



1 [Administrative, Environment Codes - Zero Emission Vehicle Requirements for City Fleet]

2  
3 **Ordinance amending the Administrative and Environment Codes to require that any**  
4 **new passenger vehicle procured for the City fleet be a Zero Emission Vehicle, absent a**  
5 **waiver, and that all passenger vehicles in the City fleet be Zero Emission Vehicles by**  
6 **December 31, 2020~~2~~; and to encourage selection of Zero Emission Vehicles in other**  
7 **vehicle classes as technology improves.**

8 NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.  
9 **Additions to Codes** are in *single-underline italics Times New Roman font*.  
10 **Deletions to Codes** are in *strikethrough italics Times New Roman font*.  
11 **Board amendment additions** are in double-underlined Arial font.  
12 **Board amendment deletions** are in ~~strikethrough Arial font~~.  
13 **Asterisks (\* \* \* \*)** indicate the omission of unchanged Code  
14 subsections or parts of tables.

15 Be it ordained by the People of the City and County of San Francisco:

16 Section 1. The Administrative Code is hereby amended by revising Section 4.10-1, to  
17 read as follows:

18 **SEC. 4.10-1. CITY-OWNED AND LEASED VEHICLES; FLEET MANAGEMENT**  
19 **PROGRAM.**

20 \* \* \* \*

21 (b) The City Administrator shall have primary authority over vehicles now or hereafter  
22 placed under his or her jurisdiction, but may assign these vehicles for use by City officers and  
23 departments. The City Administrator may adopt rules and regulations necessary to implement  
24 this vehicle fleet management program, including rules covering: terms, conditions, usage,  
25 and fees for assignment of vehicles by the City Administrator to individual City officers and

1 departments; vehicle maintenance programs; training, in coordination with the Office of  
2 Economic and Workforce Development, for drivetrain maintenance on Alternative Fuel  
3 Vehicles and Zero Emissions Vehicles as defined by Environment Code Section 403; and  
4 vehicle replacement plans, provided that the City Administrator shall not approve the  
5 purchase of any motor vehicle that does not comply with Environment Code Section 404.  
6 Fees charged for the assignment of vehicles shall be set by the City Administrator in  
7 consultation with the Controller, and the fees shall be used to pay for acquisition and  
8 replacement of vehicles, maintenance and repair, and other costs of administering the  
9 program. The City Administrator may make appropriate provision for vehicles previously  
10 acquired using special, dedicated or otherwise restricted funds.

11 (c) By December 31, 2020~~2~~, all light duty vehicles in the City fleet must be Zero Emission  
12 Vehicles in compliance with Environment Code Section 404, unless there is a waiver, exemption, or  
13 applicable exception, detailed in Environment Code Chapter 4.

14 (d) By July 1, 2017, the City Administrator shall develop policies to require City  
15 departments acquiring light-duty passenger vehicles that will be regularly stationed on non-  
16 City-owned property to acquire the vehicles from other City departments.

17 Section 2. The Environment Code is hereby amended by revising Sections 401, 403,  
18 and 404, to read as follows:

19 **SEC. 401. DEFINITIONS.**

20 **"Alternative Fuel With Low Carbon Intensity"** means any transportation fuel that is  
21 less polluting than gasoline or petroleum diesel fuel, as determined by the California Air  
22 Resources Board and that is shown to have lower lifecycle carbon emissions than gasoline or  
23 petroleum diesel. Alternative Fuels with Low Carbon Intensity may include, but are not limited  
24 to: natural gas; propane; biofuels from low carbon, sustainable and preferably local sources;  
25 hydrogen produced from low carbon and/or renewable sources; and electricity.

1           **"Alternative Fuel Vehicle"** means any motor vehicle powered by alternative fuel  
2 with low carbon intensity.

3           **"Bus"** means any passenger vehicle with a seating capacity of more than ~~fifteen~~ (15)  
4 persons.

5           **"City"** means City and County of San Francisco.

6           **"City Administrator"** means the City Administrator, or his or her designee.

7           **"Department"** means any officer, board, commission, department or other division of  
8 the City and County of San Francisco. Department does not include the San Francisco Unified  
9 School District, the San Francisco Community College District, the San Francisco Office of  
10 Community Investment and Infrastructure, or the San Francisco Housing Authority or any  
11 other local, State, or Federal agency.

12           **"Emergency Vehicle"** means any vehicle publicly owned and operated that is used  
13 by a public safety officer for law enforcement purposes, fighting fires or responding to  
14 emergency fire calls, or used by emergency medical technicians or paramedics for official  
15 purposes. For purposes of this Chapter 4, "Emergency Vehicle" shall also mean any vehicle  
16 used by the Office of the Chief Medical Examiner or the Department of Animal Care and  
17 Control for official duties. Unless equipped with lights and sirens, vehicles used for primarily  
18 administrative functions such as passenger transport shall not be considered an "Emergency  
19 Vehicle" for the purposes of this Chapter 4.

20           **"General Passenger Van"** means a Passenger Vehicle that meets the criteria of a  
21 Federal Highway Administration Class 3 Vehicle that is not a pick-up.

22           **"Greenhouse gas (GHG) or greenhouse gas emissions"** means and includes all  
23 of the following gases: carbon dioxide, methane, and nitrous oxide. The City Administrator, in  
24 consultation with the Department of the Environment, shall determine the method by which  
25 these emissions shall be measured.

1           "Light-Duty Passenger Vehicle" means a Passenger Vehicle that meets the  
2           criteria of a Federal Highway Administration Class 2 Vehicle that include all sedans, coupes  
3           and station wagons primarily for the purposes of carrying passengers, and comprising of no  
4           more than five seats in addition to the driver's seat.

