MEMORANDUM

TO: Mayor and City Council members

FROM: Robert Spillar, P.E., Transportation Director

VIA: Marc A. Ott, City Manager

CC: Robert D. Goode, P.E., Assistant City Manager
Howard Lazarus, P.E., Public Works Director
Roger Duncan, Austin Energy General Manager

DATE: October 8, 2008

RE: Motorcycle and motor scooter Resolution No. 20080828-067

Staff from the Public Works Department, the Transportation Department, and Austin Energy recommend the following in response to the referenced Resolution:

Directive 1. "Evaluate inclusion of motorcycle and motor scooter parking in the CBD…and a free permitting system for these spaces"

***Staff recommendation*:** Continue developing parking meter system alternatives for Council's consideration (we expect to bring these alternatives to the Land Use and Transportation Committee this month). This "system" decision should be made prior to developing a policy for motorcycles and scooter parking. For example, if a "pay-and-display" system is selected, parking for motorcycles and scooters would likely be free due to the operational issues mentioned above. On the other hand, different parking system alternatives would allow charging for motorcycle and scooter parking. It seems that the "system" decision should be made first, and then we will know our limitations regarding motorcycle and scooter parking. In either case, programs should be developed that encourage the continued evolution of motorcycle and motor scooter technologies to provide cleaner running engines. Part of any revised policy should also include an expanded public outreach and education campaign to broaden the awareness of safe road use by all users (motorcycles, motor scoters, pedestrian, bicycle, and automobile).

Evaluation:

Environmental/Sustainability - Austin Energy has presented information that suggests that although two-wheeled vehicles provide significantly lower emissions of greenhouse gases, some emit higher levels of other regulated pollutants, including those that result in smog. Austin Energy, charged with reducing the footprint of urban living on the environment, does not encourage the universal free parking program contemplated with this program from an air emissions perspective. Although two-wheeled vehicles are more fuel efficient than passenger vehicles and therefore create fewer greenhouse gas emissions, smog-forming emissions are greater and noise pollution is higher with these smaller gasoline powered vehicles. However, electric vehicles do not emit any tailpipe emissions and create minimal noise. Therefore, Austin Energy would support a free parking approach for all-electric two-wheeled vehicles.

Operational - Motor scooters and motorcycles often park on-street in Austin without using currently marked parking stalls and without paying for metered parking. This has presented a dilemma for current enforcement in that the current laws related to such behavior are unclear (should the motorcycle or scooter be ticketed or ignored?). Additionally, the Transportation Department is evaluating an alternate technology to manage on-street parking. Those technologies could result in a move away from marked parking spaces managed by individual meter devices to multi-space meter technology. These technologies typically rely on a "pay-and-display" sticker concept. Vehicles that do not provide closed interiors (motorcycles and scooters) are difficult to manage with this "pay-and-display" technology since there isn't a good way to securely "display" the sticker. For example, a scooter driver could "pay" for parking, "display" the sticker on their windshield and then walk away only to have someone steal the sticker since it would be easily accessible and easily removed. Several other jurisdictions have addressed this issue by simply allowing motorcycles and scooters to park on-street for free.

Safety - From a safety perspective, some communities in Texas have noticed an increase in the rate of serious accidents involving motorcycles within their jurisdictions, while at the same time experiencing an increase in the number of motorcycles. Although current data do not suggest a linkage between the increase in use of motorcycles and scooters and serious accident rates, there is a need to reinforce safe driving behavior when encouraging an increased use of motorcycles or motor scooters within the system as contemplated by this resolution. Other communities have promoted safety via a "share the road" education campaign inclusive of signage, educational spots on local media outlets, and similar safety training programs.

Directive 2. "Consider creating buffer zones at traffic signals for two-wheeled vehicles."

***Staff recommendation*:** Contract with the Center for Transportation Research (CTR) this month to conduct a study on the feasibility of buffer zones/bicycle boxes in Austin and their effectiveness for bicycles and motor scooter type vehicles. The Bicycle Program has funds budgeted for a study which would not only include buffer zones/bicycle boxes,

but also Shared Lane Markings ("Sharrows") and Colored Bicycle Lanes. This study could lead to the planned use of these type markings within the Austin transportation network. Given the research thus far, it appears that only standard bicycles, or bicycles having an electric motor traveling no more than 20 mph, would be permitted in a bike box. This would be consistent with Austin's City Code definitions for bike lanes. Motorcycles and scooters in the State of Texas are defined as motor vehicles and should follow the driving laws of the state to assure a safe transportation environment. The CTR study would confirm this initial conclusion.

