

# MIAMIBEACH

PUBLIC WORKS DEPARTMENT

**316-2019**

NO. LTC#

LETTER TO COMMISSION

TO: Mayor Dan Gelber and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: May 31, 2019

SUBJECT: Hybrid Electric Vehicle Policy



The purpose of this Letter to Commission is to update you on the “greening” of the City’s fleet and to address your question regarding a hybrid-electric vehicle (HEV) policy. Although we don’t have an “official” hybrid policy, throughout my tenure, we have pursued a three-pronged operating strategy to improve the operating efficiency and greening of the City’s fleet. The strategy encompasses vehicle standardization, right-sizing/down-sizing, and reducing the vehicle replacement cycle through more timely investments in fuel efficient vehicles, including HEVs.

We have made a conscious effort to right-size, where appropriate, from full/mid-size sedans to mid-size/compact vehicles and to also invest in HEVs. As a result (excluding first-responder vehicles), approximately 95% of staff sedans are the more fuel-efficient compacts and HEVs. The recently completed Vehicle Utilization Study also supplemented on-going downsizing efforts by identifying 18 vehicles that could be eliminated from the City’s fleet, representing capital savings of approximately \$1,000,000 in avoided costs in future replacement cycles (per cycle), as well as annual maintenance and repair costs of approximately \$20,000.

HEVs are a proven, widely accepted technology and the 21 Ford HEVs (14 compact and seven mid-size models) placed into service in 10 City departments, within the past three and a half years, have logged nearly a half-million miles of reliable service, with operating costs over 40% lower than that of comparable, mostly compact, gasoline models. The City’s compact vehicle fleet accounts for approximately 4% of the total gasoline consumed by the City’s fleet.

Nevertheless, our greatest challenge in making significant strides in further greening our fleet, has been the lack of options for Police patrol vehicles. The Police Department accounts for approximately two-thirds of the City’s gasoline consumption, with 316 patrol vehicles accounting for 44% of the total gasoline consumed by the City’s fleet.

Fortunately, the situation changed in June of 2018 when the Ford Motor Company announced the introduction of a Police Utility Interceptor HEV, slated for release in 2019. This important breakthrough provides us with the most cost-effective option to reduce greenhouse gas (GHG) emissions. As a result, a pre-ordered 2020 HEV Interceptor (anticipated delivery in July) will be placed into service for testing throughout the rest of 2019. The proposed 2020 vehicle replacement budget includes funding for the replacement of nearly 60 police patrol vehicles with HEVs.

This week, ACM Taxis, Fleet Management Director Cano, and Police Department representatives attended Ford Interceptor HEV test drive events for a first-hand look at this innovative police vehicle that is projected to achieve in excess of 40% reduction in fuel consumption and offers a number of safety features and enhancements, including a design engineered to sustain a 75-mph rear-impact crash.

There will be significant savings as a result of the HEV's electric motor powering high electrical loads, including lights, radios, computers, and the air-conditioning system while the vehicle is parked (idling accounts for approximately 60% of City patrol vehicles' running time). Additional savings will also be achieved in brake system maintenance and repair expenses due to a regenerative braking system that uses the reverse spin of the electric motor to slow down the vehicle, as well as from extended oil replacement cycles.

Key to significantly advance the greening of the City's Fleet will be securing adequate vehicle replacement funding, which has been a challenge and contributed to an extended vehicle replacement cycle during recent years. Failure to adequately fund vehicle replacements according to recommended replacement cycles has been shown to cause several problems, including higher maintenance and fuel costs, increased vehicle breakdowns, and a lower level of fleet readiness that impacts the ability of City departments to effectively conduct operations and deliver services. A Vehicle Replacement Study completed in 2018 by the Matrix Consulting Group recommended a five-year funding plan to improve the replacement cycle.

Moving forward, our hybrid vehicle policy will be to, whenever possible, purchase HEVs, with primary focus on replacing all gasoline patrol vehicles with HEVs by the end of Fiscal Year 2024. This transition, when fully implemented, is projected to conservatively generate approximate annual reductions of 18% to the City's current total gasoline consumption, and 2.4-million Lbs. of CO<sub>2</sub> GHG emissions.

Our vehicle replacement policy will adjust in accordance with technology innovations in the rapidly-evolving HEV and fully-electric vehicle industry. We will continue to implement the most cost effective options to minimize GHG emissions.

The Fleet Management Department will continue to collaborate with the Environment and Sustainability team by providing performance and fuel data used to calculate and track the pounds of greenhouse gas emissions reduced by these investments and other metrics and analysis in support of helping to further reduce the City's carbon footprint.

JLM/MT/JC