

Law Enforcement Cycling:
A Resource Guide to Program Implementation

By
Jesse Patrick Poole
Western Oregon University

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Table of Contents

	Page
Acknowledgements.....	iv
List of Tables	v
List of Figures	v
Abbreviations.....	vi
Notable Resources.....	vii
Abstract	ix
Part One.....	1
Introduction	1
History	2
Comparative Looks.....	4
Motorcycles.....	4
Horses.....	7
Vehicles.....	11
Potential Benefits.....	12
Extended Maneuverability.....	12
Resourcefulness.....	13
Community Crime Prevention Oriented	15
Eco-Friendly.....	17
Cost Efficiency.....	18
Examples of Successful Implementation.....	18
Equipment.....	21
Bicycles.....	21
Bicycle Accessories.....	22
Patrol Apparel.....	23
Protective Equipment.....	27
Electronic Wireless Equipment.....	29
Equipment Preservation and Repair.....	31
Training, Liability, and Policy Issues.....	33

Training.....	33
Policy Implications.....	36
Liability Concerns.....	37
Considerations for Funding.....	38
Part Two.....	40
Research Study Outline.....	40
Research Objectives.....	40
Research Design.....	41
Limitations.....	41
Significance.....	42
Survey and Interview Results.....	42
Group One.....	43
Group Two.....	47
Group Three.....	50
Summary and Conclusions.....	55
References	68
Appendix A: Questionnaire.....	72
Appendix B: Model Policy.....	76
Appendix C: Comparative Look at Thesis Formatting ¹	79

¹ Although unique in structure, this thesis does not stray far from traditional formatting. Please see Appendix C for a comparative look at the different formatting structures.

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Tables:**Tables: Titles:**

1.1	Number of Contacts with Bikes vs. Cars
1.2	Bicycle Companies with Specific Police Models
1.3	Uniform Companies and Shirt Costs
1.4	Basic and Advanced Training Courses
1.5	Cost Comparison of Uniform Pant Manufactures
1.6	Cost Comparison of Uniform Zip-off Pant Manufactures
1.7	Training and Certification Courses Offered by IPMBA and LEBA
1.8	Identification of Obstacles and Challenges by Focus Group
1.9	Funding Sources Identified by Respondents
2.0	Bicycle Manufacturers Used by Participants
2.1	Areas where Bike Patrols were Restricted

Figures:**Figure: Source:**

1.1	Provided by www.policemotorunits.com
1.2	Provided by Montague Corporation www.montaguebikes.com
1.3	Provided by Ibis Tek, LLC www.iFORCE.com

Abbreviations:

CB, Citizens-Band Radio

CDBG, Community Development Block Grant Program

COPS, Community Oriented Policing Services

PDA, Personal Data Assistant

DOJ, Department Of Justice

EPA, Environmental Protection Agency

IPMBA, International Police Mountain Bike Association

JAG, Edward Byrne Memorial Justice Assistance Grant

LEBA, Law Enforcement Bicycle Association

POP, Problem Oriented Policing

SARA, Scanning, Analysis, Response, and Assessment

SPD, Seattle Police Department

MPD, Muskegon Police Department

UCR, Uniform Crime Reports

Notable Resources:

Academics:

Bureau of Justice Assistance
<http://www.ojp.usdoj.gov/BJA>

Bureau of Justice Statistics
<http://bjs.ojp.usdoj.gov>

Center for Problem-Oriented Policing (SARA Model)
<http://www.popcenter.org/about/?p=sara>

Community Oriented Policing Services
<http://www.cops.usdoj.gov>

EBSCO Publishing
<http://www.ebscohost.com>

National Criminal Justice Reference Services
<http://www.ncjrs.gov>

Apparel & Equipment:

Bike Patrol Outfitters
<http://www.bpopatrol.com>

General Dynamics Itronix
<http://www.gd-itronix.com>

LA Police Gear
www.lapolicegear.com

Police Bike Store
<http://policebikestore.com>

RuggedPCReview
www.ruggedpcreview.com

Witmer Public Safety Group, Inc.
www.officerstore.com

Training:

International Police Mountain Bike Association

<http://www.ipmba.org>

Law Enforcement Bicycle Association

<http://www.leba.org>

League of American Bicyclists

www.bikeleague.org

Police Mountain Bike Training

www.policemountainbiketraining.com

ABSTRACT

Although law enforcement has utilized the bicycle for a variety of different purposes since the late 1800s, little research has been conducted identifying the true extent to which bicycle patrols operate, and the diverse obstacles and challenges connected with maintaining such a program. This thesis is divided into two parts. Part one serves as a resource guide to those who are considering implementing a new program or are looking to improve their existing program. Among other things, the resource guide provides a comparative look of bicycles to motorcycles, horses, and vehicles. Potential benefits such as extended maneuverability, cost efficiency, and resourcefulness, along with training, liability, and policy issues, are identified. Part two outlines the research that was conducted, the methodology used, and the implications from the findings. In an attempt to identify common trends associated with program implementation and sustainability, 15 Oregon municipal departments serving different population sizes were asked to participate in this study, 9 of which agreed. The participants were divided into three groups to further identify trends associated with service population size: group one 25,000 – 50,000; group two 50,001 – 90,000; group three 90,000 – plus. Respondents were asked a series of questions related to equipment, training, program restrictions, sources of funding, and current and past program issues. The survey results strongly implicate funding along with manpower as being the two most habitual issues associated with program implementation and sustainability. Obstacles such as prisoner transport, geography, and bicycle maintenance were among the others identified by respondents as being notable issues. Although not mentioned as often as funding and manpower, lack of motivation and interest were strongly suggested by some respondents as being the underlying causes to the programs lack of progress; reporting how important it is to have the right type of people participating in such a stat-driven program that requires substantial results.

Part One:

Introduction:

In recent years, local and state law enforcement agencies have widely adopted modern community policing models throughout the United States (Wilson, 2006) and have "...become the new orthodoxy for cops" (Eck & Rosenbaum, 2000, pp. 30); So much that in 1994 the House and Senate passed The Violent Crime Control & Law Enforcement Act, which birthed The Community Oriented Policing Services program. The Community Oriented Policing Services program (COPS) in the United States Department of Justice (DOJ) states that "Community policing is a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime" (DOJ, Community Oriented Policing Services).

Along with the rapidly evolving community policing philosophy came in increase in the use of bike patrols. Because community policing depends partly on optimizing positive contact between officers and the community members (Bureau of Justice Assistance, 1994), bike patrols are a logical extension of the community policing framework. Police administrators quickly noticed how bike patrol officers came in contact with more citizens than officers in patrol cars (Menton, 2008). Because police officers on bicycles often appear friendlier and more approachable, agencies viewed it as a reputable community policing

tool. After seeing the abundance of positive responses from the public, law enforcement agencies have been quick to implement a similar program; frequently without conducting or reviewing any scientific research. Because the benefits to a bike patrol program seem apparent and require few additional resources to start, little research has been conducted on bike patrols (Menton, 2008).

Modern Implementation Statistics:

The International Police Mountain Bike Association (IPMBA) has reported previously that approximately 82% of all law enforcement departments serving a population of 25,000 or more have police bicycles. As of June 2003, 5,695 (45%) of the 12,656 U.S. municipal police departments were using bicycles while 489 (16%) of the 3,061 U.S. sheriffs' offices were using bikes (IPMBA Fact Sheet, 2003). Between the municipal police departments and sheriffs' offices, 32,078 agencies owned, but not necessarily utilized, bicycles in 2003.

History:

In 1817, a German inventor named Baron Von Drais created something called the Laufmaschine, which meant "running machine" and was later renamed the boneshaker (Herlihy, 2006). This invention sparked the beginning of what is known today as "the bicycle." For decades after the successful invention of this simple but useful tool, policemen used bicycles as their primary means of transportation. One of the earliest recordings of law enforcement utilizing the boneshaker was in 1869 by a sheriff from Illinois (Petty, 2006). By the 1930s mass production of the automobile replaced the bicycle as the officer's preferred method of transportation (Moore, 2007).

As a result of the mass production of the automobile, the bicycle drifted into the shadows and was used less frequently by law enforcement between the 1930s and 1980s. Although the bicycle appeared inferior when compared to the newly arrived automobile, not all law enforcement organizations stopped utilizing them entirely. By the 1960s, U.S. citizens started to notice the dramatic shift in policing caused by the automobile. Foot and horse patrols became less frequent while the use of the automobile continued to increase in popularity. Although the implementation of the police vehicle and the Citizens-Band (CB) radio increased efficiency and reduced response times, research conducted in Kansas City during the mid-1970s would show that increasing or decreasing motor patrols had no significant effect on crime (Kelling, 1974). Additionally, researchers observed through ride-alongs that officers spent 60% of their time waiting for a call to service. The findings raised new questions pertaining to the effectiveness of the widely adopted ideology of vehicle-patrols.

Some researchers credit the Kansas City experiment for bringing to light the notion that traditional policing models were not deterring crime. The traditional model of policing, even before the implementation of the automobile, focused primarily on routine patrol and response times to calls for service. Organizational hierarchies shied away from the constant contact with citizens, mainly because of the fear of increased police corruption (Scheider, Chapman, & Schapiro, 2009).

Bikes did not re-emerge until the late 1980s when the Seattle Police Department (SPD) decided to equip two patrol officers with mountain bikes in

lieu of their standard patrol cars (Moore, 2007). The bicycle program immediately began producing positive results. Most notably, the two SPD officers arrested three drug dealers within the first 30 minutes of their first bike patrol shift. Interestingly enough, within the first month the two officers made hundreds of arrests, which resulted in four times as many arrests as officers in vehicles (Green, 1999). The word began to spread and other agencies quickly learned that bicycle units were extremely mobile and inexpensive to employ when compared to the average police vehicle (Moore, 2007). Additionally, more officers began to show interest in the programs and volunteer numbers began to increase. Because of the health/physical benefits associated with riding a bicycle, the program increased the officers' physical readiness while increasing positive public perception.

Comparative Looks:

Motorcycles:

Motorcycles were the first major gas powered means of law enforcement transportation in the United States (Berk, 2001). Although the first documented use of a motorcycle as a police tool was in 1908 (Harley-Davidson, 2009), Chief August Vollmer of the Berkeley Police Department is credited with organizing the first official police motorcycle patrol in the United States in 1911 (City of Berkeley website). Some officers took personal initiative to implementing motorcycle patrols in their community such as Officer Merle Sims with the Portland Police Bureau in



Fig. 1.1 Multnomah Co. Sheriff's Office

Portland Oregon who patrolled the city with his own personal motorcycle in 1909 (Bowman, 1983/1999).

With the country's continued economic expansion, more police departments began utilizing motorcycles to patrol busy streets and roads. Although the use of bicycles began to decline after the implementation of the automobile, some law enforcement agencies continued to utilize the motorcycle as a primary means of transportation mainly due to cost and mobility.

In the more modern era of policing, the motorcycle is primarily used for escort services, vehicle crash response, and traffic enforcement rather than a standard patrol unit (Berk, 2001). This is largely due to the high mobility and rapid acceleration characteristics a motorcycle possesses. Additionally, motorcycles are small and can be harder to see than a regular black and white cruiser. Furthermore, elite motorcycle traffic units free up patrol officers by lightening the burden of conducting trivial traffic enforcement. This allows vehicle units to spend more time patrolling areas known for drug or gang activity within the city, which can increase the visual impact on the community because patrol vehicles are easier to see and carry a more visual presence.

Specifically, motorcycle patrols can assist with special law enforcement operations, such as drug and narcotic task forces in areas of the city that have a large number of back alleyways and small side streets. This idea holds true to bicycle patrols as well. On one hand, motorcycle officers have speed to their advantage, while on the other, bicycle officers can execute a stealthier approach

and can hear more ambient sounds due to the absence of a roaring motor under them.

