

Subject: Legislation Regarding Electric Bicycles in Tucson

July 19, 2006

To the Mayor and members of the Tucson City Council,

I understand there have been a number of complaints about gas-powered bicycles in Tucson, and the City of Tucson may consider restricting their use in response to recent state legislation. I am very concerned that the City Council may equally restrict electric bicycles, which behave very differently than gas bikes. Any legislation addressing this issue should be careful and specific in creating any restrictions.

Knowledge about electric bikes is very limited in Tucson since there are only a handful on the road at this time. In early 2006, I could not find an electric bike for sale anywhere in Arizona, and in years of biking I have only seen one. I believe the City Council needs to hear from people who do ride them to make an informed decision on the issue.

I am a 53-year-old woman who is a member of the Tucson biking community. I have biked all my life and commuted by bike to work on and off for years. Over the past year, biking became more difficult due to knee problems, and I bought an electric bicycle to take strain off my knees and to allow me to continue commuting by bike. It has succeeded wonderfully at both. I now commute more often than I ever did on my conventional bike, since I can carry very heavy loads when needed.

I was aware of the Tucson legislation restricting self-propelled gas and electric bicycles when I bought my bike. (The language I found in the ordinance covers any "...motorized vehicle that is self-propelled by a motor or engine, gas or electric...") I researched the issue and learned that there are two kinds of electric bikes – self-propelled (usually called throttle or power-on-demand bicycles) and non-self-propelled (called pedal-activated bicycles). The throttle bike can move under its own power like a moped, but the pedal-activated bike cannot – it assists the rider only when he or she pedals. I chose a pedal-activated bike since I believed it was legal under Tucson legislation.

This is not an idle distinction or twisting of words, since the European Union and Japan, two of the largest markets for electric bicycles, have chosen to make exactly this distinction in legislation: pedal-activated bicycles are treated as conventional bicycles, but throttle bikes are treated as mopeds. The Council might consider using this approach in some situations (discussed below).

The following is some general information about electric bicycles. More detailed information and links can be found in the attached pdf, which is also posted at www.janmcdonald.com/ebike.html. I would particularly draw your attention to the website of the Santa Cruz County Electric Bike Rebate Program, which includes results of a program to subsidize electric bikes for close to 900 residents.

1. Electric bicycles are extremely cost-effective and energy-efficient transportation. Using current Tucson gas and electricity prices, the energy usage of a typical electric bike costs the equivalent of a car that gets 800 miles to the gallon. Electric bikes are particularly good for commuting to work, since they overcome many problems people have with bike commuting.

2. Electric bicycles are quiet and do not emit any pollution. Unlike gas bikes, they make very little or no noise – similar to a typical bicycle. I believe that other cyclists near me are not even aware when I am using power-assist on my electric bike.

3. Electric bicycles are slower than conventional bikes at top speed. The maximum speed of all electric bike motors in the U.S. is set by law at 20 mph, and most manufacturers use a maximum of 17-18 mph. Once this speed is reached and the motor cuts out, the cyclist is completely on his or her own muscle power. Given the greater weight of an electric bike (50-70 pounds), it is very hard for a cyclist to get much above 18 mph, well below the speed of many cyclists. (Strong cyclists who have tried my bike say they would not use one for that reason.) In my experience, many cyclists pass me when I reach top speed. An electric bike allows its rider to behave more like a strong cyclist, but by

no means as fast as many cyclists. The great strength of electric bikes is assistance with acceleration, not high speed. This is why the main market for electric bikes is older people, many with physical limitations, not people seeking speed.

4. Pedal-activated electric bicycles handle like conventional bikes and are safe for riders and other cyclists around them. I am limiting this to the kind of electric bike I have experience with, but I have found Canadian research stating that riders consider both kinds equally safe (see link in the pdf). Pedal-activated bikes have no throttle or non-conventional controls other than an on/off switch for the motor. Every cyclist who has test-ridden my electric bike has agreed that it handles like a conventional bike (but you have the great feeling that you've dropped a few years). The Japanese and EU decision to treat this type as a conventional bike backs this up.

5. Attitude of other cyclists to electric bicycles: I have ridden my electric bike close to 1000 miles on the busy Third Street bike route and on bike paths and shared-use paths in Tucson. I have never received a single negative comment from any cyclist. Everyone who has commented has been friendly and interested, and some, particularly older cyclists, have expressed an interest in buying one.

Conclusion:

I believe that all electric bikes should be allowed without restrictions on city streets and in designated bike lanes. The issues here are safety, noise, and pollution. There is no safety justification for banning electric bicycles from city streets when they cannot go faster than conventional bikes, and noise and pollution do not occur with electric bikes.

The additional issue on bike paths and shared-use paths is enjoyment of outdoor public spaces, which could certainly justify restricting gas-powered bikes. I do not think pedal-activated electric bikes would meet any objections; probably very few people would even be aware of their presence since their riders must pedal like any cyclist. (This has in fact been my experience on bike paths.) However, some cyclists might object to the moped-like quality of throttled electric bikes. If their objections are not related to safety, noise, or pollution (such as resenting any motorization on bike paths), I personally believe that the benefit to our city from encouraging the use of electric bikes outweighs this.

Because of their potential benefit to Tucson congestion and energy consumption, I hope the City Council will choose to place no restrictions on any electric bike. The issue could be watched over time as more electric bikes appear.

However, if the decision is to impose some restrictions, I ask that you consider following the European and Japanese model to restrict only throttled bikes and to treat pedal-activated bikes as conventional bicycles. I think this could be done by retaining the previous COT legislative definition of "self-propelled electric bicycle" when specifying restricted use. This proposal could address any reasonable objections that arise to use of moped-like throttled bikes on bike paths and shared-use paths, without completely limiting a technology that is of great use to older people, people with physical limitations, and people trying to leave their cars at home to help our community.

I would like very much to have a chance to address the City Council when this issue is discussed.

Sincerely,

Jan McDonald
Tucson, Arizona