2023

Report to New Orleans City Council
City Fleet Analysis

Office of Resilience & Sustainability
City of New Orleans
11/1/2023

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I. Introduction and Background

The Office of Resilience & Sustainability (ORS) has been asked by the Chief Administrative Office (CAO) to compose and present this report to the New Orleans City Council pursuant to Council Ordinance 28930, Section 3, to "develop and provide the Council with a plan for implementation of this Ordinance and the fossil-fuel phase out contemplated herein. This plan shall include:

- "(a) a citywide 10-year vehicle replacement plan, identifying when each City vehicle will likely need to be replaced and a recommendation as to suitable replacements featuring alternative propulsion technologies,
- (b) a detailed analysis of the training, operational changes, and infrastructure improvements necessary to maintain a zero-emissions fleet, and
- (c) a reasonably detailed breakdown of the anticipated costs of compliance."

The City of New Orleans Climate Action Plan, *Net Zero by 2050: A Priority List for Climate Action in New Orleans, December 2022*, has targeted to reduce greenhouse gas emissions by 50% by 2035 and to achieve net-zero greenhouse gas emissions (GHGs) by 2050.[1] Ground transportation-related fossil fuel use accounts for nearly 45% of the city's total greenhouse gas emissions.[2] Reducing and eventually eliminating fossil fuel-related energy from our transportation environment is one of the most impactful actions we can implement to lessen our contribution to the climate crisis and improve our air quality. The City is targeting by 2035 to convert 40% of light-duty vehicles citywide from internal combustion to electric propulsion[3] and also targeting by 2035 that 75% of the City fleet will be low- or zero-emission vehicles. The City can and must lead the way and set an example to others by moving with urgency to convert the City vehicle fleet to zero emissions.

We appreciate the opportunity to present this report and look forward to discussing it with Councilmembers and their staffs.

II. Executive Summary

The City is a vast economic, social, and cultural engine in Louisiana with over 380,000 residents and nearly 170 square miles of land area that is served by more than 4,400 City employees, many of whom require vehicles to perform their duties for City residents, commuters, and visitors. Fleet vehicles are vital tools, from passenger-style vehicles supporting most vehicle-related duties to larger, specialized units delivering critical services. The City's current fleet is comprised almost entirely of internal combustion engine (ICE) vehicles, but the City Council passed Council Ordinance 28930 to require the City to cease purchasing fossil-fuel-burning internal combustion engines for the City fleet beginning in 2025. This report analyzes the required path forward to

[1] Net Zero by 2050: A Priority List for Climate Action in New Orleans, City of New Orleans, Mayor's Office of Resilience and Sustainability, December 2022, 1.
[2] Ibid., 16.
[3] Ibid., 17.

aggressively electrify the City's fleet to reduce GHG emissions for our community and establish leadership as we collaborate to tackle the climate crisis.

The fleet has 2,877 total assets: 2,283 are light-duty vehicles (i.e., passenger vehicles), 363 are medium- and heavy-duty vehicles (larger trucks and specialized vehicles), and 231 are non-motor vehicles (non-road legal or no independent propulsion). Of the total 2,877 fleet assets, the ten largest departments by number of fleet assets hold 89% (2,549), and the remaining 11% (328) are held by 35 departments. In terms of model years, 1,627 light-duty vehicles are from model years 2014 to 2023, representing 71% of the light-duty fleet and including 469 (20.5%)[4] light-duty vehicles from the 2023 model year. We recommend transitioning from ICE vehicles to electric vehicles (EVs) in a steady, balanced manner over ten years from 2024 to 2033 with approximately 216 EVs purchased annually that are split proportionally between light-duty (approximately 85%) and medium- and heavy-duty (approximately 15%). It is critical for the City to establish an even fleet replacement schedule in which vehicles are procured at regular intervals, avoiding purchasing spikes, to help manage cash flow, minimize the likelihood of increasing end-of-service-life maintenance and repair costs, and avoid suffering through parts unavailability of older vehicles.

We estimate **the total cost of compliance from years 1 to 10 (2024 to 2033) at $368.6M.** This figure is the sum of each year's forecasted cost of compliance, growing at a 2.5% inflation rate, from 2024 to 2033. The cost of compliance in 2024, the first year of this analysis, is $25M, and we anticipate the cost doubling by year 9 (2032) to $51M. New EV purchases comprise the largest share of the cost of compliance from $17.5M (2024) to $44.4M (2032), keeping in mind the annual inflation rate of 2.5% over each of the preceding nine years of analysis. Charging infrastructure represents the second largest share of the cost, peaking at $10M ($5.6M in 2024, $4.4M in 2025) in the first two years from aggressively building out the initial charging infrastructure. Other operational-related costs of compliance include $1.8M to $2M of additional annual funding during the ten-year analysis period for the Equipment Maintenance Division (EMD) to staff the department with 29 additional automotive service personnel, who would be recruited for skills in ICE vehicle and EV maintenance and repair. EMD's current staffing levels are sub-optimal for the current ICE fleet given the highly competitive labor market, and this additional labor would help stabilize its headcount and build capacity, as well as staff knowledge, to be able to service the new EVs in the fleet.

III. Picture of the Current Fleet

The City has faced extraordinary challenges, particularly since 2020, which have also manifested through the challenges faced by EMD across the spectrum of its responsibilities: difficulties acquiring replacement vehicles due to automobile industry supply chain and production upheaval; rising costs of vehicle maintenance and repair due to the increasing age of fleet vehicles; and lack of access to the normally, readily accessible third-party mechanics who can help address ongoing repair needs.

[4] This figure is based on datasets provided by the Equipment Maintenance Division (EMD) about the current vehicles in the City's fleet. Recent purchases that may be delivered in the future or that may not have been fully onboarded by EMD such that they were not included in the provided datasets would not be represented in this figure.

Using fleet inventory data obtained from EMD and research and analysis by ORS staff, we have compiled the below summary view of the current fleet. Note that the fleet is dynamic as vehicles move through the life cycle of acquisition, upfitting, maintenance, repair, and disposition, so the following tables represent a snapshot of data accumulated through early September 2023.

This analysis shows the fleet has 2,877 total assets, which are divided into three categories (Table 1): light-duty motor vehicles; medium- and heavy-duty motor vehicles; and non-motor vehicles:

- Light-duty motor vehicles have a gross vehicle weight rating of less than 10,000 lbs. This is a definition used by the U.S. Federal Highway Administration (FHWA) and represents an industry standard. This type of vehicle represents in most of the fleet, consisting of 2,283 vehicles (79%), including most SUVs and light trucks.
- Medium- and heavy-duty motor vehicles have a gross vehicle weight rating of greater than 10,000 lbs. Per FHWA, medium-duty vehicles are 10,001 to 26,000 lbs., and heavy-duty vehicles are more than 26,000 lbs. We have combined these categories because they are substantively similar for the purposes of this analysis. There are 363 (13%) medium- and heavy-duty vehicles in the City fleet.
- Non-motor vehicles, for the purposes of this analysis, are fleet assets that lack independent propulsion for on-road driving (e.g., trailers) or may be unable to possess a license plate even though they have independent propulsion (e.g., lawn mowers). There are 231 (8%) non-motor vehicles included in the fleet inventory.

		SUBTOTAL	TOTAL
Motor Vehicles by Duty Type			
Light-Duty	2,283 (79%)		
Medium- and Heavy-Duty	363 (13%)		
Total, Motor Vehicles by Duty Type		**2,646 (92%)**	
Non-Motor Vehicles		**231 (8%)**	
GRAND TOTAL			**2,877 (100%)**

Table 1: City Vehicle Fleet by Category

Fleet assets are heavily concentrated in ten departments that operate 89% of all fleet assets (Table 2): 87% of light-duty vehicles, 96% of medium- and heavy-duty vehicles, and 96% of non-motor vehicles.[5]

	Light-Duty (A)	Medium- and Heavy-Duty (B)	Motor Vehicles (A+B)	Non-Motor Vehicles C	TOTAL (A+B+C)
Fleet Assets by Department					
Top 10 Departments by Number of Assets					
Police Department (NOPD)	1,455	50	1,505	45	1,550
Fire Department (NOFD)	84	98	182	15	197
Public Works (DPW)	99	69	168	21	197
Parks and Parkways (DPP)	60	21	81	64	145
Emergency Medical Services (EMS)	44	66	110	7	117
Sanitation	28	31	59	38	97
Recreation Development Commission (NORD)	58	6	64	7	71
Homeland Security and Emergency Preparedness (NOHSEP)	44	7	51	20	71
Mosquito, Termite and Rodent Control (NOMTCB)	54	1	55	4	59
Safety and Permits	52	--	52	1	53
Total, Top 10 Departments	**1,978 (87%)**	**349 (96%)**	**2,327 (88%)**	**222 (96%)**	**2,549 (89%)**
Remaining 35 Departments	305 (13%)	14 (4%)	319 (12%)	9 (4%)	328 (11%)
TOTAL	**2,283 (100%)**	**363 (100%)**	**2,646 (100%)**	**231 (100%)**	**2,877 (100%)**

Table 2: City Vehicle Fleet Assets by Department

[5] These figures represent a snapshot in time of fleet assets so it is possible that two fleet assets could be counted for use in the same operational role, i.e., a recently acquired vehicle could be at the beginning of its service life, while a recently or soon-to-be retired vehicle remains reflected on the books as it moves through decommissioning and disposition. Both vehicles would be reflected in this analysis even though only one of them is in active service.

The fleet has ten electric motor vehicles, all 2023 Chevrolet Bolts (Table 3). As a note, there are five electric non-motor vehicles: two Segway X2 Turf upright scooters and three Polaris GEM lightweight vehicles.

	TOTAL
Motor Vehicles by Propulsion Type	
Electric	10 (0.4%)
Internal Combustion	2,636 (99.6%)
TOTAL	**2,646 (100%)**

Table 3: City Vehicle Fleet Motor Vehicles by Propulsion Type

In terms of take-home vs. pooled vehicles, only 3% (70) of light-duty vehicles are take-home, and there are no take-home medium or heavy-duty vehicles (Table 4). There has been discussion about an NOPD vehicle take-home program; however, this analysis reflects only the take-home vehicles known when the data for this analysis was collected during summer 2023.

	TOTAL
Light-Duty Vehicles by Take-Home / Pooled	
Take-Home	70 (3%)
Pooled	2,213 (97%)
TOTAL	**2,283 (100%)**

Table 4: Light Duty Vehicles by Overnight Location

Light-duty vehicles from the last ten model years (2014 to 2023) represent 1,627 (71%) of the 2,283 total light-duty vehicles in the fleet with the largest representation from model year 2023 (Table 5). The average age of the light-duty fleet is 7.3 years of age with a median of model year 2016.

		SUBTOTAL	TOTAL
Light-Duty Vehicles by Model Year			
2023	469 (21%)		
2022	148 (6%)		
2021	14 (0.6%)		
2020	116 (5%)		
2019	139 (6%)		
2018	211 (9%)		
2017	41 (2%)		
2016	97 (4%)		
2015	306 (13%)		
2014	86 (4%)		
Total, 2014 – 2023		1,627 (71%)	
2004 -2013 (2008 = 168, 2006 = 116)		560 (25%)	
1994 – 2003		93 (4%)	
Older than 1994		3 (0.1%)	
TOTAL			**2,283 (100%)**

Table 5: Light Duty Vehicles by Model Year

IV. Focusing Analysis on Electric Vehicles

As mandated under the Ordinance, we have been asked to deliver "a recommendation as to suitable replacements featuring alternative propulsion technologies" and "a detailed analysis of the training, operational changes, and infrastructure improvements necessary to maintain a zero-emissions fleet." Therefore, as a first step, we investigated alternative fuel options that result in zero emissions.

