I'm always real careful about those cars on the right. I'm looking for lights if they're going to back up.

1ST

FOCUS AREA 2: DESIGN

The Wichita Bicycle Master Plan does propose a bicycle lane on 1st Street, continuing the existing section east of I-135. However, this proposal only includes traffic one way, making bicyclists travel north to pick up the bicycle lane going in the opposite direction. Emporia was not included in the master plan's proposal.

Phase 1:

Providing contra flow for bicyclists allows them an easier and more convenient traveling route. The first phase (fig. 67) of focus area 2's design includes painted bicycle lanes with painted buffers and flexible delineators. Parallel parking has been re-oriented along Emporia to protect the bicycle lanes. This tactical urbanism approach allows for the design to be tested and improved upon before the permanent installation.

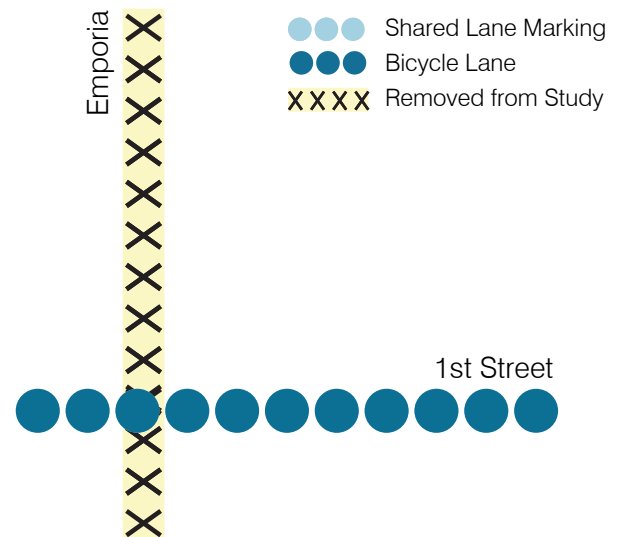


Fig. 66. Wichita's plan for focus area 2 (adapted from City of Wichita by author 2015)

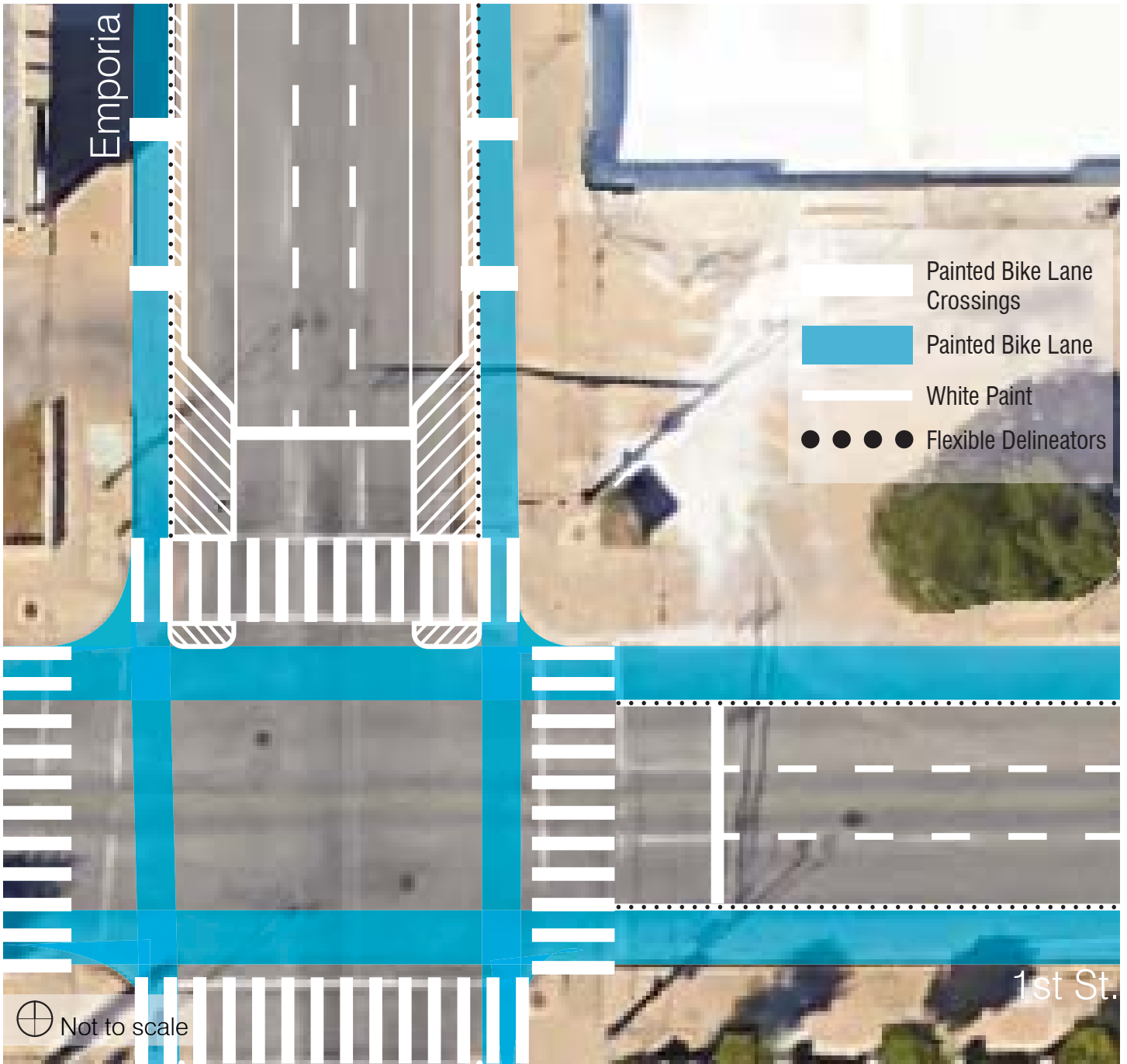


Fig. 67. Phase 1 design strategy for focus area 2 (author 2015)

Phase 2:

The second phase of the design (fig. 68-71) will provide additional street trees along Emporia, protecting mature trees when possible. The streetscape design proposed for focus area 2 is similar to focus area 1 in order to provide a cohesive bicycle network. Bicycle lane markings are carried through the intersection and the bicycle lanes are also protected by a three foot vegetated buffer.