5           **"Light-Duty Truck"** means any motor vehicle, with a manufacturer's gross vehicle  
6           weight rating of 8,500 pounds or less, that is designed primarily for purposes of transportation  
7           of property or is a derivative of such a vehicle, or is available with special features enabling  
8           off-street or off-highway operation and use.

9           **"Motor Vehicle"** means a self-propelled vehicle.

10          **"Passenger Vehicle"** means any motor vehicle designed primarily for transportation  
11          of persons and with a design capacity of ~~twelve (12)~~ persons or less.

12          "Plug-In Hybrid Electric Vehicle" means a vehicle with both an electric motor and a  
13          gasoline engine, as determined by the California Air Resources Board. It can be fueled using  
14          both electricity and gasoline.

15          **"Public Safety Department"** means the Police Department, the Sheriff's  
16          Department, and the Fire Department. For purposes of this Chapter 4, "Public Safety  
17          Department" shall also include the Office of the Chief Medical Examiner and the Department  
18          of Animal Care and Control.

19          **"Purchase"** means to buy, lease, or otherwise acquire the right to use.

20          **"Remove from service"** means to complete filings with the California Department of  
21          Motor Vehicles either to remove the City as the motor vehicle owner permanently, or to  
22          register the motor vehicle as non-operational for the relevant fiscal year.

23          **"Vehicle Selector List"** means a document issued by the City Administrator, in  
24          consultation with the Department of the Environment, which provides emissions data for Light-  
25          Duty Passenger Vehicles ~~general purpose sedans, light-duty pickup trucks, and vans with a~~

1 gross vehicle weight under 8,500 pounds. The Vehicle Selector List will consider estimated  
2 long-term costs and emissions, and *when Zero Emission Vehicles are unavailable in the*  
3 *marketplace*, identify vehicles that have emissions as low as practicable and efficiency ratings  
4 as high as practicable.

5 *“Zero Emission Vehicle” means a vehicle that produces no emissions from the on-board*  
6 *source of power, as determined by the California Air Resources Board.*

7  
8 **SEC. 403. FLEET MANAGEMENT PROMOTING HEALTHY AIR AND CLEAN**  
9 **TRANSPORTATION.**

10 \* \* \* \*

11 (b) **Optimizing Fleet Management.** To help the City achieve its air pollution and  
12 greenhouse gas reduction goals, and promote the effective, efficient, and safe use of all  
13 general purpose, light-duty vehicles owned, leased, or rented by the City, the City  
14 Administrator will adopt and implement policies to:

15 (1) Minimize the size and utilization of the City’s general purpose, light-duty fleet  
16 through right-size analyses that accurately incorporates the City’s Transit-First policy and  
17 associated infrastructure investments towards eliminating unnecessary vehicles and vehicle  
18 trips.

19 ~~Optimize the size and utilization of the City’s general purpose, light-duty fleet, with~~  
20 ~~emphasis on right sizing the fleet and eliminating unnecessary or non-essential vehicles;~~

21 (2) Use technology such as telematics and vehicle assignment systems, to the  
22 furthest extent practicable, to promote the safe use of vehicles, minimize environmentally  
23 harmful practices such as excessive vehicle idling, and reduce underutilization of vehicles;

24 (3) Align greenhouse gas reduction goals with the Federal Executive Order –  
25 Planning for Federal Sustainability in the Next Decade, dated March 19, 2015 – reducing

1 average per-mile greenhouse gas emissions from general purpose, light-duty fleet vehicles,  
2 relative to a baseline of emissions in fiscal year 2014, to achieve the following percentage  
3 reductions: (A) not less than 4% percent by the end of fiscal year 2017; and (B) not less than  
4 15% percent by the end of fiscal year 2021;

5 (4) Ensure that the composition of the City's general Light-Duty Passenger Vehicle  
6 fleet is entirely Zero Emission Vehicles consistent with Section 404 by December 31, 2020, and seek  
7 out new and emerging technologies to upgrade the City's other fleet classes such as trucks and vans to  
8 zero emission standards; and

9 (45) Conduct a review one year after the initial implementation of these policies,  
10 and every year thereafter, to assess telematics data, review developments in low carbon  
11 fuels, evaluate possible coverage of additional vehicle classes, evaluate additional GHG  
12 goals, evaluate, in coordination with the Office of Economic and Workforce Development,  
13 training opportunities for drivetrain maintenance on Alternative Fuel Vehicles and Zero  
14 Emissions Vehicles, explore new technologies allowing for conversion of light-duty trucks and  
15 general passenger vans to Zero Emission Vehicle status, and other topics the City Administrator  
16 deems are relevant, to serve as a basis for the City Administrator, in consultation with the  
17 Director of the Department of the Environment, to adopt and implement further policy changes  
18 regarding fleet management as appropriate. The City Administrator shall submit an annual  
19 report to the Board of Supervisors and the Mayor outlining the findings of this annual review,  
20 possible upgrade opportunities with regard to vehicle emissions for light-duty trucks and general  
21 passenger vans, possible training opportunities for drivetrain maintenance on Alternative Fuel  
22 Vehicles and Zero Emissions Vehicles, and any additional resulting policy changes in fleet  
23 management, including recommendations for mandatory fleet reductions if warranted.

1            (c) Replacement of Older Light-Duty Vehicles. Vehicles shall be replaced in order  
2 of age, such that oldest light duty vehicles in a department's fleet are replaced when the  
3 department purchases replacement light-duty vehicles.