The cost of a motorcycle is significantly less than that of a fully equipped police car but significantly more than a police mountain bike. With the average cost of a brand-new bare-bones patrol car from Ford Automotive ranging from \$25,000 to \$30,000 (Ford Motor Company, n.d.) compared to the approximate \$18,000 average cost of bare-bones motorcycle, there is no wonder why motorcycles are financially appealing to law enforcement organizations. Additionally, when utilizing the motorcycle as a traffic unit, the department can quickly make back the money spent on the new unit (Berk, 2001). Unfortunately, motorcycles do not have the ability to transport custodies safely, which limits their overall abilities. Although the cost of a motorcycle is significantly higher than a mountain bike, the increased ability to enforce traffic violations and generate revenue for the department might outweigh the positive community policing implications bike patrols generate. Arguably, implementing a bike patrol program to offset the negative emotions traffic units tend to generate among citizens might help balance perception.

Training is always an important aspect of almost any new program in law enforcement requiring the use of complex tools such as a motorcycles or bicycles. Motorcycle training modules tend to be twice as long as cycling training curricula and can cost significantly more. For example, the Law Enforcement Bicycle Association (LEBA) can charge various amounts for tuition, depending on the agency hosting the class. However, agencies should expect to pay anywhere from

\$100 to \$300 per person. Motorcycle training is traditionally more extensive and can cost significantly more. For example, the Harley Davidson Company offers a five class sequence costing \$595 for each class with a curriculum that covers a wide range of in-class instruction and practical participation ranging from maintenance to special riding skills (Harley Davidson Police Technical Training). Larger agencies like the LAPD, considered one of the best in the world, hosts their own 10 day training program in which other smaller agencies can apply to participate in (Berk, 2001). These training programs are imperative in ensuring safety for the operator and the public; however, motorcycles, although much lighter than a car can carry a deadly punch. For example, during the 2009 Tour de France a 61-year-old woman was struck and killed while crossing the road by a French Republican Guard on his motorcycle. According to officials, the Republican Guard was attempting to locate two teenage males reportedly shooting at Tour de France cyclists with some type of air or BB gun. After striking the woman, the motorcycle slid and hit two other bystanders injuring them both (Macur, 2009).

Horse Patrols:

Horse patrols, also known as mounted posse, is positioned right next to walking foot patrols as being one of the oldest methods of performing police beat activities. Mounted patrols were an excellent method for conducting routine police activities in the 1800 and early 1900s. However, a study conducted in the early 1980s suggests that although horse patrols are on the rise, the current estimated count in the United States is approximately 70 – 80 (Carfield, 1982).

Additionally, a more current study suggests an increase in implementation and popularity over the last 20 years, asserting that almost 600 horse mounted units exist in a variety of police programs throughout the United States (Fine, 2001). Although horse patrols increase maneuverability and community relations while reducing carbon footprints, when compared to bicycle patrols, program implementation and upkeep are significantly more expensive.

Carfield's (1982) study of 25 municipal departments showed the average cost to purchase a horse was \$1,044, which calculates to \$2,327 in 2010. Tacking a horse, commonly referred to as equipping the horse, averaged between \$600 and \$700. Similar to bicycle programs, equipment can sometimes be donated to the department from local businesses and community groups. Horses can also operate on the force for an extensive period ranging anywhere from 9 to 12 years (Carfield, 1982), which is substantially longer than a mountain bike. Because police mountain bikes are implemented for a variety of different purposes, it is difficult to give an accurate number of years a bicycle should be utilized; however, for a full-time highly proactive bike patrol officer, expect to rotate into a new bicycle every two to four years. This does not necessarily mean the previous bicycle is no longer operable; simply that new innovations and technologies are likely to increase a patrol officers overall performance and having a reliable mountain bike can shave precious seconds off of response time.

Perhaps the most significant difference in cost comparison comes with upkeep. Bicycles take up very little space and can even be hung from rafters or ceilings if space is limited. Bicycles require continual maintenance, but almost all

of the routine maintenance can be performed by the bicycle operator and parts for maintenance and repair are relatively cheap. Horses require trailers and trucks for transport, barns for housing, and pastures for exercise, all of which do not come cheaply unless the mounted officers already have the items and are willing to utilize them for the sake of the program. The annual cost of feed and bedding averages \$1,212 per year, per horse, which calculates to \$2,701 in 2010, not including farrier services and veterinarian visits (Carfield, 1982). This is significantly greater than the average cost of maintenance for a mountain bike. With the proper care and routine maintenance, agencies can avoid expensive part replacements. See subsection “Equipment Preservation and Repair.”

Although horse mounted patrols are without a doubt one of the most effective tools used in community policing, they are most famous for their superiority in crowd-control situations (Swindell, 2007). However, this means the horse must be trained for every type of scenario, which may include gunfire, smoke, projectile objects, and the potential of being struck by random objects (Fine, 2001).

Research conducted by Fine (2001) sought to compare the utilization of bike and horse mounted patrols by way of survey. Fine received a response from 52 agencies regarding bike patrols, 67% (35) claiming to have bike patrols and 5 reported planning future implementation. Only 6, or 13% of the 49 agencies surveyed stated the department was currently using horses in any aspect of the organizations operations.

A significant difference in the amount of training required for both programs was also reported. Out of the 35 bike patrol respondents, 51% reported using the International Police Mountain Bike Association training course, which is approximately 40 hours in length. Furthermore, 54% or 19 of the respondents reported using some form of tactical training in addition to the basic bike patrol courses. Interestingly, 14% or 5 agencies reported requiring refresher training averaging 22 ½ hours per year. Although the IMBPA and other bike training organizations offer a vast assortment of additional advanced training classes, basic training for a mounted police team usually require lengthy training curricula and expert riders who can tame and handle horses while exposing them to loud noises and intense situations. For example, Dallas and Huston police departments require 240 and 360 hours of initial training, respectively.

Above all, the most important aspect to consider when implementing a law enforcement program is safety. Although possessing an experienced rider and a seasoned horse can mitigate such issues, it is important to remember that the horse is an animal. Even the best trained horses can be easily spooked or frightened into panic, which can be extremely dangerous for citizens (Swindell, 2007). In one instance, in 2008, a white plastic grocery bag spooked a police horse, which resulted in the horse throwing his officer to the ground. The horse bolted across a parking lot striking two men, a 47-year-old who suffered minor injuries and a 78-year-old that was struck from behind and thrown several yards suffering fatal injuries to his head (Tucker, 2008). Without a doubt police mounted patrols can serve the community in a wide assortment of ways. However, caution should be

taken with regard to cost effectiveness and the obvious fact that the horse is indeed a flesh and blood animal.

Vehicle Patrols:

Recent research has validated what most law enforcement personnel already assumed; bicycle officers come in more contact with the public than officers who patrol in a vehicle. For example, research by Menton (2007) identifies the average number of contacts per hour a bicycle patrol officer comes into contact with the public versus motor vehicle patrols. During the research Menton places each stop into one of three categories; positive, negative, or neutral. Along with the three categories, the degree of seriousness of the contact is recorded as; serious, not serious, or somewhat serious (table 1.1).

Table 1.1	Bike Patrol:	Vehicle Patrol:
Avg. number of contacts each hour	7.3	3.3
Avg. number of people in contacts each hour	22.82	10.54
Type of encounter: Positive/Negative/Neutral	Mean: .42	Mean: .051
Degree of seriousness Seriousness=1; Not serious=-1, Somewhat serious =0	Mean: -0.601	Mean: -0.241
Type of encounter each hour	Non-Serious: 5.097 Somewhat Serious: 1.87 Serious: .333	Non-Serious: 1.46 Somewhat Serious: 1.373 Serious: .467

Traditionally, law enforcement organizations have been required to purchase stock vehicles from auto companies, which are not specifically designed for law enforcement but are appealing because of the large interior space, fuel efficiency, and overall cost. In 2010, Carbon Motor Company made history by introducing the first purpose-built police vehicle specifically designed for law enforcement personnel.

Potential Benefits:

Extended maneuverability:

Because of the increased maneuverability a bicycle provides, response times in congested urban areas are likely to improve; however, no empirical evidence exists to validate the notion. This is attributed to the rider's ability to use alleyways, sidewalks, bike, and pedestrian paths, park trails, and other pedestrian ridden thruways. Although unusual, if needed, bike officers can ride through buildings with large lobbies rather than going around them, which is very useful in grid-like downtown environments. In addition to lobbies, bikes can also be useful in large indoor areas such as airports, conference facilities, and stadiums. Bike officers can also maneuver through large congested crowds by herding people aside similar to the way mounted posse patrols do. Furthermore, bicycle patrols would likely reduce the chance of a foot pursuit although no empirical data has been found supporting this notion. In a traditional foot-to-foot pursuit the suspect has the advantage because the officer is carrying approximately 8 to 12 pounds of gear while running; however, this disadvantage only exists among bike officers if they dismount from their bike. Moreover,

bicycles allow officers to close in the distance between themselves and a potential suspect in a much more tactical way than a foot patrolman running toward someone. Although barriers exist between foot pursuits such as doors, fences, and windows, bicycle officers are trained to quickly transition from pedaling into a full on sprint.

In addition to the commonly known advantages to cycling, modern technology has eliminated the rapid “click, click, click” sound from the crank when the bicycle is in motion but the operator is not pedaling. This provides ultimate stealth and tact when approaching all types of situations and ultimate maneuverability with the wide range of gear options.



Figure 1.2 Paratrooper PRO

Although there exists some level of risk riding silently, well-trained bike officers can minimize the likelihood of being accidentally struck by a pedestrian, other bicyclist, or vehicle by staying vigilant and aware of their surroundings.

Resourcefulness:

Bike patrols offer a wide range of versatility to the law enforcement community. One of the more commonly recognized purposes of a bike patrol program is to show the presence of a community policing program among the public. Naturally, most law enforcement command staff desire their patrol officers to be seen as approachable and friendly by citizens. Bicycle patrols, much like foot patrols, remove the physical barrier of the patrol vehicle and

optimize positive contact between patrol officers and members of the community (BJA, 1994).²

By no means are bicycles exclusively relevant to law enforcement. Other public service organizations can also benefit from the versatility of the modern mountain bike. Emergency Management Services, Campus Public Safety, and even the Department of Homeland Security are utilizing bicycles in their daily operations. For example, the U.S. Customs and Border Patrol website (“Border Patrol Overview”) outlines the way agents are utilizing bikes in cities bordering the United States and Mexico. The mountain bike agents assist vehicle patrols by closing the gap between the roads and areas inaccessible to standard patrol vehicles.

The Montague Corporation has designed several bike models specifically for military and law enforcement agencies whose jurisdictions include a wide range of rugged and rural terrain. These bikes are typically best suited for departments facing unique challenges such as border patrol enforcement or Native American reservations with immense areas not reachable by vehicle. For example, the Paratrooper Pro model is best known for its unique collapsibility. Specifically, the bicycle can be folded in half with a flip of the CLIX quick release lever on the top tube of the frame in under 20 seconds (See figure 1.2) and can be placed in a light weight carrier bag and worn as a backpack.

Perhaps the most unexpected implementation of the bicycle is by correctional facilities. Strandberg (2002) asserts that several correctional facilities and penitentiaries are currently using bikes in the facilities every day operations.

² See Table 1.1 regarding the differences in citizen contacts on bicycles vs. vehicles.

Specifically, several correctional facilities are utilizing bikes instead of cars when conducting perimeter patrols. Dave Simard, Director, public safety products, from Smith & Wesson, a known bicycle manufacturer, asserts that utilizing bicycles in the operations of correctional facilities allows guards to be more aware of their surroundings and pick up on things they would not normally observe (Strandberg, 2002). Strandberg also notes an increase in productivity as well as improved mental and physical health from the guards who participate in the bike program. Furthermore, bicycles save the institutions money, which would normally be spent on gas, oil, and maintenance for the vehicles. For example, Sgt. Fred Lavenski from the Souza Baranowski Correctional Center in Shirley, Massachusetts experimented with the idea of implementing a bike into the facility's operations. As a result, the unit could eliminate an entire vehicle from its operations. Because the agency was able to remove one of the Excursions, the facility significantly reduced fuel and maintenance costs while increasing morale among the guards (Strandberg, 2002).

