

Subject: DES- Electric Vehicles

FY 2022 Proposed Budget Budget Work Session Follow-up

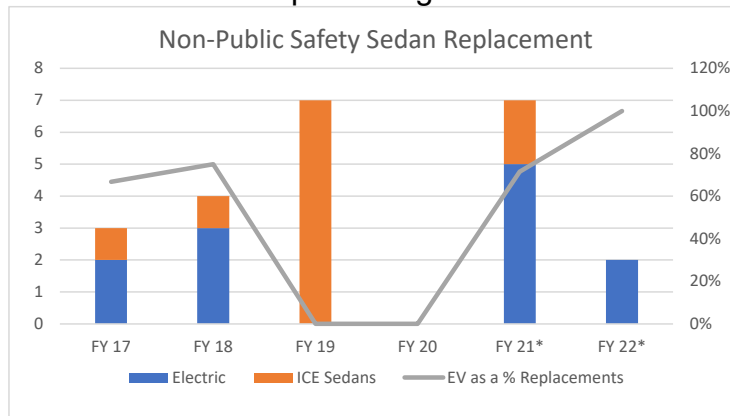
4/15/2021

The following information is provided in response to a request made by Ms. Cristol and Mr. Ferranti at the work session on 3/4/2021, regarding the following question:

How many sedans does the County plan to replace in FY 2022? What additional costs are associated with replacing these with electric vehicles? Also, include a cost estimate for charging infrastructure.

In FY 2022 and going forward, and as directed by the County Board, it shall be the default policy of the County to convert from internal combustion engine (ICE) vehicles to electric as vehicles are replaced and where feasible to both meet mission requirements and where charging infrastructure is feasible. EV vehicle replacements must be coordinated with the required charging infrastructure. To support the electric vehicle replacements over the next few years, we have requested one-time funding of \$250,000 discussed more below. In addition, our CIP proposal for FY 2023 and FY 2024 will request \$150,000 each year to continue implementing charging stations.

In FY 2022 all non-public safety sedan replacements will be electric. The County is only planning to purchase six electric vehicles (EVs) in FY 2022 (2 for non-public safety and 4 for public safety) at this time because many replacements have been deferred based on lower mileage due to COVID-19 and accompanying budget concerns. The chart below illustrates the number of non-public safety sedans that have been replaced annually since FY 2017 and number / percentage that have been electric vehicles.



*In addition in FY21 and FY22 we will purchase 5 and 4 EVs for public safety, respectively. Total EV purchases for public safety and non-public safety in FY 21 and FY 22 is 10 and 6, respectively.

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In FY 2021, the Equipment Bureau purchased 10 electric vehicles (Nissan Leafs), which provides recent experience for demonstrating additional costs associated with electric vehicles. The cost of an EV was approximately \$5,000 to \$6,000 more than a similar non-electric sedan. In addition to the electric vehicle premium, the County spent approximately \$35,000 to install two (2) charging stations (at Fire Station 4 and at the County Courthouse). However, this should not be used to calculate the average cost of any charging station, as final costs are heavily influenced by the extent of the electrical engineering and wiring required by the site.

The County is financing the purchase of Nissan Leafs through a lease-purchase arrangement. Under the arrangement the County leases the vehicles for two-years and as soon as payment is made in full the title and ownership of the vehicle transfers to the County. The vehicles are being leased from D&M Leasing (D&M), who is able to participate in the Federal Electric Vehicle (EV) Tax Credit Program. The County is unable to participate in the Federal EV Tax Credit Program directly. The savings D&M realizes through participation in the Federal EV Tax Credit Program enables the company to offer lower prices on electric vehicles. By leasing the vehicles for two-years from D&M the County is able to purchase each vehicle for a price of \$23,683, compared to a cost of \$31,278 under the State contract, resulting in savings of \$7,595 per vehicle

Looking Ahead to FY 2023

The Equipment Bureau manages a County fleet of approximately 950 vehicles categorized in multiple classes. The classes most immediately available for replacement with EVs are small and medium non-public safety sedans, which due to limited options at this time also requires departments to replace medium sedans with small sedans if mission requirements allow. There are 124 non-public safety sedans with a predetermined 9-year useful life sedans and 117 public safety sedans with a predetermined 7-year useful life.

Due to mission requirements and EV model offerings on the market at this time, it is not feasible to replace Police pursuit vehicles with an all-electric sedan. The police department is also shifting from sedans to SUVs as Ford has discontinued the Interceptor model.

Under standard replacement criteria, a vehicle must reach its predetermined useful life AND a minimum of 50,000 miles before it is considered for replacement. Because of the small footprint of Arlington County, it is common practice to “defer” vehicle replacements even though they have achieved the “age” requirement oftentimes they fail to meet the mileage requirement.

In FY 2023 there are 23 vehicles that will be considered for EV replacement based on their age and mileage. Due to FY 2020 deferrals, there are additional vehicles that may be considered for replacement in FY 2023 by placing a temporary maximum-age criterion of 13 years (2010 and older) on these units and eliminating the mileage

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requirement. We estimate this could bring the number of EV replacements up to approximately 30 in FY 2023.

The addition of up to 30 more EVs for FY 2023 is an important step in reaching electrification of these vehicle classes in the next 8-10 years.

FY 2022 One-time Funding Request

If one-time funding is available in FY 2022, DES could undertake the following investments related to electrification of the fleet (listed in priority order):

1. **Engineering design for EV Charging** – Provide engineering analysis at selected County locations to support future EV charging installations for an estimated **\$100,000**.
2. **Installation of Charging Stations** - The purchase of 25-30 EVs in FY 2023 will require additional charging stations at County buildings. \$150,000 would be required to purchase and install 13 charging stations in FY 2022 to prepare for an additional 25-30 EV vehicles and future EV replacements. DES can begin this work as soon as funding is available. The funding would cover the cost of the charging equipment at an estimated cost of \$3,000 - \$5,000 per station and the cost of installation and wiring, which could be up to \$100,000, for a total of **\$150,000**.
3. **Additional EV Sedans in FY 2022** - Looking ahead to the expected EV purchases in FY 2023, we could move up replacement of approximately six vehicles to FY 2022 that do not currently meet replacement mileage criteria without needing to install any additional charging stations beforehand. At a premium of \$5k to \$6k, the additional cost would be approximately **\$33,000**.