The Energy Policy Act of 1992, as noted by the U.S. Department of Energy's Alternative Fuels Data Center, defines alternative fuels as one of the following: biodiesel (B100); propane (liquefied petroleum gas); electricity; hydrogen; blends of 85% or more of methanol, denatured ethanol, and other alcohols with gasoline or other fuels; methanol, denatured ethanol, and other alcohols; coal-derived, domestically produced liquid fuels; fuels (other than alcohol) derived from biological

materials; and P-Series fuels.[6] Of these fuels, only electricity and hydrogen produce zero harmful tailpipe emissions.

The mandates to recommend alternative fuels technologies and identify suitable zero-emission vehicle replacements require balancing opportunities in the alternative fuels landscape with mindfulness of the vehicular marketplace and economic realities to balance cost and outcome. Hydrogen is not readily available as a fuel source. As noted by Jack Brouwer, a professor of engineering at the University of California, Irvine, and the director of the National Fuel Cell Research Center, "We have big infrastructure for moving electricity around because we've invested over a hundred years in the electric grid…. We don't have pipes for hydrogen."[7] Electric vehicles represent the most practical choice given electricity's wide availability and EVs broad market acceptance from consumers and industry participants across the vehicle ownership life cycle.

V. Council Ordinance 28930, Section 3

Part A: 10-Year Vehicle Replacement Plan

This ten-year vehicle replacement plan focuses on the replacement of ICE vehicles in the fleet with comparable EVs. To augment the City's fleet data and ORS staff research, ORS partnered with the Electrification Coalition (EC), a respected not-for-profit organization that helps facilitate the adoption of EVs. We have leaned heavily on the Dashboard for Rapid Vehicle Electrification (DRVE) Tool,[8] a Microsoft Excel-based EV total cost of ownership model developed by EC and its partner Atlas Public Policy. The DRVE Tool allows us to complement our internal resources with best practice data, insights, and methodologies gleaned by EC and Atlas from the numerous public and private-sectors fleets across the United States that they have assisted.

Historically, City fleet vehicles have been retained until they could no longer operate, and we have followed this practice in developing the ten-year transition plan, seeking to dispose of vehicles in a first-in, first-out manner (i.e., oldest vehicles first) as rapidly as possible to help minimize the City's long-term maintenance and repair costs and increase the fleet's capabilities with newer vehicles. However, fleet management best practices often recommend shorter operational lives, depending on the vehicle classification, in seeking to align the length of ownership with a vehicle's total cost of ownership by balancing the trade-off of upfront new vehicle purchase price vs. increasing costs of long-term maintenance and repair on longer-lived vehicles. For example, passenger vehicles may have recommended lives of eight years or 100,000 miles, whichever is first achieved.[9]

Yet, it should be noted that some vehicles may incur 'harder' miles such that they may reach the end of their service lives sooner than eight years or 100,000 miles. For example, one best practice

[6] "Alternative Fuels and Advanced Vehicles." U.S. Department of Energy. https://afdc.energy.gov/fuels/ Accessed 21 Oct. 2023.
[7] David Gelles, "The hope and hype of hydrogen," *The New York Times*, October 17, 2023, https://www.nytimes.com/2023/10/17/climate/the-hope-and-hype-of-hydrogen.html
[8] "Dashboard for Rapid Vehicle Electrification: DRVE Tool." Electrification Coalition. https://electrificationcoalition.org/resource/drve/ Accessed 21 Oct. 2023.
[9] "Fleet Plan Implementation." University of Tennessee Municipal Technical Advisory Service. https://www.mtas.tennessee.edu/reference/fleet-plan-implementation Accessed 21 Oct. 2023.

benchmark for police pursuit vehicles is six years or 100,000 miles.[10] An analysis in Government Fleet noted that a marked police squad sedan's average age can range from 6.6 years (50th percentile), 8.8 years (75th percentile), and up to 11 years (90th percentile). A marked police squad sport-utility vehicle's average age can range from 2.8 years (50th percentile), 4.2 years (75th percentile), and up to 6.3 years (90th percentile).[11]

Similarly, medium- and heavy-duty vehicles may face longer service lives than light-duty vehicles, for example, ten years or 120,000 miles.[12] The higher maintenance and repair costs incurred to maintain one of these vehicles in optimal service condition may be more than offset by the often far larger purchase price and upfitting costs, as well as one-time and recurring training costs for specialized personnel who operate these specialized vehicles.

Despite this variation in best practices regarding vehicle service life, since the City has historically kept most vehicles in service beyond this ten-year period, we felt that the ten-year mark still represented an ambitious goal moving forward to transition the fleet. To achieve this ten-year vehicle replacement plan, we recommend purchasing 216 EVs per year from 2024 to 2032 and 213 EVs in 2033 in a stable purchase pattern with a balance between purchases of light-duty vs. medium- and heavy-duty vehicles (Table 6 & Table 7). It is critical to establish and follow a plan in which vehicles are evenly purchased without too large a percentage of the fleet purchased in one year to minimize long-term, escalating maintenance and repair costs as well as increasingly out-of-service vehicles when this significant percentage of vehicles simultaneously faces the ends of their service lives.

	NET FLEET PURCHASES OF ICE VEHICLES VS. EVs[1]										
	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
ICE Light	-	(201)	(196)	(191)	(186)	(177)	(180)	(171)	(167)	(166)	(159)
ICE Medium and Heavy	-	(15)	(20)	(25)	(30)	(39)	(36)	(45)	(49)	(50)	(54)
EV Light	10	201	196	191	186	177	180	171	167	166	159
EV Medium and Heavy	-	15	20	25	30	39	36	45	49	50	54
Net Fleet EV Purchases	**10**	-	-	-	-	-	-	-	-	-	-
Annual EV Purchases	**10**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**213**

[1] Figures in parentheses are negative numbers. In this table, they represent vehicles that have been sold.

Table 6: Net Fleet Purchases of ICE Vehicles vs Electric Vehicles

[10] "Fleet Plan Implementation." University of Tennessee Municipal Technical Advisory Service. https://www.mtas.tennessee.edu/reference/fleet-plan-implementation Accessed 21 Oct. 2023.
[11] Dennis Jaconi and Debra Wolfe, "Understanding Fleet Age and Costs," *Government Fleet*, June 11, 2020, https://www.government-fleet.com/10118478/understanding-fleet-age-and-costs
[12] "Fleet Plan Implementation." University of Tennessee Municipal Technical Advisory Service. https://www.mtas.tennessee.edu/reference/fleet-plan-implementation Accessed 21 Oct. 2023.

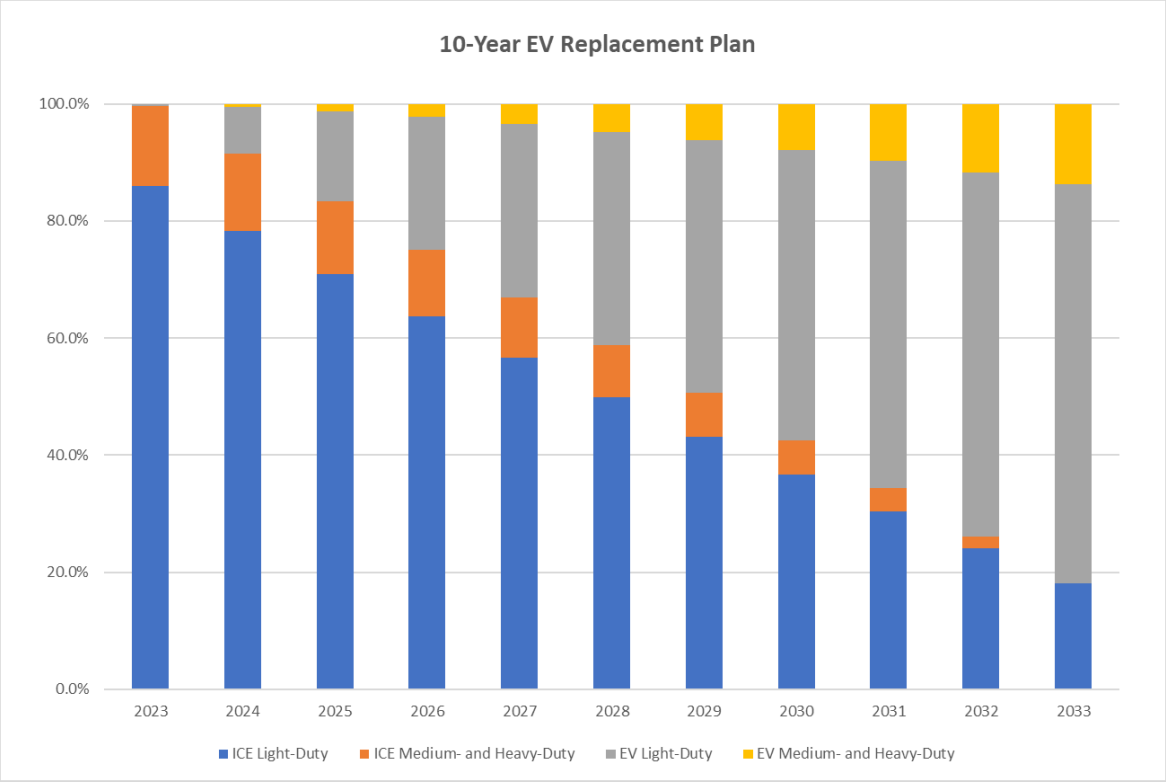

Figure 1: 10-Year EV Replacement Plan

The fleet will achieve 82% EVs and 18% ICE vehicles by 2033 under this ten-year plan (Figure 1). The 18% ICE vehicles are the 479 light-duty ICE vehicles purchased in 2033 in the table below, all of which are model year 2023. They will reach the end of their useful lives in 2033, and we recommend disposing of them during 2034 and 2035 and replacing them with EVs. Retaining these vehicles through 2033 still allows the City to accomplish the goal of 75% of the fleet being zero-emission by 2035 from the Climate Action Plan. Under this plan, 82% of the fleet would be zero-emission by 2033, and by following this plan's recommendations to transition the remaining 479 ICE vehicles, **the fleet would be 100% zero-emission by 2035.**

	CUMULATIVE FLEET VEHICLES										
	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
ICE Light	2,273	2,072	1,876	1,685	1,499	1,322	1,142	971	804	638	479
ICE Medium and Heavy	363	348	328	303	273	234	198	153	104	54	-
EV Light	10	211	407	598	784	961	1,141	1,312	1,479	1,645	1,804
EV Medium and Heavy	-	15	35	60	90	129	165	210	259	309	363
Total, Fleet Vehicles	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**	**2,646**
Annual EV Purchases	**10**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**216**	**213**

Table 7: Cumulative Fleet Vehicles

The following table (Table 8) shows the current make, model, and year of vehicles with the largest presence in the fleet and their replacement EVs. Appendix A shows all the current fleet motor

vehicles and their indicative replacement EVs. Ford Explorers top the list with 628 vehicles across twenty model years (2000 to 2023), all of which would be replaced with the Chevrolet Blazer EV BEV. The DRVE Tool evaluates the current fleet vehicle's characteristics (i.e., make, model, year, etc.), its annual vehicle miles traveled, and years in use, to offer a recommended replacement EV from its database, and then ORS evaluated the DRVE selections to determine whether they meet City expectations. We recommend reviewing and annually updating the equivalent replacement models to ensure alignment between departmental needs and vehicles available on the market. This will be particularly important for SUVs in the fleet, as the number of non-luxury SUV models on the market remains limited as of Model Year 2023 but is anticipated to expand in future years into a larger and more mature range of vehicle sizes and price points.

