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Policing on Bicycles and Horses

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This *TELEMASP* Bulletin addresses non-motorized patrols, specifically bicycle and equestrian (mounted) police in the areas of personnel, training, operations, and logistics. Nationally, there are six bicycles for every 100 police officers, and 38% of all police departments routinely use bicycle patrols. Horses, on the other hand, are typical of large departments with only 2% maintaining horses, but most serving populations of 250,000 or more doing so. An estimated 1,500 horses are maintained by law enforcement within the United States (Hickman & Reaves, 2006).

Police Bicycle Patrols

Police use bicycles mostly for operational and public relations reasons. The Seattle Police Department began using them full time in 1987, starting the growth in this modern trend (Beck, 2005). Bicycles have been specifically touted as a highly effective tool for Community-Oriented Policing (COP) (Inman, 1994; Hudson, 2002). COP may be defined as the practice of police and community partnership, based upon the assumption that such cooperation will reduce fear of crime (Oliver & Roh, 2005). COP requires community involvement that both bicycles and horses bring.

Bicycle police are approachable and tend to attract citizens on the street or other public venues (Bahret, 2006), especially youths (Beyer, 2005). Bicycle patrols also tend to be very well received by communities. Even their dress is usually informal, giving the impression of one engaged in recreation (Beck, 2002; Feavel, 2003). With generally more interest than positions and higher morale in units, bicycle duty is preferred by police officers (Bohmfalk, 1998; Vonk, 2003).

A bicycle officer is more mobile in some cases and always more approachable than an officer in a cruiser. Bikes have the same advantage of close community contact as foot patrols do, but the officers observe more because of increased mobility. They see, hear and literally smell the community around them (Vonk, 2003; Beyer, 2005; Feavel, 2003). The support of downtown residents and businesses has been universally strong, with private entities often donating equipment (Davala, 2002; Richardson, 2003). Berkley and Thayer (2000) also found bikes to have the best response times in entertainment districts.

Bicycles have operational advantages as well because they can travel where a car cannot and are faster than an officer on foot. This advantage led the Los Angeles Police Department to create a special bicycle rapid response team of 38 officers, first deployed in 2000, specifically for enhanced mobility crowd control in downtown locations or special events (Hudson, 2002).

While police bicycles are typically seen as tools for mobility or COP, they have nonetheless been put to diverse uses, including quality of life policing (Crime Control Digest, 12 November 2003), campus police (Hicks, 2003), "hot spot" policing (Buckley, Brantingham, Brantingham, & Whinn-Yates, 1996; Davala, 2002), crowd control (Geotz, 2002; Hudson, 2002), and even plainclothes work (Vonk, 2003). A trend in police bicycle use has been towards park and ride where an officer will patrol part of a shift in a cruiser, with the bicycle strapped to a rear rack, and then park in a target area and continue to patrol on the bicycle (Beck, 2005; Davala, 2002). The spread of police bicycles appears

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to continue, although slowing in the past three years (Beck, 2005; Hickman & Reaves, 2006).

Tactically, bicycles have the advantage of speedy stealth being faster than an officer on foot and quieter than any motor vehicle (Beck, 2005). There are also, however, serious tactical issues, and they bring other challenges to agencies that may be considered high liability and risk (Bahret, 2006). A 2002 survey conducted by the International Police Mountain Bike Association (IPMBA) found that 11% of police cyclist respondents had been struck by a motor vehicle while riding on duty in the preceding year, while approximately 25% had received other-than-minor injuries (IPMBA, 2002).

Training is another issue. While the vast majority of agencies require some initial training, only 31% reported in-service refresher training. Only 62% reported firearms-specific training as required by their department; 51% reported defensive tactics training and 44% were required to undergo scenario training (IPMBA, 2002). There are organizations

that design courses to certify instructors, primarily IPMBA and the Law Enforcement Bicycle Association (LEBA). IPMBA recommends but does not require actual firearms range time for its basic course of 32 to 40 hours (Vonk, 2004; IPMBA, 2006), while LEBA breaks its basic police courses down to a 32-hour A course, which does involve firearms training, and a 24-hour B course which does not (LEBA, 2006; Schilling, 2003).

A lack of bicycle-specific firearms training is a serious potential problem because tactical differences exist between police cyclists and other officers. The cyclist is likely to be wearing biking gloves that complicate the manipulation of a weapon in the best of conditions or may be under the effects of exertion. While a police cruiser can provide some cover in a fire fight, a bicycle is a liability to be "ditched" quickly (Beck, 2004). Training in how to approach a scene slowly, avoid or compensate for exertion, and draw from a holster in a different location are crucial (Bahret, 2006; Hamblin, 2002).

IPMBA was started in 1992 at the second annual Police on Bikes conference sponsored by the then 122 year old League of American Bicyclists with the intention of providing police cyclists with information and standards for training and equipment. In 1993 IPMBA taught its first Police Cyclist course to 90 students. Since then it has trained over 20,000 and includes 10 separate courses for police, emergency medical and private security officers. More information can be found at www.ipmba.org

All pictures in this Bulletin are from an IPMBA course at Cypress Creek (TX) EMS.

Police Mounted Units

The foremost aspect of a mounted patrol is the imposing presence of a single horse. Although no cities rated horses as ineffective, their productivity as measured by arrests is very low but the public relations value is undeniable. Not only are mounted patrols very popular, but they are highly visible. A foot patrol officer may be a friendly face, but a mounted officer represents two friendly faces being ten feet tall, and "No citizen stops to pet and admire a patrol car" (Fine, 1999, 20).

A mounted officer is essentially stuck in the saddle while in public, because even the best trained horses can be spooked, and safety demands that the officer be astride or beside the animal to calm, control, and keep it from running away, thereby injuring itself or posing a threat to bystanders (Berkley & Thayer, 2000; Fine, 1999).