Community Crime Prevention Oriented:

Bike patrols are also versatile in the sense that they can serve a wide variety of different community crime prevention strategies, depending on the particular need(s) of the citizens it serves. Some jurisdictions highly favor using the Community-Oriented Policing approach to reducing crime. Recalling the introduction section of the text describing COPS as “a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that

give rise to public safety issues such as crime, social disorder, and fear of crime.”

This approach to community crime prevention is proactive and requires a firm commitment by citizens and business owners to adopt crime prevention strategies, which could result in a reduction of fear and crime among the population.

Additionally, the approach incorporates strategies such as *Crime Prevention Through Environmental Design* (CPTED). CPTED consists of three fundamental principles; Natural Surveillance, Access Controls, and Territorial Reinforcement. These strategies can help strengthen the overall structure of the community and deter crime. However, these programs require publicity and support by community members as well as strong leadership. Bike patrol officers can help implement these types of programs by acting as the program coordinator, at least at the beginning, and later hand the reins over to a worthy community member while still staying involved in the program by acting as a liaison. Because bike patrols are a part of community policing efforts, people tend to be more receptive to the message they might be trying to send compared to a regular uniformed officer conducting vehicle patrols. Bike patrols show the community that the department is serious about involving them in crime prevention measures. It also sends the message that the department has already committed to the ideology by employing bike officers.

Police bike patrols can also serve reactive crime prevention strategies such as Problem-Oriented Policing (POP). This ideology asserts that discrete pieces of police operations can be subjected to microscopic examination and hopefully uncover fresh new ways to deal with certain situations (Goldstein, 1990).

Although Problem Oriented-Policing focuses on routine police operations, bike patrols can bring effectiveness to a whole new level. For example, under the POP umbrella, a commonly utilized problem solving method known as SARA, which is an acronym for Scanning, Analysis, Response, and Assessment can greatly benefit from bicycle patrols. Specifically, because bike officers are constantly engaging citizens and are removed from confines of a patrol vehicle, officers can perform all of the tasks the SARA model requires but in a more effective manner. For more information regarding the SARA model refer to the Additional Resources section.

Eco-friendly:

Because bicycles create virtually no noise or air pollution harmful to the environment, they serve as an environmentally friendly tool. Typically, bicycles do not contribute to traffic issues and take up very little space on the road or sidewalks. Additionally, bicycles are somewhat lightweight and take up very little space for parking. Bicycles can also supplement regular patrols by transporting the bicycles on a rack. This allows officers to travel to rural areas and patrol with their bikes. If assistance is needed from far away, officers can return to their vehicle, place the bike on the rack, and respond to the call; taking relatively little additional time. Taking an environmentally friendly approach can also open door for additional funding. There exists a wide variety of sources such as the United States Department of Agriculture, state and federal Department of Transportation offices, and privately funded opportunity grants.

Cost Efficiency:

The annual cost of a bike program can vary, depending on the size of the bicycle fleet. In a survey study conducted by Swindell (2007), 40% of the respondents reported spending anywhere from \$751 and \$1,000 on a new mountain bike while 17% reported spending an average of more than \$1,250, 14% spent between \$1,001 and \$1,250, and 11% between \$551 and \$750, which is significantly lower than the average patrol vehicle, which cost about the same as a horse.

Typically, a new patrol vehicle costs anywhere from \$25,000 - \$30,000 with all of the special equipment required to make the vehicle fully operational. According to the Environmental Protection Agency (EPA), the average commuter drives approximately 12,000 miles each year. Law enforcement officers are likely to triple that number because most of their time is spent in a patrol car. With fuel costs rising, agencies are paying a greater percentage of their scarce budget every year to fuel their fleet. In contrast, bicycles expend no fuel. In fact, the only fuel a bicycle will burn is the rider's own personal energy, mitigating fuel costs.

Examples of Successful Implementation:

In the mid-1990s the Muskegon Police Department (MPD) in Michigan received a COPS Distressed Neighborhoods Program grant in response to serious economic and social problems the city had been facing. The city began to expand the department's crime prevention programs and implementing new community-based program operations such as Community Child Watch, the Volunteer Server

Training program, and Drug Abuse Resistance Education Programs. Between 1998 and 1999, the city introduced 10 additional community prevention programs for youth. One of the programs was The Police Mountain Bike Program, which involved bicycle safety education for youth. This program allows the youth to ask questions regarding bicycle operations and safety tips as well as having the chance to ride their bikes with officers. The interaction between the officers and the youth promoted a positive relationship in addition to patrol and enforcement activities. As a result of the COPS Distressed Neighborhoods Program grant, the city saw a steady reduction in many of the targeted crime categories in the FBI's Universal Crime Report data (COPS, 2003).

A second example comes from Ann Arbor, Michigan. Ann Arbor is a typical Michigan college city with a fluctuating population that includes 35,000 students. The unique demographic characteristic unfortunately breeds typical types of crimes associated with college life, such as liquor violations, public urination, disorderly conduct, criminal mischief, and other alcohol and drug related incidents (Vonk, 2003). During the 1980s and 1990s it was not uncommon to see large groups of students ranging in numbers from 150-200 take to the streets after the bars closed and engage in criminal activity, such as fighting, assault, and robbery. Additionally, officers observed students using local parks as a place to commit alcohol and other drug related violations. In an attempt to mitigate these types of crimes from occurring, the Ann Arbor Police Department created the Special Problems Unit (SPU), which comprised of six full-time officers. The unit was tasked with patrolling the downtown area during

all times of the day in an attempt to make the environment more pleasant for everyone. During the patrols, police officers responded to several in progress high priority crimes and continuously engaged in proactive enforcement specific to the certain geographical areas. The primary mission of the unit was to target particular issues within the city that negatively affected the otherwise relatively peaceful city (Vonk, 2003).

Two of the SPU officers recognized the potential for implementing bike patrols in the downtown area. A local bicycle shop donated two bikes to the department, and the bike program was born. Shortly after, department administrators began to observe the successful progress the bike patrols had on the community and enforcement; research was conducted, and a full-time bike patrol programs was scheduled to be operational by the following spring. Patrols became so successful that officers were frequently calling motorized units to transport their custodies (Vonk, 2003). Since the bike patrols implementation, officers have caught home invasion suspects, armed robbers, car thieves, criminals breaking into vehicles, and criminals in possession of stolen property (Vonk, 2003).

Although no scientific method of measurement was used to determine the exact impact the bike patrol program has had on the Ann Arbor community, Vonk (2003, p. 84) asserts “the success stones are too numerous to cite” and that “...bike officers have directly and indirectly curtailed crime in the downtown and student residential areas.” Kathleen Vonk has been an Ann Arbor bike officer

since 1993 and has taught at the nationally recognized International Police Mountain Bike Association Annual Conference since 1995.

Equipment:

Like all other aspects of law enforcement, the quality of equipment is extremely important in mitigating officer safety issues. Compared to a police car or motorcycle, mountain bikes are relatively easy and inexpensive to equip; however, like all other essential equipment, it must be maintained and properly serviced.

Bicycles:

The bicycle is by far the most important piece of equipment to consider when purchasing equipment for a new or existing program. Standard bicycles are not designed to hold the extra weight of the equipment required for a bike patrol. Because of this, bicycle companies have started designing stronger more durable frames to prevent cracking in the welds of the frames. In fact, some companies such as Trek, Fuji, Smith & Wesson, iFORCE, and Montague have designed bikes specifically for law enforcement. Typically, a police department should expect to spend anywhere between \$750 and \$1,200 on a long-lasting mountain bike. Table 1.2 lists a few popular bicycle companies, their current special police model, and the expected retail price. Although these bikes are claimed to be designed for law enforcement, other mountain bike models can serve the bike programs mission and should not be overlooked.

Company:	Bicycle Model:	Price:	Table 1.2
iFORCE	G20	Approx. \$1,900	
Trek	Police Model	\$1,259.99	
Fuji	Police Special SRAM Police Special 24 Speed	\$799 \$529	
Smith & Wesson	Tactical Police Mountain Bike Perimeter LE	\$675 \$429	

The most notable and perhaps the most technologically advanced bicycle in modern policing is the iFORCE G20, which has been purposely designed for law enforcement and EMS personnel. Specifically, the bike comes with an advanced integrated LED lighting system and siren. The frame has been designed to hide the wires internally and mounts the battery in the rear compartment to mitigate possible malfunctions and disconnection issues while conserving space (See figure 1.2). This allows law enforcement to purchase the bike as a complete package instead of purchasing aftermarket lights and sirens or additional saddlebags for storage, although the bike is designed to support such additions



Fig. 1.3 iFORCE G20

Bicycle Accessories:

As mentioned in the previous section, *most* mountain bikes do not come fully equipped from the manufacturer. Traditionally, officers are forced to purchase accessories for the bike from other businesses. Although the iFORCE G20 mitigates this issue, some accessories must be purchased separately from the original bike purchase. Below is a list of *basic* bicycle tools and accessories typically found in a bike patrol kit when performing regular patrol operations.

- Rear Rack
- Two water bottle cages mounted to the frame
- A rear rack top bag, saddle bags, or combination of both
- A basic tool kit that includes a Phillips and flat head screwdriver, hex wrenches, tire levers, and a chain repair tool
- One (two is preferred) spare tire tubes
- Some type of locking device
- A CO² dispenser and CO² cartridge or small hand pump
- A basic first aid kit

Keep in mind these accessories are designed to mitigate the potential for long lasting immobilizations due to mechanical or equipment failures on the bicycle as well as providing storage for additional equipment, which may be necessary, depending on the mission-specific goals the bike has been employed to accomplish and should not be considered *protective equipment*.

Patrol Apparel:

Personnel apparel is one of the most important aspects to consider when implementing a bike patrol program. Patrol officers should feel comfortable in the attire they wear and should have as much range of motion as possible for ultimate maneuverability and protection. Additionally, there are several other considerations that should be evaluated when selecting a bike patrol uniform.

First and foremost, the geographical climate tendencies where the organization is located should act as a starting point. Typically, weather can be the biggest hindrance to bike patrol officers. If the weather is too hot outside officers risk heatstroke or exhaustion, if the ground is covered in snow and ice, crashes and injuries are more likely to occur while facing the constant battle of staying warm. If heavy rain and winds are present, officers are faced with the constant need to stay dry and keep their body temperature at a safe level. Perhaps

the most important question to ask is “What type of weather would I likely be riding in most often?”

Fortunately, law enforcement apparel companies have spent countless hours and thousands of dollars researching a wide variety of different materials and designs to produce the most effective products for all types of weather. Unfortunately, the most effective products do not come cheap.

Traditional patrol shirts typically cost an agency anywhere from \$40 – \$80. However, it has been my experience that a typical patrol shirt costs approximately \$50 – \$60 at the bulk price. For a decent bike patrol shirt expect to pay anywhere from \$60 – \$90 not including any patching or embroidering work. Perhaps the increase in cost is likely attributed to the lack of market when compared to regular patrol uniforms? Agencies usually order standard patrol shirts in bulk and every now and then are given a discounted price for the large order. However, most agencies do not purchase large quantities of bike patrol shirts. Furthermore, the most desired bike patrol shirts are made from more expensive materials and are expected to keep the officer at a comfortable temperature while providing ventilation without sacrificing durability. Refer to table 1.3 for a list of known uniform manufacturers and their uniform shirt prices.

