



400 South Federal Hwy
Hallandale Beach, FL 33009

City of Hallandale Beach City Commission Agenda Cover Memo

Meeting Date:		Item Type:		1 st Reading	2 nd Reading
10/20/2021		<input checked="" type="checkbox"/> Resolution <input type="checkbox"/> Ordinance <input type="checkbox"/> Other	Ordinance Reading	N/A	N/A
			Public Hearing	<input type="checkbox"/>	<input type="checkbox"/>
			Advertising Required	<input type="checkbox"/>	<input type="checkbox"/>
			Quasi-Judicial:	<input type="checkbox"/>	<input type="checkbox"/>
File No.:					
21-430					
Fiscal Impact (\$):		Account Balance (\$):	Funding Source:	Project Number:	
\$666,770		\$1,189,205 (FY22) \$500,000 (FY22) \$887,116 (Carryover)	4410 549990 8090 564040-ARPA1 8090 564010-ARPA1	N/A	
Contract/P.O. Required		RFP/RFQ/Bid Number:	Sponsor Name:	Department:	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Florida Sheriff's Association Contract No. FSA20-VEH28.0	Dr. Jeremy Earle, City Manager	City Manager's Office	
Strategic Plan Focus Areas:					
<input checked="" type="checkbox"/> Finance & Budget		<input checked="" type="checkbox"/> Organizational Capacity		<input type="checkbox"/> Infrastructure/Projects	
Implementation Timeline:					
Estimated Start Date: 10/20/2021			Estimated End Date: 10/19/2029		

SHORT TITLE:

A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF HALLANDALE BEACH, FLORIDA, AUTHORIZING THE CITY MANAGER TO PURCHASE THIRTEEN (13) ELECTRIC FLEET REPLACEMENT LAW ENFORCEMENT VEHICLES UTILIZING THE FLORIDA SHERIFF'S ASSOCIATION (FSA) CONTRACT #FSA20-VEL28.0 IN AN AMOUNT NOT TO EXCEED SIX HUNDRED SIXTY-SIX THOUSAND SEVEN HUNDRED SEVENTY DOLLARS (\$666,770.00); AND PROVIDING FOR AN EFFECTIVE DATE.

STAFF SUMMARY:

Summary:

The purpose of the agenda item is to request City Commission approval of the attached resolution authorizing the City Manager to purchase thirteen (13) replacement fleet units utilizing Contract # FSA20-VEL28.0, in an amount not to exceed \$666,770. These thirteen (13) vehicles are battery electric vehicles (EV).

Background:

The City's Fleet Fund serves as a centralized fund designed to simplify and optimize the efficiency of maintenance and replacement of City vehicles. As part of the City's Fleet Fund, a detailed Fleet Maintenance and Replacement Program (FMRP) was developed. The goal of the FMRP program is to capture optimal service life for each vehicle, combined with the point in time when the City could receive the highest resale value for each vehicle. If this goal is consistently achieved, the City can anticipate that its fleet would gradually become newer and require less annual maintenance.

However, due to budgetary constraints, the replacement aspect of the FMRP has not been funded as it was originally designed. The General Fund last contributed towards replacement in FY2017/2018, in the amount of \$916,000, which was the required level of funding to keep up with the replacement program. As a result, vehicle replacements funded by the General Fund have been deferred without a clear funding plan or a path forward. This has put a strain on the City's ability to maintain operational readiness, especially for Law Enforcement, a critical component of the City's Fleet.

The Police fleet is comprised of approximately 130 vehicles, excluding boats and trailers. Of that number, sixty-five (65) are due or past due for replacement. These units include 2008 – 2014 models. Based on the vehicle lifespan of eight years, sixty (60) were due for replacement between FY2015/2016 and FY2020/2021, and five (5) are due for replacement in the current fiscal year (Exhibit 3). The table below shows the estimated replacement schedule for Police vehicles through FY2024/2025 when a complete rotation will be achieved. It should be noted that years marked with an asterisk include a total of sixty-five (65) vehicles and are inclusive of all that are due or past due for replacement through the current fiscal year.