# in Fleet	Current ICE Vehicles	Replacement EVs	Replacement EV Cost (USD)
Light-Duty			
233	2023 Ford Explorer[1]	Chevrolet Blazer EV BEV	$56,715
115	2015 Ford Taurus	Tesla Model 3 RWD BEV	$48,490
112	2015 Ford Explorer	Chevrolet Blazer EV BEV	$56,715
106	2019 Chevrolet Tahoe	Chevrolet Blazer EV BEV	$56,715
91	2022 Ford Explorer	Chevrolet Blazer EV BEV	$56,715
78	2023 Dodge Charger	Tesla Model 3 RWD BEV	$48,490
73	2008 Ford Crown Victoria	Tesla Model 3 Performance AWD BEV	$61,990
72	2010 Ford Crown Victoria	Tesla Model 3 Performance AWD BEV	$61,990
70	2020 Chevrolet Tahoe	Chevrolet Blazer EV BEV	$56,715
67	2014 Ford Explorer	Chevrolet Blazer EV BEV	$56,715
67	2018 Chevrolet Tahoe	Chevrolet Blazer EV BEV	$56,715
61	2018 Ford Taurus	Tesla Model 3 RWD BEV	$48,490
58	2016 Ford Explorer	Chevrolet Blazer EV BEV	$56,715
Medium- and Heavy-Duty			
21	2018 Pierce Pumper[2]	Pierce Volterra	$1,254,000
17	2010 Ford F-450	Sea Electric F450 Cab & Chassis BEV	$190,000
16	2006 Am LaFrance Eagle[2]	Pierce Volterra	$1,254,000
16	2012 Ford F-450	Sea Electric F450 Cab & Chassis BEV	$190,000
14	2018 Ford F-450	Sea Electric F450 Cab & Chassis BEV	$190,000
12	2005 Chevrolet C5500	Lightning Systems ZEV4 Flat/Stake Bed Truck BEV	$190,000
12	2006 Ford F-450	Sea Electric F450 Cab & Chassis BEV	$190,000
12	2022 Ford F-550	Sea Electric F650 Cab & Chassis BEV	$198,000

[1] 2023 Ford Explorer would be retired in 2034, one year outside the 10-year plan.

[2] 2018 Pierce Pumper and 2006 Am LaFrance Eagle are fire apparatuses. Pierce Volterra is the closest battery-powered comparable. Cost is estimated through ORS research.

Table 8: Current ICE Vehicle and Equivalent Electric Vehicle Replacement

Part B: Training, Operational Changes, and Infrastructure

We agree that significant changes will be required to support not only the fleet's electrification, but also transportation electrification much more broadly across the City. Alternatively-fueled vehicles represent a sea change in transportation for individuals, industry, and government in ways unseen since the mass production of the automobile. To help ensure City preparedness for this future, ORS recently released a request for proposal (RFP) process to procure professional consulting services to support a Transportation Electrification Roadmap and Implementation Plan for the City. The Roadmap will be structured to address the larger EV ecosystem, which includes the community of interdependent stakeholders, infrastructure, organizations, and processes to help transition cost-effectively and sustainably from the current state to a robust EV environment. The

Roadmap will also be designed with a bias toward action and execution, not merely observation and reporting.

The below points were addressed in the RFP and will be delivered by the consultants for the citywide Roadmap. We will advise City stakeholders throughout the Roadmap development process and solicit feedback for insights to be incorporated into the plan. However, given that we will be engaging marketplace experts to advise on these points and our analysis is based on ORS staff research, we will likely amend the below recommendations as work with the advisors moves forward.

Training

We anticipate a handful of training necessities as EVs are onboarded to the fleet. All City employees currently authorized to operate fleet vehicles must complete the Louisiana Office of Risk Management's computer-based training (CBT) course. Employees are only provided hands-on training, instructed by the NOPD, after multiple vehicular incidents. We recommend that the City Risk Manager works with the state's Office of Risk Management to include EVs in the CBT course. There would be no additional cost to the City, and the revised course would offer benefits statewide.

The public safety departments (i.e., NOPD, NOFD, and EMS), each of which is responsible for employee driver training through its own department-specific courses delivered at either the NOPD or NOFD academy, will continue to deliver their internal training. We recommend that these departments are prioritized to receive a small allocation of 2024 EVs based on their department-specific requirements. Department trainers, as well as other public safety personnel, can start acclimating themselves to these vehicles and begin integrating them into their training courses.

In terms of EMD, it provides neither continuing education nor certification training on ICE vehicles for its employees, and it does not anticipate providing similar technical education on EVs. Potential new hires are evaluated and selected based on prior automotive servicing experience consistent with their level, and the expectation is that future candidates ideally would have both ICE and EV servicing experience. EMD's current automotive supervisor, mechanic, and maintenance technician headcount is approximately 50% below its preferred staffing level (31 currently vs. 60 preferred). To ensure that EMD can recruit new employees with EV experience, we recommend that EMD's personal services budget is able to accommodate the 29 additional personnel, an approximate annual cost of $1.8M.

As charging infrastructure is rolled out across the City, we anticipate some City employees may be unfamiliar with the EV charging process and require assistance. Fortunately, the City will likely purchase identical or substantively similar makes and models of DCFC and Level 2 charging equipment, easing the training by requiring employees to understand only two types of equipment. We recommend requiring the charging infrastructure vendor, as part of their contract with the City, to develop simple training materials (e.g., simple infographic one-pager documents) that describe with easy-to-follow photographs, graphics, and short descriptions the charging process for Level 2 and DCFC chargers. The infographics could be placed in all City EVs as a readily available reference.

Operational Changes: EMD

The current EV market in many areas of the United States, including Louisiana, presents procurement challenges, especially in the pursuit of larger volumes of EVs. Experiences to date by the City confirm the difficulty in identifying and securing available EVs in the models and configurations necessary to meet departmental needs. This difficulty is driven by several factors, including the City's historical preference for American-manufactured vehicles, lingering supply chain disruptions in the automotive industry; strong consumer demand; state-level tax incentives for EVs in some markets that keep prices high and inventories low; and more limited vehicle options available in existing procurement agreements.

These market conditions will continue to evolve and the impacts on the ability to procure EVs are expected to diminish as automakers ramp up EV production. However, these market forces may impact the timing and/or volume of EVs that the City is able to procure in any given year and may necessitate future amendments to the fleet transition timelines.

There will be many operational changes as the fleet transitions to EVs. As noted above, EMD would like to nearly double its personnel who work directly in maintenance and repair from 31 to 60 employees, an estimated additional personal services annual cost of $1.8M. And importantly, EMD will seek to hire candidates who have both ICE vehicle and EV experience, thereby bringing into the organization needed expertise in EVs. EMD will also face changes in its ongoing operations given that EVs lack the mechanical complexity of ICE vehicles. EVs do not require any of the following to be inspected and/or replaced during a maintenance service: engine oil, oil filter, engine air filter, transmission fluid, fuel filter, spark plugs, timing belts, and other components. Maintenance services for EVs are far less complicated than for ICE vehicles with only the following components inspected and replaced, if required: wiper blades, cabin air filter, brake fluid, brake pads (regenerative braking systems often perform braking tasks, resulting in less brake pad wear and tear), and tire rotation.[13]

One maintenance component that tends to be more expensive with EVs vs. ICE vehicles are tires, which tend to wear 20% more quickly on EVs than ICE vehicles given that EVs are usually heavier than comparable ICE vehicles. [14]

Operational Changes: Modifications to CAO Policy Memo No. 5(R) - Vehicle and Equipment Policy

CAO Policy Memorandum No. 5(R), the City's Vehicle and Equipment Policy, will require numerous modifications to account for the increasing integration of EVs in the City fleet. An edited, 'redlined' version of the policy memorandum can be found in Appendix B. We have included only sections in which we recommend edits, and our recommended revisions in the policy follow standard redline formatting, added text is underlined and removed text is struck through. Our recommendations target integrating electric charging into City policy, and most of the edits

[13] Sebastian Blanco, "How EV Maintenance Differs from Cars," *J.D. Power*, September 14, 2022, https://www.jdpower.com/cars/shopping-guides/how-ev-maintenance-differs-from-cars
[14] Austin Morris, "What to Know When Replacing EV Tires," *Kelley Blue Book*, March 2, 2023, https://www.kbb.com/car-advice/replacing-ev-tires/

we recommend are in the following sections: XI. Fuel, XV. Procurement & Retirement, and XVII. Departmental Vehicle Motor Pools.

Charging Infrastructure: Equipment

The transition to electric vehicles will require a parallel transition in the City's fueling infrastructure, as the City pivots away from only supporting gasoline and diesel fueling for its ICE fleet to also supporting electric charging for its EV fleet.

There are currently three types of chargers widely available:[15]

- **Level 1** – This equipment charges a battery-only EV from empty to 80 percent in 40 to 50+ hours through a common residential 120-volt AC outlet. Level 1 does not require specialized equipment. The practicality of Level 1 charging for fleet vehicles will be informed by the average daily mileage and downtime for individual vehicles, but due to the slow charging speed, we anticipate this option will not be the predominate method of charging for City fleet vehicles.
- **Level 2** – This equipment charges a battery-only EV from empty to 80 percent in four to ten hours through a widely available 240-volt (in residential applications) or 208-volt (in commercial applications) electrical service. Level 2 requires specialized equipment to be installed, generally by a professional electrician, and is frequently used in residences, workplaces, and public locations. Level 2 is viable for the City fleet as an overnight charger for vehicles that tend to operate during one shift per day and can recharge, if required, for four or more hours when not on duty. We estimate a two-port Level 2 charger costs $17,000 for equipment and installation and $7,000 for five years of operations and maintenance.[16]
- **Direct Current Fast Charging (DCFC)** – This equipment can charge a battery-only EV from zero to 80 percent in 20 minutes to one hour. This is also called Level 3 charging and is the type of charger used in Tesla Superchargers. DCFC requires expensive, specialized equipment and tends to be deployed along heavy-traffic corridors in public locations. DCFC is the best charger for City fleet vehicles in which acquiring a charge rapidly during work hours is preferred to minimize employee and vehicle downtime, e.g., public safety vehicles. We estimate a two-port DCFC charger costs $247,000 for equipment and installation and $63,000 for five years of operations and maintenance.[17]

We recommend two approaches that leverage the existing fueling infrastructure, while also ensuring that the appropriate charging capability is available to City employees and their vehicles at the right place at the right time.

Based on our research and ten-year fleet replacement plan, we recommend locating nine DCFC chargers at the five existing fuel facilities – two each at 506 N. Broad St., 2341 Wall Blvd., 2829 Gentilly Blvd., and 3800 Alvar St., and one at 10200 Old Gentilly Rd. – to take advantage of as much in-place infrastructure and processes as possible. EMD would remain responsible for

[15] "Charger Types and Speeds." U.S. Department of Transportation. https://www.transportation.gov/rural/ev/toolkit/ev-basics/charging-speeds. Accessed 21 Oct. 2023.
[16] Figures represent planning-level estimates identified through conversations with New Orleans-area EV charging infrastructure contractors.
[17] Figures represent planning-level estimates identified through conversations with New Orleans-area EV charging infrastructure contractors.

managing the operation of these facilities, while Property Management would be responsible for the installation and maintenance of the charging infrastructure, consistent with their chartered responsibility to manage and maintain City properties. We also recommend installing thirteen DCFC chargers dedicated to the following public safety departments: eleven for the NOPD, one at EMS headquarters, and one at the NOFD headquarters planned for City Park. Departments would retain responsibility for the operation of their facilities, including selecting the location for the installed charging infrastructure based on where the EVs would park between shifts (Table 9). DCFC chargers co-located with first responders offer the ability to easily and quickly re-charge their vehicles before going on duty. Requiring that they drive from their parking facility to a fuel facility could extend their downtime. Each DCFC charger would offer two charging ports.