Company:	Uniform Shirt:	Cost:	Table 1.3
Bratwear	Split Color Contemporary Duty Shirt – Short Sleeve	\$92	
Blauer	Color Block Knit Bike Shirt – Short Sleeve	\$59	
Mocean	Metro Pique Polo Shirt – Short Sleeve	\$69	
Olympic	Color Block CoolMax Polo Shirt - Short Sleeve	\$60	

As mentioned previously, it is important to take into consideration the geographical climate tendencies where the organization is located when considering what type of apparel to purchase. For example, some agencies might serve in predominantly warm climate areas such as parts of New Mexico, Arizona, California, and Texas. In these cases, shorts are likely to be the preferred apparel for bottom wear. These organizations can save money by purchasing bike shorts and using their standard patrol pants when necessary. See table 1.4 for a cost comparison of bike patrol shorts and known manufacturers.

Company:	Uniform Shorts:	Cost:	Table 1.4
Bratwear	Comfort Stretch Knit Shorts	\$69	
Blauer	Does Not Manufacture	N/A	
Mocean	Velocity Shorts	\$65	
Olympic	Phoenix Shorts (with chamois)	\$52	

Although some agencies might prefer to purchase only bike patrol shorts to mitigate spending, it is important to consider the potential need for pants more conducive to bike patrol operations. Continuing with the previous example of areas that might only require the need for bike shorts, such as New Mexico, Arizona, California, and Texas, it is important to consider the geographical characteristics within the populated area the bike patrol might serve. Most notably, certain parts of Texas are prone to have poisonous and potentially lethal animals, such as rattlesnakes, scorpions, fire ants, and a wide variety of spiders (Insall, n.d.). In some cases, it might be in the best interest of safety to utilize pants instead of shorts, regardless of the weather. Table 1.5 provides a cost comparison of known uniform manufacturers.

Company:	Uniform Pants:	Cost:	Table 1.5
Bratwear	Split Color Contemporary Duty Shirt – Short Sleeve	\$92	
Blauer	Color Block Knit Bike Shirt – Short Sleeve	\$59	
Mocean	Metro Pique Polo Shirt – Short Sleeve	\$69	
Olympic	Color Block CoolMax Polo Shirt - Short Sleeve	\$60	

Some agencies however, do not like being restricted to purchasing both shorts and pants for their bike officers. Understandably, equipping every bike officer with pants and shorts can be expensive. One potential solution is to purchase bike patrol pants with zip-off legs. These specially designed pants can provide the best of both worlds by creating insulation and warmth during the colder winter months as pants, and light weight breezy comforts in the hotter summer times. Although zip-off pants are relatively expensive compared to the standard vehicle or bike patrol pants, the ability to utilize both pants and shorts as one might save your agency money in the long run. Below is a list of known manufacturers that design zip-off pants specifically for law enforcement.

Company:	Zip-Off Pants:	Cost:	Table 1.6
Bratwear	Stretch Pant with Zip-off leg	\$148	
Mocean	Zip-Off Pants	\$127	
Olympic	Zip Off Leg Pants (ZLP596)	\$139	

Patrol shirts, pants, shorts, and shoes are the four most important pieces of external apparel to consider when equipping a bike unit. Due to the wide variety of different shoe and boot companies as well as the multitude of styles, footwear will not be addressed. However, comfort, reliability, and maneuverability along

with other personal preferences should be taken into account when determining the type of footwear to use. As officers become familiar with the differences between riding for sport or pleasure, compared to riding on patrol, they will likely be inclined to seek out undergarment apparel designed more specifically for patrol operations. Realistically, police bike patrol is its own entity in the world of cycling. Although an officer might have several years of experience in cycling, nothing is comparable to law enforcement operations on bikes. For this reason, it is strongly recommended not to restrict officers from wearing certain styles, fabric, or brands of undergarments, which might serve their particular level of comfort and maneuverability needs.

Protective Equipment:

Every law enforcement agency has some type of policy pertaining to protective equipment; or at least it should. Typically, protective equipment policy outlines specific brands or models of weapons allowed to be carried and can sometimes restrict the placement of equipment on the officer's belt. Although policies vary from agency to agency, special consideration should be taken when implementing a bike patrol program. We will talk more about protective equipment policy in the "Policy Implications" section of this thesis. For now, we will discuss the different options officers should consider when determining protective equipment use.

In the world of law enforcement equipment, there are two leading types of duty belts: nylon, and leather. For cycling officers, nylon tends to be the most popular choice for several reasons (The Complete Guide to Public Safety Cycling,

2nd ed. 2007). Specifically, leather is typically more expensive than nylon and requires more maintenance. Additionally, leather is more likely to be permanently contaminated by certain chemicals or bio-hazardous materials, such as blood. Furthermore, nylon can easily be cleaned and decontaminated without compromising the structural integrity of the equipment. Moreover, leather can sometimes take time to wear-in and often make a squeaking noise when the material is constantly rubbing together due to continuous movements, like riding a bike. Although leather equipment can form to an officer's unique physical body feature and is typically more comfortable, it is not very conducive to every day bike patrol operations.

Previously stated, equipment positioning is crucial when performing not only regular patrol operations, but bike patrol operations as well. Unfortunately, bike officers lose the advantage to having a patrol vehicle to shield them from potential dangers. Therefore, it is important to consider reconfiguring your duty belt to mitigate the disadvantages bike officers might face. However, a vast majority of law enforcement training is muscle memory. Dramatically changing your duty belt configuration back and forth between bike patrol and vehicle patrol is *not* recommended. Instead, consider finding an alternative configuration, which suits both bike and vehicle patrol operations.

Although duty belts are the primary method of carrying equipment by law enforcement officers in the United States, equipment vests can be a suitable alternative. Law enforcement officers are expected to carry an assortment of equipment with them to perform their duties, such as a handgun, radio, handcuffs,

baton, pepper spray, taser, audio devices wirelessly attached to their patrol cars onboard video camera, flashlight, personal and work cell phones, notebook, pens, and business cards.

Electronic Wireless Equipment:

Modern technology has raised innovations related to the extent of its capabilities and use, particularly in law enforcement as it relates to motorcycle and bike patrols. Although, in this economy, an ultra-mobile computer purchased exclusively for bike patrol seems highly unlikely in certain agencies. Wireless mobile computing can be a vital asset to motorcycle and bike patrol officers alike in addition to creating uniformity between the car, and the bike as it relates to mobile computer implementation. For this reason, the pros and cons of using ultra-mobile computers with bike patrols will be discussed.

The 21st century has pushed society into the technologically advanced world of wireless computing. Although wireless is not a new concept, its availability and implementation into other nontraditional consumer products is. For example, law enforcement computing became available in the 1980s with limited data transfer availabilities. Aside from cellular telephones, mobile computing for law enforcement was the only other practical purpose of such use. Although private companies might have had their sights set on the new technology, the industry lacked program designers and service availability. In today's world, virtually everything is wireless. Home and business networking is readily available and affordable to almost anyone. A vast majority of private and public grade schools and universities have also implemented wireless services to

faculty, staff, students, and guests. These changes are likely associated with the new-age wireless technology, which is being implemented into a wide variety of electronic devices such as flat-screen televisions, home and office printers, wirelessly controlled house-lighting, PDA's, and much more.

As the wireless market continues to soar, new devices are created with wireless technologies incorporated into the device. However, these new devices do not just catch the eyes of the everyday consumer, but law enforcement personnel as well. While law enforcement agencies continue to update their vehicles with new technologies, other devices are being designed to attract not only vehicle patrol officers but also motorcycle and bike patrol officers as well. For example, companies like General Dynamics Itronix have been creating state-of-the-art computing modules, such as the GoBook MR-1, to assist law enforcement, emergency management personnel, and military members in day to day operations. The GoBook MR-1 is a fully equipped laptop designed computer, yet it is only one quarter of the size (Hill, 2009). According to the General Dynamics Itronix webpage, this ultra-mobile computer weighs 2.0 pounds, is water and dust tight, made in a die-cast magnesium chassis, and, when used with a General Dynamics Itronix certified vehicle dock can withstand a SAE J1455 vehicle crash test, which, according to the SAE website, is designed to rigorously test electronic equipment in heavy-duty on and off road vehicles. Furthermore, the lightweight computer (capable of running Microsoft® Windows® XP or Vista) comes with an Intel® Core™ Solo ULV 1.2 GHz processor, 2 MB or 1GB DDR2 DRAM, keyboard and touch screen, and your

choice of a 40 or 80 GB hard drive. But, perhaps the most notable feature of the MR-1 is its size. The mobile computer measures 4.8 inches in length, 6.6 inches wide, and a depth of only 1.6 inches, which allows for ultimate portability.

According to Conrad Blickenstorfer, Ph.D., Editor-in-Chief of RuggedPCReviews, the most detailed product review organization in the industry of rugged computing, states that General Dynamics Itronix “Succeeded admirably and at every level” (Blickenstorfer, n.d.). Dr. Blickenstorfer goes on to say that, although he and his colleagues were expecting to find unavoidable compromises and weaknesses associated with packing so much functionality into such a small device, they found none. So, what is the catch? Most notably, it is the price. Expect the MR-1 to set you back approximately \$4,000. The complete, four-thousand three-hundred word product review by Dr. Blickenstorfer can be found at www.ruggedpcreview.com. Although the MR-1 is not the only mobile device out there for bike officers, it appears to be the most complete, which, if nothing less, serves as a great comparison tool when determining what type of ultra-mobile computing you want to implement.

Equipment Preservation and Repair:

Equipment is one of the most important aspects to consider when implementing a bike patrol program. Those who have spent a considerable amount of time in law enforcement understand how quickly and easily equipment can be worn down and broken. Law enforcement is a 24/7 365 operation that typically results in a constant need of replacement equipment due to the continuous use and harsh environment it is subjected to on a regular basis.

Bicycles, unfortunately, are no exception. For this reason law enforcement officers should consider what type(s) of bike(s) they should purchase, depending on how often the bikes will be utilized. Additionally, some bikes will require more maintenance than others, depending on the quality of the product.

Although police mountain bikes can be expensive, remember they are only a tool. A tool that assists you in performing your duties as a public safety officer and no tool is worth sacrificing your safety. Although bicycles in law enforcement are typically tipped, tossed, thrown, crashed, and spun during its use, the good news is that they can either be fixed or replaced. Fortunately, mountain bikes used by law enforcement do not vary much in the areas of basic functionality. As a result, bicycle maintenance skills can be obtained almost anywhere. Some organizations, like the League of American Bicyclists, offer an online maintenance module where you can learn a wide variety of maintenance techniques in step-by-step instructions. However, law enforcement cycling organization such as the Law Enforcement Bicycle Association and the International Police Mountain Bike Association offer bicycle mechanics and repair training courses for a fee. Although the basic mechanics of a bicycle are the same, it might be beneficial to have extensive maintenance training from experts within your field, allowing them to identify any trends or troubled areas typically seen in law enforcement cycling. For more information about bicycle maintenance and repair see the “Notable Resources” section.

Training, Liability, and Policy Issues:

Training:

Having the proper training is the most important aspect of law enforcement. Proper training and modern tactics are crucial in securing the lives of our law enforcement professionals. Law enforcement officers use, in conjunction with other methods, scenario-based training that incorporates props such as a patrol car and a suspect vehicle. One of the most commonly practiced scenario involving vehicles is felony traffic stops. Although there is more than one way to conduct a felony traffic stop, typically the basics do not vary. These scenarios allow officers to be exposed to extremely high-stressed situations while allowing them to adapt to unexpected actions taken by the suspect role-players. This ideology holds true in the world of law enforcement cycling as well. No modern law enforcement administrator in their right mind would ever hand the keys over to a newly hired officer and allow him to ‘hit the streets’ without the proper training. Why should cycling be any different? A bicycle is a tool and like all the other tools on a police officer’s belt, the officer should be properly trained before being allowed to implement the tool in their day to day operations. Unfortunately, many law enforcement agencies small and large allow their officers to ride bikes on duty with little or no training at all (Bahret, 2006).