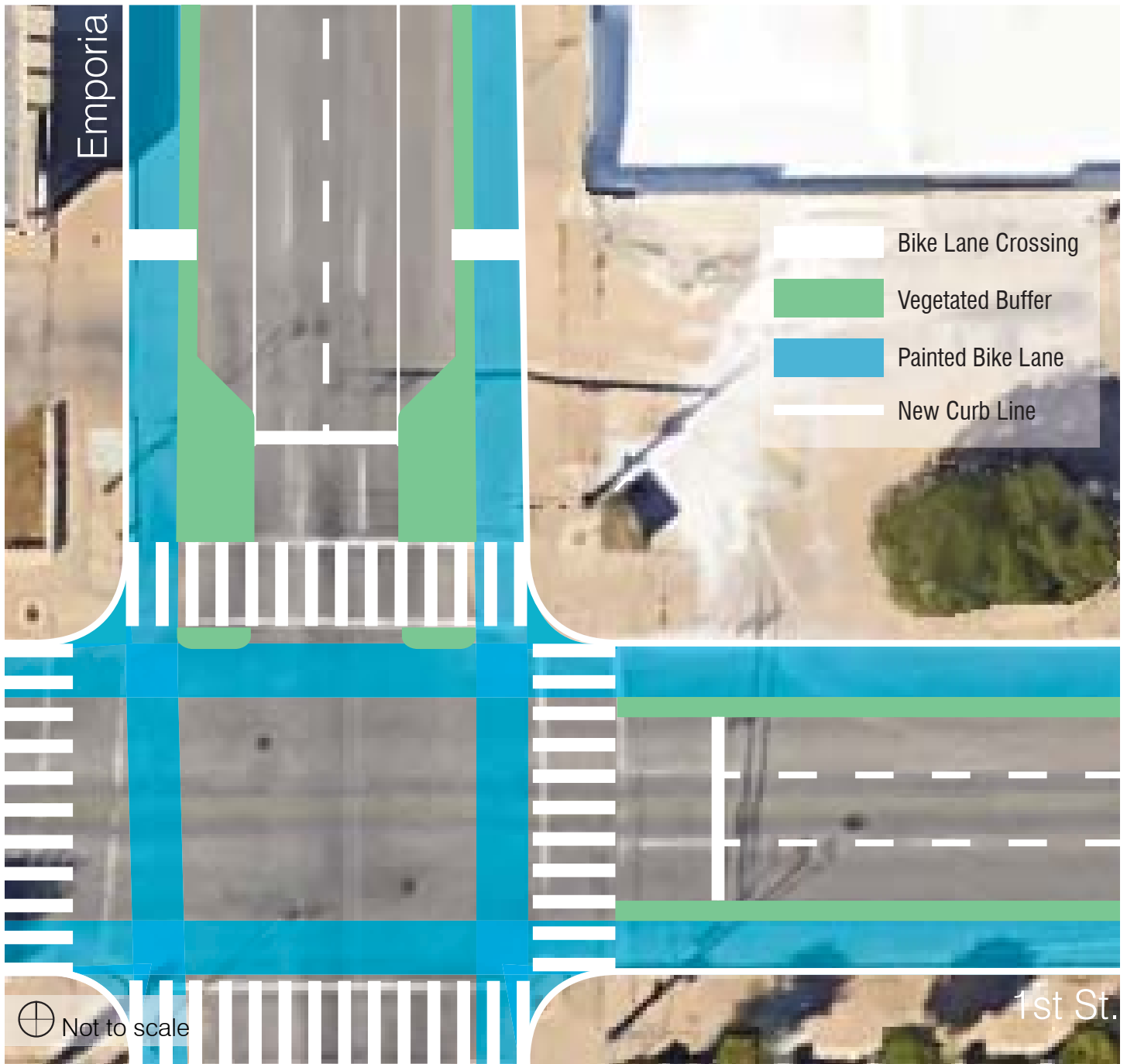


Fig. 68. Phase 2 design strategy for focus area 2 (author 2015)

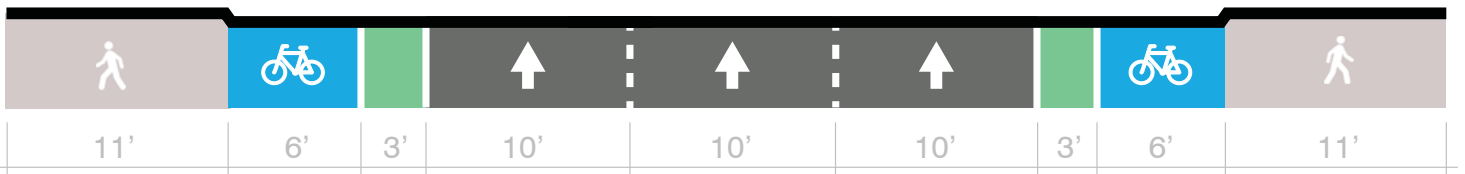


Fig. 69. 1st Street diagrammatic section (author 2015)