5 Year Vehicle Replacement Schedule for Police Vehicles		
Fiscal Year Replacement	Fiscal Year Rotation	Vehicles to be Replaced
*FY 20-21	FY 29-30	51
*FY 21-22	FY 29-30	14
FY 22-23	FY 30-31	29
FY 23-24	FY 31-32	18
FY 24-25	FY 32-33	18
Total		130

(5 Trailers/Boats not included in totals above)

During FY2020/2021, staff analyzed options to fund Police vehicles, including a lease-purchase option. This option was not found to be feasible, as the Fleet Fund would have had to disburse close to \$600,000 annually during a five-year period. This included a finance charge of approximately 16%. Without the General Fund's contribution towards replacement and a funding plan in place, the Fleet Fund could not have sustained such commitment.

The allocation of American Rescue Plan Act (ARPA) dollars provides the City with a unique opportunity to support government services which includes the purchase of public safety vehicles. ARPA funding, in addition to working reserves in the Fleet Fund, will be utilized to fund the purchase of approximately fifty-one (51) units of the sixty-five (65) that are due, or past due, for Law Enforcement. Funding sources are shown below.

Appropriation Year	Funding Source	Amount
FY2020/2021 (Carryover)	ARPA	\$ 887,116
FY2021/2022	ARPA	\$ 500,000
FY2021/2022	Fleet Working Reserves	\$ 1,189,205
		<u>\$ 2,576,321</u>

It should be noted that the leveraging of federal resources will allow the Fleet Fund to retain funds that may potentially address additional Police vehicles, as well as non-police vehicles that are past due for replacement Citywide. Estimated Fleet Fund reserves as of September 30, 2021 are approximately \$2.2 million.

A full analysis and comprehensive review of the City's FMRP is slated for FY2021/2022. This is an initiative to determine funding needs for the entire City's fleet, and to structure a funding plan to gradually get the General Fund's fleet replacement contributions back on track in a fiscally responsible manner. As a matter of policy, this initiative will also seek to incorporate lower or zero emission vehicles whenever feasible.

Current Situation:

Based on the FMRP, as of the beginning of Fiscal Year 2021-2022, there were one hundred and six (106) vehicles that are due, or past due for replacement Citywide (Police and non-police vehicles). Of these, sixty-five (65) are Police vehicles.

Staff recognizes the need to prioritize the replacement of Law Enforcement vehicles to assure that Officers are well equipped to attend to the safety and security of the residents of Hallandale Beach, and to alleviate the strain on the Fleet Division, as it relates to vehicle downtime and repair cost.

Fifty-one (51) law enforcement vehicles have been prioritized to be replaced at this time (Exhibit 2). As previously stated, funding for these purchases has been identified in the Fleet Fund and from the City's ARPA allocation. Later in the year, staff will present a budget amendment to the City Commission to facilitate the replacement of fourteen (14) additional law enforcement vehicles which are due to be replaced during the course of FY2021-2022.

The fifty-one (51) law enforcement vehicles will be replaced with thirty-eight (38) hybrid (Ford Interceptors) and thirteen (13) electric vehicles (Teslas) as shown below.

Count	Vehicle Type	Cost
38	FORD POLICE INTERCEPTOR UNITS	\$1,823,164.00
13	TESLA MODEL Y UNITS	\$666,770.00
51	TOTAL COST	\$2,489,934.00

This agenda item seeks authorization to purchase thirteen (13) of the total fifty-one (51) vehicles to be replaced utilizing Contract # FSA20-VEL28.0. The per unit cost of these Tesla Y vehicles is \$51,290, not including Police outfitting. Outfitting the vehicles with lights/sirens and decals will be done separately and is estimated to be below Procurement thresholds. A separate agenda item is also being brought before City Commission to purchase the remaining thirty-eight (38) vehicles utilizing a separate contract.

Why Action is Necessary:

Pursuant to Chapter 23, Section 23-8 Exception to Bid Requirements, (6) Bids and Contracts from Other entities, and Section 23-9 Cooperative Purchasing, the City Manager is authorized to procure all supplies, materials, equipment, and services from other governmental units, when the best interests of the City would be served subject to the requirement that any purchase in excess of \$50,000 requires City Commission approval.