4  
5            **SEC. 404. NEW OR REPLACEMENT MOTOR VEHICLES.**

6            (a) Unless granted a waiver under Section 404(b) or exempt under ~~sub~~Section  
7 404(c), City officials may not purchase or authorize the purchase of any motor vehicle unless  
8 the purchase complies with each of the following:

9            (1) The purchase complies with the Transit-First policy required under Section  
10 403(a) and adopted by the department or City official for whose use the vehicle is principally  
11 intended;

12            ~~(2) A general purpose sedan or other similarly sized vehicle~~ Light-Duty Passenger  
13 Vehicle requested for purchase or lease is a Zero Emission Vehicle;

14            ~~(32) A passenger vehicle or light-duty truck or general passenger van~~ requested for  
15 purchase is an approved make and model under the applicable Vehicle Selector List; and,

16            ~~(43)~~ The motor vehicle requested for purchase meets all applicable safety  
17 standards and other requirements for the intended use of the vehicle.

18            (b) **Waivers.** The City Administrator may waive the requirements of Section 404(a)  
19 where he or she finds that

20            (1) there is no passenger vehicle or light-duty truck approved by the Vehicle  
21 Selector List that meets all applicable safety standards and other requirements for the  
22 intended use of the motor vehicle; or

23            (2) the passenger vehicle or light-duty truck will be used primarily outside of the  
24 geographic limits of the City and County of San Francisco in location(s) which lack required  
25 fueling or other infrastructure required for a complying motor vehicle; or

1 (3) the passenger vehicle or light-duty truck would be required to be a Zero Emission  
2 Vehicle, but the most common intended use for the vehicle will require it to regularly travel distances of  
3 more than 100 miles without being able to use a charging station; or

4 (4) for Light-Duty Passenger vehicles that are regularly stationed when not in use  
5 on City owned property, (A) purchasing a Zero Emission Vehicle would create operational  
6 challenges such as lack of charging infrastructure on City-owned property, (B) the department  
7 is purchasing a Plug-In Hybrid Electric Vehicle in lieu of a Zero Emission Vehicle, and (C) at  
8 least 75% of all Light-Duty Passenger vehicles that are regularly stationed when not in use on  
9 City owned property are Zero Emission Vehicles; or

10 (5) for Light-Duty Passenger vehicles that are regularly stationed when not in use on  
11 non-City owned property, (A) purchasing a Zero Emission Vehicle would be impractical due to  
12 operational challenges such as a lack of charging infrastructure, and (B) the department is  
13 purchasing a Plug-In Hybrid Electric Vehicle in lieu of a Zero Emission Vehicle; or

14 (6) for Light-Duty Passenger vehicles, adequate funds have not been appropriated  
15 in the department's budget to purchase Zero Emission Vehicles sufficient to meet the  
16 requirements of this Chapter 4.

17 Waivers must be made in a fashion as to ensure that only the minimum number of vehicles not  
18 in compliance with Section 404(a) needed by a department remain in the fleet. Departments may  
19 submit one single waiver request to cover the annual purchases, waivers do not need to be  
20 submitted on an individual purchase basis. If a waiver is requested under subsection  
21 404(b)(4), the waiver must address the present lack of charging infrastructure, and address  
22 the feasibility of future improvements to develop such charging infrastructure. As part of his or  
23 her annual report to the Board of Supervisors and the Mayor under Section 403(b)(4), the City  
24 Administrator shall report on the number of new waivers granted under this subsection (b) for  
5 the prior year.

1 (c) **Exemptions.** This Section 404 shall not apply in the following circumstances:

2 (1) To the purchase of Emergency Vehicles where the Public Safety  
3 Department concludes, after consultation with the City Administrator, that the purchase of a  
4 complying vehicle is not feasible or would otherwise unduly interfere with the Department's  
5 public safety mission.

6 (2) To the acquisition of buses by the San Francisco Municipal Transportation  
7 Authority for public transportation purposes.

8 (3) To any purchase necessary to respond to an emergency that meets the criteria  
9 set in Administrative Code Sections 21.15(a) or 6.60. In such cases, the department shall, to  
10 the extent feasible under the circumstances, acquire the noncomplying vehicles only for a  
11 term anticipated to meet the emergency need. Any City department invoking this exemption  
12 shall promptly notify the City Administrator, in writing, of the purchase and the emergency that  
13 prevented compliance with this section.

14 ~~(4) At any time, up to 10 percent of the total Light Duty Passenger Vehicle fleet~~  
15 ~~may be exempted from the requirements of Section 404(a)(2) if the alternate vehicles are~~  
16 ~~Plug-In Hybrid Electric Vehicles instead.~~

17 ~~(5) Wherever the purchase of a passenger vehicle or light-duty truck is exempt from~~  
18 ~~the requirements of this section, City departments and officials shall select a vehicle with as~~  
19 ~~low emissions and high efficiency ratings as practicable.~~

20 Section 3. Effective Date. This ordinance shall become effective 30 days after  
21 enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the  
22 ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board  
23 of Supervisors overrides the Mayor's veto of the ordinance.