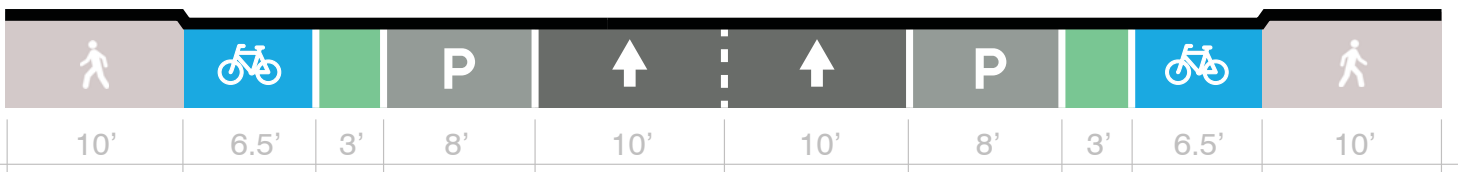


Fig. 70. Emporia Street diagrammatic section (author 2015)

"If there was anything I could change it would be to have more bike lanes" (K)

"There are a lot of streets in Wichita that very ugly and there is no pleasure in cycling them." (R)

"The more bikes on the road the safer it gets, because motorists start anticipating that we are going to be there." (K)

EMPORIA

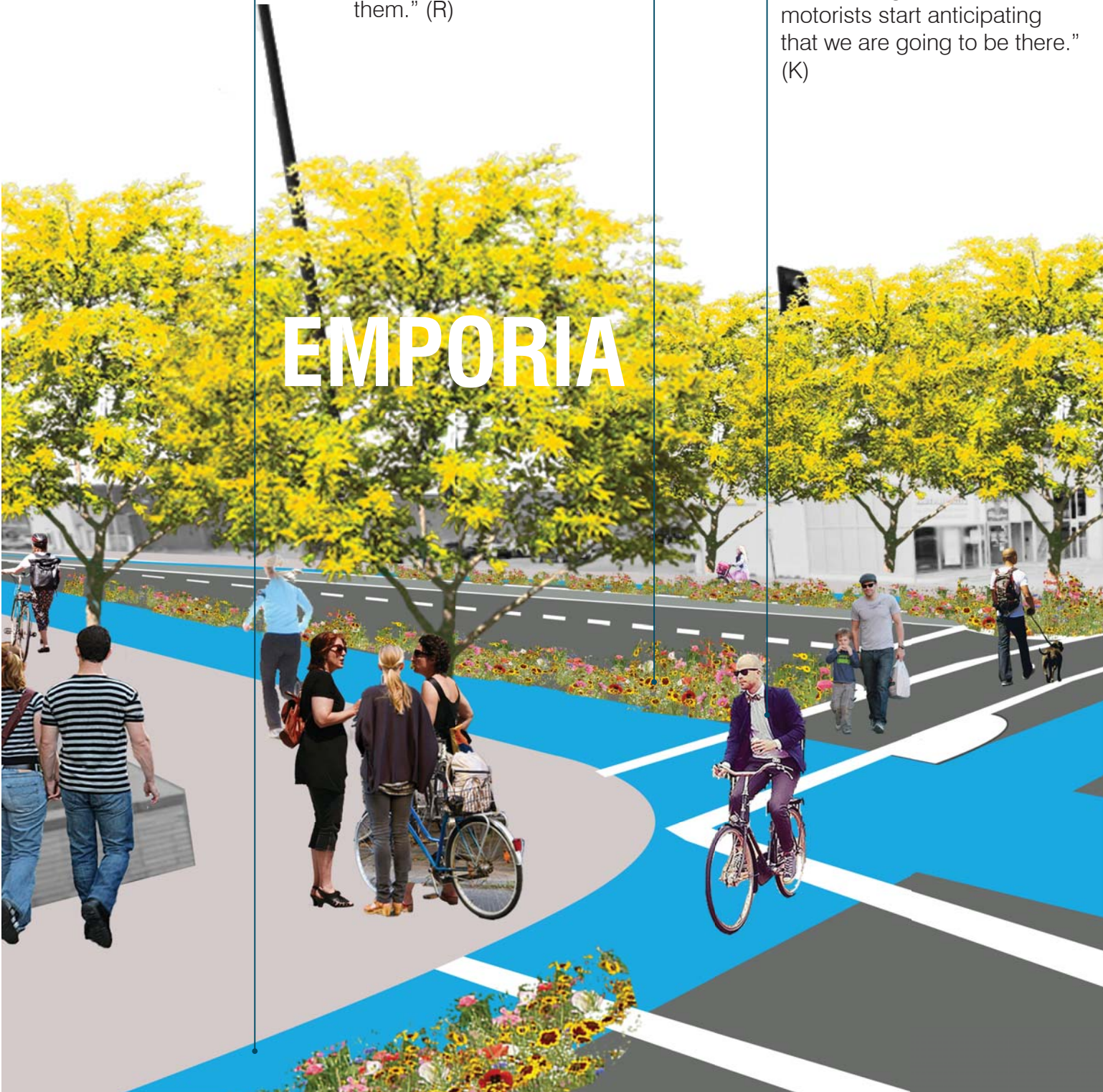


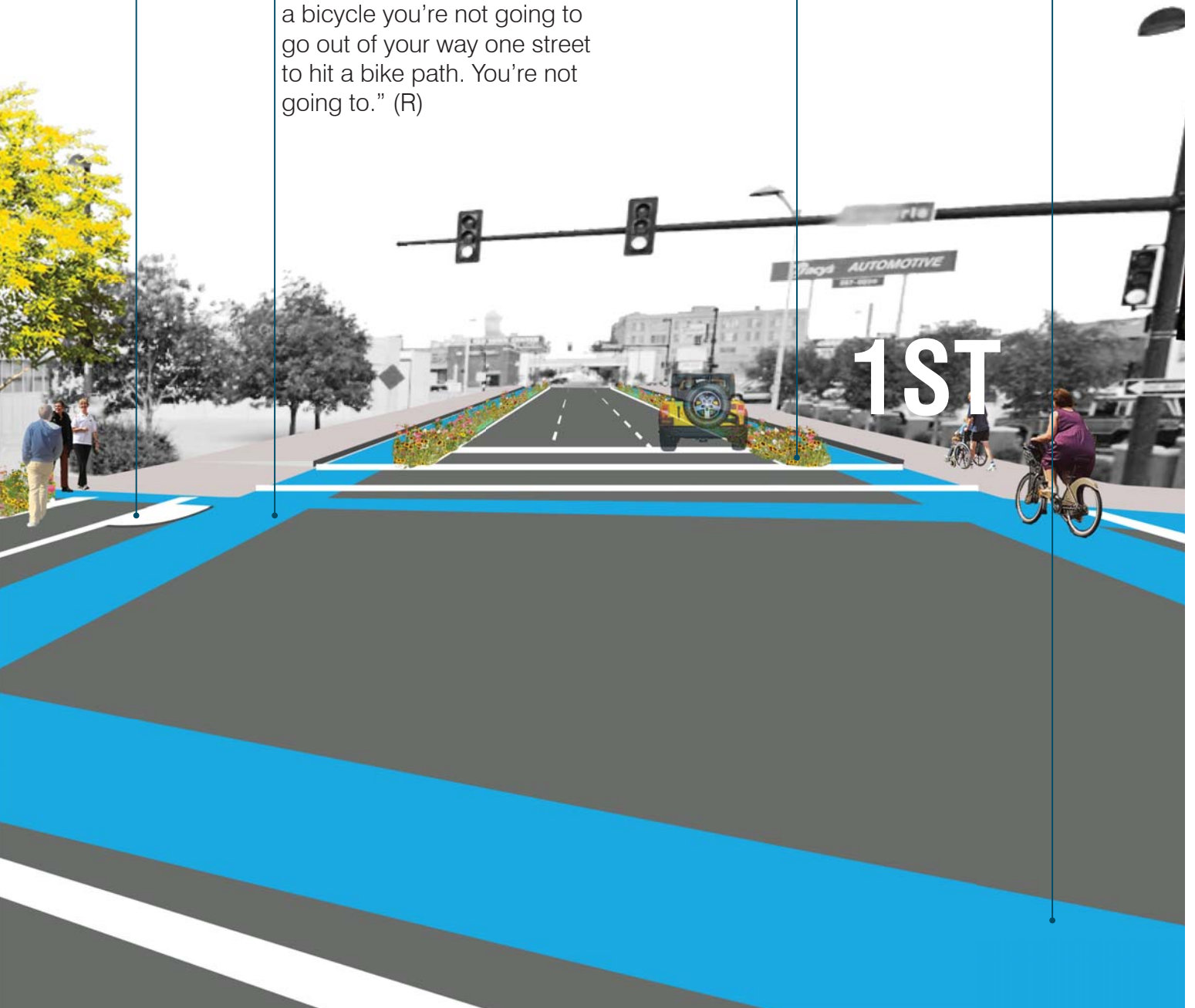
Fig. 71. Focus area 2 design proposal (author 2015)

“Sometimes you have to get over three lanes [on one-way st.] if you’re turning left.” (K)

“It makes me nervous when cars pass that close.” (T)

“It’s weird, there are three huge lanes here and yet you still have cars that will come up in your lane.” (T)

“The thing is when you’re on a bicycle you’re not going to go out of your way one street to hit a bike path. You’re not going to.” (R)



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PROJECT CONCLUSIONS

The findings of five participant bike rides and interviews (plus myself) revealed that downtown Wichita is not currently a bicycle friendly environment (only 0.3% commute by bike currently). The methods used proved to be successful as a data collection strategy for this type of phenomenological research. I was able to get great information about the participants everyday experiences through the use of the GoPro technology. Letting the participants record their ride alone, I believe, allowed for them to speak more freely about the bicycling issues in downtown Wichita. I was able to see how they reacted to situations as they occurred in everyday life. Reflecting upon the findings together was also very helpful