



Designing Two-Wheeled Fleets

With the ever-increasing presence of bicycles in the public safety sector, fleet managers may have an all-new set of logistical issues and concerns for managing this highly fluid asset. What kind of bicycles do you buy? What kind of maintenance is involved? How should they be stored, and what is the best way to keep track of inventory? T.J. Richardson, who manages a fleet of more than 300 bicycles for the San Antonio Police Department, offers his advice.

Purchasing _____

When an agency is about to embark on a bicycle program, the first, and one of the most important issues, will be what type of bicycle to purchase. This will depend mainly on the capacity in which the bicycle will be used. The most common and fastest growing need for bicycles is in the public safety sector: police, emergency medical services and security. In making equipment purchases, keep in mind that the people who are served by these public safety personnel will be directly affected by the performance of the officer and his or her bicycle. The very lives of the public and the officers themselves may depend on the durability of the equipment they ride. Needless to say, this is no place to pinch pennies. Expect to pay anywhere from \$800 to \$1,200 for a reasonably equipped public safety bicycle. If the bicycles are to be



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added to a motor pool fleet as an alternate transportation option, consider purchasing a lighter duty bicycle in the \$400-\$500 range.

Few people, other than avid cyclists, have knowledge of how many different performance levels exist in today's bicycle market. Just as police need high performance motor vehicles, police and EMS cyclists need high performance bicycles. You don't make a police bicycle out of a Huffy any more that you would make a police car out of a Ford Pinto. The mountain bike, found in better bicycle shops, is the best bet for versatility, durability and performance.

Bicycle frames are made out of steel, chro-moly, aluminum and titanium. Department store bicycles are made from steel tubing, which is heavy and offers the least amount of durability. Chro-moly is a steel alloy, which weighs less than steel and offers durability with a forgiving ride to the cyclist. Aluminum frames are popular among racing cyclists for their rigidity and light-weight, but most public safety cyclists will not be as concerned about weight; with all the extra equipment they carry, a light weight frame is a moot point. Titanium is the ultimate material for frames,

offering less weight and a comfortable ride with exceptional performance, but at an exceptional price. A good chro-moly or aluminum frame will fit most performance standards for today's public safety cyclist.

However, the components that the mountain bike is fitted with – the drive train, brakes and wheels – are more important than the frame itself. The most common bicycle component manufacturer is Shimano, which offers several performance levels for mountain bikes. Shimano Acera and Alivio are components fit for a Sunday ride down the boardwalk and light off-road excursions, but are not suitable for public safety use. Shimano Deore components should be the minimum performance level to equip the bicycle, but Deore LX is the better choice. The top two component lines, Shimano XT and XTR, are for more serious off-road cyclists and racers and they offer exceptional performance but, again, at an exceptional price.

All this information about frames and components is vital to picking an appropriate bicycle, but to save time and confusion, bicycle manufacturers who offer a mountain bike in a public safety package are recommended. Many reputable bicycle manufacturers have researched the specific needs of the men and women who serve on bicycles and have outfitted the bicycle appropriately. For a list of these manufacturers, contact the International Police Mountain Bike Association at www.ipmba.org. Do not forget that along with bicycles, public safety cyclists also need accessories such as helmets, lights, transportation racks and bicycle-specific clothing.

Inventory _____

Keeping inventory for a fleet of bicycles can be a more difficult task than keeping track of a motor vehicle inventory, as the bicycle is a fluid asset that can easily be lost, misplaced or outright stolen. Marking the frame with some type of insignia that identifies the bicycle as department or agency property is a deterrent to theft. Bicycle frames have serial numbers, which are most often found on the bottom of the frame by the pedals; these should be recorded. In addition to this number, the bicycle should be marked with a control number for inventory and maintenance records. Stick-on numbers in the appropriate size should be placed in a conspicuous location on the frame and that same number should be etched on the bicycle on the bottom by the serial number. In addition to etching the control number on the frame, etch it on the wheels of the bicycle. Etching the number on the rim by the valve stem identifies that wheel to that bicycle so wheels

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cannot be swapped from bicycle to bicycle. The brakes and drive train have fine-tune adjustments that are specific to each wheel, so it is important that they not be swapped. A malfunction of the brakes or drive train can result in serious injury to the cyclist, especially under critical use in an emergency response.