Horses are universally praised for their effectiveness in crowd-control situations (Berkley & Thayer, 2000; Fine, 1999, 2001). In fact, some horses can maneuver a crowd that would require ten times the number of officers on foot (Fine, 2001). However, a significant limitation is their need for training. While a bicycle officer must be skilled in performing dangerous tactical tasks on mobile equipment, he does not have to train the bicycle. The mounted officer, on the other hand, must train a horse to become used to worse-case scenarios and smells of the environment they will patrol, including fires, smoke, gunfire, and the blows of demonstrators (Fine, 1999). A structured course may be only 40 hours, but is only the beginning of weeks of work to come (Fine, 1999).

Mounted mobility is also a mixed bag. The mounted officer has a high vantage point and therefore can anticipate and avoid obstacles. This is, aside from aviation, the highest mobile view available to the police. Horses are capable of fast galloping moves across broken terrain that a cruiser patrol would not dare enter and can wind their way through constricted terrain that 4-wheel drive vehicles can not enter. Their metal shoes, however, limit their speed on pavement as do the proximity of pedestrians (Berkley & Thayer, 2000). A horse must be either ridden or transported in a trailer requiring a dedicated vehicle to pull (Fine, 1999, 2001).

Other less obvious uses of mounted patrols have been effective. For example, horses are an ideal addition to search and rescue operations, specifically because of the combination of cross-county mobility and high vantage (Fine, 1999). Some departments use mounted patrols for crime control, including gang interdiction (Berkley & Thayer, 2000; Fine, 2001).

Both bicycles and horses are powerful tools for COP and offer significant mobility advantages in slightly different situations. While both bicycles and horses have been used for crowd control, there is no comparison. Horses are far more specialized, typically requiring a great investment in training and equipment for an asset that cannot enter a building or allow its rider to enter one.

The Surveys

Two separate surveys were employed for this bulletin, one for bicycle patrols, and the other for mounted patrols. Fifty-two agencies responded to the survey of bicycle patrols, and of these 67% had bicycle patrols, and another 10% reported planning on adding a bicycle patrol. Of the forty-nine agencies that returned surveys on mounted patrols, only six (13%) reported using horses for any aspect of their operations. The surveys asked questions covering personnel, training, operations and logistics, and were patterned after Bohmfalk's previous survey on bicycle police (1998), with some questions added or modified to incorporate IPMBA's subsequent survey (2002).

Results for Bicycle Policing

Of the agencies responding, two-thirds, or 35 individual agencies, reported using bicycles, and five reported planning to make future use of them. The earliest program was San Antonio's, established in 1990, and the most recent is Frisco, initiated in 2006. North Richland Hills is in the process of implementing a program in 2007.

Personnel. There were assignments to bicycle patrol as a primary function that included 54% of the responding agencies and assignments as a secondary function involving 71% of the responding agencies. A total of 209 officers were assigned to bicycle patrol as their primary function and 980 as their secondary function. San Antonio contributed over half of the 980, with approximately 500 officers trained and assigned to bicycle patrol as a secondary function in addition to 54 officers assigned as a primary function. The smallest programs were Frisco and Huntsville, each with two officers assigned to bicycle patrol as their primary function, and Greenville and Lewisville each with two assigned as a secondary job. While it may be natural to look at the "big" agencies to comprehend how they do it, another statistic is the relevant size of the bicycle patrol program. In Grapevine, 39 officers who are engaged in bicycle patrol as a secondary function comprise slightly over 40% of the sworn officers, the highest proportion. The second highest of bicycle trained officers to total sworn officers is Midland, whose 50 bicycle trained officers make up 31%, followed by San Antonio with a total of 28% of the sworn force.

The most often reported criterion for selection to bicycle patrol was physical fitness followed by judgment of supervisors regarding the officers' community relations skills. Criteria written-in under "other" focused on productivity, initiative and work ethic (see Figure 1).

Interest in bicycle patrol was high, with only 9% of agencies reporting "fewer" officers interested than positions available, while 51% reported "somewhat" or "many more" officers interested than positions available. Ninety-one percent of agencies reported providing police cyclists no special incentives, while 6% offered higher pay, and a single agency allowed its officers to use their bikes off-duty. On average, 80% of the cyclists desired to stay in the units as long as possible. Morale was reported to be much higher or slightly higher in bicycle patrol by 34% and 46% of the agencies respectively; none reported lower morale.

The experience level of bicycle patrol units was reported as average years of patrol duty. More agencies (49%) reported an average of five or more years patrol experience, followed by 31% with an average of three to five years, and 20% with one to three years.

Training. The training reported followed a basic trend with the largest departments, namely Houston and Dallas, tending to have their own in-house initial programs. Smaller agencies tended to rely on either neighboring larger agency programs or use of an IPMBA course. Although no agency indicated using LEBA courses exclusively, five reported using a combination of IPMBA and LEBA courses to train their officers, and only three agencies reported no initial training (see Figure 2). Dallas, Harris County and Houston all reported conducting their training in-house, 40 hours for Houston and Harris County, and 24 hours for Dallas.