Cost Benefit

Operating vehicles beyond their useful life costs the City more in the long run to repair, maintain and operate. Newer vehicles offer the City the opportunity to purchase lower and/or zero emission vehicles which are more cost effective to operate. The vehicles being replaced are those that no longer are fiscally beneficial to remain in operation.

This is in line with the City's 50by30 Climate Action Plan and Net-Zero Goal. The replacement of these vehicles is estimated to reduce City operations greenhouse gas emissions by as much as 6.24¹% and reduce fuel costs by approximately 21%.

In line with the City's Sustainability Action Plan and as a matter of City Policy, staff must pursue electric vehicles in as much as it may be feasible, and hybrid vehicles when an electric option is not available. In the absence of either option, an internal combustion engine alternative will be pursued.

Additionally, the Sustainability Action Plan suggests establishing ways to measure environmental benefits beyond tangible economics and as such environmental cost avoidance was also a

¹ This estimate was calculated utilizing actual annual miles driven data per vehicle, gas mileage of existing vehicles, EPA calculated emissions per gallon of gasoline, and a Union of Concerned Scientists tool which estimates equivalent gas mileage for EVs and their respective grams of CO2 per mile based on local electricity grid power mixes by zip code.

consideration when replacing these vehicles. The White House² estimates the social cost of carbon emissions to be \$51 per metric ton. By switching these vehicles to electric and hybrid alternatives, the City could potentially avoid \$30,600 (equivalent to 600 metric tons) in the collective social cost of emissions related to these vehicles.

As part of a cost benefit analysis, three viable options were compared to analyze the general true cost of ownership and to determine a path forward for a sound investment. An internal combustion engine vehicle (Ford Explorer) was compared to a hybrid alternative (Ford Interceptor), and to an all-electric sports utility vehicle (Tesla Model Y). The analysis is shown below along with cited data sources.

2022 Tesla Model Y Long Range						
*Price: \$57,906						
Resale Value: \$27,770						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Tax Credit	-	-	-	-	-	-
Maintenance	217	240	276	334	382	1,449
Repairs (tires) - Major Repair Probability in 5 years: 5.7%	-	-	-	1,100		1,100
Dealer Fees	1,300	-	-	-	-	1,300
Depreciation (52%)	6,027	6,027	6,027	6,027	6,027	30,136
Fuel Cost (15k miles per year) 125 MPGe (\$0.04/mile) - www.fueleconomy.gov	550	550	550	550	550	2,750
Cost to Own per Year	8,094	6,817	6,853	8,011	6,959	36,735
Estimated Total Cost to Own:						\$36,735

2022 Ford Interceptor (Hybrid Ford Explorer)						
*Price: \$42,225						
Resale Value: \$18,844						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Tax Credit	-	-	-	-	-	-
Maintenance	319	370	453	584	694	2,420
Repairs - Major Repair Probability in 5 years: 13%	1,160	1,160	1,160	1,160	1,160	5,800
Dealer Fees	1,245	-	-	-	-	1,245
Depreciation (55%)	4,676	4,676	4,676	4,676	4,676	23,381
Fuel Cost (15k miles per year) Avg. 25 MPG (\$0.13/mile) - www.fueleconomy.gov	1,900	1,900	1,900	1,900	1,900	9,500
Cost to Own per Year	9,300	8,106	8,189	8,320	8,430	42,346
Estimated Total Cost to Own:						\$42,346

² Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990 (2021)

2022 Ford Explorer						
**Estimated Starting Price: \$35,100						
Resale Value: \$15,664						
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Tax Credit	-	-	-	-	-	-
Maintenance	319	370	453	584	694	2,420
Repairs - Major Repair Probability in 5 years: 13%	1,160	1,160	1,160	1,160	1,160	5,800
Dealer Fees	1,245	-	-	-	-	1,245
Depreciation (55%)	3,887	3,887	3,887	3,887	3,887	19,436
Fuel Cost (15k miles per year) Avg. 20 MPG (\$0.16/mile) - www.fueleconomy.gov	2,400	2,400	2,400	2,400	2,400	12,000
Cost to Own per Year	9,011	7,817	7,900	8,031	8,141	40,901
Estimated Total Cost to Own:						\$40,901

Maintenance, Depreciation & Resale Value:

www.caredge.com

Repairs (interceptors):

www.repairpal.com

Fuel Cost and Economy (based on 2021 models):

www.fueleconomy.gov

* Excludes accessories

**Estimated Price:

www.kbb.com

Based on the analysis above, the true cost to own each of the three vehicle types for a period of 5 years is summarized below.