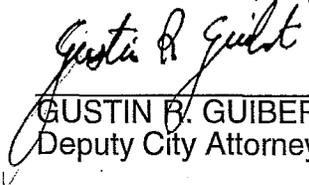
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1 Section 4. Scope of Ordinance. In enacting this ordinance, the Board of Supervisors  
2 intends to amend only those words, phrases, paragraphs, subsections, sections, articles,  
3 numbers, punctuation marks, charts, diagrams, or any other constituent parts of the Municipal  
4 Code that are explicitly shown in this ordinance as additions, deletions, Board amendment  
5 additions, and Board amendment deletions in accordance with the "Note" that appears under  
6 the official title of the ordinance.  
7  
8

9 APPROVED AS TO FORM:  
10 DENNIS J. HERRERA, City Attorney

11 By:

  
12 GUSTIN B. GUIBERT  
13 Deputy City Attorney

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**REVISED LEGISLATIVE DIGEST**  
(5/9/2017, Amended in Board)

[Administrative, Environment Codes - Zero Emission Vehicle Requirements for City Fleet]

**Ordinance amending the Administrative and Environment Codes to require that any new passenger vehicle procured for the City fleet be a Zero Emission Vehicle, absent a waiver, and that all passenger vehicles in the City fleet be Zero Emission Vehicles by December 31, 2022; and to encourage selection of Zero Emission Vehicles in other vehicle classes as technology improves.**

Existing Law

The City Administrator and Departments are restricted in purchasing motor vehicles considered light duty or passenger in nature to the Vehicle Selector List issued by the City Administrator. Light duty or passenger vehicles include passenger vehicles (generally sedans), light duty trucks, and passenger vans. The purchasing restrictions do not apply when the City Administrator waives the requirements, or the purchase is exempt. The Vehicle Selector List takes into account environmental considerations with the goal of purchasing vehicles that reduce Greenhouse Gas Emissions.

Amendments to Current Law

The City Administrator and Departments will be restricted to only Zero Emission Vehicles when purchasing new passenger vehicles. Light-Duty Passenger Vehicles have been defined to align with federal standards for class 2 vehicles. The definition of Emergency Vehicles has been narrowed to eliminate vehicles used primarily for administrative functions that are not equipped with sirens and lights.

The City Administrator will be required to develop policies to govern the acquisition of vehicles stationed on non-City owned lots, and require that these vehicles come from other City departments.

When new City Fleet vehicles are acquired, they must replace the oldest vehicles in the department.

By December 31, 2022, the entire Light-Duty passenger vehicle fleet must transition to consist entirely of Zero Emission Vehicles, unless there is a waiver, exemption, or exception present in Chapter 4 of the Environment Code. Light duty trucks and passenger vans will not be required to be Zero Emission Vehicles, but as technology improves, selection of Zero Emission Vehicles will be encouraged.

The purchasing restrictions do not apply when the City Administrator waives the requirements, and departments do not need to submit waivers on a purchase by purchase basis. The

purchase requirements of Zero Emission Vehicles for service as Light Duty passenger vehicles may be waived partially for vehicles that are parked on City owned lots; up to 25% of that fleet can be comprised of Plug-In Hybrid Vehicles in lieu of Zero Emission Vehicles if a waiver is granted. The purchase requirements of Zero Emission Vehicles for service as Light Duty passenger vehicles may be waived for vehicles that are parked on non-City owned lots; the purchased vehicles can instead be Plug-In Hybrid Vehicles in lieu of Zero Emission Vehicles if there is a lack of charging infrastructure and a waiver is granted. The purchase requirements of Zero Emission Vehicles for service as Light Duty passenger vehicles may be waived when adequate funds have not been appropriated to meet the requirements of Environment Code Chapter 4.

Some purchases are exempt from the Zero Emission Vehicle requirements, such as Emergency Vehicles.

New guidance has been added to provide for ongoing coordination between the City Administrator and OEWD on training for maintenance of both Alternative Fuel and Zero Emissions Vehicles. The ordinance clarifies the roles of the Planning Department and Department of the Environment in that, prior to purchase, they conduct a top-level analysis of Fleet Optimization that accurately weighs new vehicles in light of the Transit-First policy and all of the City's investment in transit and bike improvements.

#### Background Information

To be considered a Zero Emission Vehicle ("ZEV"), the vehicle must be defined as such by the California Air Resources Board. Generally, this requires that a vehicle produce no emissions from the on-board source of power. All previous exemptions remain intact, though the scope of the emergency vehicle exemption has been slightly reduced to remove purely administrative vehicles such as transport light-duty vehicles.

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File # 170210

**CITY AND COUNTY OF SAN FRANCISCO  
BOARD OF SUPERVISORS  
BUDGET AND LEGISLATIVE ANALYST**

1390 Market Street, Suite 1150, San Francisco, CA 94102 (415) 552-9292  
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May 1, 2017

**TO:** Members of the Board of Supervisors

**FROM:** Budget and Legislative Analyst's Office



**SUBJECT:** May 2, 2017 Board of Supervisors Meeting

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**MANDATE STATEMENT**

According to Charter Section 2.105, all legislative acts shall be by ordinance and require the affirmative vote of at least a majority of the members of the Board of Supervisors.

**BACKGROUND**

In 2010, the Board of Supervisors approved the Healthy Air and Clean Transportation Program (HACTO), which required that each City department reduce the City's vehicle fleet by 5% of the existing non-safety, passenger and light duty vehicles annually over a 5-year period, and reduce the vehicles over 12 years of age, with specific waivers permitted. On July 15, 2015, the Board of Supervisors approved an ordinance (File 14-0950) amending the City's Environment and Administrative Codes to (a) transfer responsibility for fleet management and vehicle selection for HACTO from the Department of the Environment to the Office of the City Administrator, (b) replace the City's mandatory vehicle reduction requirements with policies to optimize the size and use of the City's vehicles, (c) use technology to promote the safe and environmentally-friendly use of vehicles and (d) reduce average per-mile greenhouse gas emissions from the City's vehicles. These Code amendments specified a reduction in gas emissions of four percent by the end of fiscal year 2017, and 15 percent by the end of fiscal year 2021.