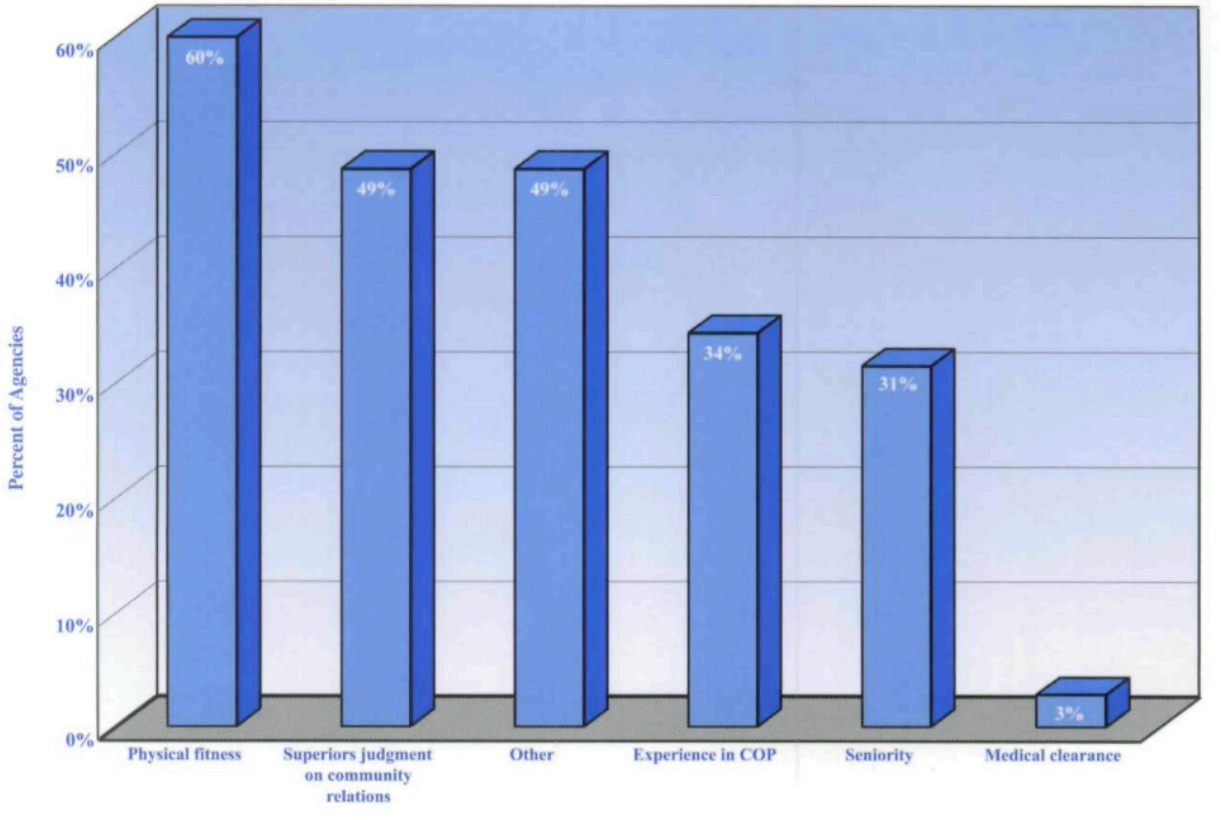

Figure 1. Criteria Used for Selection of Bicycle Officers

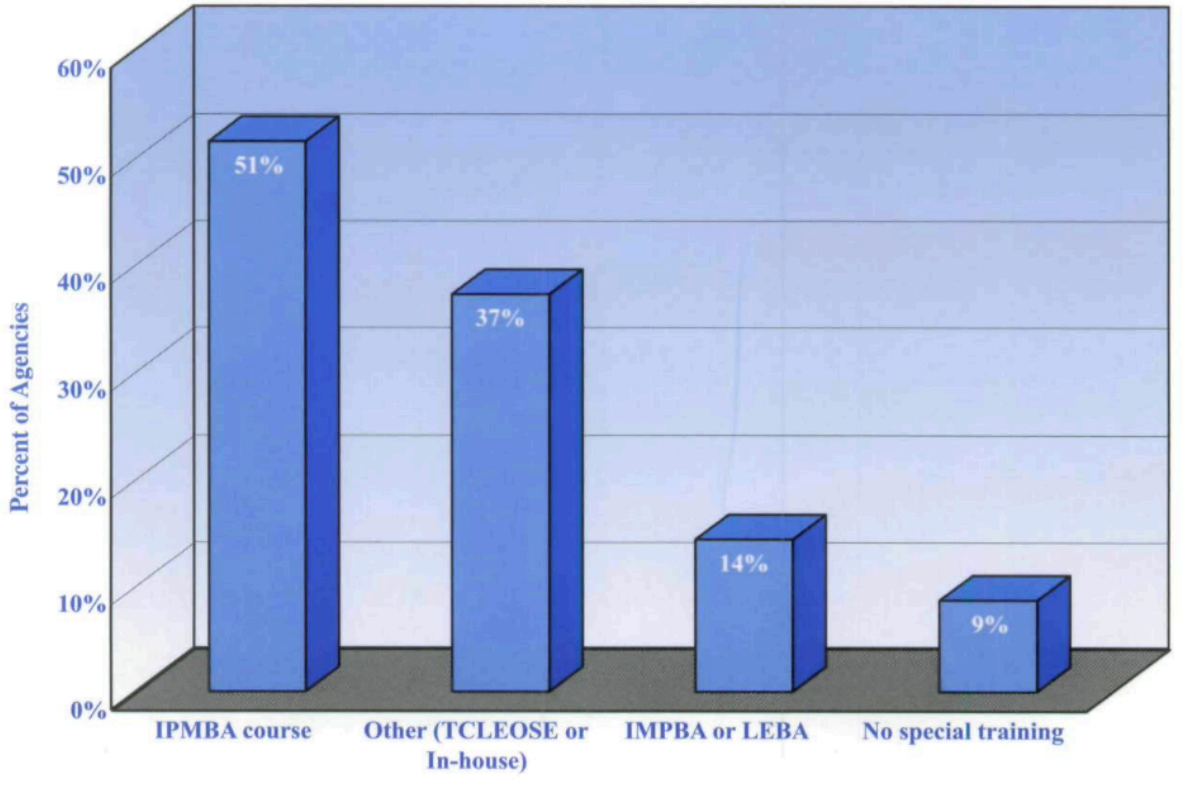

Figure 2. Initial Training Required for Bicycle Officers

Because initial training may or may not involve live-firing, and because tactical skills are both perishable and life-saving, tactical training in addition to the required initial course is sometimes given. Nineteen agencies, or 54% of those with a bicycle program, reported some form of tactical training in addition to that prescribed in the initial training. Presented in Figure 3 are the percentages of responding agencies conducting various forms of additional training.