Model	Price	Maint/Yr.	Repairs/Yr.	Dealer Fees	Depreciation/Yr.	Fuel / Elect. Cost/Yr.	5-Year Cost	Resale Value
Tesla Model Y	57,906	1,449	1,100	1,300	30,136	2,750	36,735	27,770
Ford Interceptor Hybrid	42,225	2,420	5,800	1,245	23,381	9,500	42,346	18,844
Ford Explorer	35,100	2,420	5,800	1,245	19,436	12,000	40,901	15,664

While the purchase price of electric and hybrid vehicles is higher than the exclusively internal combustion engine alternative used in this analysis, it is important to note that the electric and hybrid vehicles show reduced fuel costs when compared to the gas vehicle (\$2,750 and \$9,500 vs. \$12,000).

When analyzing resale value, the residual value of the electric vehicle after depreciation is \$27,770, almost 1.5 times more valuable than the hybrid and 1.8 times more valuable than the gas option. Also, an all-electric vehicle has a positive effect on human health and the environment due to reduced carbon emissions. For this reason, electric vehicles have been selected to replace thirteen (13) past due Police administrative (non-pursuit) vehicles.

When an electric vehicle is not a viable option, which was the case for pursuit-rated vehicles, a hybrid option is selected. A hybrid vehicle is a low carbon emission option and also provides an opportunity for fuel cost savings. The hybrid vehicle shows reduced fuel costs when compared to the gas vehicle of approximately \$2,500 (\$9,500 vs. \$12,000). For this reason, hybrid vehicles have been selected to replace thirty-eight (38) past due Police marked (pursuit) vehicles.

Based on fuel usage and cost data for the current Police fleet during FY2019/2020, it is estimated that the transition of fifty-one (51) vehicles, including electric and hybrid models combined, will result in approximately \$51,520 in fuel cost savings, or a 21% decrease in fuel costs per year. The total potential savings over the lifespan of 8-years is \$412,160. This calculation is based on FY2019/2020 actual Police fleet fuel expenditures of \$243,433 (an average of \$1,873 per vehicle x 130 vehicles), and an average of 8,000 miles driven per year with a cost of \$0.23 per mile (\$1,873 divided by 8,000). Savings calculation is shown below. For fuel/electricity cost per mile, please refer to Exhibit 8.

Vehicle Type	Fuel/Electricity Cost/Mile (New Vehicles)	Fuel Cost/Mile (City Vehicles)	Savings/Mile	Savings/Mile x 8,000 Miles/Yr*	No. Units to be Replaced	Estimated Savings/Yr.
Tesla Model Y	0.04	0.23	0.19	1,547	13	20,107
Hybrid Explorer	0.13	0.23	0.10	827	38	31,413
Explorer	0.16	0.23	0.07	560	-	-
*Average number of miles driven/yr.						\$ 51,520

To effectuate this purchase, staff proposes to utilize Contract No. FSA20-VEL28.0 to get the best price in the Southern Region of the State of Florida.

PROPOSED ACTION:

The City Commission to consider approval of the attached resolution authorizing the City Manager to purchase thirteen (13) electric vehicles from Tesla, Inc in an amount not to exceed \$666,770 utilizing Contract No FSA20-VEL28.0.

ATTACHMENT(S):

- Exhibit 1 – Resolution
- Exhibit 2 – Tesla Quote
- Exhibit 3 – Vehicle Replacement List for FY2020/2021 & FY2021/2022
- Exhibit 4 – FSA Bid Announcement FSA20-VEL28.0 Pursuit, Administrative and Other Vehicles
- Exhibit 5 – Award Letter FSA20-VEL28.0
- Exhibit 6 – FSA Pricing
- Exhibit 7 – FSA Cooperative Purchasing Program Terms and Conditions
- Exhibit 8 – Fuel Cost Comparison

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