Although most law enforcement agencies require some type of initial training, only 31% of respondents in a 2002 survey conducted by the International Police Mountain Bike Association reported conducting in-service refresher training (Swindell, 2007). Additionally, only 62% of the respondents reported

having firearms-specific training as required by their department, while 51% reported having defensive tactics training. Most notably, only 44% of the agencies were required to undergo some form of scenario-based training. Because law enforcement cycling training is explicit to law enforcement professionals, there are few organizations that have such specialized training. Fortunately, the organizations that do exist, such as the IPMBA and LEBA, are comprised of seasoned law enforcement cyclist and professionals from all over the country and other parts of the world. The organizations offer a wide range of training programs specifically designed to address nearly every aspect of law enforcement cycling ranging from the basic training course and maintenance classes to specialized bicycle response team training. A current list of the training and certification courses available by IPMBA and LEBA are listed below.

IPMBA:	LEBA:	Table 1.7
IPMBA Police Cyclist Course	Class A Certification Course	
IPMBA Public Safety Cyclist II Course	Class B Certification Course	
IPMBA Survival Tactics and Riding Skills Course	Class C Certification Course	
IPMBA EMS Cyclist Course	Advance Techniques and Training Course	
IPMBA EMS Cyclist Course II	Instructor Course	
IPMBA Instructor Course	Public Order-Crowd Control (Response Training)	
IPMBA Maintenance Officer Course	Bicycle Officer Survival Training	
IPMBA-MMR Core Skills and Scenarios Clinic	Bicycle Mechanics/ Repair Training	
IPMBA Bicycle Response Team Training		
IPMBA Security Cyclist Course		
IPMBA Night Ops-Firearms & Tactics Course		

Every law enforcement professional should be aware that having the proper training can be the difference between life and death. If an officer is sent out on patrol without the proper training, that officer is missing a vital survival tool (Beck, 2009). Specifically, some training courses are offered without the implementation of firearms; however, it is not recommended. This is due in large to the tactical differences that exist between police cyclists and the standard vehicle patrol officer (Swindell, 2007). Bicycle officers would more likely than not, adjust their equipment to suit their individual comfort and safety concerns. This is especially true with regard to bicycle gloves. Although some agencies require firearms training with gloves, bicycle gloves are typically different than the ordinary gloves used to keep your hands warm during regular patrol. For example, there is additional padding on the palms to provide comfort when grasping the bicycles handlebars for significantly long periods. The padding also provides an additional layer of protection in the unfortunate event that the rider crashes or is otherwise thrown from the bike. Because of the potential for significant change in the entire uniform and equipment placement when transitioning from vehicle patrol to bicycle patrol, scenario-based training is highly recommended to help identify firsthand issues. Most importantly, failing to provide officers with adequate training before assigning them to bike patrol can create uncertainties about their abilities to perform in their job (Beck, 2009). Police officers tend to stick with what is comfortable to them. Thus if an officer has little or no bike training than he or she are likely to restrict themselves to

peddling and mere presence; making as much of an impact on the community as a security guard.

Policy Implications:

Failing to properly train your bicycle officers can yield catastrophic consequences. Untrained officers are more susceptible to injury are likely to develop unsafe riding habits. Because bicycle patrols are be considered a high liability area, in-service training should be implemented in addition to establishing bike patrol policies (Bahret, 2006). These policies, like all others should be clear, concise, and cover all aspects of bike patrol. Specifically, the policy needs to identify the primary purpose of the bike patrol program and how it is implemented into the operations of the agency. When developing a policy ask yourself several questions. Will the program be attached to another unit e.g. regular patrol or a special taskforce? Who will be in charge of the program? Typically, bike patrols are attached to the patrol unit, depending on the organizational structure of the agency and the primary purpose of the bike patrol program. However, this can cause implementation issues with regard to a difference in opinions between line officers and patrol. For example, say the bike unit falls directly under the patrol sergeant in the chain of command. The senior bike officer who is an avid cyclist and experienced rider is ordered by the patrol sergeant, who is not a certified bike officer, to patrol a certain area of town or implement the bike patrols in a particular manner in an attempt to yield specific results. The senior bike officer knows that the order is not practical and is torn between following the order knowing full well the implementation strategy is a

bust or disregarding the order and conduct the operation in a more effective manner. These types of issues can be crippling to a bike patrol program primarily because of the potential for perpetuation. An inexperienced supervisor is likely to give orders not conducive to bike patrol operations. Although the supervisor would not give such orders intentionally, his or her lack of experience would likely create tension between the bike officers and him or herself. To avoid such complications, consider assigned a line officer to the program that can be certified in bike patrol and can make competent decisions about its implementation strategies.

Liability Concerns:

Liability is one of law enforcements mortal enemies. Aside from personal safety, it is the primary reason policies and training exists. Most important, the majority of people fail to recognize that law enforcement cycling is one of the highest levels of biking a person can attain (Beck, 2009). With that in mind, you should ask yourself a series of important questions like “who will be authorized to ride the bikes?” Make sure you specify this in your department policy by clearly outlining who will be allowed to operate a bicycle on duty. Using some form of personnel selection is typically the best way to determine who is and is not allowed to operate a bicycle. The selection process should be outlined in the policy, and the standards should be written clearly. Consider the training programs previously discussed and ask yourself what type of training should the department require? Once you have made this determination, be sure to include it in your policy. By officially documenting the type of training bike officers will

be required to complete, you mitigate the chances of being sued for incidents related to lack of training.

Regardless of the organizational structure or its size, every department, agency, and organization can crumble due to liability issues. For this reason, it is vital to implement some form of bicycle patrol policy to mitigate liability. Refer to the model policy sample in the appendices for more details on creating bike patrol policies.

Considerations for Funding:

In addition to supporting community crime prevention initiatives, bike patrols can encourage compliance in a more positive and receptive manner. For example, state and federal grant programs like the Safe Routes to School program award millions of dollars to police departments that are taking initiative to encouraging pedestrian safety in their community. These initiatives are likely to create an atmosphere more susceptible to the positive development of police and community bonds. State and federal grant programs similar to Safe Routes to School can be a great initial resource to starting a bike patrol program in your community.

Typically, grant funded programs have specific goals and guidelines the awarding organization must follow and accomplish during the awarded period. If these guidelines are not met to the satisfaction of the ruling board, the funding can be revoked and the organization ordered to pay back any and all funds stipulated. For reasons like this, consider consulting someone who has experience with grant application writing and program implementation. Grant writing is competitive,

remember, other organizations are applying for the same grant you are. Be sure to follow the grant application instructions exactly to prevent your candidacy from being disqualified early in the process.

Grants for police bicycle units come from a variety of sources, including environmentally based government agencies. Most notably, grants for bike patrols meet the requirements for fuel reducing forms of transportation and community policing guidelines. Agencies can look for funding in a wide range of places such as the Environmental Affairs and Air Quality Management office, the Community Development Block Grant Program (CDBG), Edward Byrne Memorial Justice Assistance Grant (JAG), the Target and Blue Grant Program, and several nonprofit organizations. However, there are several other ways to acquire monies to start a bike patrol program. Consider looking into community businesses, foundations, community-based organizations, recreational clubs, or fundraising.

Before conducting any type of fundraising activities it is important to identify and assess the community need for such a program. Start by considering the size of the unit you want to create, its primary function in the community, and the potential cost it will take to implement the initiative.

Part Two:

The second part of this thesis, in conjunction with the literature of part one, helps identify the needs for further study, outlines the research objectives, and explains the research design, limitations, significance, and research findings. The two parts are meant to complement each other by providing the reader with topical information in part one, which hopefully raises some questions that can be answered in part two. Keep in mind the research conducted was preliminary. The overall goal was to identify key obstacles and challenges associated with bike patrol implementation and the likely contributors to those challenges.

Research Study:

Need:

Although the present existence of police bike patrols are apparent, *little is known about the true extent to which bicycle patrols are utilized and the diverse obstacles and challenges connected with maintaining such a program.* Because of this, a preliminary investigation and analysis into what makes a bike patrol program successful is warranted.

Research Objectives:

There are four main objectives associated with this study.

1. Review the existing literature and data relevant to bike patrols.
2. Collect new data using a semi-structured survey or interview type of method.
3. Summarize the survey/interview findings.
4. Address any relevant obstacles identified in the findings.

Research Design:

Using a semi-structured survey or interview technique data will be sought from 15 different municipal police departments within the state of Oregon in an attempt to identify key trends in law enforcement cycling. The sample is divided into three categories; the first will be comprised of five municipal police departments within the state of Oregon that serve a population of 25,000 - 50,000; the second will be comprised of five municipal police departments within the state of Oregon that serve a population of 50,001 - 90,000; finally, the third will be comprised of five municipal police departments within the state of Oregon that serve a population of 90,001 - plus. The inquiry is designed to identify the different obstacles each department may encounter, regardless of the city's population. Agencies serving population sizes of less than 25,000 were excluded due to the increased likelihood of their bike patrols being utilized for special events only and not regular patrol functions.

Regarding human subjects, the scope of this study is limited to certain specifications. These specifications are:

1. The participant must be a certified police officer by the Department of Public Safety Standards and Training in the state of Oregon.
2. The subject must have at some point participated in a bike patrol program in the current department they are working at or;
3. The subject is in an administrative position within the current department and can provide accurate information regarding the departments bicycle program.

Limitations:

Most studies are faced with limitations, and this inquiry is no exception. Because the studied sample is restricted to municipal police departments in the state of Oregon, the discoveries may not be applicable to out of state agencies. Additionally, the findings, along with the program implementation implications might not be conducive to law enforcement agencies in rural areas. Admittedly, the lack of scientific research within law enforcement cycling resulted in the majority of the literature research in part one stemming from periodical sources.

Significance:

Continuous exploration and study in a particular topic or field can contribute to the overall validity of previous research in addition to creating ambiguity where necessary. In the 1990s and early 2000s law enforcement bike patrols became more popular throughout the country due to their instant-gratification-like response from the public. It appears that law enforcement has adopted the mentality of “It just works” resulting in a lack of scientific research on the topic of what makes a bike patrol program successful.

Survey and Interview Results:

Surveys were distributed to 15 municipal agencies throughout the state of Oregon who either had or currently have some form of bike patrol program. Out of the 15 agencies, all five in Group One (serving a population of 25,000 – 50,000 people) responded. Two agencies in both Group Two (serving a population of

50,001 – 90,000 people) and Group Three (serving a population of 90,000 +) responded bringing the total to nine respondents.

Group One:

In Group One, when asked what year the agencies bike patrol program began, the earliest response was 1993 while the most recent was 2004. It should be noted that four out of the five respondents currently had an ongoing bike patrol program, while the fifth (S-6) previously had a program from 2004 – 2008. However, all four of the agencies claimed the program was seasonal. With regard to funding, four out of the five agencies (S-0, S-4, S-5, and S-6) cited the department's general fund as being the only source contributing to the program. The fifth agency (S-3) named the police reserve unit as being the programs sole source of funding. When asked if the bike patrol programs had a budget, three out of the four active programs responded "yes," but only one of them could produce an annual amount (\$500). When asked to identify any obstacles the program has encountered with regards to funding, interestingly only one (S-5) out of the four active programs identified any obstacles. The obstacles mentioned by S-5 pertained to the bike program being at the bottom of the budget priority list. The one inactive program cited no funding issues during the time it was active.