to this research. I was able to clarify comments made during their rides and also allow them to elaborate on comments made or entirely new ideas. Through data collection I realized that downtown Wichita has much more than just a design problem to fix—it's an entire bicycle culture that must be developed. The bicyclists of Wichita are faced with many stressful situations during their daily route and a lack of bicycle infrastructure and lack of respect for bicyclists are the causes of a majority of these issues. The participants expressed their lack of trust in motorist behavior, causing them to ride very defensively or with hyperactive behaviors.

Because the current bicycling experience in downtown is inadequate, many bicyclists choose to ride on the sidewalks. Riding on the sidewalk is not only illegal, it can also be even more dangerous. The current lack of bicycle infrastructure gives motorists the idea that they own the streets. With adequate bicycle infrastructure, motorists behavior could slowly begin to change. Streets should serve as public spaces for people and also pass-

through spaces for traffic and transportation (NACTO 2013). In cities with little to no bicycle infrastructure and a lack of a bicycle culture, it is important to understand the current lived experiences of the regular bicyclists. There are best practices for streetscape designs inclusive of pedestrians and bicyclists; however, every design should be altered to each specific situation. NACTO stresses that "it is important to note that urban situations are complex...[and streets] must be tailored to individual situations and contexts" (2013, p. x). The complexity of streets deserves the complex study of it's users and their needs.