	2024	2025	TOTAL
DCFC Chargers by Department			
Public Safety Departments			
Police Department (NOPD)	8	3	11
Fire Department (NOFD)		1	1
Emergency Medical Services (EMS)		1	1
Total, Public Safety Departments	**8**	**5**	**13**
Fuel Facilities	**5**	**4**	**9**
TOTAL	**23**		**23**

Table 9: DCFC Charging Infrastructure to be Installed by Department

In terms of Level 2 chargers, we recommend a ratio of one charger (with two charging ports) to four vehicles in which the chargers are installed in a phased rollout designed to lead by one year the acquisition of EVs that would utilize those chargers (Table 10). During 2024, there would be 58 department chargers, and by 2033 there would be 552 Level 2 chargers across the City for the fleet. We have recommended allocating chargers to EMD in a similar phased approach though under a more accelerated schedule – one in 2024, five in 2025, two in 2026, and two in 2032 – so that EMD will have sufficient capacity to accommodate not only its own vehicles, but also vehicles under its care for maintenance.

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Level 2 Chargers by Department											
Public Safety Departments											
Police Department (NOPD)	26	19	32	35	43	30	28	33	32	27	305
Fire Department (NOFD)	4	4	6	5	6	4	4	5	4	4	46
Emergency Medical Services (EMS)	2	1	1	2	2	1	2	2	2	2	17
Total, Public Safety Departments	**32**	**24**	**39**	**42**	**51**	**35**	**34**	**40**	**38**	**33**	**368**
Non-Public Safety Departments											
Equipment Maintenance Division (EMD)	1	5	2						2		10
Other Non-Public Safety Departments	25	30	15	12	3	19	20	14	16	20	174
Total, Non-Public Safety Departments	**26**	**35**	**17**	**12**	**3**	**19**	**20**	**14**	**18**	**20**	**184**
TOTAL	**58**	**59**	**56**	**54**	**54**	**54**	**54**	**54**	**56**	**53**	**552**

Table 10: Level 2 Charging Infrastructure to be Installed by Department

Charging Infrastructure: Take-Home Vehicles

Take-Home EVs for City employees present numerous challenges: charging equipment ownership; charging equipment status if the employee's employment ends; selection of charging equipment installation technician; payment to installation technician; on-street vs. off-street parking; and metering and electricity reimbursement.

Even given the many challenges of take-home EVs, City employees assigned a take-home EV likely can be divided into two groups: on-street vs. off-street parking.

- No dedicated home parking – We recommend that these employees receive permission from their Department Vehicle Coordinator to use the DCFCs at City Fuel Facilities or their Departmental Facility. Fleet telematics software will be installed in their vehicles and monitored regularly by their Department Vehicle Coordinator to ensure that charger use is within expectations. It should be noted that regular use of DCFCs reduces the capacity of EV batteries, thereby shortening their lifespans.
- Dedicated home parking – Should the City decide to want to pursue at-home charging for fleet vehicles despite the challenges outlined above, we recommend that these employees have a NEMA 14-50 electrical plug installed at their home by a state-licensed electrician,

and the City will provide a compatible portable charger that can support Level 2 charging. The City will reimburse the employee up to a to-be-determined amount for the electrical plug installation. Fleet telematics software will be installed in the vehicle for monitoring by the Department Vehicle Coordinator. The employee will be required to install the ReimburseEV app (or similar technology) so that their electricity charging can be easily tracked, and ReimburseEV will produce an IRS-compliant receipt that can be submitted to the City for reimbursement.

Part C: Anticipated Costs of Compliance

Using fleet data collected from EMD, City budget books, ORS research and reconciliation of fleet data, and the DRVE Tool, ORS has developed a model to estimate the anticipated costs of compliance in migrating the fleet from ICE vehicles to EVs. We calculated the cost of compliance to include the following: new EV purchases; charging infrastructure costs for equipment, installation, ongoing operations, and maintenance; charging electricity given each vehicle's estimated annual mileage; additional EMD headcount to fully staff the department with automotive servicing employees; and maintenance and repair costs, as well as a 2.5% annual inflation rate.

We assume the fleet will remain 2,283 motor vehicles over the ten-year analysis period, that each new EV will be a comparable type and class of vehicle as the ICE vehicle it replaces, that each new EV will incur the same annual estimated mileage as the ICE vehicle it replaces, and a 2.5% annual inflation rate. EV costs are based on the manufacturer's suggested retail price (MSRP) or similar cost figures obtained from EC, Kelley Blue Book, or ORS research (Table 11). Charging infrastructure costs are estimated as follows: Level 2 chargers are $17,000 for equipment and installation, $7,000 for five years of operations and maintenance; DCFCs are $247,000 for equipment and installation, $7,000 for five years of operations and maintenance. Charging infrastructure estimates are planning level estimates identified through discussions with New Orleans-based EV infrastructure contractors.

# in EV Fleet	Replacement EVs	Replacement EV Cost (USD)
Light-Duty		
1,062	Chevrolet Blazer EV BEV	$56,715
302	Tesla Model 3 RWD BEV	$48,490
209	Ford F-150 Lightning 4WD BEV	$39,974
199	Tesla Model 3 Performance AWD BEV	$61,990
129	Lightning Systems ZEV4 Flat/Stake Bed Truck BEV[1]	$190,000
104	Chevrolet Bolt EV BEV	$26,500
97	Ford eTransit - Cargo Van BEV	$47,185
47	Zero DSR ZF 14.4 BEV	$24,495
46	Ford eTransit - Passenger Van BEV	$47,185
42	Chevrolet Equinox EV BEV	$30,000
Medium- and Heavy-Duty		
78	Pierce Volterra[2]	$1,254,000
71	Freightliner eM2 BEV	$250,000
70	Sea Electric F450 Cab & Chassis BEV	$190,000
68	Lightning Systems ZEV4 Flat/Stake Bed Truck BEV[1]	$190,000
61	Sea Electric F650 Cab & Chassis BEV	$198,000

[1] Lightning Systems ZEV4 Flat/Stake Bed Truck BEV is an electric vehicle platform configurable for a wide-range of both light- and medium-duty applications.

[2] Pierce Volterra is the closest battery-powered comparable fire apparatus. Cost is estimated through ORS research.

Table 11: Electric Vehicle Replacement Estimated Costs

For fuel costs, we assumed gasoline at $3.368 per gallon and diesel at $4.222 per gallon based on data from AAA for average fuel prices during September 2023 in the New Orleans metropolitan area. We assumed an electricity charging rate of $0.087 per kWh based on data for Louisiana from the Electrification Coalition. Also from Electrification Coalition data, we assumed maintenance and repair costs for light-duty vehicles of $0.040 per mile for years one through five of use and $0.052 per mile for miles incurred in years after year five; and for medium- and heavy-duty vehicles, $0.155 per mile for years one through five of use and $0.202 per mile for miles incurred after year five. EMD cost data was estimated from historical headcount and personal services data from City budget books; compensation data from the Civil Service Department, and ORS research. Current fleet vehicle data was collected from EMD, and then reconciled and augmented by the DRVE Tool and ORS research.

Importantly, we did not estimate transportation electrification-related incentives, grants, credits, or other cost offsets that could lower the cost of compliance. Programs such as these can be unpredictable in terms of funding amounts, requirements, and timing, and we did not include them in order to deliver a conservative, fully loaded cost estimate. For example, the Inflation Reduction

Act's (IRA) Clean Vehicle Tax Credits, which the City would be eligible to receive under the IRA's Direct Pay (or Elective Pay) provisions, has an evolving list of vehicles which currently qualify for a partial or full amount of the credit. However, the IRA's provisions about which vehicles qualify for the credit change over time by requiring an increasing amount of EV battery critical minerals to be extracted or processed in the United States, from a country with which the United States has a free trade agreement, or recycled in North America. Battery components also must be manufactured or assembled in North America. As such, it is not possible at this time to project which vehicles will qualify in future years for the tax credits.[18] However, ORS will remain vigilant on providing the CAO and EMD with information on these tax credits as information evolves so that the City can take advantage of them and will also continue to capitalize on other grant opportunities to lower the cost of compliance. We also excluded disposition costs and economic gains related to current fleet vehicles given the wide variability in the fleet's condition and the unreliability of forecasting such figures over the term of the analysis.

The total cost of compliance is forecasted to be $368.6M from 2024 to 2033. This figure represents the sum of each year of this ten-year analysis. In 2024, the cost of compliance is $25M and rises to a peak of $51M in 2032 (Tables 12 and 13; Appendix C), the majority of which in both years is comprised of new EV purchases (70% in 2024, 87% in 2032). Charging infrastructure costs are nearly $10M combined in 2024 ($5.6M) and 2025 ($4.4M) as the DCFCs are installed and the Level 2 charger build out gains momentum at the departmental facilities. New EV purchases start from $17.5M (2024) and $22.2M (2025) in the first two years and surge in 2031 ($40M) and 2032 ($44.4M) as more expensive vehicles are purchased, before ending the analysis period at $38M (2033). The lower value of EV purchases in the first two years, and their commensurate lower percentages in the cost of compliance (70% in 2024, 77% in 2025), was a considered decision in the fleet replacement plan so that the cost of compliance in the first years was not overwhelmed by both installation of high-cost DCFC charging infrastructure and high EV purchases.

[18] "Treasury Releases Proposed Guidance on New Clean Vehicle Credit to Lower Costs for Consumers, Build U.S. Industrial Base, Strengthen Supply Chains." U.S. Department of the Treasury. https://home.treasury.gov/news/press-releases/jy1379. Accessed 30 Oct. 2023.

	EV-RELATED FLEET COSTS OF COMPLIANCE $(000)									
	2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
EV Purchases	$ 17,469	$ 22,226	$ 25,417	$ 25,567	$ 30,457	$ 35,554	$ 30,735	$ 40,009	$ 44,386	$ 38,045
Charging Infrastructure										
Maintenance Facilities	$ 25	$ 126	$ 52	$ -	$ -	$ 8	$ 42	$ 17	$ 60	$ -
Fuel Facilities	1,589	1,303	-	-	-	365	300	-	-	-
Departmental Facilities	3,944	2,990	1,396	1,431	1,466	2,550	2,364	2,040	2,091	2,112
Total, Charging Infrastructure	**$ 5,558**	**$ 4,419**	**$ 1,447**	**$ 1,431**	**$ 1,466**	**$ 2,924**	**$ 2,705**	**$ 2,057**	**$ 2,151**	**$ 2,112**
Charging Electricity	**$ 69**	**$ 140**	**$ 208**	**$ 284**	**$ 385**	**$ 509**	**$ 612**	**$ 726**	**$ 858**	**$ 992**
Additional EMD Headcount	**$ 1,821**	**$ 1,821**	**$ 1,821**	**$ 1,821**	**$ 1,914**	**$ 1,914**	**$ 1,914**	**$ 1,914**	**$ 1,914**	**$ 2,009**
Maintenance & Repair	**$ 89**	**$ 170**	**$ 272**	**$ 449**	**$ 687**	**$ 923**	**$ 1,178**	**$ 1,410**	**$ 1,669**	**$ 1,930**
Total, Costs of Compliance	**$ 25,005**	**$ 28,776**	**$ 29,166**	**$ 29,552**	**$ 34,910**	**$ 41,824**	**$ 37,144**	**$ 46,114**	**$ 50,978**	**$ 45,088**
ICE Costs										
Fuel Supply	$ 4,411	$ 4,171	$ 3,874	$ 3,549	$ 3,063	$ 2,647	$ 2,172	$ 1,711	$ 1,241	$ 832
Maintenance & Repair	3,315	3,226	3,069	2,835	2,535	2,354	1,950	1,559	1,140	729
Total, ICE Costs	**$ 7,726**	**$ 7,397**	**$ 6,943**	**$ 6,384**	**$ 5,598**	**$ 5,001**	**$ 4,122**	**$ 3,270**	**$ 2,380**	**$ 1,561**