When asked to explain the primary function of the agency's bike program a variety of answers were given; including, to supporting the School Resource Officers on their campuses; to deploying officers in areas of high crime and community events; supplement patrol units as time permitted; patrol the downtown areas and businesses; to patrol city parks; and to monitor graffiti

activity. Regarding transportation, all 5 participants reported having less than ten bicycles designated for bike patrol with three bicycles being the smallest amount and eight being the largest. Additionally, four out of the five participants claimed to be using mountain bikes specifically manufactured for police work while the fifth claimed to be using mountain bikes modified for police use by a bike shop. Furthermore, when asked to list the manufacturers of the bicycles used, two out of the five participants cited Trek while the other respondents cited manufacturers such as Smith & Wesson, Fuji, Raleigh, and Cannondale, respectively. Moreover, respondents were asked if their officers participated in or hosted any type of bicycle safety events or bicycle rodeos for the community. Interestingly, three of the participants (S-0, S-3, and S-5) claimed to participate in at least one bike rodeo or safety fair, while the fourth and fifth respondents (S-4 and S-6) cited no participation. With regards to geographical limitations set by the agency, two of the respondents (S-3 and S-4) out of the five reported restricting bike officers to specific areas of the city. The other three respondents (S-0, S-5, and S-6) reported no restrictions.

Staffing is an important consideration when determining how to effectively implement a bike program. As a result, a question was asked regarding the personnel who participate in the agencies bike program. Specifically, each participant was asked to rate the level of interest in their program by officers. Notably, four out of the five respondents cited the same level of interest than positions available while the fifth noted somewhat more interest than positions available. Participants were also asked if their bike officers

received any additional pay and all five respondents claimed no additional pay for their officers. In addition to the question regarding the levels of interest and additional pay, each respondent was asked to list the number of bike officers in their agency based on their employment status (full-time, part-time, or reserve officer) and whether or not the officers were trained. The first respondent (S-0) claimed that four full-time officers participate in the agency's bike program and all four officers received bike training. No part-time or reserve officers were claimed as participants in the agency's program. The second respondent (S-3), cited five reserve officers who participate in the bike program, but only three of them received bike training. No full-time or part-time officers were listed. The third (S-4), listed 13 part-time officers in the agency's bike patrol program. All 13 officers were cited as being trained in bike patrol. No mention was made regarding the use of full-time or reserve officers. The fourth (S-5), stated the use of 11 part-time officers and nine reserve officers, all of which have received bike patrol training. Because the last respondent (S-6) did not have a current bike patrol program, no officers were listed. When asked to list where the specialized training came from, three of the respondents (S-0, S-4, and S-6) cited using an outside department's bicycle unit to train their officers. The other two respondents (S-3 and S-5) used existing bicycle officers within the department to train new members on an in-service or unofficial basis. Finally, each participant was asked if their bike officers were only allowed to serve in the unit for a certain period. All five of the respondents cited no time restriction.

Not all agencies require their officers to participate in some form of a selection process. When the participants were asked if their program has a selection process of any form, four of the respondents (S-0, S-3, S-5, and S-6) responded “no.” Only one respondent (S-4) reported having some type of a selection process. In addition to asking questions regarding selection processes, participants were asked a series of questions related to department policy. Specifically, each participant was asked if their agency currently has, or has had in the past, policies pertaining to the bike patrol program. All five respondents reported having some form of policy pertaining to bike patrols. Furthermore, each participant was asked to cite any problems or issues related to the policies. Interestingly, no policy issues were cited. In addition to the lack of policy, risk of injury can also play a crucial role in the level of interest candidates might have in a program. When asked to list the amount of bike patrol related injuries and the amount of time lost due to the injury, only two participants (S-4 & S-5) cited any injuries. The first participant (S-4) cited one injury that resulted in outpatient care and a loss of one day’s work. The second participant (S-5) reported two bike related injuries but noted that the incidents occurred during training and no work time was lost.

Lastly, each participant was asked to list the most profound issues their bike patrol program has encountered during its existence. The first participant (S-0) noted funding and manpower as being the most significant issues related to the success of their program. The second participant (S-3) pointed to issues pertaining to staffing and financing as well as the weather and the transporting of

prisoners. Interestingly, the third participant (S-4) claimed that motivating the officers to put in the time and patrol with the bikes was the most significant issue. In similarity to the first and second respondents, the fourth and fifth participants (S-5 and S-6) cited funding and staffing as the most profound issues within their bike program.

Group Two:

The participants in Group Two were asked the same series of questions as the participants in Group One and in Group Three. When asked what year the agencies bike patrol program began, the first participant (S-9) cited 1998 while the second participant (S-10) answered 1995. Although both of the agencies bike patrol programs are active, both of the agencies claimed the programs are seasonal. With regard to funding, the first respondent (S-9) cited the general fund as being the only source contributing to the program, while the second respondent (S-10) named grants and donations as its sole contributor. When asked if the bike patrol programs had a budget, the first participant cited no specific amount, while the second participant stated that a \$500 amount was allotted each year fiscal. When asked to identify any obstacles the program has encountered with regard to funding, both of the programs identified issues. Specifically, the first participant (S-9) claimed that acquiring funding for specialized bike patrol gear was a significant obstacle while the second participant (S-10) reiterated that all of their bike patrol funding came from outside sources, which sometimes posed an uncertain financial future.

Questions pertaining to functionality were also presented. Specifically, both agencies were asked to explain the primary function of its bike patrol program. The first respondent (S-9) claimed that bike patrols were primarily used in parks and for night operations pertaining to car break-ins and hot-spots. The second respondent (S-10) primarily uses the patrols for presence within the community, hot-spots, large events, and community functions. When asked about the departments bicycle inventory, the first respondent (S-9) reported having five bicycles dedicated to patrols while the second respondent (S-10) reported having six. Coincidentally, both agencies reported using standard mountain bikes for patrol use. Furthermore, when asked to list the manufacturers of the bicycles used, the first respondent (S-9) reported using Cannondale bikes while the second (S-10) reported using Trek. Moreover, respondents were asked if their officers participated in or hosted any type of bicycle safety events or bicycle rodeos for the community in which both agencies indicated that they did not. With regard to geographical limitations set by the agency, the first respondent (S-9) reported restricting bike officers to specific areas of the city such as the downtown area, city parks, and hot-spots. The second respondent (S-10) indicated no restrictions.

Because manpower is an important consideration when determining how to effectively implement a bike program, a question was asked regarding the personnel who participate in the agencies bike program. Specifically, each participant was asked to rate the level of interest in their program by officers. Interestingly, the first respondent (S-9) reported having the same level of interest than positions available while the second noted having many more interested than

positions available. Participants were also asked if their bike officers received any additional pay. Both respondents claimed no additional pay for their officers. In addition to the question regarding the levels of interest and additional pay, both of the respondents were asked to list the number of bike officers in their agency based on their employment status (full-time, part-time, or reserve officer) and whether or not the officers were trained. The first respondent (S-9) noted one full-time officer participating in the agency's bike program; however, the respondent noted 12 officers within the department have received bike training. No part-time or reserve officers were claimed as participants in the agency's program. The second respondent (S-10) cited twenty-plus full-time officers who participate in the bike program and all twenty-plus were trained. No part-time or reserve officers were listed. When asked to list where the specialized bike training came from, the first respondent (S-9) cited using existing bicycle officers within the department to train new members on an in-service or unofficial basis, while the second respondent (S-10) reported that officers attend a special bicycle training course offered by a private organization. Finally, each participant was asked if their agency restricted the total amount of time an officer could serve in the bike patrol program. Both respondents did not indicate a time restriction.

Selection processes are a common occurrence in law enforcement when an officer is attempting to get promoted, join a special unit, taskforce, or team. When the participants were asked if their program has a selection process of any kind, both of the respondents reported that they did not. In addition to asking questions regarding selection processes, participants were asked a series of

questions related to department policy. More specifically, each participant was asked if their agency currently has, or has had in the past, policies pertaining to the bike patrol program. Interestingly, the first respondent (S-9) reported having no form of policy pertaining to bike patrols while the second respondent (S-10) did report having bike patrol policies. Most notably, no issues were mentioned regarding the absence of policies pertaining to bike patrol by the first respondent. In conjunction with the absence of policy, risk of injury can also play a crucial role in the level of interest candidates might have in a program and in turn, significantly affect the programs overall success or failure. When asked to list the amount of bike patrol related injuries and the amount of time lost due to the injury, both respondents noted one injury; however, both injuries were sustained during training and only one (S-9) reported one day of work lost.

Finally, each participant was asked to list the most profound issues their bike patrol program has encountered during its existence. The first participant (S-9) asserted that money for staffing was a big issue. Also the geographical characteristics of the city are not conducive to full-time bike patrol, which minimizes the argument for its existence. The second respondent (S-10) reported bicycle maintenance and equipment replacement as being a large contributor to the ongoing issues. Additionally, the respondent noted that as the budget picture continues to change, so does the bike program. Lastly, the agency is constantly facing staffing issues and without the appropriate number of personnel, the agency cannot spare manpower for bike patrols.

Group Three:

The participants in Group Three were asked what year the agency's bike patrol program began. The first participant (S-14) noted 1993 while the second participant (S-18) answered 1990. Surprisingly, both agencies bike programs are active year-round. With regard to funding, the first respondent (S-14) cited fundraising as the initial source of funding the program; however, current funding is acquired from the department's general fund. The second respondent (S-18) named the central prescient's general fund, which supports two full-time officers, and the local business alliance, which supports four full-time officers, as its contributors. When asked if the bike patrol programs had a budget, the first participant (S-14) noted that approximately \$5,000 per year went to the bike patrol program. The second participant (S-18) stated that approximately \$360,000 a year is contributed to the staffing of four of bike officers by the business alliance while no specific amount was mentioned regarding the funding of the other two officers from the general fund. The participants were also asked to identify any obstacles the program has encountered with regard to funding. The first respondent (S-14) cited no issues but stated: "If officers are motivated, productive, and adaptive then the agency will be willing to fund the program." The second respondent (S-18) cited no issues with funding from the local business alliance; however, the two bike officers paid for by the prescient constantly result in overtime for the other patrol officers due to the lack of manpower.

The primary functions of a bike patrol unit or program varies from organization to organization. In an attempt to identify these functions participants were asked to identify the programs primary purposes. The first respondent (S-

14) did not indicate one specific primary function or mission. However, the respondent did state that the mission of the bike patrol unit is ever-changing and that it supports all aspects of the agency's needs. The second respondent (S-18) noted that bike patrol officers focus on livability in the downtown area by focusing on order maintenance crime and violations such as drinking in public, camping, and drug crimes. When asked about the departments bicycle inventory, the first respondent (S-14) reported having 15 bicycles available for patrol while the second respondent (S-18) reported having a staggering 175 or more bicycles. According to the respondent, the high number of additional bikes is to support the agency's rapid response team in the event of large protests or events. Both participants were also asked to describe the types of bicycles their agency uses. The first respondent (S-14) uses bicycles specifically manufactured for police work while the second respondent uses mountain bikes that are modified by the department. When asked about the manufacturers, both respondents reported using Trek mountain bikes; however, the second respondent (S-18) stated the use of Cannondale mountain bikes as well. Additionally, both participants were asked if they host or participate in any bicycle safety events or rodeos. The first respondent (S-14) reported conducting approximately 20 different bike safety classes and 30 different events. In contrast, the second respondent (S-18) reported that the city has bicycle safety rodeo equipment available for community organizations to use, but the bike patrol officers do not attend unless specifically requested. However, the bike officers will attend community events and visit the schools if their schedule permits.