I have learned that while bicyclist behavior may vary, they all want the same three main things. The first is that they want to be safe. Dedicated space and some form of buffer is mandatory on busy roads. The second is that they want to enjoy their ride. The act of bicycling alone can help to provide positive impacts on one's life, but a pleasurable urban environment can help to incite more riders and provide a better experience for existing riders. The last thing all of my participants want is to be respected as a bicyclist and as a human being. The lack of respect shown to bicyclist was very alarming. The verbal and sometimes physical abuse from vehicular drivers can no longer be tolerated.

Not all bicyclists' needs can be answered nor can design solve all of the identified problems; however, this proposal can help to create a safer and more pleasurable bicycling experience in downtown Wichita by offering a few basic urban happiness elements (see p. 22). An improved bicycle network downtown provides humans with increased health, freedom to move, encourages and strengthens social connections, and provides a resilient form of transportation.

LIMITATIONS

Time and seasonality were major limitations for this project. The timing of the studies fell during a fairly cold winter, which really reduced the amount to participants who were biking on a regular basis and who were willing to participate in the study. With more time I would have conducted many more studies with as many participants as I could find using a similar snowball sample. Ethnographic studies typically use a lot more than six participants. The city of Wichita cannot generalize based upon findings from only six participants. The five participants are a part of very small sub-culture in downtown Wichita—hard-core commuters; those that know bicycling in Wichita the most. All of the participants are bike commuters or rely on biking as primary mode of transportation. This study does not include recreational cyclists or kids. Nonetheless, the five participants' insights are thought-provoking and could influence future bicycle planning in downtown Wichita.

Additional time would have also allowed me to follow different routes and rides to different destinations for each individual participant. This would have helped to widen the scope included in the project and could have exposed the study to additional issues that bicyclists face in downtown Wichita.

Lack of knowledge of the GoPro technology also provided a little bit of a limitation. While I supplied each participant with a full battery and an explanation on how to use the camera, I ran into issues of the battery dying in the middle of a ride or participants not pressing the right button to record their ride. This caused a loss of two potential participants' data. A lack of cameras also limited the number of studies I could conduct at once.

FUTURE RESEARCH

Given more time, I would involve the participants in the series of goals and strategies development and more importantly, the streetscape design development. It would have been helpful to get their input on whether the designs created closely fulfilled their identified issues and recommendations. Their critiques would have helped to enhance the streetscape designs.

This project could easily take another route utilizing tactical urbanism techniques. It could be very effective to implement these streetscape designs proposed through the use of tactical urbanism. I could then use the participants to provide feedback on the tested designs. With the flexibility that tactical urbanism offers, I could make changes based upon the feedback I received. This process would create a very quick and beneficial product that responds to the needs of its users.

My original motivation was to research the mental health benefits and the potential of daily bicycling to achieve mindfulness. If this project were to continue I would follow select participants through a deeper study to determine the role of bicycling in their lives compared to other aspect of their lives, testing stress levels and brain activity to determine if bicycling could be used to achieve mindfulness in our daily lives and ultimately increase our mental health.

IMPLICATIONS

Utilizing the experiences of everyday bicycle commuters and travelers helps to give this project validity. The project studies a sub-culture in Wichita that deals with these specific conditions on a daily basis and knows them better than anyone. This project tapped into the very small sub-culture in downtown Wichita that chooses to bike as their major form of transportation.

This project suggests that only positive effects come from implementing a better bicycle infrastructure for downtown and its surrounding neighborhoods. However, what if some people don't find these new streetscape designs helpful? What if people believe that the new streetscapes are taking too much away from vehicular traffic? Critics may not even believe that bicycle infrastructure is necessary in the downtown area and find no value in using their tax dollars to fund a project that does not positively or directly affect them. However, federal funds are often available to communities to implement active forms of transportation, such as bicycling.

Despite these criticisms, downtown Wichita and its surrounding neighborhoods could still gain from the increased pedestrian and bicycle experience. The new plans aim to increase both the safety and experience of pedestrians and bicyclists while leaving the motorists experience to be positive as well. The streetscape design was based upon traffic regulation widths and organization.

Designing for active forms of transportation has the potential to improve both health and environmental issues. Benefits including improved fitness and mental health, reduced air pollution, and noise and greenhouse

gases. Many studies have proven the benefits of regular exercise for overall health and happiness. According to the British Medical Association, "Research has suggested that stimulating the body helps the brain to release endorphins, which can lift mood in the same way as helpful psychoactive drugs can" (BMA1992, 26). Active transportation adopted as a major form of transportation has the potential to provide similar benefits.

A lack of adequate bicycle infrastructure provides a sense of feeling unsafe and ultimately decreases bicycling participation rates. Cripton writes, "It is likely that public perception of a lack of safety acts as a deterrent to cyclists in North America" (Cripton et al. 2009, 4). By providing adequate bicycle infrastructure and understanding the current and future needs, Wichita can begin to improve the bicycle experience in downtown and provide a safer place for bicyclists, pedestrians, and even vehicles.