Table 12: Electric Vehicle-Related Costs of Compliance, Thousands of Dollars

	EV-RELATED FLEET COSTS OF COMPLIANCE (% TOTAL COST)									
	2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
EV Purchases	69.9%	77.2%	87.1%	86.5%	87.2%	85.0%	82.7%	86.8%	87.1%	84.4%
Charging Infrastructure										
Maintenance Facilities	0.1%	0.4%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%
Fuel Facilities	6.4%	4.5%	0.0%	0.0%	0.0%	0.9%	0.8%	0.0%	0.0%	0.0%
Departmental Facilities	15.8%	10.4%	4.8%	4.8%	4.2%	6.1%	6.4%	4.4%	4.1%	4.7%
Total, Charging Infrastructure	**22.2%**	**15.4%**	**5.0%**	**4.8%**	**4.2%**	**7.0%**	**7.3%**	**4.5%**	**4.2%**	**4.7%**
Charging Electricity	**0.3%**	**0.5%**	**0.7%**	**1.0%**	**1.1%**	**1.2%**	**1.6%**	**1.6%**	**1.7%**	**2.2%**
Additional EMD Headcount	**7.3%**	**6.3%**	**6.2%**	**6.2%**	**5.5%**	**4.6%**	**5.2%**	**4.2%**	**3.8%**	**4.5%**
Maintenance & Repair	**0.4%**	**0.6%**	**0.9%**	**1.5%**	**2.0%**	**2.2%**	**3.2%**	**3.1%**	**3.3%**	**4.3%**
Total, Costs of Compliance	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
ICE Costs as % Total Costs of Compliance										
Fuel Supply	17.6%	14.5%	13.3%	12.0%	8.8%	6.3%	5.8%	3.7%	2.4%	1.8%
Maintenance & Repair	13.3%	11.2%	10.5%	9.6%	7.3%	5.6%	5.2%	3.4%	2.2%	1.6%
Total, ICE Costs as % Total Costs of Compliance	**30.9%**	**25.7%**	**23.8%**	**21.6%**	**16.0%**	**12.0%**	**11.1%**	**7.1%**	**4.7%**	**3.5%**

Table 13: Electric Vehicle-Related Fleet Costs of Compliance, % of Total Cost

The following table (Table 14) highlights changes over the ten-year analysis period in ICE vehicle vs. EV costs for fuel/charging and maintenance and repair, showing the long-run cost advantages of EVs vs. ICE vehicles. The 2033 fuel supply cost of $832,000, with only 18% of the fleet comprised of ICE vehicles, is not significantly lower than the $992,000 of charging electricity cost for the remaining 82% of vehicles. On a per vehicle basis, the difference in 2033 is much starker: $1,737 per ICE vehicle (479 ICE vehicles in 2033 divided into $832,000 of fuel supply cost in 2033) vs. $458 per EV (2,167 EVs in 2033 divided into $992,000 of charging electricity cost in 2033).

Similarly with maintenance and repair, the 18% of ICE vehicles incur $729,000 of maintenance and repair costs in 2033, as shown in the following table (Table 14), though admittedly for vehicles near the end of their service lives when they would begin incurring higher maintenance and repair expense. While the remaining 82% of EVs cost $1.9M to maintain, it is far less than the proportionate costs incurred by the ICE fleet in its early years ($3.3M at its highest in 2024). As noted above for fuel/charging costs, the per vehicle costs more clearly express EVs operating cost advantage. Average ICE vehicle maintenance and repair costs in 2033 are $1,522 per ICE vehicle (479 ICE vehicles in 2033 divided into $729,000 of maintenance and repair costs in 2033) vs. $891 per EV (2,167 EVs in 2033 divided into $1.93M of maintenance and repair costs in 2033). These per vehicle figures contrasting ICE vehicle maintenance and repair costs vs. corresponding EV costs highlight in tangible, financial terms the long-run operating cost advantages of EVs vs. ICE vehicles, an advantage that will only increase over time.

	FLEET COSTS $(000)									
	2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
EV Purchases	$ 17,469	$ 22,226	$ 25,417	$ 25,567	$ 30,457	$ 35,554	$ 30,735	$ 40,009	$ 44,386	$ 38,045
Charging Infrastructure										
Maintenance Facilities	$ 25	$ 126	$ 52	$ -	$ -	$ 8	$ 42	$ 17	$ 60	$ -
Fuel Facilities	1,589	1,303	-	-	-	365	300	-	-	-
Departmental Facilities	3,944	2,990	1,396	1,431	1,466	2,550	2,364	2,040	2,091	2,112
Total, Charging Infrastructure	**$ 5,558**	**$ 4,419**	**$ 1,447**	**$ 1,431**	**$ 1,466**	**$ 2,924**	**$ 2,705**	**$ 2,057**	**$ 2,151**	**$ 2,112**
Fuel / Charging										
Fuel Supply	$ 4,411	$ 4,171	$ 3,874	$ 3,549	$ 3,063	$ 2,647	$ 2,172	$ 1,711	$ 1,241	$ 832
Charging Electricity	69	140	208	284	385	509	612	726	858	992
Total, Fuel / Charging	**$ 4,480**	**$ 4,311**	**$ 4,082**	**$ 3,833**	**$ 3,448**	**$ 3,156**	**$ 2,784**	**$ 2,436**	**$ 2,099**	**$ 1,824**
Maintenance & Repair										
ICE Vehicles	$ 3,315	$ 3,226	$ 3,069	$ 2,835	$ 2,535	$ 2,354	$ 1,950	$ 1,559	$ 1,140	$ 729
Electric Vehicles	89	170	272	449	687	923	1,178	1,410	1,669	1,930
Total, Maintenance & Repair	**$ 3,404**	**$ 3,396**	**$ 3,341**	**$ 3,284**	**$ 3,222**	**$ 3,278**	**$ 3,127**	**$ 2,969**	**$ 2,809**	**$ 2,659**

Table 14: Fleet Costs, Thousands of Dollars

VI. Conclusion

The total cost of compliance, $368.6M, is expensive, but the alternative is far worse. The City continues to face increasingly intense climate-related challenges: stronger hurricanes, hotter summers, more frequent flooding, and much more. To overcome these challenges, the City of New Orleans must assert leadership to reduce our contribution to climate change and set an example for other entities and communities across Louisiana. This plan is a clarion call, a step toward reducing and eliminating GHGs, improving our air quality, and doing our part to help tackle the climate

crisis. The City's fleet-related target from *Net Zero by 2050* is converting 75% of fleet vehicles to low- or zero-emission by 2035. Implementing this plan's recommendations will result in the City fleet achieving 100% zero emissions by 2035. This is a time for leadership, decisive action, and execution. There is no time to waste.

VII. Appendices

Appendix A: Part A – Current Fleet Vehicles and Indicative EV Replacements

Light-Duty Vehicles - 1 of 5

# in EV Fleet	Current Fleet Vehicle	Replacement EV
233	2023 Ford Explorer	2024 Chevrolet Blazer EV BEV
115	2015 Ford Taurus	2022 Tesla Model 3 RWD BEV
112	2015 Ford Explorer	2024 Chevrolet Blazer EV BEV
106	2019 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
91	2022 Ford Explorer	2024 Chevrolet Blazer EV BEV
78	2023 Dodge Charger	2022 Tesla Model 3 RWD BEV
73	2008 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
72	2010 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
70	2020 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
67	2014 Ford Explorer	2024 Chevrolet Blazer EV BEV
67	2018 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
61	2018 Ford Taurus	2022 Tesla Model 3 RWD BEV
58	2016 Ford Explorer	2024 Chevrolet Blazer EV BEV
40	2018 Harley Road King	2022 Zero DSR ZF 14.4 BEV
30	2006 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
30	2008 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
29	2023 Ram 1500	2022 Ford F-150 Lightning 4WD BEV
25	2023 Dodge Durango	2024 Chevrolet Blazer EV BEV
20	2023 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
15	2006 Ford Expedition	2024 Chevrolet Blazer EV BEV
15	2014 Ford Taurus	2022 Tesla Model 3 RWD BEV
15	2015 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
15	2015 Jeep Patriot	2024 Chevrolet Blazer EV BEV
15	2022 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
14	2008 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
14	2017 Ford Expedition	2024 Chevrolet Blazer EV BEV
13	2022 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
13	2023 Dodge / Ram 1500	2022 Ford eTransit - Cargo Van BEV
13	2023 Ford Transit	2023 Ford eTransit - Cargo Van BEV
12	2006 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
12	2009 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
12	2016 Ford Transit	2023 Ford eTransit - Cargo Van BEV
12	2019 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
12	2023 Ford Expedition	2024 Chevrolet Blazer EV BEV
11	2003 Ford Expedition	2024 Chevrolet Blazer EV BEV
11	2008 Ford Explorer	2024 Chevrolet Blazer EV BEV
11	2020 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
10	2006 Ford Explorer	2024 Chevrolet Blazer EV BEV
10	2010 Ford Expedition	2024 Chevrolet Blazer EV BEV
10	2017 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
10	2022 Chrysler 300C	2023 Chevrolet Bolt EV BEV
10	2023 Chevrolet Bolt	2023 Chevrolet Bolt EV BEV
10	2023 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
10	2023 Ford Interceptor	2024 Chevrolet Blazer EV BEV
9	2006 Ford E-250	2023 Ford eTransit - Passenger Van BEV
9	2006 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
9	2008 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
8	2006 Ford E-350	2023 Ford eTransit - Cargo Van BEV
8	2008 Ford Fusion	2023 Chevrolet Bolt EV BEV
8	2012 Ford Fusion	2023 Chevrolet Bolt EV BEV
8	2015 Ford Expedition	2024 Chevrolet Blazer EV BEV
8	2020 Ford Explorer	2024 Chevrolet Blazer EV BEV
7	2006 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
7	2008 Ford E-350	2023 Ford eTransit - Cargo Van BEV
7	2017 Ford Transit	2023 Ford eTransit - Cargo Van BEV
7	2018 Ford Focus	2023 Chevrolet Bolt EV BEV
7	2022 Ford Escape	2024 Chevrolet Equinox EV BEV
6	2002 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
6	2003 Ford Explorer	2024 Chevrolet Blazer EV BEV
6	2005 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
6	2007 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV

Table A-1: Light-Duty Current Fleet Vehicles and EV Replacements – 1 of 5

Light-Duty Vehicles - 2 of 5		
# in EV Fleet	**Current Fleet Vehicle**	**Replacement EV**
6	2007 Piaggio BV 250	2024 Zero ZF 7.2
6	2015 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
6	2015 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
6	2015 Ford Transit	2023 Ford eTransit - Cargo Van BEV
6	2018 Ford Explorer	2024 Chevrolet Blazer EV BEV
6	2023 Dodge / Ram Promaster 1500	2022 Ford eTransit - Cargo Van BEV
5	2001 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
5	2006 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
5	2007 Ford Explorer	2024 Chevrolet Blazer EV BEV
5	2007 Ford Taurus	2022 Tesla Model 3 RWD BEV
5	2013 Ford Explorer	2024 Chevrolet Blazer EV BEV
5	2013 Honda PCX 150	2024 Zero ZF 7.2
5	2016 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
5	2016 Harley Road King	2022 Zero DSR ZF 14.4 BEV
5	2018 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
5	2018 Ford Escape	2024 Chevrolet Equinox EV BEV
5	2019 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
5	2020 Ford Expedition	2024 Chevrolet Blazer EV BEV
5	2023 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
4	2003 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
4	2005 Chevrolet Impala	2023 Chevrolet Bolt EV BEV
4	2005 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
4	2006 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
4	2007 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
4	2008 Ford Escape	2024 Chevrolet Equinox EV BEV
4	2010 Ford Escape	2024 Chevrolet Equinox EV BEV
4	2015 Dodge Journey	2024 Chevrolet Equinox EV BEV
4	2015 Nissan Sentra	2023 Chevrolet Bolt EV BEV
4	2016 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
4	2018 Chevrolet Tahoe PPV	2024 Chevrolet Blazer EV BEV
4	2018 Ford Expedition	2024 Chevrolet Blazer EV BEV
4	2019 Ford Explorer	2024 Chevrolet Blazer EV BEV
4	2020 Chevrolet Equinox	2024 Chevrolet Equinox EV BEV
4	2022 Chevrolet Spark	2023 Chevrolet Bolt EV BEV
3	2003 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
3	2003 Ford Taurus	2022 Tesla Model 3 RWD BEV
3	2004 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
3	2004 Ford Freestar	2022 Ford eTransit - Passenger Van BEV
3	2004 Ford Taurus	2022 Tesla Model 3 RWD BEV
3	2007 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
3	2008 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
3	2009 Ford E-350	2023 Ford eTransit - Cargo Van BEV
3	2010 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
3	2012 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
3	2015 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
3	2015 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
3	2016 Ford Fusion	2023 Chevrolet Bolt EV BEV
3	2016 Ford Taurus	2022 Tesla Model 3 RWD BEV
3	2017 Ford Escape	2024 Chevrolet Equinox EV BEV
3	2017 Ford Taurus	2022 Tesla Model 3 RWD BEV
3	2018 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
3	2018 Ford Transit	2023 Ford eTransit - Cargo Van BEV
3	2019 Dodge Durango	2024 Chevrolet Blazer EV BEV
3	2020 Chevrolet Traverse	2024 Chevrolet Blazer EV BEV
3	2020 Ford Fusion	2023 Chevrolet Bolt EV BEV
3	2021 Chevrolet Spark	2023 Chevrolet Bolt EV BEV
3	2021 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	1997 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
2	1999 Dodge / Ram 2500	2022 Ford F-150 Lightning 4WD BEV
2	1999 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
2	2000 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV

Table A-1: Light-Duty Current Fleet Vehicles and EV Replacements – 2 of 5

Light-Duty Vehicles - 3 of 5

# in EV Fleet	Current Fleet Vehicle	Replacement EV
2	2002 Ford Explorer	2024 Chevrolet Blazer EV BEV
2	2002 Ford Windstar	2022 Ford eTransit - Passenger Van BEV
2	2002 Oldsmobile Alero	2022 Tesla Model 3 RWD BEV
2	2003 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
2	2003 Piaggio LT 150	2024 Zero ZF 7.2
2	2004 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
2	2004 Ford Expedition	2024 Chevrolet Blazer EV BEV
2	2004 Ford Explorer	2024 Chevrolet Blazer EV BEV
2	2005 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
2	2005 Ford Explorer	2024 Chevrolet Blazer EV BEV
2	2005 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
2	2005 Ford Taurus	2022 Tesla Model 3 RWD BEV
2	2007 Chevrolet Impala	2023 Chevrolet Bolt EV BEV
2	2007 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
2	2007 Ford E-150	2023 Ford eTransit - Passenger Van BEV
2	2007 Ford E-350	2023 Ford eTransit - Cargo Van BEV
2	2007 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
2	2007 Ford Fusion	2023 Chevrolet Bolt EV BEV
2	2008 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
2	2009 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
2	2009 Ford E-250	2023 Ford eTransit - Passenger Van BEV
2	2009 Ford Expedition	2024 Chevrolet Blazer EV BEV
2	2009 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2009 Ford Fusion	2023 Chevrolet Bolt EV BEV
2	2009 Sym Base Scooter	2024 Zero ZF 7.2
2	2010 Pontiac G6	2023 Chevrolet Bolt EV BEV
2	2011 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
2	2011 Ford Escape	2024 Chevrolet Equinox EV BEV
2	2011 Ford Explorer	2024 Chevrolet Blazer EV BEV
2	2012 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
2	2012 Ford E-250	2023 Ford eTransit - Passenger Van BEV
2	2013 Ford E-250	2023 Ford eTransit - Passenger Van BEV
2	2013 Harley Road King	2022 Zero DSR ZF 14.4 BEV
2	2014 Chevrolet Cruze	2023 Chevrolet Bolt EV BEV
2	2015 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
2	2015 Ford Patriot	2024 Chevrolet Blazer EV BEV
2	2016 Ford Expedition	2024 Chevrolet Blazer EV BEV
2	2017 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2018 Ford Fusion	2023 Chevrolet Bolt EV BEV
2	2019 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
2	2019 Ford Escape	2024 Chevrolet Equinox EV BEV
2	2019 Ford Expedition	2024 Chevrolet Blazer EV BEV
2	2019 Ford Transit Connect	2023 Ford eTransit - Cargo Van BEV
2	2020 Chevrolet Suburban	2024 Chevrolet Blazer EV BEV
2	2020 Ford Escape	2024 Chevrolet Equinox EV BEV
2	2020 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
2	2020 Ford Transit	2023 Ford eTransit - Cargo Van BEV
2	2021 Ford Expedition	2024 Chevrolet Blazer EV BEV
2	2021 Ford Explorer	2024 Chevrolet Blazer EV BEV
2	2022 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2022 Dodge / Ram Promaster City	2022 Ford eTransit - Passenger Van BEV
2	2023 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	1953 Ford Car 54	2023 Chevrolet Bolt EV BEV
1	1989 Mercedes-Benz Smart	2023 Chevrolet Bolt EV BEV
1	1992 Ford E-350	2023 Ford eTransit - Cargo Van BEV
1	1994 Yamaha Riva 125	2024 Zero ZF 7.2
1	1995 Volvo 850 Series	2022 Ford eTransit - Passenger Van BEV
1	1996 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
1	1996 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
1	1996 Infinity I30	2022 Tesla Model 3 RWD BEV
1	1997 Ford F-150	2022 Ford F-150 Lightning 4WD BEV

Table A-1: Light-Duty Current Fleet Vehicles and EV Replacements – 3 of 5

Light-Duty Vehicles - 4 of 5

# in EV Fleet	Current Fleet Vehicle	Replacement EV
1	1998 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	1998 GMC Sierra	2022 Ford F-150 Lightning 4WD BEV
1	1999 Chrysler Sebring	2022 Tesla Model 3 RWD BEV
1	1999 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
1	1999 Ford Expedition	2024 Chevrolet Blazer EV BEV
1	1999 Yamaha Riva 125	2024 Zero ZF 7.2
1	2000 Cadillac Escalade	2024 Chevrolet Blazer EV BEV
1	2000 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
1	2000 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
1	2000 Dodge Durango	2024 Chevrolet Blazer EV BEV
1	2000 Ford E-250	2023 Ford eTransit - Passenger Van BEV
1	2000 Ford E-350	2023 Ford eTransit - Cargo Van BEV
1	2000 Ford E-350	2023 Ford eTransit - Passenger Van BEV
1	2000 Ford Explorer	2024 Chevrolet Blazer EV BEV
1	2000 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2000 Lincoln LS	2022 Tesla Model 3 RWD BEV
1	2001 Buick Century	2022 Tesla Model 3 RWD BEV
1	2001 Chrysler LHS	2022 Tesla Model 3 RWD BEV
1	2001 Ford E-250	2023 Ford eTransit - Passenger Van BEV
1	2001 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
1	2002 Chevrolet 2500	2024 Chevrolet Silverado EV WT BEV
1	2002 Chevrolet Impala	2023 Chevrolet Bolt EV BEV
1	2002 Ford E-150	2023 Ford eTransit - Passenger Van BEV
1	2002 Ford E-250	2023 Ford eTransit - Passenger Van BEV
1	2002 Ford E-350	2023 Ford eTransit - Cargo Van BEV
1	2002 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2003 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
1	2003 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
1	2003 Ford E-150	2023 Ford eTransit - Passenger Van BEV
1	2003 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
1	2003 GMC Sierra	2022 Ford F-150 Lightning 4WD BEV
1	2004 Chevrolet Suburban	2024 Chevrolet Blazer EV BEV
1	2004 Dodge Durango	2024 Chevrolet Blazer EV BEV
1	2004 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV
1	2004 Toyota Tundra	2022 Ford F-150 Lightning 4WD BEV
1	2005 Chevrolet Colorado	2024 Chevrolet Silverado EV WT BEV
1	2005 Ford Expedition	2024 Chevrolet Blazer EV BEV
1	2005 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
1	2005 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2005 Nissan Titan	2022 Ford F-150 Lightning 4WD BEV
1	2006 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
1	2006 Ford E-150	2023 Ford eTransit - Passenger Van BEV
1	2006 Ford E-250	2023 Ford eTransit - Cargo Van BEV
1	2006 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
1	2006 Ford Taurus	2022 Tesla Model 3 RWD BEV
1	2006 Jeep Liberty	2024 Chevrolet Blazer EV BEV
1	2006 Vespa GTS 250	2024 Zero ZF 7.2
1	2007 Ford Escape	2024 Chevrolet Equinox EV BEV
1	2007 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
1	2007 Ford Five Hundred	2022 Tesla Model 3 RWD BEV
1	2007 Piaggio BV 500	2024 Zero ZF 7.2
1	2008 Chevrolet Equinox	2024 Chevrolet Equinox EV BEV
1	2008 Chevrolet Uplander	2022 Ford eTransit - Passenger Van BEV
1	2008 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
1	2008 Dodge Grand Caravan	2022 Ford eTransit - Passenger Van BEV
1	2008 Ford E-250	2023 Ford eTransit - Passenger Van BEV
1	2008 Ford F-150	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2008 Jeep Grand Cherokee	2024 Chevrolet Blazer EV BEV
1	2009 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
1	2009 Ford Crown Victoria	2022 Tesla Model 3 Performance AWD BEV
1	2009 Ford Ranger	2022 Ford F-150 Lightning 4WD BEV