The ordinance also required a report reviewing the implementation of these policies after one year, which was submitted to the Board of Supervisors on November 30, 2016. Contrary to the objective of reducing vehicles, this review found that in the six-year period between FY 2010-11 when HACTO was approved and FY 2015-16, the number of City light-duty vehicles<sup>1</sup> increased from 2,650 to 2,743, an increase of 93 vehicles or 3.5%. The Office of the City Administrator plans to issue a follow-up report in the fall of 2017 regarding the reductions in greenhouse gas emissions from City vehicles.

The City Administrator is currently responsible for implementing and administering HACTO, in consultation with the Director of the Department of the Environment, and for promulgating appropriate rules, regulations and guidelines for such implementation. All City departments are currently restricted to using the Vehicle Selector List<sup>2</sup> issued by the City Administrator when purchasing sedans, light duty pickup trucks, and vans with a gross vehicle weight under 8,500 pounds.

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<sup>1</sup> All vehicles less than 8,500 pounds.

<sup>2</sup> The Vehicle Selector List is a document issued by the City Administrator, in consultation with the Department of the Environment, which provides emissions data for light-duty passenger vehicles, light-duty trucks and vans less than 8,500 gross pounds. The Vehicle Selector List is compliant with the Healthy Air and Clean Transportation Ordinance (HACTO) and takes into account environmental considerations with the goal of reducing greenhouse gas emissions.

(d) Up to 10% of the total light duty passenger vehicle fleet may be exempted from these requirements if the alternate vehicles are Plug-in Hybrid Electric Vehicles and

(e) If exempt from the requirements, a vehicle is selected with as low emissions and high efficiency ratings as practicable.

#### Administrative Code Amendments

The proposed ordinance would also amend the City's Administrative Code to require that all light duty vehicles in the City's fleet be ZEVs by December 31, 2022. Light duty vehicles are not specifically defined in the proposed ordinance but as noted above, Light-Duty Passenger Vehicles and Light-Duty Trucks are defined in the ordinance. Therefore the proposed ordinance should be amended on page 1, line 21 to insert the word "passenger" to clarify in the City's Administrative Code that all light duty "passenger" vehicles in the City's fleet must be ZEV by 2022, as proposed in the definitions and provisions in the Environment Code.

Without the above-noted amendment to the proposed ordinance, the Administrative Code would require all light duty vehicles in the City's fleet to be ZEVs and does not provide an automatic exemption for light duty trucks, Sport Utility Vehicles (SUVs) or passenger vans. However, there currently is no ZEV light duty truck, SUV or passenger van option for lease or purchase on the market. According to Mr. Bruce Robertson, Finance Manager at the Department of Public Works, Public Works received a quote from a vendor regarding the costs to retrofit a light duty truck or passenger van to become a plug-in hybrid for \$95,690 per vehicle. However, such an option would still not be compliant with the proposed ordinance.

Therefore, the following fiscal impact analysis assumes the proposed ordinance is amended, as recommended by the Budget and Legislative Analyst.

### **FISCAL IMPACT**

#### Number of Light Duty Passenger Vehicles

As of March 2017, the City leased and owned a total of approximately 5,876 vehicles across all City departments. The total 5,876 vehicles include buses, tractors, and heavy duty trucks and light duty trucks which would be exempt under the proposed amended ordinance. The proposed ordinance also provides exemptions for emergency patrol vehicles, which are estimated at 252 vehicles. Excluding emergency patrol vehicles, there are an estimated total of 1,334 City light duty passenger vehicles as shown in Table 1 below.

vehicles, and the 15 plug-in hybrids from the total 1,334 vehicles, results in a balance of 735 passenger vehicles that at a minimum would be subject to the proposed ordinance.

Based on fleet utilization statistics the Department of the Environment estimates that at least 126 underutilized City's light duty passenger vehicles could be retired without replacement over the next six years.<sup>8</sup> However, as noted above, the City's fleet actually increased by 93 vehicles between FY 2010-11 and FY 2015-16 when HACTO required 5% reductions in the fleet size. While reductions in the City's light duty passenger vehicle fleet could potentially lead to significant environmental and cost savings in the future, given the historical precedents, no reductions in the passenger vehicle fleet size are assumed in this analysis.

#### Cost of Purchasing Zero Emission Vehicles

Currently there are three main options for ZEVs, including: battery electric vehicles, long-range electric vehicles, and hydrogen fuel cell vehicles. These three types and models, including prices and fuel ranges are summarized in Table 2 below.

**Table 2: Current Zero Emissions Vehicles on the Market**

Car Make and Model	Price <sup>1</sup>	Fuel Range
<b>Battery Electric Vehicle (BEV)</b>		
Smart Electric Drive	\$27,500	68 miles
Ford Focus Electric	32,032	115
Nissan Leaf	33,748	107
BMW i3	46,650	114
<b>Long Range Electric Vehicle</b>		
Tesla Model 3	38,500	215
Chevy Bolt	40,282	238
<b>Hydrogen Fuel Cell EV<sup>2</sup></b>		
Toyota Mirai	63,250	312

1. Table 2 prices come from the manufacturer's suggested retail price of the product plus ten percent for taxes, fees, and closing costs. These prices are slightly higher than the current Vehicle Selector List, as the current Vehicle Selector List expires in October 2017. New term purchase agreements for bulk purchases of City passenger vehicles will be negotiated by Administrative Services after October 2017 and are not currently available. The prices shown in Table 2 above were developed with Administrative Services, which is responsible for purchasing vehicles for City departments.
2. Currently, hydrogen fuel cells can only be fueled at stations at the Airport. Due to its limited fueling capacity, high initial price and expensive fueling cost, the hydrogen fuel cell is not included in our financial analysis.