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APPENDIX A: EXAMPLE OF BIKE RIDE NOTES/ ANALYSIS (TED)

Data Point	Quote	Experience	Theme
1	Everytime when I'm at this spot right here I commit, I think, the only traffic violation while I ride my bike. I head down this alley the wrong way. You see the "do not enter" sign right there. If I head around the block I have to hang out with a lot of busses, the bus station is over there. So, I just head down this alley that barely has any traffic. And we will be on the main roads in just a moment.	Negative	Road/Traffic
2	I LOVE riding my bike. I love it love it love it. I started bike commuting about a year ago and I've done it most days since. If it's icy or snowy I don't. But if it's not icy or snowy I tend to be on my bike. Unless I have some meeting out of town or something.	Positive	Other
3	The one thing I love about it is the way it makes me feel. It's not a very long ride home, about 12-15 minutes. It's just enough to get my blood pumpin' and my energy up, and get a little bit of exercise.	Positive	Other
4	Turn here. I go home on this is, uh, first street. I go home on first street because eventually, about a mile or so up the road there'll be a bike lane	Neutral	Biking Infrastructure
5	Until then it's a little scary at times. Especially this part up here when we go past this underpass the road narrows and you can see there is sand on the right hand side of the road, so I can't be quite as far over as I'd like.	Negative	Safety
6	It makes me nervous when cars pass that close.	Negative	Motorist Behavior
7	Right about now I'm usually thinking about how much I'm going to like it when the city puts a bike lane on this road. Down here on this part of town, supposedly that's on the agenda to happen sometime in the near future	Neutral	Biking Infrastructure
8	I spend a lot of time on my bike commuting to and from work thinking about one what's going on around me from a road standpoint. I like long stretches like this because there is no traffic	Positive	Road/Traffic
9	This part up here is a little tricky. The road at this stoplight jogs to the left and a lot of times cars don't jog to the left as much as they need to, so it's a little tricky getting through this intersection and	Negative	Road/Traffic
10	it's where a bike lane sure would be nice.	Negative	Biking Infrastructure
11	Good news is the bike lane will start in about 200 meters. I tend to relax quite a bit when I get on that bike path.	Neutral	Biking Infrastructure
12	woah that guys going fast	Negative	Motorist Behavior
13	But between the office and the bike path I tend to always be aware, more aware, of what's around me and	Negative	Road/Traffic
14	uh always nervous for some drivers that don't appreciate us cyclists.	Negative	Motorist Behavior

15	I found if I just look around every once and while like that it send a little signal to them that, those behind me that is, that I appreciate them giving me a little space.	Neutral	Motorist Behavior
16	And I try to get over as fast as I can. And now I'm in the bike lane.	Positive	Biking Infrastructure
17	There's a lot of sand in the bike lane, which will hopefully wash away when rains come this spring. Right now it's a little inconvenient.	Negative	Safety
18	Little bit of an odd bike lane situation here. The bike lane goes into the lane, the main lane. You see the cars up ahead crossing over the bike lane in order to turn. Not that big of a deal but sometimes it causes some problems. I try to be more aware during this stretch than I might on some other stretches.	Negative	Biking Infrastructure
19	I love squeezing in a little bit of exercise as a part of my commute. I used to run marathons and ultra marathons but I'm in better shape now simply riding my bike, you know, about 2.5-3 miles to work and the same distance home. Not even every day, but most days. Maybe 3-4 days a week on a work week on average over the course of a year, but I'm in better shape. And I think about that a lot when I'm riding.	Neutral	Other
20	I remind myself why I like it so much. Keeps me healthy, keeps me fit, doesn't beat up my body and I get home in the evening and I'm energized just from a brief bike ride. You know, getting 15 minutes on a bike. 12 minutes on a bike. I get home and I'm energized. I get to work in the morning and I'm energized. Feel so much better than showing up to work in my car, or driving home in my car.	Neutral	Other
21	We're coming into the college hill neighborhood of Wichita, where I live. we are going up the hill that really defines the neighborhood. Most of college hill sits on the top of this hill.	Neutral	Urban Environment
22	Hello! (waves to runner) Good seeing so many people outside.	Positive	Urban Environment
23	I don't consider myself a very good cyclist. I'm still not sure what gear I should be in at different points going up this hill. But, I don't really care that much. I just like how it makes me feel.	Neutral	Other
24	People have told me before that if I go smooth tires on this bike I would go faster with less work. but, i really don't want to go faster. I just want to be exercised, I just want to have fun, I just want to feel good. And this type of cycling does it for me.	Neutral	Other
25	I notice myself, every time I'm up in this area, I'm noticeably more calm with the bike lane. I'm still aware of what's going on around me, I'm still paying a lot of attention. But, I'm just able to relax a little bit. I don't feel the need to look back as much. I don't feel as much stress.	Positive	Biking Infrastructure
26	One of the biggest challenges with cycling has been these different civic meetings I go to and the work meetings I have, I show up in my cycling gear some times people look at me kinda funny, but that's a trade off I'll take any day. I don't mind a few people looking at me funny if I feel this good, have this much energy and fun while I'm out riding my bike to work. I do a lot of breakfast meetings in the morning and I'm usually meeting with people who are dressed up but I just appologize for looking so casual and tell them that I ride my bike to work. I usually walk in with my helmet. As soon as they see my helmet and hear I ride my bike to work they uh seem to be pretty forgiving of my casual attire.	Neutral	Other
27	... hi there (dog walkers)	Positive	Urban Environment

28	Alright, here we go.... So, now I'm on Douglas, the main drag in Wichita. I'm actually heading back downtown but I'll be hopping off in just a minute to go to this church down here.	Neutral	Road/Traffic
29	Hello (sidewalk walkers)	Positive	Urban Environment
30	Turn left. We'll overshoot it a little bit so we don't stop in traffic.	Neutral	Road/Traffic
31	AH!! (someone from car yelling). I'm not sure why people do that. I'm not sure if the camera could pick up that car screaming at me. I don't know if they think they're being funny or what. But, it drives me nuts. Especially on a busy road, it kinda scares you sometimes. Those of us that cycle to work have probably all had close calls where we've been almost hit. People joking around don't make things any easier.	Negative	Motorist Behavior

APPENDIX B: EXAMPLE OF INTERVIEW NOTES/ ANALYSIS (TED)