For inventory and accounting purposes, it is always best to have bicycles assigned to individual personnel as opposed to a unit or office. When no one particular person has responsibility for accounting for a bicycle, it can easily be misplaced or taken by unauthorized personnel. In circumstances in which more than one person uses the bicycle on different shifts or days, assign the bicycle to two people and let them share keys to a single bicycle lock.

Maintenance _____

Bicycle maintenance is a topic far too extensive to be covered adequately in this article. Nonetheless, it is important to know that a bicycle fleet will require preventive maintenance to keep the bicycles in a safe working condition. As a standard, the bicycle should have preventive maintenance performed every 300

hours of duty time or every 600 miles, whichever is easier for the fleet manager to track. A good preventive maintenance routine should include a thorough cleaning of the bicycle along with lubrication and a tune-up of the components.

Bicycle maintenance is not rocket science; however, today's mountain bike has components that are a lot more complex than the single-speed bicycles of twenty years ago. The maintenance and repair of these bicycles should not be left up to amateurs, and motor fleet maintenance personnel cannot be expected to know how to set a derailleur or adjust a headset. Just mention those two phrases to your auto technicians and watch the confused look cross their faces. This is a clear indicator that a trained professional is needed to keep the fleet in good working order. With a small fleet of 40 bicycles or less, you may be able to get your maintenance through a contract with the local bicycle shop. With more than 40 units, it may become necessary and even more cost-effective to have an employee trained in bicycle maintenance. The *Bicycle Retailer and Industry News* (Miller Freeman Publications) is an excellent resource for information on maintenance training as well as information on a wide array of bicycles and equipment.

BICYCLE FLEETS AT A GLANCE

- At present, there are more than 2,000 bicycle units across the country. In addition to city and county police agencies, there are military installations, colleges, universities, shopping malls, security companies, transportation, and park and wildlife departments enforcing the law by bicycle.
- IPMBA maintains a directory of units, which includes statistics on more than 650 bicycle patrol units.
- The average size of the units is nine officers; several departments have more than 50 bike officers.
- The average daily mileage of a police bicycle officer lies somewhere between 15 and 25 miles.
- The average layout of expense to fully equip one bike is about \$1,200, with an annual maintenance fee of about \$200.

— According to the International Police Mountain Bike Association, www.ipmba.org.

Storage

Bicycle storage is always a concern, whether the fleet numbers five or 500 bicycles. Unlike the motor vehicle, which, for the most part is impervious to weather short of a good hail storm, bicycles need to be kept in a protected environment to prevent rust and dry rot from taking their toll. Bicycle shops store bicycles in a display mode for sales aesthetics; however, most departments will be more concerned with getting the most bicycles stored in the smallest space. Professionally manufactured storage racks are available from a number of manufacturers and come in sizes to store several or several hundred bicycles. It may be easier and even more cost-effective to customize a storage system to the available area. Bicycle storage hooks are available from most hardware stores and can be used in a variety of applications. The most common storage racks utilize a hook suspended from above at about 6' feet off the ground, the front tire hooked on it with the bicycle suspended. Hooks should be mounted at least 24 inches apart to compensate for the handle bars, but they can be mounted as close as 16 inches if alternated so that the bicycles are one up and one down to make the handle bars fit. Where there is no support above or the support is too high to reach, hooks can be mounted into a wall horizontally with the bicycle resting on the wall. Any storage area should be secured and the access limited to only those personnel who are authorized to use the equipment

Conclusion

Developing and maintaining a bicycle fleet may sound inexpensive and easy, and indeed, compared to developing and maintaining a motor fleet, bicycles are a great bargain. With leasing, fuel and maintenance considered, the bicycle cost about 1/20th or less than the price of a motor vehicle to purchase and operate. The common downfall in developing a bicycle fleet is poor logistical preparation and the failure to realize that there are continued costs. With insight and careful preparation, keeping a bicycle fleet can be very satisfying for both fleet managers and the personnel who will use them.

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T.J. Richardson is an 18-year veteran of the San Antonio Police Department and has been assigned to the Downtown Bicycle Patrol since 1992. He is the bicycle coordinator for the department and manages a fleet of 300-plus bicycles for more than 400 public safety personnel. He serves on the Governing Board of the International Police Mountain Bike Association as vice president and can be reached through their Web site at www.ipmba.org.