Evaluation: Bicycle buffer zones or "Bike Boxes" are being used in cities such as Portland, OR, and Seattle, WA. Bike boxes are intended to allow cyclists to wait in front of vehicles queued at a signal. Allowing cyclists to wait at the front of the queue reduces the risk of a "right-hand" collision between a turning vehicle and a bicycle that has ridden up to the intersection in an adjacent bicycle lane or on the side of the lane. Bicyclists often find themselves in the blind spot of the turning vehicle. The bike box places them at the head of the line in full visibility of the turning vehicle (See Portland picture below).

Source: http://www.treehugger.com/files/2008/03/portlands_bike_boxes.php

A major issue, creating incentives for advanced stop lines, is that of accommodating large volumes of bicycle traffic when motor traffic is congested. Research should measure the volume and level of service of both bicycle and motor traffic, and correlate that with behavior patterns and crash rates.

Bicyclists ahead of motorists in the bike box may impede the motorists' progress, whether simply by being there, by alteration in signal timing, or both. There could therefore be a reduction in efficiency of motor travel. Use of the bike box may either increase or decrease bicyclists' travel times, depending on whether they may filter forward, or are prevented from entering the bike box by moving motor traffic (particularly when using it to prepare a left turn). Further research should attempt to quantify these effects, and effects on pedestrian travel times.

To address the above concerns, Portland, Oregon and some European Cities have installed experimental "Bicycle Boxes" (some with color and some without).

If the FHWA declines to endorse the experiment, the City of Portland is not obligated to remove the bike boxes, nor would PDOT be running afoul of the law if they left them in.

However, there may be some liability concerns that would need to be addressed if the FHWA does not endorse the experiment.

Directive 3: Electric Scooter and Bicycle Incentive Program

***Staff recommendation*:** To encourage the purchase of environmentally preferable electric vehicles, the City should consider increasing the budget of Austin Energy/Clean Cities' existing electric vehicle incentive program and restructuring the incentive amounts to match the environmental benefit of the vehicle by: 1) aligning the incentive amount with the incremental cost to purchase the electric option versus a comparable gasoline model and 2) examining the possibility of discounting nighttime electricity rates for electric vehicle users once two-way metering technology is put into place. We should also allow exceptions for electric vehicles (especially passenger vehicles) purchased outside the Austin area if no local dealers offer these vehicles. Staff will be developing an item to this effect for Council's consideration.

Evaluation: Austin Energy and Central Texas Clean Cities initiated an electric vehicle incentive program for Austin Energy customers in April 2007. Eligible electric vehicles include bicycles, scooters, mopeds, motorcycles, and cars purchased from an approved local dealership. The program grants an incentive of $100 to $500 per vehicle, depending on the vehicle type, distance traveled per battery charge, and speed. $22,500, or approximately 50 percent of the approved budget, has been expended to date.

The current incentives have been in place since May 2008. From May through August 2008, over 70 vehicles qualified for incentives, none of which were electric cars. The percentage of the total vehicle cost covered by the incentive varies substantially, depending on the type and cost of vehicle purchased. Table 1 provides statistics on the incentive amounts, average vehicle cost, and average percent of vehicle cost covered by the incentive broken down by vehicle category.

Table 1. Electric Vehicle Incentive Statistics, May – August 2008

Incentive Amount	Average Cost of Electric Vehicle	Average % of Cost Covered by Incentive
Electric Bikes/Scooter with Range between 15 and 20 Miles per Charge		
$100	$575	28%
Electric Bikes/Scooters with Range > 20 Miles per Charge and Max. Speed < 30 mph		
$150	$1,008	21%
Electric Motorcycles/Mopeds with Range > 20 Miles per Charge and Max. Speed ≥ 30 mph		
$250	$3,296	9%
Electric Cars and Trucks		
$500	N/A	N/A

Historically, clean vehicle incentive programs cover the additional cost required to purchase a clean vehicle as compared to a comparable conventional vehicle. This is not the case for the Austin Energy electric vehicle incentive program. In fact, for electric vehicles purchased in the most expensive category, on average, only 9 percent of the vehicle cost is being covered as opposed to an average 28 percent of the vehicle cost for the least expensive models. This data provides evidence that the incentive structure may need to be reviewed, especially with the future increase of more expensive electric cars.