Table A-1: Light-Duty Current Fleet Vehicles and EV Replacements – 4 of 5

Light-Duty Vehicles - 5 of 5		
# in EV Fleet	Current Fleet Vehicle	Replacement EV
1	2009 Kymco People	2024 Zero ZF 7.2
1	2009 Piaggio BV 250	2024 Zero ZF 7.2
1	2009 Sym RV250	2024 Zero ZF 7.2
1	2010 Chevrolet HHR	2024 Chevrolet Blazer EV BEV
1	2010 Dodge Avenger	2022 Tesla Model 3 RWD BEV
1	2010 Ford E-350	2023 Ford eTransit - Cargo Van BEV
1	2010 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2010 Ford Fusion	2023 Chevrolet Bolt EV BEV
1	2010 Mercury Marquis	2022 Tesla Model 3 RWD BEV
1	2011 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
1	2011 Ford Expedition	2024 Chevrolet Blazer EV BEV
1	2011 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2011 Ford Fusion	2023 Chevrolet Bolt EV BEV
1	2012 Chevrolet Impala	2023 Chevrolet Bolt EV BEV
1	2012 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
1	2012 Chevrolet Suburban	2024 Chevrolet Blazer EV BEV
1	2012 Ford Expedition	2024 Chevrolet Blazer EV BEV
1	2012 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2012 Ford Focus	2023 Chevrolet Bolt EV BEV
1	2012 Ford Transit	2023 Ford eTransit - Cargo Van BEV
1	2012 Nissan Frontier	2022 Ford F-150 Lightning 4WD BEV
1	2013 Chevrolet Impala	2023 Chevrolet Bolt EV BEV
1	2013 Ford Escape	2024 Chevrolet Equinox EV BEV
1	2013 Ford Expedition	2024 Chevrolet Blazer EV BEV
1	2013 Ford Expedition XLT	2024 Chevrolet Blazer EV BEV
1	2013 Ford F-150	2022 Ford F-150 Lightning 4WD BEV
1	2013 Ford Taurus	2022 Tesla Model 3 RWD BEV
1	2013 Ford Transit Connect	2023 Ford eTransit - Cargo Van BEV
1	2013 Hyundai Elantra	2023 Chevrolet Bolt EV BEV
1	2014 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
1	2014 Ford F-250	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2015 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
1	2015 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
1	2015 Chevrolet Suburban	2024 Chevrolet Blazer EV BEV
1	2015 Dodge / Ram 1500	2022 Ford F-150 Lightning 4WD BEV
1	2015 Nissan NV200	2023 Ford eTransit - Cargo Van BEV
1	2016 Dodge / Ram 2500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2016 Ford Escape	2024 Chevrolet Equinox EV BEV
1	2016 Ford F-150	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2016 Jeep Patriot	2024 Chevrolet Blazer EV BEV
1	2016 LeeBoy 685D	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2017 Ford Explorer	2024 Chevrolet Blazer EV BEV
1	2017 Ford Transit Connect	2023 Ford eTransit - Cargo Van BEV
1	2018 Chevrolet Silverado	2024 Chevrolet Silverado EV WT BEV
1	2018 Dodge Caravan	2022 Ford eTransit - Passenger Van BEV
1	2018 Ford Transit Connect	2023 Ford eTransit - Cargo Van BEV
1	2018 Lincoln Continental	2022 Tesla Model 3 RWD BEV
1	2019 Ford Transit	2023 Ford eTransit - Cargo Van BEV
1	2020 Chevrolet Malibu	2023 Chevrolet Bolt EV BEV
1	2020 Chevrolet Spark	2023 Chevrolet Bolt EV BEV
1	2020 Jeep Grand Cherokee	2024 Chevrolet Blazer EV BEV
1	2020 Lincoln Continental	2022 Tesla Model 3 RWD BEV
1	2021 Chevrolet Express	2023 Ford eTransit - Passenger Van BEV
1	2021 Chevrolet Suburban	2024 Chevrolet Blazer EV BEV
1	2021 Chevrolet Traverse	2024 Chevrolet Blazer EV BEV
1	2021 Ford Escape	2024 Chevrolet Equinox EV BEV
1	2022 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
1	2022 Ford F-150	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2022 Ford F-250	2023 Ford eTransit - Cargo Van BEV
1	2022 Ford Pickup	2022 Ford F-150 Lightning 4WD BEV
1	2023 Chevrolet Tahoe	2024 Chevrolet Blazer EV BEV
1	2023 Chrysler 300	2023 Chevrolet Bolt EV BEV
1	2023 Ford E-350	2023 Ford eTransit - Cargo Van BEV

Table A-1: Light-Duty Current Fleet Vehicles and EV Replacements –5 of 5

Medium- and Heavy-Duty Vehicles - 1 of 2

# in EV Fleet	Current Fleet Vehicle	Replacement EV
21	2018 Pierce Pumper	Pierce Volterra
17	2010 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
16	2006 Am LaFrance Eagle	Pierce Volterra
16	2012 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
14	2018 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
12	2005 Chevrolet C5500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
12	2006 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
12	2022 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
9	2005 Am LaFrance Eagle	Pierce Volterra
9	2015 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
8	2015 Ford F-750	2022 Sea Electric F650 Cab & Chassis BEV
7	2004 Am LaFrance Eagle	Pierce Volterra
7	2005 Stewart Stevenson HWRV	2022 Sea Electric F650 Cab & Chassis BEV
6	1997 Pierce Saber	Pierce Volterra
6	2016 International SF667	2022 Freightliner eM2 BEV
5	2006 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
5	2008 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
5	2022 Bergkamp FP5	2022 Sea Electric F650 Cab & Chassis BEV
5	2023 International MV607 sba 4x2	2022 Freightliner eM2 BEV
4	1998 Pierce Tilt Cab	Pierce Volterra
4	1999 International 4700	2022 Freightliner eM2 BEV
4	2007 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
4	2008 Ford F-650	2022 Sea Electric F650 Cab & Chassis BEV
4	2011 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
4	2015 International MA025	2022 Freightliner eM2 BEV
4	2022 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
3	1998 Ford F-800	2022 Freightliner eM2 BEV
3	2004 Ford F-650	2022 Sea Electric F650 Cab & Chassis BEV
3	2005 GMC GMC5500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
3	2005 Sterling L7500 series	2022 Freightliner eM2 BEV
3	2006 Ford E-450	2022 Lightning Systems E450 Cab & Chassis BEV
3	2009 Pierce Impel	Pierce Volterra
3	2015 Freightliner M2	2022 Freightliner eM2 BEV
3	2016 Freightliner 114SD	2022 Freightliner eCascadia BEV
3	2016 International MA025	2022 Freightliner eM2 BEV
3	2016 International SF625	2022 Freightliner eM2 BEV
3	2019 Freightliner 114SD	2022 Freightliner eCascadia BEV
3	2022 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	1999 Pierce Dash	Pierce Volterra
2	2001 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2004 Sterling L7500 series	2022 Freightliner eM2 BEV
2	2005 Freightliner M2	2022 Freightliner eM2 BEV
2	2005 Sterling Acterra	2022 Freightliner eM2 BEV
2	2006 Ford F-650	2022 Sea Electric F650 Cab & Chassis BEV
2	2007 Chevrolet Challenger	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2007 Freightliner M2	2022 Freightliner eM2 BEV
2	2008 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
2	2008 Sterling L7500 series	2022 Freightliner eM2 BEV
2	2009 Workhorse W32524	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2014 Freightliner M2	2022 Freightliner eM2 BEV
2	2015 Ford F-650	2022 Sea Electric F650 Cab & Chassis BEV
2	2016 Autocar ACTT42 Xspotter	2022 Freightliner eM2 BEV
2	2016 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
2	2016 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
2	2016 Freightliner M2	2022 Freightliner eM2 BEV
2	2017 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
2	2017 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
2	2019 Pierce Enforcer	Pierce Volterra
2	2020 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
2	2020 Western Star 4700SF	2022 Freightliner eM2 BEV
2	2022 International CV515	2022 Freightliner eM2 BEV

Table A-2: Medium-and Heavy-Duty Current Fleet Vehicles and EV Replacements – 1 of 2

Medium- and Heavy-Duty Vehicles - 2 of 2

# in EV Fleet	Current Fleet Vehicle	Replacement EV
1	1987 GMC StepVan	2022 Lightning Systems F59 Step Van BEV
1	1990 International 4900	2022 Freightliner eM2 BEV
1	1991 Ford F-600	2022 Freightliner eM2 BEV
1	1994 Pierce Tilt Cab	Pierce Volterra
1	1996 Pierce Tilt Cab	Pierce Volterra
1	1997 International 4700	2022 Freightliner eM2 BEV
1	1998 International 1652 GRUMAN	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	1998 International 4700	2022 Freightliner eM2 BEV
1	1999 International 4700 4 x 2	2022 Freightliner eM2 BEV
1	2001 Ford F-650	2022 Sea Electric F650 Cab & Chassis BEV
1	2001 Freightliner FL80	2022 Freightliner eM2 BEV
1	2001 International F-4900	2022 Freightliner eM2 BEV
1	2001 Pierce Tilt Cab	Pierce Volterra
1	2002 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2003 Am LaFrance Metropolitan	Pierce Volterra
1	2003 Ford E-550	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2003 International DX567	2022 Freightliner eM2 BEV
1	2004 Am LaFrance Metropolitan	Pierce Volterra
1	2004 Kenworth T300	2022 Freightliner eM2 BEV
1	2004 Pierce Lance	Pierce Volterra
1	2004 Sterling Acterra	2022 Freightliner eM2 BEV
1	2005 Am LaFrance Metropolitan	Pierce Volterra
1	2005 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2005 Ford F-450	2021 Sea Electric F450 Cab & Chassis BEV
1	2005 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
1	2005 GMC C5500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2005 GMC GM5500 - SB	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2005 GMC GM5500 (SB451)	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2005 GMC GM5500 (SB614)	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2006 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
1	2006 Kenworth T8 Series	2022 Freightliner eCascadia BEV
1	2006 Peterbilt 378	2022 Freightliner eM2 BEV
1	2006 Winnebago Motorhome	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2007 Chevrolet Champion Defender 35	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2007 Freightliner MT 55	2022 Lightning Systems F59 Step Van BEV
1	2007 GMC Glaval Titan 39	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2009 International 4300	2022 Freightliner eM2 BEV
1	2010 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2010 Freightliner MC-L	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2010 LDV MCV	2022 Freightliner eM2 BEV
1	2011 Freightliner MT 55	2022 Lightning Systems F59 Step Van BEV
1	2011 IC Bus PC205	2022 Proterra ZX5+ 40' Transit Bus BEV
1	2011 International SF525	2022 Freightliner eM2 BEV
1	2012 Ford E-450	2022 Lightning Systems E450 Cab & Chassis BEV
1	2012 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2012 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
1	2014 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV
1	2014 Freightliner 108SD	2022 Freightliner eM2 BEV
1	2015 Dodge / Ram 3500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2016 Ford F-750	2022 Sea Electric F650 Cab & Chassis BEV
1	2018 Dodge / Ram 5500	2022 Sea Electric F650 Cab & Chassis BEV
1	2019 Dodge / Ram 5500	2022 Sea Electric F650 Cab & Chassis BEV
1	2019 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2020 Freightliner M2	2022 Freightliner eM2 BEV
1	2022 Chevrolet CK 3500 4x2	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2022 Pierce Fire Aerial	Pierce Volterra
1	2023 Sanitation Heavy Truck	2022 Freightliner eM2 BEV
1	2023 Dodge / Ram 3500	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2023 Ford F-350	2022 Lightning Systems ZEV4 Flat/Stake Bed Truck BEV
1	2023 Ford F-450	2022 Sea Electric F650 Cab & Chassis BEV
1	2023 Ford F-550	2022 Sea Electric F650 Cab & Chassis BEV

Table A-2: Medium-and Heavy-Duty Current Fleet Vehicles and EV Replacements – 2 of 2

Appendix B: Modifications to CAO Policy Memo No. 5(R) - Vehicle and Equipment Policy

As part of the fleet vehicle transition, a series of revisions should be incorporated into CAO Policy Memo No. 5(R) – Vehicle and Equipment Policy. The sections of the policy with proposed revisions are noted below in redline formatting to highlight additions and deletions.

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XI. FUEL

The City's guidelines for fueling vehicles and equipment is as follows:

A. Subject to conditions of maintenance and repair, all City employees/operator vehicles and equipment will use the City fuel facilities listed below for all normal operational fuel and charging services, as well as their departmental parking facilities, unless otherwise authorized by the Fuel Services Manager.

***

Vehicle Coordinator Responsibilities

D. Be responsible for the security of all departmental fuel cards.
E. Reporting any lost, stolen or malfunctioning vehicle fuel cards and/or PIN numbers to the Fuel Services Manager by e-mail immediately after discovering that any card is missing and/or PIN compromised.
F. Reporting any PIN that needs to be deactivated to the Fuel Services Manager immediately upon the transfer or loss of driving privileges of an employee.
G. Ensure that all employees complete the Fuel PIN Request Form (Attachment L), including new employees who the department authorizes to operate City-owned vehicles and equipment.
H. Keeping all electric charging and Fuel Dispensing Exception Reports (Attachment E) received from employees and forwarding a copy of them to the Fuel Services Manager within two business days of receipt.
I. Monitoring and auditing the electric charging fuel use reports on a weekly basis to compare electric charging fuel use to departmental operations and/or to identify any discrepancies or inconsistencies that may indicate an impropriety. Specifically, a Department Vehicle Coordinator will search for:
    a. Multiple electric charging or fuel transactions in one day;
    b. In comparison to an average electric charging or fuel transaction for a vehicle, any larger than normal fuel transactions.
    c. If a vehicle is assigned a normal operator, any electric charging or fuel transaction for a vehicle initiated by any employee other than the vehicle's regular operator.
J. Initiating and/or conducting investigations for any discrepancy, inconsistency, or impropriety suspected and taking the appropriate action as warranted by the situation.
K. Biannually review the list of their respective department's fuel PINs and fuel cards for accuracy and completeness and notify the Fuel Services Manager of any necessary updates.