Having the appropriate number of personnel is an important consideration when determining how to effectively implement a bike program. With this in mind, a question was asked regarding the personnel who participate in the agencies bike program. Specifically, each participant was asked to rate the level of interest in their program by officers. The first respondent (S-14) reported having much more interest than positions available while the second respondent (S-18) noted having the same level of interest than positions available. Participants were also asked if their bike officers received any additional pay. Both respondents claimed no additional pay for their officers; however, the second respondent (S-18) reported an increased probability of overtime due to special events. In addition to the question regarding the levels of interest and additional pay, both respondents were asked to list the number of bike officers in their agency based on their employment status (full-time, part-time, or reserve officer) and whether or not the officers were trained. The first respondent (S-14) reported having 23 full-time officers and seven reserves, all of which were trained on bikes. The second respondent (S-18) noted having 6 full-time, 329 part-time, and 10 reserve officers certified in bike patrol. Furthermore, both participants were asked to list where the specialized bike training came from. The first respondent (S-14) reported using a hybrid training program within the department which uses information and tactics from both LEBA and IPMBA. The second respondent (S-18) claimed using existing bicycle officers within the department to train new members on an in-service or unofficial basis while using the LEBA curriculum. Finally, each participant was asked if their agency restricted the total

amount of time an officer could serve in the bike patrol program. The first respondent (S-14) reported a five-year maximum while the second respondent (S-18) reported no time cap.

Both participants were also asked if their program had a selection process of any kind. The first respondent (S-14) reported conducting oral board interviews for every candidate in which physical fitness, community policing experience, and seniority are taken into consideration. The second respondent (S-18) reported that interested officers must be in excellent health and physical condition, and also recommended by a supervisor. In addition to asking questions regarding selection processes, the two participants were asked a series of questions related to department policy. Specifically, each participant was asked if their agency currently has, or has had in the past, policies pertaining to the bike patrol program. Although both respondents reported having bike patrol policies, neither of them reported any issues. Risk of injury can also play a crucial role in the level of interest candidates might have in a program and can significantly affect the programs overall success or failure. When asked to list the amount of bike patrol related injuries and the amount of time lost due to the injury, the first respondent (S-14) reported four injuries. One injury caused the officer to be on medical leave for three months, the second injury caused a loss of one day of work, while the third and fourth injuries did not result in any loss of work. The second respondent (S-18) could not give an accurate number of injuries; however, it was stated that serious injuries typically result in a four to six-week recovery period.

The last question asked the participants to list the most profound issues their bike patrol program has encountered during its existence. The first respondent (S-14) reported maintenance costs and uniform expenses as being the most profound issue in the program. The respondent stated: “It is important to have a program that fits both the agency and the population in which they serve.” and “...the bike patrol unit is stat-driven so it is important to have the right people in the unit in order for it to succeed.” The second respondent (S-18) reported the most positive issue in the entire study. Specifically, the respondent noted that the biggest issue is that the bike officers are very productive and make a lot of arrests. Patrol officers regularly complain about the amount of prisoner transports he or she has to do for the bike officers. However, the bike officers are aware of the issue and will sometimes issue citations in lieu of custodies to avoid asking for a transport. The other notable issue with the bike patrol unit is that they work in pairs. If one of them is on vacation, training, or sick, the other is forced to work alone, which affects their productivity and creates a risk to officer safety.

Summary and Conclusions:

It is important to remember that the primary purpose of this survey was to identify common trends associated with program implementation and sustainability; specifically with regard to the obstacles and challenges, in order to identify what makes a bike patrol program successful regardless of the population in which the agency serves. As mentioned previously, the study was restricted to the state of Oregon and therefore, geographical climate tendencies and differences should be considered when comparing these results to other areas. Additionally,

the survey was semi-structured with several of the questions being open-ended. Therefore, little guidance or options were presented to the participants. Because the study was designed as a preliminary assessment in order to identify common trends associated with the issues in program implementation and sustainability, allowing open-ended questions prevented option limitations that structured surveys might present when a participant is attempting to answer a question.

Although the percentage of respondents was not desirable (9 out of 15 or 60%), the information yielded interesting results. Most notably, when respondents were asked to identify the most profound issues the bike patrol program had encountered over its live-course including all of the issues pertaining to the programs initial implementation and current issues, funding and manpower were both identified by six of the nine respondents (66.67%); four were from Group One and two were from Group Two. Two out of the nine respondents (22%) reported that transporting prisoners (one from Group One and the other from Group Three) as being one of the largest issues. Additionally, the maintenance of the bicycles was identified by two of the nine respondents (22%); one from Group Two and the other from Group Three. Interestingly, geographical characteristics, uniform costs, motivation of officers, interest in the program, officer safety, and *high* productivity were each mentioned one time out of the nine respondents (1%) but not necessarily by the same respondent; no other issues were reported. Table³ 1.8 below illustrates these findings.

³ When viewing this table, note that not all of the departments in groups two and three participated. Additionally, multiple agencies cited more than one obstacle listed in the table.

Table 1.8

Obstacles:	Group One:	Group Two:	Group Three:	Total:
Funding	S -0,3,5, & 6	S-9, & 10		6
Manpower	S-0,3,5, & 6	S-9, & 10		6
Prisoner Transport	S-3		S-18	2
Lack of Motivation	S-4			1
Lack of Interest	S-5			1
Geography		S-9		1
Bike Maintenance		S-10	S-14	2
Uniform Costs			S-14	1
High Productivity			S-18	1
Officer Safety			S-18	1

Interestingly, the table insinuates that funding becomes more of an issue for departments serving smaller populations and taper off into the second and third groups as the population size increases. However, both respondents in Group Three have year-round programs and appear to have sustainable funding. Additionally, responses indicate that bicycle maintenance has become a burden for certain members in both Group One and Group Two. Furthermore, respondents in Group One indicate lack of motivation and/or interest by officers as a primary issue in the program. Yet, both of the respondents in Group One indicated there was a same level of interest than positions available, which is surprising since one of the options to this particular question on the survey was “Few are interested than positions available.” However, one respondent reported having 13 certified bike officers while the other reported having 20. This type of discrepancy might imply that interest in the program is initially high and then fades over time. The climate could also play a critical role in the interest and

motivation levels of the officers. After all, Oregon is known for its unpredictable weather and continuous rain.

When asked about sources of funding, five out of the nine respondents (55.56%) reported using the department’s general fund as the current means of finance (three from Group One, and one from Group Two and Three); the respondent in Group Three also cited donations as being a primary contributor to funding. One respondent from Group One reported using the departments reserve program as its only source of income while the respondent with the inactive program from Group One reported initially using general funds to support the program. Table⁴ 1.9 outlines the participant’s responses.

Table 1.9

	Group One:	Group Two:	Group Three:
General Fund	S-0, 4, & 5	S-9	S-14, & 18
Grants & Donations		S-10	S-18
Reserve Unit	S-3		

The table above suggests that most agencies rely on some type of contribution from the department to function. Interestingly, only one respondent (S-3) decided to rely on the department’s reserve program to fund the bike program. Because reserve officers are typically unpaid volunteers, agencies can utilize them at minimal expense and sometimes contract with local businesses for their services. As a result, the majority of the money earned could be placed in the reserve fund and utilized as needed. Although reserve programs create some level of liability among departments, reserve officers if properly trained can be a

⁴ *Note: One respondent in Group One (S-6) reported using general funds to initially start the bike patrol program; however, the program is currently inactive and therefore was not included in this table.

very valuable asset in the testing, development, implementation, and overall success of a bike patrol program. Although four out of the nine agencies reported having reserve officers trained in bike patrol, only one department made any claim to using the reserves as a contributing source of income to the program.

Equipment can also play an important role in the success or failure of a bike patrol program. For example, low quality mountain bikes typically need constant repairs and usually do not perform to the level of standards required by officers. These repairs can become a costly expense for an agency and can ultimately cause the program to flounder. For this reason the participants were asked to identify the mountain bike manufacturers their department used to get a better idea of the most popular brands of bikes being utilized and potentially identify any correlations between specific brands and maintenance issues.

As shown in table 2.0, Fuji, Raleigh, and Smith & Wesson were only identified once while Cannondale was reported three times and Trek five times, which made them appear to be the most favorable of the manufacturers. Notably, two of the participants who reported having Treks (S-10, and S-14) identified bicycle maintenance as being one of their biggest issues within the program. However, Treks are typically favored by law enforcement, as the table has shown. Theoretically, it is possible that the agencies that did not identify bicycle maintenance as being a primary issue within their program spent a significantly less amount of time on bike patrol than the agencies that did identify maintenance as an issue. Unfortunately, in order to establish a conclusive correlation between mountain bike manufacturers and the reliability and sustainability of their bikes in

law enforcement is to conduct a more thorough investigation into the specific make and model of each bike, the year it was made, and the amount of riding hours it has incurred. Other factors such as rider weight and terrain should also be taken into consideration. For the purposes of this study, a preliminary assessment was conducted to merely identify some of the common mountain bike manufacturers used in bike patrol to theorize the potential correlations between them and the maintenance issues reported by the respondents.

Table 2.0

	Group One:	Group Two:	Group Three:
Cannondale	S-4	S-9	S-18
Fuji	S-3		
Raleigh	S-3		
Smith & Wesson	S-0		
Trek	S-5, & S-6	S-10	S-14, & S-18

Along with questions regarding equipment, funding, and common issues, respondents were asked to identify any area restrictions put upon their bike patrols. Particularly, four out of the nine departments; two from Group One (S-3, and S-4), one from Group Two (S-10), and one from Group Three (S-18), all reported secluding their bike patrol officers to certain areas of the city. Specifically, the first respondent (S-3) reported secluding their officers to hot-spots around the city. The second (S-4), reported restricting their officers to the downtown area and city parks; while the third (S-10) reported using their patrols for hot-spots, parks, and the downtown area. Finally, the fourth respondent (S-18) stated their patrols were utilized primarily for the downtown and business districts of the city. These findings are presented in table 2.1. Because the question was structured in an open ended format, the responses are limited to only the

responses given by the participants without any specific list for selection. As a result, it is possible that some respondents did not list all of the areas in which the bike patrols are secluded. However, the provided data suggests that if an agency secludes their bike patrol officers to a particular area, it will likely be in a condensed area with high foot traffic such as downtown areas, business districts, or parks. The responses also raise questions regarding why the departments decided to make their program so mission specific and not allow their patrols to expand into other areas of the city. When possible, a more in-depth study should be conducted in the area of bike patrol seclusion and its contribution to the overall success or failure of a program.

Table 2.1

	Group One:	Group Two:	Group Three:
Business Dist.	S-4		S-18
Downtown Area		S-10	S-18
Hot-Spots	S-3	S-10	
Parks	S-4	S-10	

In addition to the suggestions previously stated, some of the data raised questions regarding program productivity, liability, disciplinary actions, candidate selection, and incentives for officers. For example, liability is a necessary aspect of law enforcement and public service as a whole, even though police departments regularly implement policies and procedures in addition to annual training requirements to mitigate potential liability issues. Although all of the agencies who participated in this study reported having trained bike patrol officers, one particular respondent (S-9) reported not having any policies pertaining to bike patrol; however, the participant did state that an “Unofficial

policy” existed that required all personnel who want to participant in the program be certified and trained in bike patrol. As most law enforcement officials may know, lacking clear and concise policies and procedures can have devastating consequences, which can result in serious injury, loss of work, suing of the department, or even death and, according to Behret (2006) should be considered a high liability area. Although eight of the nine respondents reported having some type of policy pertaining to bike patrol, a further investigation into the extent of which bike patrols are managed within those policies is warranted. Please refer to the “Policy Implications” section of this thesis for more information regarding the basic structuring of a bike patrol policy. Additionally, Behret asserts that most people who participate in bike patrols have had little or no formal training and many of the agencies do not see the need for ongoing or in-service bike training. Fortunately, the data in this study suggests that more agencies, at least within the state of Oregon, are requiring some sort of bike patrol training for their officers. However, further research should be conducted to evaluate how often officers are receiving refresher courses.