As noted above, the proposed ordinance would necessitate the replacement of between 735 and 1,283 passenger vehicles with ZEVs by December 2022. Therefore, the total estimated cost of the replacement vehicle procurement would range from \$20,212,500 (735 vehicles x \$27,500

<sup>8</sup> According to the Department of the Environment, underutilized vehicles are used 5 or less days per month and should be retired (63 vehicles in total) and that utilization of cars used 6 to 10 days per month should at least be doubled. The 126 vehicles relates to the non-emergency sedan fleet.

### Leasing and Rebate Options

As noted above, the City currently leases 22 passenger vehicles, or less than 2% of the City's 1,334 light duty passenger vehicles. According to Mr. Donnelly-Landolt, the City does not typically lease City passenger vehicles because the total cost to lease vehicles is significantly higher than the cost to purchase vehicles as the City generally uses passenger vehicles for an average of ten years, before selling the vehicles at auction.

The City has participated in multiple rebate and grant programs for eligible ZEV and charger purchases, including the Public Fleet Pilot Project, CA Clean Air Rebate, Metropolitan Transportation Commission EV Grant. In addition, the State of California currently has a California Vehicle Rebate Program (CVRP) that offers up to \$2,500 per vehicle purchased or leased, for up to 30 fleet vehicle purchases per municipal government annually.<sup>12</sup> Additionally, the Federal Government has a \$7,500 federal tax credit accessible only through leasing of vehicles. However, the City is not directly eligible for the Federal tax credit, as the City does not file federal tax returns with itemized deductions. Assuming the City participates in the State program to receive \$2,500 per vehicle for 30 vehicles per year, the City could receive an estimated \$75,000 in revenue from the State.

### Cost of operating vehicles

According to the Department of Environment, the cost per mile to fuel an electric vehicle is significantly less expensive than gas vehicles. Without factoring in the cost of the vehicles, maintenance or infrastructure, the Department of Environment reports that the City's current fleet costs an average of 20 cents per mile to fuel and the average cost per mile for ZEVs would be 2.5 cents per mile.<sup>13</sup> According to the Idaho National Laboratory, the average cost for gas cars is 15.9 cents per mile, for gas hybrid cars is 7.8 cents per mile, and for electric cars is 3.3 cents per mile.<sup>14</sup> However, there are several other electric fueling cost issues to consider. For example, tiered pricing<sup>15</sup> can significantly increase the cost of electricity charging bills on leased property.<sup>16</sup> As half of the passenger vehicles currently owned by the City are reported to be parked on leased premises, the issue of tiered pricing must be considered when calculating potential electric costs for powering the City's ZEVs. However, the location and ownership of all

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which is well above the average reported by the Office of the City Administrator of \$1,242 over the past five years. As the City would be selling City vehicles with remaining useful life before they would normally be sold, this appears reasonable.

<sup>12</sup> According to Mr. Lars Peters, Executive Mayoral Fellow at the Department of the Environment, the CVRP annual cap applies per public fleet 'entity' and therefore each City department may be able to apply for up to 30 cars.

<sup>13</sup> In addition, SB1 recently approved by the State of California will impose additional \$0.12 per gallon on gasoline with annual inflation adjustment, new Vehicle License Fees between \$25 and \$175 based on the vehicle value and a new \$100 annual vehicle registration fee for ZEVs beginning in 2020.

<sup>14</sup> <https://avt.inl.gov/sites/default/files/pdf/fsev/costs.pdf>

<sup>15</sup> In tiered-pricing, the rate plan often has different pricing levels, known as "tiers," based on how much energy is used. The first and lowest-priced tier is the baseline allowance, and the charges per kilowatt hour increase as the amount of energy use increases.

<sup>16</sup> According to Mr. David Worthington, Fleet Manager at the County of Sonoma, the increase has been reported to be between \$30,000 and \$60,000 per month.

chargers at an estimated cost between \$10,608,000 and \$19,376,000<sup>21</sup> over the next five and a half years.

These costs do not assume compliance with the American with Disabilities Act (ADA). According to Ms. Nicole Bohn, Director of the Mayor's Office on Disability, the current California Building Code provides an exemption from ADA for charging stations used exclusively for City vehicles. However, San Francisco employees with disabilities who need accommodation consideration may engage in a reasonable accommodation process. The costs could increase if some of the spaces are made compliant with ADA.<sup>22</sup>

Additionally, if the electric chargers are installed adjacent to older buildings or a large concentration of ZEVs are parked in one facility a new electric breaker panel will likely be required to handle the extra electrical load.<sup>23</sup> This could result in significant costs that cannot be estimated at this time, as the location of the vehicles and the existing electrical capacity at each location is not currently known.

#### Charger maintenance, repair and analytics

In addition to charger installation and electricity charging costs, chargers require maintenance and repair. Sonoma County reports needing to replace electric chords and station heads at charging stations for an average cost of approximately \$335 per year per station,<sup>24</sup> although these costs vary significantly and therefore are difficult to project. There are also ongoing costs associated with level-two smart chargers, including annual subscription costs for software. Smart chargers use internet connectivity to gather information and adapt the electric vehicle charging to incur preferred rates. The City currently has a contract for its level-two smart chargers with ChargePoint, Inc., at a rate of \$255 per charger per year.<sup>25</sup> Based on an estimated between 786 and 1,334 chargers and assuming a rate of \$255 per year, this results in total annual costs of between \$200,430 to \$340,170 per year.