Certain skills learned in initial training may be perfected in the day-to-day patrolling of police cyclists, even if bicycle patrol is a secondary function. Tactical skills, however, may not be practiced until needed, unless they are exercised through recurring training. Only five agencies (14%) reported requiring refresher training for bicycle patrols that averaged 22½ hours annually. Interestingly, of these five departments, all are mid-sized, and all reported IPMBA-based instruction.

Logistics. Particularly because bicycles may be "additional" equipment for an officer who is already assigned a cruiser, proactive funding sources have been pursued to outfit bicycle patrols. Agencies reported an average of 49% of their bicycles were purchased with general department funds, 26% with special budgetary items, and 11% by public donations and other means including grants. Over 28% had some portion of their bicycles donated by the public; Montgomery County and Duncanville obtained all of their cycles through public donations. San Antonio merchants donated a significant quantity of equipment to encourage and expand bike patrols in the downtown area (Richardson, 2003), Farmer's Branch and Houston each purchased all of their bicycles through grants, and six of Rosenberg's eight custom-built bikes were paid for by the Alumni Association of their Citizen's Police Academy.

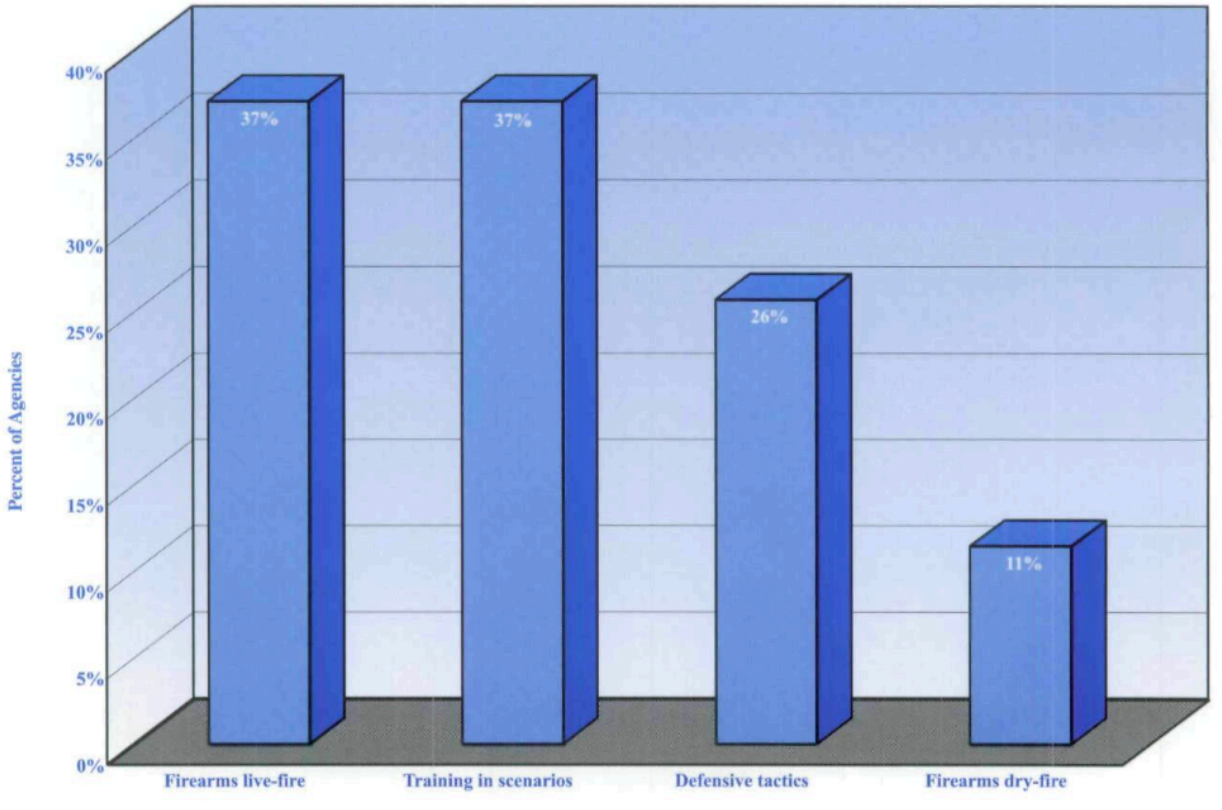

Figure 3. Additional Training Required for Bicycle Officers

Outfitting the police cyclist showed distinct trends. Most agencies (80%) reported purchasing bicycles specifically manufactured for police use. An additional 14% purchased standard bicycles and had a bicycle shop modify them for police use, while 6% did the modifications themselves. Dallas was the only agency initially reporting that they used unmodified bicycles, but to clarify, this is a matter of interpretation. They were using equipment marketed as police bicycles, as did many agencies responding, but because there was no structural or mechanical differences between these and commercial off-the-shelf mountain bikes, they were reported as "unmodified commercial bicycles" that highlights an important distinction. As reported in the survey, "specifically manufactured police bicycles" might more accurately read, "specifically marked, marketed and accessorized police bicycles."