Employee Responsibilities

L. Dispense electric charging and fuel from the City facilities or electric charging at their departmental facility as listed in this policy.

M. Use his/her own Employee PIN number and the correct vehicle fuel card when obtaining electric charging or fuel.
N. Keep the fuel card assigned to a vehicle in the glove box of that vehicle.
O. Keep their Employee PIN number personal, private and confidential.
P. Enter an accurate odometer reading during the initiation of an electric charging or fuel transaction.
Q. If a vehicle fuel card is lost or stolen, notify their Departmental Vehicle Coordinator immediately so that the appropriate action can be taken.
R. Notify the Departmental Vehicle Coordinator immediately if they are aware of, or have reason to suspect that confidentiality of his/her or any other Employee PIN number has been compromised so that appropriate action can be taken.
S. Out of town fuel cards are not to be used in the greater metropolitan or adjacent New Orleans area.
T. Vehicles and equipment without Asset Numbers must use the specific fuel card as designated by Departmental Vehicle Coordinator for that unit and/or type of equipment.
U. Submit the Fuel Dispensing Exception Report (Attachment E) any time an incorrect PIN or fuel card is used. This report must be submitted to the Departmental Vehicle Coordinator by the next business day.

EMD Responsibilities

V. Provide every authorized operator a unique Employee PIN number for electric charging and fuel. EMD will generate the number randomly to ensure security for all PINs.
W. Providing electric charging, electric charging services, fuel, and fuel services, including electric charging and fuel consumption and discrepancy reports.
X. Provide **CHARGING AND** fuel system administration, operations and services.
Y. Establish a Fuel **AND CHARGING** Services Manager whose responsibilities include:
    1. Prepare and administer electric charging and fuel product and automated fuel service contracts.
    2. Operate and maintain the City electric charging and fuel facilities as listed in this Policy.
    3. Evaluating all requests by departments for exemptions to Section XI of this policy.
    4. Distribute the monthly electric charging and fuel use reports for each Vehicle Coordinator to review.
    5. Assist any employee/operator having problems with electric charging and fueling operations.
    6. Deactivate vehicle fuel cards and Employee PIN numbers as required.
    7. Order and distribute Employee PIN numbers and vehicle fuel cards as requested.
    8. Biannually send Department Vehicle Coordinators a list of each respective department's PINs and fuel cards so that Coordinators can review.
    9. Review and store Electric Charging and Fuel Dispensing Exception reports received from Departmental Vehicle Coordinators.

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XV. PROCUREMENT & RETIREMENT

Vehicle Coordinator Responsibilities

A. Establish minimum vehicle and equipment, including electric vehicle and equipment, availability requirements and needs assessments consistent with department service and operations and communicate those priorities to EMD on an annual basis by the first day of April of each year.
B. Establish, in conjunction with EMD, departmental vehicle and equipment, including electric vehicle and equipment, replacement recommendations and specifications.
    1. All departments and agencies must receive an EMD recommendation and CAO approval in writing prior to the start of procurement research. This should include details on the age, condition, and zero-emission status of vehicle(s) to be retired.
    2. Only vehicles purchased with City funds may be titled to the City of New Orleans. Registration instructions may be obtained from EMD.

EMD Responsibilities

C. Assisting Departments in preparations of vehicle and equipment, including electric vehicle and equipment, replacement recommendations and specifications.
D. Coordination of new vehicle and equipment acquisition. All department vehicle requests shall include a detailed explanation of the purpose and use of each vehicle. The explanation shall include such details as intended use in the motor pool, number of expected occupants, anticipated yearly mileage, etc. EMO shall provide a determination to the CAO that a suitable vehicle is not already owned by the City and underutilized at its current assignment, which could be transferred to the requesting department, and that the need for the vehicle is sufficient to warrant a purchase rather than a lease or rental.
E. Provide sole decision-making authority on whether to repair a vehicle or delete it from service and coordination of the disposition of surplus vehicles and equipment.
F. Coordination with State of Louisiana Office of Procurement for authorization to procure electric vehicles though electric vehicle purchasing collaboratives.

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XVII. DEPARTMENTAL VEHICLE MOTOR POOLS

Departments may establish vehicle motor pools with the basic operation procedures and protocols as described below:

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G. Coordination and assignment of departmental pool vehicle parking, storage, and charging infrastructure is the responsibility of the Departmental Vehicle Coordinator in conjunction with current employee parking, storage locations, charging infrastructure, constraints, and other considerations.

***

Appendix C: Part C – Anticipated Costs of Compliance Pro Forma

CITY OF NEW ORLEANS
FLEET ANALYSIS PRO FORMA
ANTICIPATED COSTS OF COMPLIANCE (2024 - 2033F)

Inflation Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
	1	2	3	4	5	6	7	8	9	10
	F	F	F	F	F	F	F	F	F	F
	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV	ICE/EV
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
COST OF COMPLIANCE										
EV Purchases										
Light-Duty Vehicles	$ 12,013,847	$ 13,232,758	$ 11,665,131	$ 10,656,988	$ 11,099,069	$ 14,743,126	$ 11,908,559	$ 10,576,850	$ 13,937,808	$ 13,596,330
Medium- and Heavy-Duty Vehicles	5,455,080	8,993,350	13,751,893	14,910,305	19,358,395	20,810,732	18,826,634	29,431,740	30,448,528	24,448,335
Total, EV Purchases	***$ 17,468,926***	***$ 22,226,108***	***$ 25,417,025***	***$ 25,567,292***	***$ 30,457,464***	***$ 35,553,858***	***$ 30,735,194***	***$ 40,008,590***	***$ 44,386,336***	***$ 38,044,664***
Charging Infrastructure										
Maintenance Facilities										
3601 Chickasaw Street	$ 24,600	$ 75,645	$ 51,691	$ -	$ -	$ 8,118	$ 24,962	$ 17,058	$ 59,945	$ -
3800 Alvar Street (EMD)	-	25,215	-	-	-	-	8,321	-	-	-
Downtown Location	-	25,215	-	-	-	-	8,321	-	-	-
Total, Maintenance Facilities	***$ 24,600***	***$ 126,075***	***$ 51,691***	***$ -***	***$ -***	***$ 8,118***	***$ 41,604***	***$ 17,058***	***$ 59,945***	***$ -***
Fuel Facilities										
506 N. Broad Street	$ 317,750	$ 325,694	$ -	$ -	$ -	$ 73,061	$ 74,887	$ -	$ -	$ -
10200 Old Gentilly Road	317,750	-	-	-	-	73,061	-	-	-	-
2341 Wall Blvd	317,750	325,694	-	-	-	73,061	74,887	-	-	-
2829 Gentilly Blvd	317,750	325,694	-	-	-	73,061	74,887	-	-	-
3800 Alvar Street (Fuel)	317,750	325,694	-	-	-	73,061	74,887	-	-	-
Total, Fuel Facilities	***$ 1,588,750***	***$ 1,302,775***	***$ -***	***$ -***	***$ -***	***$ 365,303***	***$ 299,549***	***$ -***	***$ -***	***$ -***
Departmental Facilities										
Non-Public Safety	$ 615,000	$ 756,450	$ 387,681	$ 317,898	$ 81,461	$ 731,767	$ 820,193	$ 537,316	$ 584,468	$ 641,322
Public Safety	3,329,200	2,233,629	1,007,970	1,112,643	1,384,844	1,818,399	1,544,103	1,502,291	1,506,129	1,470,817
Total, Departmental Facilities	***$ 3,944,200***	***$ 2,990,079***	***$ 1,395,650***	***$ 1,430,542***	***$ 1,466,305***	***$ 2,550,166***	***$ 2,364,296***	***$ 2,039,606***	***$ 2,090,597***	***$ 2,112,139***
Total, Charging Infrastructure	**$ 5,557,550**	**$ 4,418,929**	**$ 1,447,341**	**$ 1,430,542**	**$ 1,466,305**	**$ 2,923,587**	**$ 2,705,449**	**$ 2,056,664**	**$ 2,150,542**	**$ 2,112,139**

Table C-1: Anticipated Costs of Compliance Pro Forma (2024F to 2033F) – 1 of 2

CITY OF NEW ORLEANS
FLEET ANALYSIS PRO FORMA
ANTICIPATED COSTS OF COMPLIANCE (2024 - 2033F)

Inflation Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
	1 F ICE/EV 2024	2 F ICE/EV 2025	3 F ICE/EV 2026	4 F ICE/EV 2027	5 F ICE/EV 2028	6 F ICE/EV 2029	7 F ICE/EV 2030	8 F ICE/EV 2031	9 F ICE/EV 2032	10 F ICE/EV 2033
COST OF COMPLIANCE (continued)										
Charging Electricity										
Charging Electricity	$ 68,793	$ 140,199	$ 208,476	$ 284,124	$ 384,605	$ 509,176	$ 611,528	$ 725,594	$ 858,091	$ 991,705
Total, Charging Electricity	**$ 68,793**	**$ 140,199**	**$ 208,476**	**$ 284,124**	**$ 384,605**	**$ 509,176**	**$ 611,528**	**$ 725,594**	**$ 858,091**	**$ 991,705**
Additional EMD Headcount										
Additional EMD Headcount	$ 1,821,041	$ 1,821,041	$ 1,821,041	$ 1,821,041	$ 1,914,011	$ 1,914,011	$ 1,914,011	$ 1,914,011	$ 1,914,011	$ 2,009,304
Total, Additional EMD Headcount	**$ 1,821,041**	**$ 1,821,041**	**$ 1,821,041**	**$ 1,821,041**	**$ 1,914,011**	**$ 1,914,011**	**$ 1,914,011**	**$ 1,914,011**	**$ 1,914,011**	**$ 2,009,304**
Maintenance & Repair										
Electric Vehicles	$ 89,182	$ 169,850	$ 271,835	$ 448,880	$ 687,198	$ 923,120	$ 1,177,699	$ 1,409,628	$ 1,669,172	$ 1,930,287
Total, Maintenance & Repair	**$ 89,182**	**$ 169,850**	**$ 271,835**	**$ 448,880**	**$ 687,198**	**$ 923,120**	**$ 1,177,699**	**$ 1,409,628**	**$ 1,669,172**	**$ 1,930,287**
TOTAL, COST OF COMPLIANCE	**$ 25,005,493**	**$ 28,776,128**	**$ 29,165,719**	**$ 29,551,880**	**$ 34,909,582**	**$ 41,823,752**	**$ 37,143,879**	**$ 46,114,487**	**$ 50,978,151**	**$ 45,088,100**
ICE-RELATED COSTS										
Fuel Supply	$ 4,410,749	$ 4,170,721	$ 3,873,613	$ 3,548,915	$ 3,062,927	$ 2,646,508	$ 2,172,039	$ 1,710,878	$ 1,240,753	$ 832,387
Maintenance & Repair	3,314,817	3,226,012	3,069,097	2,835,040	2,534,946	2,354,429	1,949,747	1,558,897	1,139,609	728,739
TOTAL, ICE-RELATED COSTS	**$ 7,725,566**	**$ 7,396,733**	**$ 6,942,709**	**$ 6,383,956**	**$ 5,597,874**	**$ 5,000,937**	**$ 4,121,785**	**$ 3,269,775**	**$ 2,380,361**	**$ 1,561,127**

Table C-1: Anticipated Costs of Compliance Pro Forma (2024F to 2033F) – 2 of 2