Disciplinary action or the inability to impose disciplinary action can be a direct result of poor policy development and implementation. For example, say you are a bike officer patrolling the downtown district of your assigned jurisdiction. You are riding on the roads because the posted speed limit in the downtown area is 20 miles per hour and the sidewalks are heavy with foot traffic. As you are patrolling you witness a minor traffic infraction by the vehicle directly in front of you. You activate the emergency lighting on your bicycle and signal

the driver to yield by blowing your whistle and making gestures with one of your arms. The driver makes eye contact with you through his rearview mirror and slams on the gas. The downtown area is designed in grid form, and you decide to take a side alleyway and try to cut the driver off while announcing the situation to other officers over the radio. As you are making attempts to obtain a visual on the suspect you are struck by another vehicle that was pulling out onto the street that was blinded by the tall buildings and narrow corners. Other officers respond to the scene to assist you while the eluder is apprehended several blocks down the road. You sustain minor injuries but are taken to the hospital for further evaluation. In addition to being injured, you are placed on administrative leave pending further investigation into your actions. Behind the curtain, command staff is butting heads about the differences of opinion regarding the situation. Specifically, one supervisor believes your actions were reckless and against departmental policy while the other believes that although your actions might have been dangerous, no policy was violated because no policy exists restricting bike officers from pursuing vehicles.

The scenario just described is a perfect example of where an officer and a department do not want to be. Was the officer in violation of department policy by not using ‘good judgment’? Was his judgment poor to begin with? Was he acting within the capacity of his position and the guidelines of departmental policy? These are the types of questions law enforcement leaders are confronted with every time they consider making or changing policy. Yet some agencies continue to operate without policies pertaining to the actions of their bike patrol

officers. Arguably, the amount of time spent developing such policies could take more time than practical for the use of the bike program. For example, if the bikes are only being utilized a handful of times during the year doesn't it make sense not to waste department time and resources developing policies for their operations? To most accurately answer these types of questions a further investigation into policy implementation along with a cost benefit analysis should be conducted.

In addition to the different types of program structure, logistics, and program implementation, perception is arguably the most important aspect of policing. Because of this notion, every participant was asked if their program has resulted in a positive or negative response from the public. With no surprise, all nine participants reported positive responses from the citizens within the jurisdiction they serve. Some of their statements are listed below:

- "The public loves the bike patrol program, specifically the downtown business owners."
- "When the program was first created it received a lot of attention and the public sees them as favorable."
- "The business owners love seeing the bikes deployed at night and often times request it."
- "With the increase in bicycle commuting, it is much more palatable for a bicyclist to have contact with bike officers than with officers in cars who may or may not issue citations."

Perhaps the most important inquiry should focus on the individuals participating in the program and the programs productivity. According to one respondent in Group Three (S-14), it is very important to have highly motivated officers participating in the bike patrol program in order to make it successful. Additionally, the respondent made statements suggesting that the personality of

the officers is the most difficult issue to overcome and that "...The unit is a stat-driven unit so it is important to have the right people in the unit.", which suggests that officers need to be highly active and produce noticeable results to further validate the programs existence. Furthermore, the participant mentioned the unique differences in thinking and how bike patrol officers need to think even further outside the box and adapt to their surroundings. The respondent's notions however, should not go without validity. Since its creation in 1993, his bike patrol program currently sits on the City Councils top five list of most successful programs in the city, which serves more than 90,000 people, and holds the state record for most citations ever issued (85) in a three-hour period. Moreover, the respondent has been a full-time bike officer since 1998. He is currently the bike patrol program coordinator, and is the only officer who is not bound by the five-year maximum time limit due to grandfathering in.

Response data from some of the other participants validate the participants above stated notions. Most notably, one of the respondents in Group One (S-5) reported getting officers interested in the program as being one of the major issues while another respondent in Group One (S-4) reported motivating officers to put time into the bike program as being their most profound issue. Perhaps it is pure motivation that is required in order to make a bike patrol program successful? The next question then is how do we motive officers? Psychological research has discovered a direct correlation between interest and motivation within human behavior (Thoman et al., 2007). Specifically, Thoman et al. (2007) suggests that experience of interest is an important source of human motivation and that people

often strategically regulate the experience of interest. For example, if a bike patrol officer is talking to a regular vehicle patrol officer about something related to bike patrol and the regular officer appears distracted or somewhat disengaged from the conversation, the bike officer will likely reduce his level of interest in the topic; however, if the officer who is listening shows interest in the topic the officer talking will show more interest in the topic, regardless of whether the attentive officer agrees or disagrees with his statements. This type of correlation raises interesting psychological questions with regard to bike patrol implementation. Specifically, assessing the overall acceptance of the bike patrol program within a department could yield some interesting results. For example, a more thorough study might identify further correlations and trends related to positive or negative acceptance of a program, and the program participant's interest and motivation levels within the program. Supporting this notion, Thoman (2007) and others also mention that previous work using the same Self-Regulation of Motivation Model suggests that social context may influence the regulation of experience and motivation among humans. After considering such hypothesis, a comparison pertaining to the interest levels of individuals within the department who do not participate in bike patrols, and the levels of motivation along with productivity and output of participants within the bike program should be conducted to identify any correlations.

This research study also suggests that funding, along with manpower, are two of the most habitual problems among bike patrol programs; particularly among groups One and Two. Hard times and increased budget cuts make

secondary programs such as bike patrols truly prove their significance. Although funding and manpower will likely be among the list of issues a bike patrol program can expect to encounter, statements made by participants suggest that mindset is a key leading factor in the successful implementation of a bike patrol program.

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Appendix: A

Bike Patrol Survey

Agency Name: _____

Date: _____

Interviewee: _____

Position: _____

Phone Number: _____

Length at agency: _____

General Program Information:

1. When did the bike program first start?
2. When did the program stop?
3. How was the program initially funded?
4. How is it funded today?
5. Is the program seasonal or year-round?
6. Does the bike program have a yearly budget?
 - a. If so, what is it?
7. With regards to funding, what if any, obstacles has the program encountered and how were they addressed?
8. What is the bike program's main function?
9. How many bicycles does the department have?
10. What type(s) of bicycle(s) does your department use?

- a. Standard Mountain bikes
- b. Mountain bikes specifically manufactured for police work
- c. Mountain bikes modified for police use by a bike shop
- d. Mountain bikes modified by the department

11. Please list the brand of bikes your department uses.

12. How many bike officers currently work at your department?

Part-time _____

Full-time _____

Reserves _____

Total number of trained bike officers _____

13. Do your bike officers receive any specialized training? YES
NO

a. If so, what? And from where? Select multiple if needed.

- 1. An officer may receive no special training
- 2. Bicycle officers within the department may train recruits either on an in-serve or unofficial basis
- 3. Outside department bicycle units may conduct training for you
- 4. Officers may enroll in a law enforcement academy offering a bicycle course
- 5. Officers may attend a special bicycle training course offered by a private organization.

14. Has your program resulted in a positive or negative response from the public? Please explain or give examples.

15. Does the program seclude bike officers to certain areas within the city?
a. If so, where? And why? For example, special events, hot-spots, residential areas, malls, parks, downtown, schools, office complexes.

16. Does the program have a selection process for interested officers such as, physical fitness, community policing experience, prior cycling experience, oral boards, or seniority?
17. Does your department have or has it ever had policies pertaining to the bike patrol program?
 - a. If so, were there any obstacles or issues when implementing the policies?
 - b. If policies exist, are there problems or issues with any existing bicycle policies?
18. Does the department's bike program participate or host any type of bicycle safety events or bicycle rodeos for the community? If so, please explain.
19. How would you rate the level of interest in your program by officers?
 - a. Few are interested than positions available
 - b. Same level of interest than positions available
 - c. Somewhat more interested than positions available
 - d. Much more interested than positions available.
20. Do your bike officers receive any addition pay for being assigned to the bike program?
21. Are bike patrol participants only allowed to serve in the unit for a certain period of time?
22. Please list the amount of bike patrol-related injuries and the amount of time lost due to the injury.

23. Please list the most profound issues the bike patrol program has encountered over its life-course. Please include any and all issues pertaining to the programs initial implementation and any current issues.

Appendix: B



POLICE DEPARTMENT

STANDARD OPERATING PROCEDURE

<i>Subject</i> <i>Bicycle Patrol</i>	<i>Effective Date</i> May 10, 2011	<i>Number</i> 3.82
<i>Accreditation Reference</i>	<i>Review Date</i> April 05, 2011	<i>No. Pages</i> 1
	<i>John Smith</i> <i>Chief of Police</i>	

I. PURPOSE

The purpose of this policy is to establish this agency's commitment to and procedures for the utilization of a Uniform Bicycle Patrol Unit, utilized by the (insert organization here).

II. POLICY

The (insert organization here) shall be committed to providing a safe, secure, comfortable, family oriented setting within the community parks and recreational areas. These efforts shall be complemented with the utilization of a Bike Patrol Unit.

III. PROCEDURES

A. Bike Patrol Staffing

The (insert organization here) Bike Patrol Unit shall be staffed with two full-time officers. Reserve officers may be utilized to supplement patrol missions at the discretion of the Bike Patrol Coordinator unless otherwise directed by the shift supervisor.

B. Personnel Selection

Personnel desiring to be considered for candidacy must undergo the following prescreening examination. If the candidate successfully passes the prescreening process, the applicant will move on to the selection process.

C. Fulltime Officers

1. Prescreening

- a. Must be in good physical condition and be in compliance with departmental policies pertaining to physical fitness standards.
- b. Must not currently be serving under the two year probationary period due to new employment.
- c. Must submit one letter of recommendation from any patrol sergeant who has directly supervised the applicant and can attest to their abilities.

2. Selection Process

- a. The applicant must pass an oral board interview conducted by two command staff members and two sergeants. Board members shall consider the applicants competence and abilities as evidence by previous performance, special skills or training, and willingness to perform community-oriented policing initiatives.
- b. Final applicants will interview with the Chief of Police. Upon completion of the interview process the Chief of Police will determine final candidacy.

D. Reserve Officers Prescreening

1. Prescreening

- a. Must be in good physical condition and be in compliance with departmental policies pertaining to physical fitness standards.
- b. Must not currently be serving under the six month probationary period due to new employment.
- c. Must submit one letter of recommendation from any patrol sergeant or patrol officer who has directly supervised the applicant and can attest to their abilities.

2. Selection Process

- a. The applicant must pass an oral board interview conducted by two sergeants, one patrol officer, and one reserve coordinator. Board members shall consider the applicants competence and abilities as evidence by previous performance, special skills or training, and willingness to perform community-oriented policing initiatives. The decision whether or not to allow the candidate to participate in the Bike Patrol Unit will be made by a majority vote of the board members upon completion of the interview.

E. Oral Board Appointment and Frequency

Member of the oral board shall be selected by the Chief of Police unless otherwise delegated. The oral board members will meet annually or on an as needed basis to begin the application and selection process.

F. Training

1. Initial Training Requirements

- a. New members of the Bike Patrol Unit must attend and successfully complete a nationally recognized and standardized basic law enforcement cycling course. The Bike Patrol Unit Coordinator will determine what nationally recognized organization the Bike Patrol Unit members will be required to complete.
- b. Although the Bike Patrol Unit Coordinator determines which training is required, all officers must complete the same level of basic cycling training from the same organization.

2. In-Service Training

- a. Each member must complete at least eight hours of documented cycling training each calendar year.
- b. In addition to the required eight hours of cycling training, successful completion of firearms training specific to bike patrol operations is required each year.

Appendix: C

Comparative Look at Thesis Formatting

Typical Thesis Formatting, according to the WOU thesis manual.	My thesis format
<ul style="list-style-type: none">• Acknowledgements• List of Tables• List of Figures• List of Symbols• Abstract• Introduction• Literature Review• Methodology• Results• Discussion• Summary and Conclusions	<ul style="list-style-type: none">• Acknowledgements• List of Tables• List of Figures• Abbreviations• Notable Resources• Abstract• Part One<ul style="list-style-type: none">• Literature Review• Part Two<ul style="list-style-type: none">• Methodology, Design, etc.• Results• Summary and Conclusions