Of the bicycles purchased, the average prices reported most frequently (40%) were $751 to $1,000, followed by 17% reporting an average price of over $1,250, 14% between $1,001 and $1,250, 11% between $401 to $550, and 11% between $551 to $750.

Bicycles are assigned one to an officer in 74% of the agencies, 29% use a pool, 6% share between two or three officers, and three agencies reported using more than one method. Table 1 depicts the brands of bicycles purchased with 60% of the agencies purchasing Trek®, a significant gain in market share from 1998. Specialized was added to the list, and Schwinn® and GT® lost significant popularity.

Table 1
Brands of Bicycles Currently Used as Compared to 1998

	2006	1998
Trek®	60%	37%
Cannondale®	23%	20%
Raleigh®	20%	23%
Diamondback®	14%	17%
Specialized	11%	N/A
GT®	11%	20%
Other	11%	20%
Smith & Wesson®	6%	7%
Schwinn®	6%	27%

Regarding the equipment and uniforms worn by individual cyclists, there are clear trends as well as areas of great differences. A clear trend is the handguns, radios, batons, and chemical sprays carried by bicycle officers are the same standard ones used by patrol. However, holsters used by police cyclists were the standard ones carried by patrol in 54% of the reporting agencies. This may be a result of switching to nylon when the standard patrol belts were a heavier leather, with Safariland® being the most often named type of holster. For individual cyclist accessories, 91% of the departments reported using riding gloves, 54% protective eye wear, 54% special shoes, and 23% used whistles. Accessories added to bikes included a rear rack and cargo bags, police decals, and lights. Sirens and flashing red/blue lights were also reported to occasionally be used.

The special uniforms of the bicycle patrol follow two basic trends. The uniforms are sometimes a modification of the style and colors of the standard patrol uniform, Montgomery County's for example, or they may look distinctly different. Wearing a shirt over shorts of the same color as the uniform describes the first, and Midland's yellow Olympic uniforms are certainly the latter. Polo shirts are very prevalent, and fabrics made by Coolmax® are popular choices for bicycle officers who spend exhausting hours in inclement weather. Reflective uniforms and accessories are also provided for safety reasons.

Operations. Bicycle officers are typically deployed directly from a police station or substation (74%) and from racks on the back of cruisers (66%). No agencies reported deploying officers directly from their homes. The Allen Police Department uses city or personal trucks to deploy bicycle officers.

During a typical day, 54% of the agencies with bicycle patrols reported having them deployed less than 8 hours out of 24 hours, 29% reported a typical deployment of 8 to 12 hours out of 24 hours, and 11% deployed for 17 to 23 hours. Harris County deploys their bicycle patrol 24 hours in a typical day, and Houston reported having theirs on the street an average of 12 to 16 hours daily. As to the actual shift length, 31% of the bicycle units reported shifts in excess of 8 hours, 31% had 8 hour shifts, 11% reported shifts of 6 to 7 hours, and 20% reported shifts of less than 6 hours.

Year-round deployment was most common, as reported by 83% of the agencies. The "season" of seasonal deployment varied. Mesquite uses school resource officers as bicycle patrol during summer months when school is not in session. Greenville uses bicycle police for special assignments only. In the "off season," 83% of the seasonal units deployed officers in their own cruisers, and one agency reported using its police cyclist for administrative duties (see Figure 4).

The locations that bicycle patrols are deployed were reported as percentage of time in each area. The average percent was highest (24%) in "hot spots," followed by residential areas (18%), malls/shopping strips (13%), special events (12%), downtown retail areas (11%), parks (6%),