#### Estimated Initial and Annual Costs

In the Budget and Legislative Analyst's previous report to the Budget and Finance Subcommittee of April 20, 2017, the total costs to purchase vehicles and install chargers was estimated at between \$31,048,500 and \$95,139,500. As shown in Table 4 below, based on the amendments proposed to the ordinance, the total estimated initial cost to purchase between

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According to Mr. Connor, the State of California uses the formula of one charger per electric vehicle for planning purposes.

<sup>21</sup> 786 vehicles (total minimum electric and plug-in hybrids) less 123 existing chargers equal 663 required chargers. x \$16,000 equals \$10,608,000 and 1,334 vehicles (see Table 1) less 123 existing chargers equal 1,211 required chargers x \$16,000 equals \$19,376,000.

<sup>22</sup> According to Mr. Worthington and Mr. Connor, ADA compliance significantly increases the average cost per charger by approximately \$25,000.

<sup>23</sup> According to Mr. Peters, whether the electrical supply would need to be upgraded requires further study and a value engineering approach specific to fleet use.

<sup>24</sup> According to Mr. Peters, our ongoing cost estimates may have been more typical to the first generation chargers. No estimates were provided for newer generations of chargers.

<sup>25</sup> This is comparable to the current rate paid by the State of California.

- The City owns a number of grant-funded vehicles and may not be able to replace these vehicles by the ordinance's deadline due to grant requirements.

#### *Operational Concerns*

- Fully electric vehicles purchased in order to pursue the proposed ZEVs ordinance would limit the City's ability to respond to a disaster. Electric vehicles provide a limited travel range before needing to recharge, which can take ten hours or more. Partial Electric Vehicles and hybrid vehicles provide more flexibility for long distance travel and rapid refueling during a disaster.
- Central Shops has limited capacity to support ZEVs and charger maintenance and repairs and currently has few staff who can work on ZEVs. With fewer combustion engine sedans, the need for maintenance and repairs on these vehicles would decrease. Central Shops may need to outsource maintenance and repairs on ZEVs and associated infrastructure unless existing employees can be retrained to handle electric vehicles. According to Mr. Donnelly-Landolt, current outsourcing of ZEVs takes approximately three weeks, as there are a limited number of certified dealerships and mechanics to work on ZEV. There may be increased costs due to the need for training of current City employees.
- The City is currently relocating Central Shops to recently leased City property in the southern part of the City, at considerable expense. The proposed ZEVs requirements will need to be included in the planning, design and construction of this new Central Shops facility.
- It is not known whether Public Works has the capacity to plan, design and implement the installation of all the required level-two electric chargers and related infrastructure.
- On average, City employees park 300 vehicles on the street or away from the City's parking facilities overnight. With ZEVs, all vehicles would need to park at City parking facilities overnight to receive the necessary electric charging.

#### *City Priorities*

- The City currently has 638 gas hybrid vehicles, which are more efficient than gas only vehicles, representing almost one-half of the City's existing fleet of passenger vehicles. According to Mr. Donnelly-Landolt, the average useful life of a City vehicle is approximately eight to 12 years. Therefore, the proposed ordinance would result in the early replacement of 536 gas hybrid vehicles.
- San Francisco City Charter Section 8A.100 requires that all City Departments pursue a Transit-First Policy. Transit-First states that the City should advocate travel within San Francisco by public transit, bicycle and on foot as an attractive alternative to travel by individual automobiles. According to Mr. Lee, any policy regarding the replacement of passenger vehicles should ensure consistency with the goals of Transit-First.

BOARD of SUPERVISORS



City Hall  
1 Dr. Carlton B. Goodlett Place, Room 244  
San Francisco 94102-4689  
Tel. No. 554-5184  
Fax No. 554-5163  
TDD/TTY No. 554-5227

## MEMORANDUM

TO: Ben Rosenfield, City Controller, Office of the Controller  
Naomi Kelly, City Administrator, Office of the City Administrator  
Vicki Hennessy, Sheriff, Sheriff's Department  
William Scott, Police Chief, Police Department  
Joanne Hayes-White, Fire Chief, Fire Department  
Deborah Raphael, Director, Department of the Environment  
Dr. Michael Hunter, Chief Medical Examiner, Office of the Chief Medical Examiner  
Virginia Donohue, Director, Department of Animal Care and Control  
Ed Reiskin, Executive Director, San Francisco Municipal Transportation Agency

FROM: Erica Major, Assistant Clerk, Government Audit and Oversight Committee,  
Board of Supervisors

DATE: March 7, 2017

SUBJECT: LEGISLATION INTRODUCED

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The Board of Supervisors' Government Audit and Oversight Committee has received the following proposed legislation, introduced by Supervisor Tang on February 28, 2017:

**File No. 170210**

**Ordinance amending the Administrative and Environment Codes to require that any new passenger vehicle procured for the City fleet be a Zero Emission Vehicle, absent a waiver, and that all passenger vehicles in the City fleet be Zero Emission Vehicles by December 31, 2020; and to encourage selection of Zero Emission Vehicles in other vehicle classes as technology improves.**