Data Point	Quote	Experience	Theme
1	so, you know, i left from the back of our building there. I love, Danielle I love it. I love getting on my bike. This was a beautiful day outside and it just feels awesome	Positive	Other
2	I always feel guilty right here because for the only time on my ride, I think, I break the law. I go down this alley I'm not supposed to go down.	Negative	Road/Traffic
3	Sometimes there are a lot of busses coming in and out so if I go around the block I go right by the central station and sometimes its just crowded with busses and exhaust fumes and things like that. I think this is also just a little bit shorter and it's kind of fun to feel like I can go off of the main drag. I'm usually the only one in the alley. There was a car coming out of the alley, and that's highly unusual.	Negative	Road/Traffic
4	So, you know I feel pretty safe on, this is Emporia street. I'm on it for about a block.	Positive	Safety
5	There's not much traffic,	Positive	Road/Traffic
6	there's no bike lane but there's not much traffic at all. One way.	Neutral	Biking Infrastructure
7	I'm always real careful about those cars on the right. I'm looking for lights if they're going to back up. (have you ever had any close calls with parked cars?) No, I haven't.	Negative	Road/Traffic
8	Yeah, so this usually feels pretty comfortable and pretty safe.	Positive	Safety
9	And um but when I turn up here, this is the scariest part for my ride. And I love it, I have a great time, but between here and really getting through old town especially coming up to this bridge.	Negative	Safety
10	The road narrows, you see the line moving in. Especially in about a block in a half it gets even more narrow.	Negative	Road/Traffic
11	And this time there was a lot of sand on the ground that I think I mentioned at some point. So, I couldn't ride as far into the gutter as I would have liked without feeling unsafe. Actually, the next day that sand was gone. It's like they were watching my video and the city cleaned it up. (What is the sand from exactly?) It's from when they put sand on the roads to help with the... it's just leftover from winter.	Negative	Safety
12	Right in here is where it's the most scary for me. I look back a lot, just really to give a warning to the cars that I appreciate them.	Negative	Safety
13	I love going through old town right here, it's a fun little part of Wichita. But, it's a little nerve wrecking,	Positive	Safety
14	I would love a bicycle lane. love it love it. It's in the works, at least I understand it is. It would be great. (do you feel like you have to go out of your way to get on the bicycle lane on 1st?) I live in between 1st and Douglas so even if there was a lane on douglas I would probably keep coming down 1st or 2nd street because of the 1-way traffic. I think it's starting to get loose, yeah. I think it falls right about now.	Neutral	Biking Infrastructure
15	(this street is pretty quiet actually) It is. It all has to do with timing and when I leave. (what time was this? if you remember) I'm so glad I told you that I didn't fall. So, if I leave right at 5'oclock this is a lot busier. I try, because there's not a bike lane, I try to leave at 5:30-5:45 or sometimes at 4:30 if I've got to coach my kids basketball practice i'll leave to get home.	Neutral	Road/Traffic

16	It also has to do with the timing of the lights. you know, when I came through that last light way back there I had a green light, I could come on through and so if i get stuck at that light sometimes i'm in a lot more traffic along this stretch.	Neutral	Road/Traffic
17	But, this stretch here isn't always very comfortable.	Negative	Safety
18	It's weird, there are three huge lanes here and yet it still, you still have cars that will come up in your lane.	Negative	Motorist Behavior
19	Most of them will move over, but you have a number of cars, like that one right there. He moved over a little bit, but there's a whole nother lane.	Negative	Motorist Behavior
20	This is a little tough, i put it on at a bad angle so it's harder to see but right here. Kinda the road shifts at that intersection,	Negative	Road/Traffic
21	i've had some scary moments where I shift, the road shifts, the cars don't shift and	Negative	Safety
22	I think if there was a bike lane it would sure help a lot (is that unique to this specific area?) You know, that's the main one I notice. you know, I don't ride my bike many other places. I started commuting about a year ago, but I don't do much of other riding. So, what else would be good for me to tell ya?	Neutral	Biking Infrastructure
23	I think we are coming over the bridge. At this point i'm so close to the bike lane. I can see the bike lane ahead, you can't see it in this film, but I can see it up there and i'm always.	Positive	Biking Infrastructure
24	Everytime I ride home I have a thought like, I would sure hate to crash here because i'm so close to the bike lane, you know.	Negative	Biking Infrastructure
25	But, cars around here are really anxious, um because...	Negative	Motorist Behavior
26	see now i'm in the bike lane and it feels so much better.	Positive	Biking Infrastructure