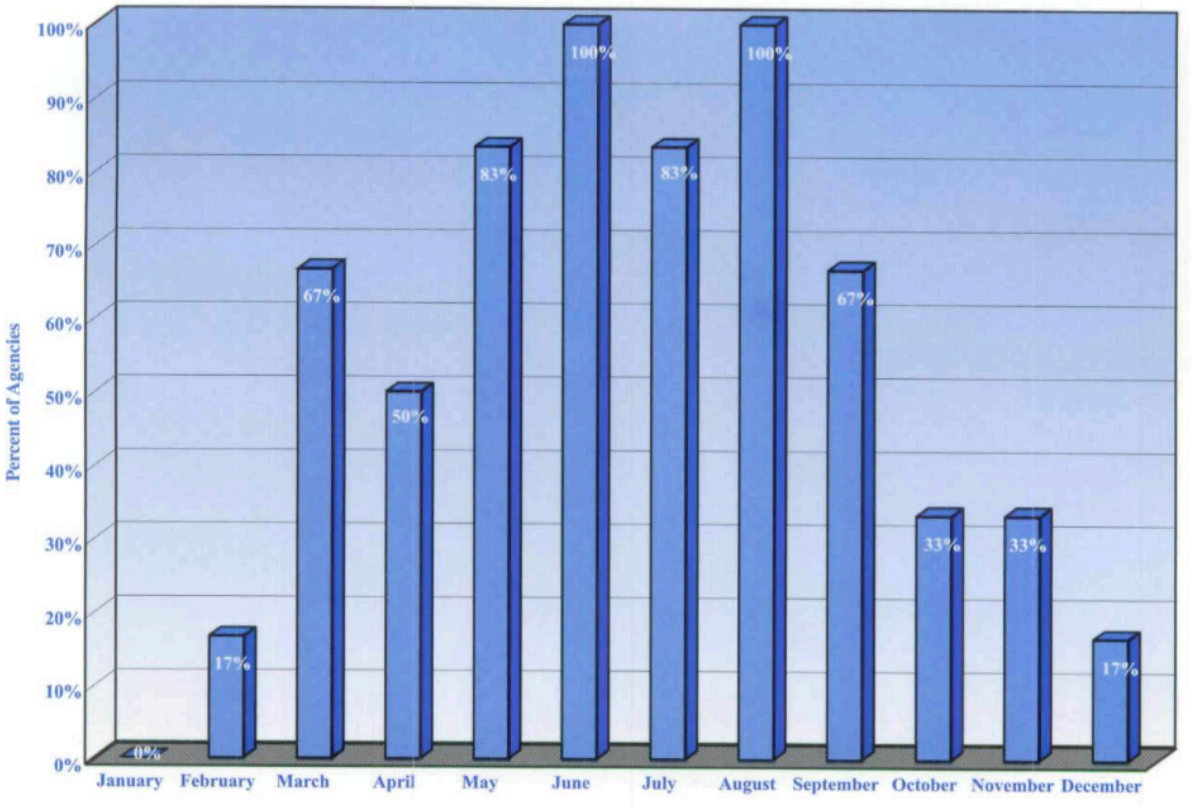

Figure 4. Percent of Seasonal Bicycle Patrol Deployment by Month

and other (7%). The area covered differed from that reported by Bohmfalk (1998) primarily because special events were then more significant than in the current study.

Comparison and Changes Since 1998. The specific causes of injuries reported by Bohmfalk in 1998 compared to the current survey are depicted in Figures 5 and 6. One of the most impressive trends is the reduction in injuries. Because the sizes of some programs have been reduced since Bohmfalk (1998), a parallel count was compiled from the current results for comparison purposes and then expressed as a percent of injuries per year per primary bicycle officer, allowing a "per capita" basis of comparison. Although some of the injuries were certainly sustained from secondary officers, and some officers may have been injured more than once, the per capita rates are profoundly different, with 2006 injuries being less than a quarter of what they were in 1998, as represented in Figure 6. This results in a per capita injury rate of 3.1% for all of the departments other than the three excluded ones, or 3.5% when including them. Because the corresponding figures reported in Bohmfalk's (1998) survey equate to an 18.9% per capita injury rate, an important difference is found that is also far below the results IPMBA (2002) received nationally that approximated Bohmfalk's.

There are also significant differences in deployments and functions from the results reported by Bohmfalk (1998) which may indicate a change in philosophy or a reaction to experience. For example, in 1998, bicycle patrol units were routinely used for traffic enforcement 73% of the time, but only 37% of the time in the current study. Similarly, in 1998, 50% of the agencies routinely dispatched calls to bicycle patrol officers. In contrast, that number had dropped to 26% in the current study.

Importantly, when comparing the current results to those found by Bohmfalk (1998), one must keep in mind that different agencies were surveyed; therefore only limited comparisons can be made. However, significant trends may be observed, particularly if the figures are per capita because the largest agencies responded to both the 1998 and current survey. Still, some agencies have decreased their bicycle patrol programs, namely Houston that had 237 primary and 276 secondary officers in 1998 compared to 39 primary and 80 secondary officers today. Yet, eight new programs have been established since 1998.

Results for Mounted Patrol

Only six or 13% of the 49 agencies responding to the Mounted Patrol survey currently use horses in any aspect