If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

- c: Todd Rydstrom, Office of the Controller
- Theodore Toet, Sheriff's Department
- Katherine Gorwood, Sheriff's Department
- Eileen Hirst, Sheriff's Department
- Rowena Carr, Police Department
- Kristine Demafeliz, Police Department
- Kelly Alves, Fire Department
- Guillermo Rodriguez, Department of the Environment
- Christopher Wirowek, Office of the Chief Medical Examiner
- Janet Martinsen, San Francisco Municipal Transportation Agency
- Kate Breen, San Francisco Municipal Transportation Agency
- Dillon Auyoung, San Francisco Municipal Transportation Agency

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BOS-11, CAB  
LU, BPF, Depoties,  
Rep. City Atty, Mayor's  
OFFICE

London Breed

**PRESIDENTIAL ACTION**

Date: 3-21-2017

To: Angela Calvillo, Clerk of the Board of Supervisors

Madam Clerk,  
Pursuant to Board Rules, I am hereby:

Waiving 30-Day Rule (Board Rule No. 3.23)

File No. \_\_\_\_\_  
(Primary Sponsor)

Title \_\_\_\_\_

Transferring (Board Rule No 3.3)

File No. 170210 Tang  
(Primary Sponsor)

Title. Administrative, Environment Codes - Zero Emission Vehicle  
Requirements for City Fleet

From: Land Use & Transportation Committee

To: Budget & Finance Committee

Assigning Temporary Committee Appointment (Board Rule No. 3.1)

Supervisor \_\_\_\_\_

Replacing Supervisor \_\_\_\_\_

For: \_\_\_\_\_ Meeting  
(Date) (Committee)

London Breed, President  
Board of Supervisors

BOS-11, GAO, COB  
LW, LEG DEP,  
Dep (A) Mayors  
D.M.

President, District 5  
BOARD of SUPERVISORS



City Hall  
1 Dr. Carlton B. Goodlett Place, Room 244  
San Francisco 94102-4689  
Tel. No. 554-7630  
Fax No. 554-7634  
TDD/TTY No. 544-5227

London Breed

**PRESIDENTIAL ACTION**

Date: March 13, 2017

To: Angela Calvillo, Clerk of the Board of Supervisors

Madam Clerk,

Pursuant to Board Rules, I am hereby:

Waiving 30-Day Rule (Board Rule No. 3.23)

File No. \_\_\_\_\_ (Primary Sponsor)

Title. \_\_\_\_\_

Transferring (Board Rule No. 3.3)

File No. 170210 Tang  
(Primary Sponsor)

Title. Zero Emission Vehicle Requirements for City

From: Government Audit & Oversight Committee

To: Land Use & Transportation Committee

Assigning Temporary Committee Appointment (Board Rule No. 3.1)

Supervisor \_\_\_\_\_

Replacing Supervisor \_\_\_\_\_

For: \_\_\_\_\_ Meeting  
(Date) (Committee)

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London Breed, President  
Board of Supervisors

Print Form

# Introduction Form

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By a Member of the Board of Supervisors or the Mayor

2017 FEB 28 PM 4:52

Date stamp  
or meeting date

I hereby submit the following item for introduction (select only one):

BY \_\_\_\_\_

- 1. For reference to Committee.  
An ordinance, resolution, motion, or charter amendment.
- 2. Request for next printed agenda without reference to Committee.
- 3. Request for hearing on a subject matter at Committee.
- 4. Request for letter beginning "Supervisor [ ] inquires"
- 5. City Attorney request.
- 6. Call File No. [ ] from Committee.
- 7. Budget Analyst request (attach written motion).
- 8. Substitute Legislation File No. [ ]
- 9. Request for Closed Session (attach written motion).
- 10. Board to Sit as A Committee of the Whole.
- 11. Question(s) submitted for Mayoral Appearance before the BOS on [ ]

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

- Small Business Commission
- Youth Commission
- Ethics Commission
- Planning Commission
- Building Inspection Commission

**Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative**

**Sponsor(s):**

Supervisor Katy Tang, Farrell

**Subject:**

Administrative Codes - Zero Emission Vehicle Requirements for City Fleet

**The text is listed below or attached:**

Please see attached.

Signature of Sponsoring Supervisor: \_\_\_\_\_

For Clerk's Use Only:

170210

## Major, Erica (BOS)

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**From:** Major, Erica (BOS)  
**Sent:** Tuesday, March 07, 2017 9:54 AM  
**To:** Rosenfield, Ben (CON); Kelly, Naomi (ADM); Hennessy, Vicki (SHF); Scott, William (POL); Hayes-White, Joanne (FIR); Raphael, Deborah (ENV); Donohue, Virginia (ADM); Reiskin, Ed (MTA)  
**Cc:** Rydstrom, Todd (CON); Toet, Theodore (SHF); Gorwood, Kathy; Hirst, Eileen (SHF); Carr, Rowena (POL); Demafeliz, Kristine (POL); Alves, Kelly (FIR); Rodriguez, Guillermo (ENV); Wirowek, Christopher (ADM); Martinsen, Janet (MTA); Breen, Kate (MTA); 'Auyoung, Dillon'  
**Subject:** REFERRAL FYI (170210) Administrative, Environment Codes - Zero Emission Vehicle Requirements for City Fleet  
**Attachments:** 170210 FYI.pdf

Greetings:

This matter is being forwarded to your department for informational purposes. If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Thank you for your attention.

**ERICA MAJOR**

**Assistant Clerk**

Board of Supervisors

1 Dr. Carlton B. Goodlett Place, City Hall, Room 244 San Francisco, CA 94102

Phone: (415) 554-4441 | Fax: (415) 554-5163

[Erica.Major@sfgov.org](mailto:Erica.Major@sfgov.org) | [www.sfbos.org](http://www.sfbos.org)



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