27	Cars are getting who are getting on to 135 are back there and they're just anxious to get on the highway and I think that makes them frustrated with me.	Negative	Motorist Behavior
28	(so, do you feel like you need to be a little more aggressive right there?) I think it's a little more aggressive, but I think it's more hyper sensitive.	Negative	Biking Infrastructure
29	Now, on the way to work in the morning, the bike set-up on what would be 2nd street to downtown is really weird. You get to 135, have you seen it?, it takes you out in the traffic, you should go take a look at it. I almost recorded my ride to work just to capture that for you. It's really weird, it kinda takes you out into traffic and then the bike lane stops and you are stuck in the middle of traffic. You have to then work your way to the shoulder. It's really weird.	Negative	Biking Infrastructure
30	I love this part here. It's comfortable. It's amazing how that one little white line helps people, helps cars, i think, just be more aware.	Positive	Biking Infrastructure
31	I think about once a year they repaint the line. And I remember after they did it last year it just felt so great. (there are no protected bike lane's in Wichita, correct?) No, not that I know of. I remeber last time I was out in colorado I saw those, but I dont think i've seen them here.	Positive	Biking Infrastructure
32	I am nervous everyday. I'm a prayerful person. I do a little prayer on the bike each day. Not just being thankful for a beautiful day and the ability to exercise but a little bit of an, okay here we go.	Negative	Safety
33	Yeah, it is fun. To me the what i get out of it, the exercise and the great feeling I get. To me, it outweighs the potential risk.	Positive	Other
34	(what made you start commuting by bike?) I've always been an athlete. I was mainly a runner before but 2 things: one I hurt my ankle real bad in a basketball accident so i haven't been able to run as well since, but the main thing though that got me into cycling, or bike commuting was the realization that I'm too busy. I'm 40 years old, i have two kids, I have a wonderful wife, I run this organization, the Kansas leadership center, I can no longer squeeze in a 90 minutes work out at a gym. I just can't do it. So, i had to figure out, how can I emmed physical activity into my lifestyle and um this is awesome. It takes me 15 mintues maybe to ride to work and it's just great. I'm in better shape now than when I was running ultramarathons. At least in terms of, I was never overweight, but I lost like 17 pounds in the last year not really meaning to but because of this short burst of energy	Neutral	Other
35	(I love that you say hello to all the walkers) It does make me more at one with the community I think, um definitely.	Positive	Other
36	I often wish that more people were riding with me, especially in the nicer weather. Some folks i'll see on a regular basis on the road here.	Negative	Other
37	Through the winter when it got cold, a lot of those folks quit riding. A little scarier in the winter too. Darker, darker faster in the evenings, bad weather that freaks people out so, I don't know.	Negative	Safety

38	(do you feel safer in more of the neighborhood area?) This is college hill neighborhood. I live in this neighborhood. I feel very safe up here.	Positive	Safety
39	The only thing that makes me feel unsafe, i'm not worried about the cars passing me, I worry about the cars who are coming up from the side, coming onto the street.	Negative	Safety
40	They want to come onto the street so they don't make a full stop. They live in the neighborhood probably, they're used to just kinda pulling out of their drive way and going real fast onto 1st street or 2nd street. I've had some close calls there. I wouldn't be able to stop fast enough if they kept going. I've done a lot of yelling to those people, sometimes it doesn't help if they're windows are down. I do a lot of hand gestures, not inappropriate ones. A lot of hand up, I'm coming stop. And that seems to help. That's the only thing that makes me nervous in the neighborhood.	Negative	Motorist Behavior
41	I think it's probably a, um, I think people in wichita are not familiar with people being on their bikes.	Negative	Motorist Behavior
42	There are enough of us who cycle so it's just if everyday you left your street and you pulled onto 1st street and knew there were going to be cyclists coming by, it would become a habit to look for them. Now, i'm still an oddity rather than a normal thing.	Negative	Motorist Behavior
43	That's my street right there that I live on. It's a great spot. Old houses, big trees.	Positive	Urban Experience
44	So, this day I was going to a meeting just a few blocks from home. I have really loved going to meetings in my bicycle attire. I want to promote healthy activity. When I show up at a meeting in my bicycle clothes I think it's just a subtle way of letting people know that, you could do this too. (do you ever get people saying, oh i should be doing this) Oh yeah. I get a lot of people saying, you know well good for you or that's great or you know, I wish i could do that and I kindly remind them that they could. People ask me if I have a shower at the office. And we do. We have a shower, a little locker room for men and women at our office which helps a lot. some people say, well i don't have that i can't do it. Truth be told, Danielle a lot of days there's not a need for a shower. Not to get too personal. I shower before work and if it's a really hot day I might shower again at the office but a lot of times, it's only a 15 minute ride, i'm not sweaty. In the summer when it's really hot, when it's over 90 degrees I probably need to shower. But I still bike.	Neutral	Other
45	The only time I don't bike is if there is ice or snow on the ground. Or today I didn't bike today, I had to go to a funeral on the other side of wichita and I didn't think it would be appropriate to show up to the funeral in my bicycle clothes. So, those are the only times I don't. Weather or if I have a meeting off site I have to go to.	Neutral	Other
46	What I've thought about doing, Danielle, I thought about trying to justify if i could get more people here at my office to ride I could justify us leasing a vehicle to leave at our office. So if people ride their bike and have to go to a meeting, they could then borrow the car. So, i'm going to think about that idea. (Do you offer any incentive) ...	Neutral	Other
47	(yelling) Yeah, what was that all about? (and you get that quite a bit though?) you know, not daily, but probpably once a week. I get it when I run too. When I run i'm usually on the sidewalk. When it happens when you're on the road on a bike, with cars, it's scary, i don't like it.	Negative	Motorist Behavior

48	Danielle, you were asking if we had any incentives... you know we have a pretty flexible work place here um we do have a small amount of money each employee can use for their own kind of health and fitness. 250 dollars. So, if you want to buy a bike, if you want to join the YMCA. if you want to get your bike cleaned up if you wanted to do a bunch of yoga classes, you know whatever you want to do you can do. So, that's a minor thing. I've thought about incentives for people who bike commute or who walk to work. A few years ago I started running to work and for about 5 months I ran to work most days. Which is statistically a little tougher to pull off you know but I haven't thought of the right kind of incentive yet. If you ever have any ideas I'd love to hear them.	Neutral	Biking Infrastructure
49	(What part of your ride do you enjoy the most?) I think the part I like the most is definitely up in the neighborhood. one I love the neighborhood, it's my neighborhood and I love it but I think it's just the comfort of that bike lane. It adds a lot of safety. I feel I can just enjoy the ride more. I can think about what it's doing for me physically. You know, when I find myself in prayer when i'm on my bike or when i find myself having really neat, good thoughts, it's usually during that time when I feel safer in that bike lane.	Neutral	Safety
50	I like old town but while i'm riding through it i'm hyper aware of what's going on around me and where the cars are. I can't think or do anything neat like that.	Negative	Safety