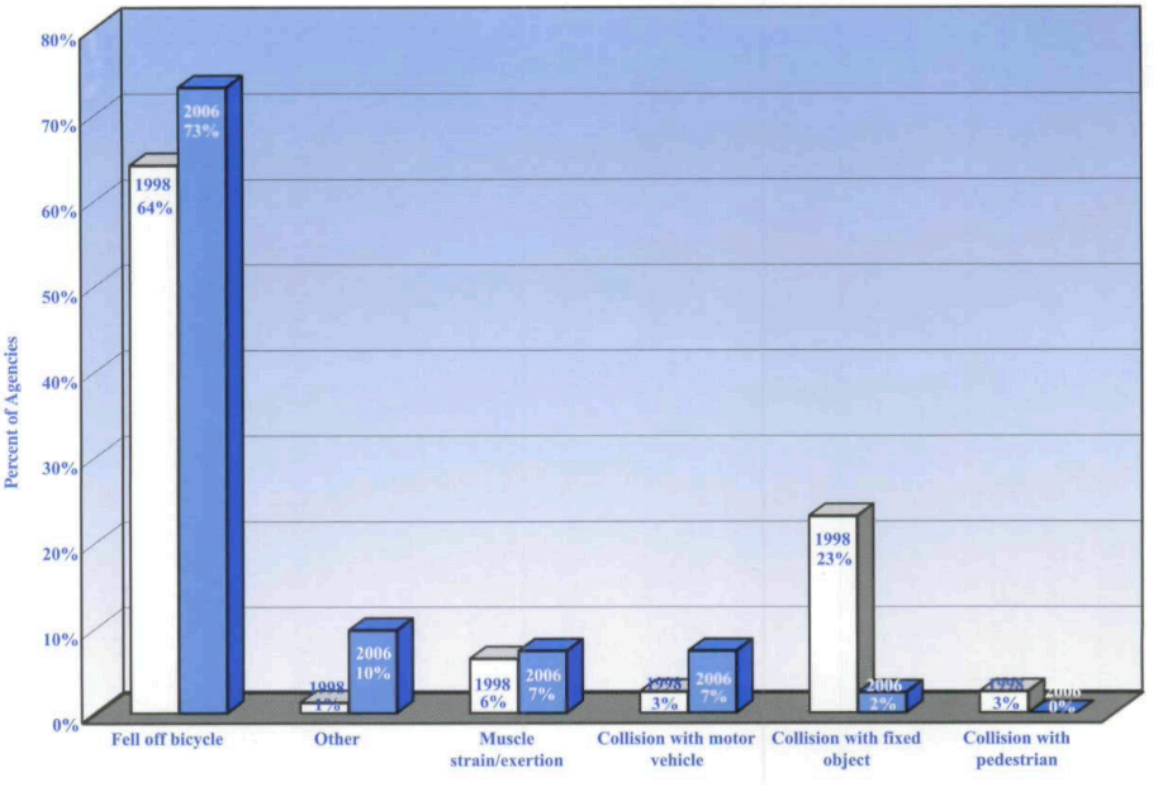

Figure 5. Most Frequent Types of All Injuries Reported in 1998 and 2006

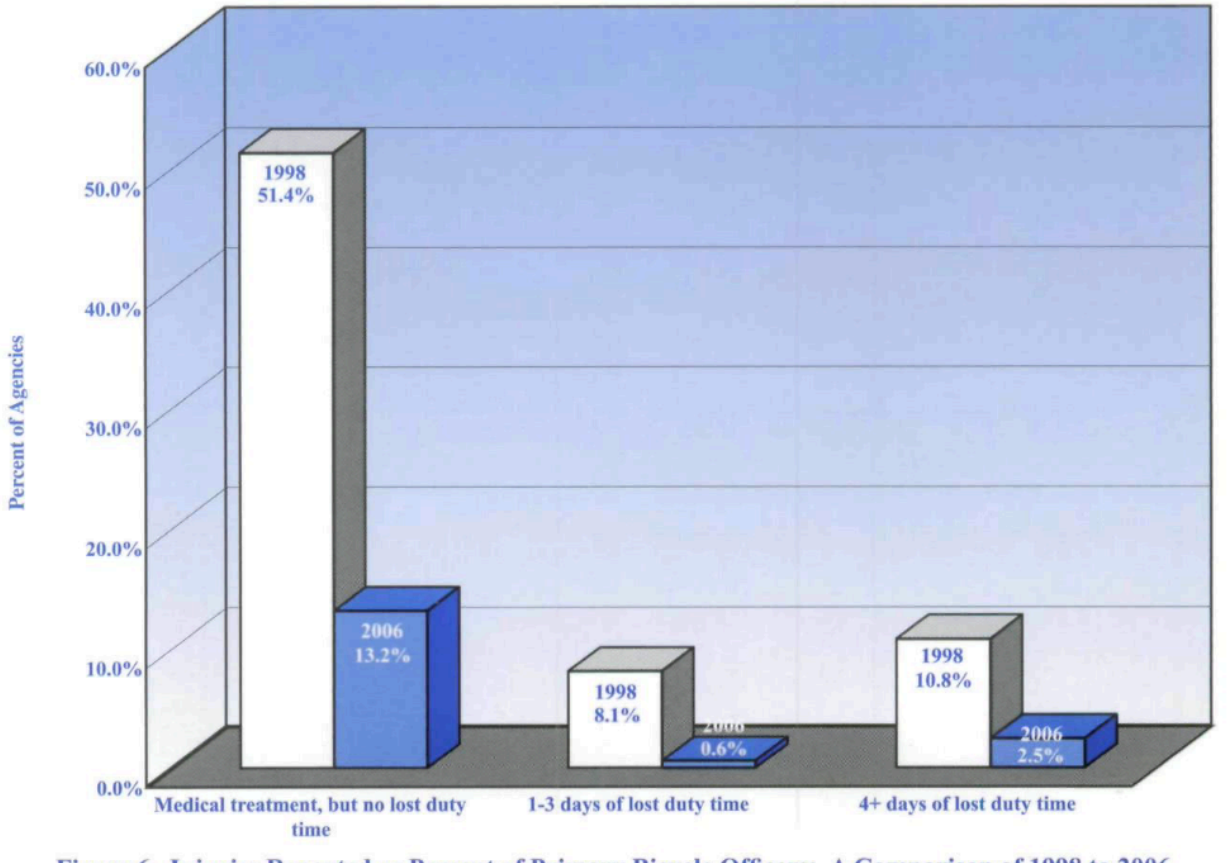

Figure 6. Injuries Reported as Percent of Primary Bicycle Officers: A Comparison of 1998 to 2006

of their operations. They include Baytown, Dallas, Harris County, Houston, Lubbock, and Tarrant County. Of these, only Houston, Dallas and Tarrant County have regular officers whose primary function is mounted patrol, and are fully supported by their departments. Baytown, Harris County and Lubbock rely on officers who own and maintain their horses to use for mounted duty as a secondary function, with the departments providing some training and equipment. Only Lubbock provides 40% of the costs of maintaining the animals.

All six agencies reported that their mounted patrol averaged five or more years of patrol experience. Houston and Dallas had more officers interested than positions available as well as Lubbock that reported slightly more. In these departments, a relatively small portion of their sworn officers, (.6% to .7%), were on mounted patrol. Within the smaller programs that used mounted patrol officers only as a secondary function, these numbers averaged 1.5% for Harris County to 3.3% for Baytown.

Training a mounted police officer-horse team is typically a lengthy process requiring expert riding skills and horses that can calmly handle unnatural noises, smells and sometimes violence of demonstrators. Dallas and Houston require 240 and 360 hours of initial mounted training respectively; the remaining agencies reported 40 hours, except Tarrant County which required none. Tarrant County relies on the skills its three officers already possess in roping and handling escaped livestock, a major proportion of their functions at the stockyards' tourist area.

Mounted officers are deployed year round, primarily in eight-hour shifts. Only Houston reported having mounted officers deployed 13 to 16 hours on an average day, with Dallas and Lubbock reporting 8 to 12 hours, and the remaining three departments reporting less than eight hours. Tarrant County routinely dispatches mounted officers to respond to limited calls-for-service, and Harris County reported that its mounted patrol sometimes engages in traffic enforcement.

As shown in Figure 7, the deployment areas for mounted patrols is primarily in parks (27%), downtown retail areas (23%) and special events (22%) that provides a marked contrast between the police cyclists and mounted police. While some may be the result of comparing agencies with distinctly different geography, nevertheless, hot spots, residential areas and malls, present in all jurisdictions, are not as important for mounted patrols. Differences in agency

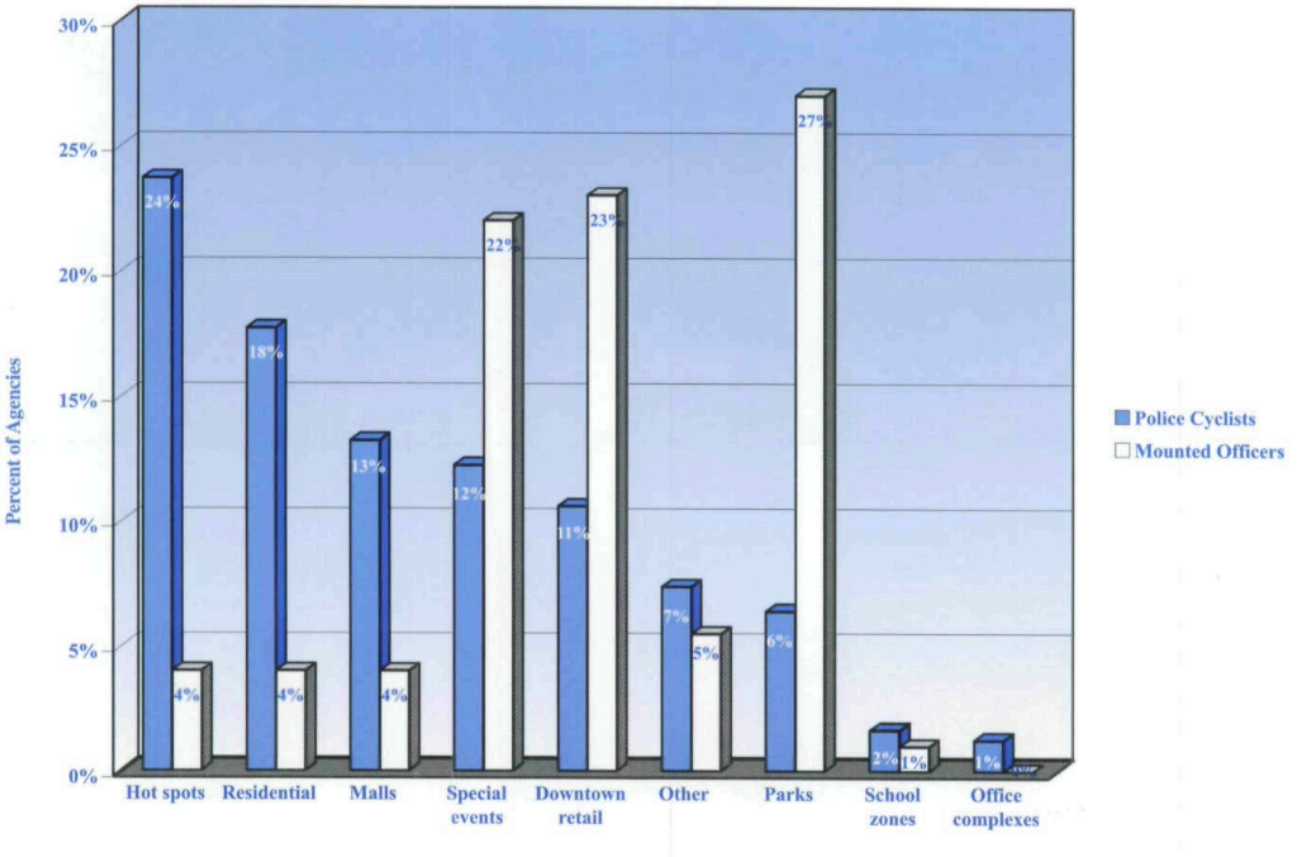

Figure 7. A Comparison of Deployment Areas for Police Cyclists and Mounted Officers

strategy as well as the operational limitations of mounted patrols are reflected in this data.

Agencies with a mounted police program reported a total of eight injuries to officers requiring some medical attention resulting in four injuries that led to one or more days of lost duty or a per capita injury rate of 5.9% for primary officers. Similarly, there were 11 injuries to horses requiring veterinary care, one resulting in four or more days of lost duty. Thus, the combination of human and equine injuries leads to considerably more lost duty time than was reported for bicycle patrols.

The uniforms and personal equipment of the mounted police officers are similar in appearance to standard patrol uniforms with the exception of riding pants and boots that resemble or are the same as those worn by motorcycle police. Special lightweight road gear was not reported by any of the agencies having a mounted police program, and headgear tends to vary, with campaign hats being popular. Tarrant County, however, uses western hats in their stockyard-oriented mounted unit. Unlike bicycle patrols, the image projected is never a "recreational" one, but of a law enforcement officer who happens to be mounted on a horse.

Conclusion

The bicycle and the horse are both tools of community-oriented policing, are less expensive than patrol cars, and within their respective niches each is without equal. They are different, however, in that bicycles are generally more integrated into police operations, lower in cost, and far easier to maintain. This difference is mitigated by using an officer's own horse and existing experience to allow a smaller department to afford outfitting a part-time mounted patrol. Regardless, the bicycle and the horse provide highly visible, specialized mobility in a society that is primarily oriented around the automobile.

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Greenville Police Department
Haltom City Police Department
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