

NEW SPARKS FOR NEWARK'S CARS

*A COST-BENEFIT ANALYSIS OF UPGRADING THE CITY OF
NEWARK'S VEHICLE FLEET TO ELECTRIC*



TWO PROBLEMS

1. Aging high emissions vehicle fleet requiring more maintenance



2. Cost of Vehicle Replacement



Agenda

2 Problems

Challenges and Solutions

Take Action

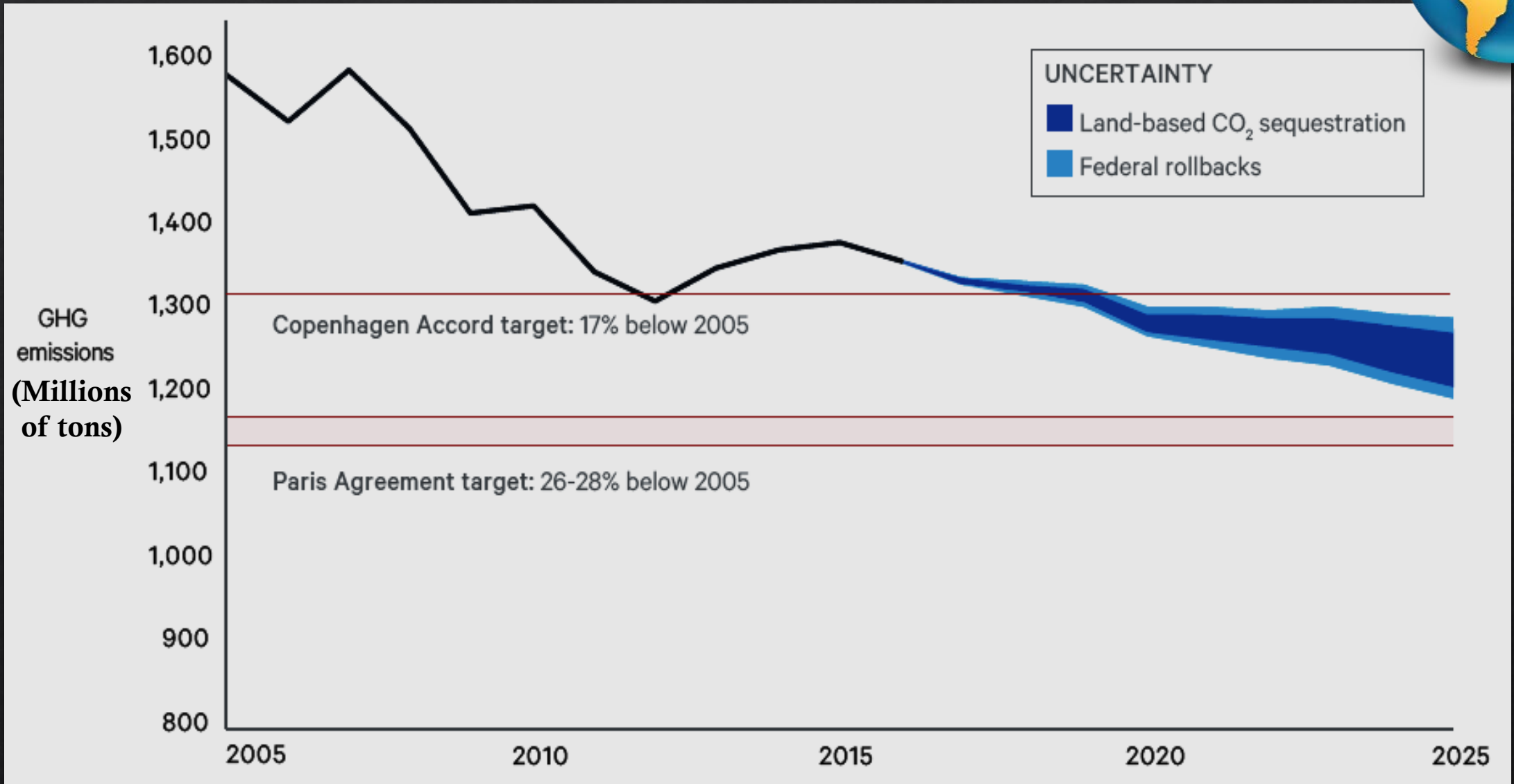
Benefits

Conclusion

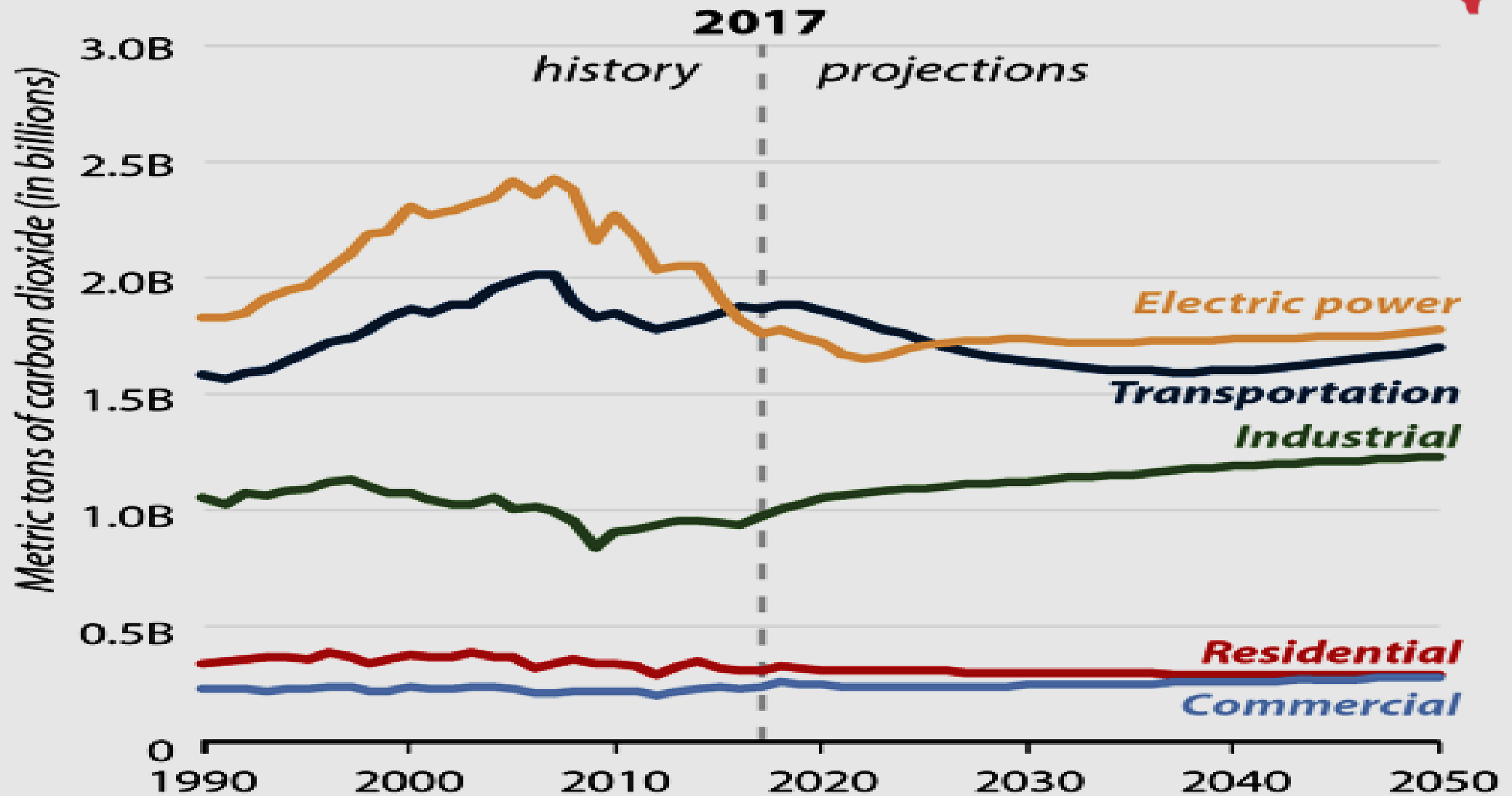
2 Problems

Dirty and Expensive

Problem 1: Vehicle Emissions



Problem 1: Vehicle Emissions

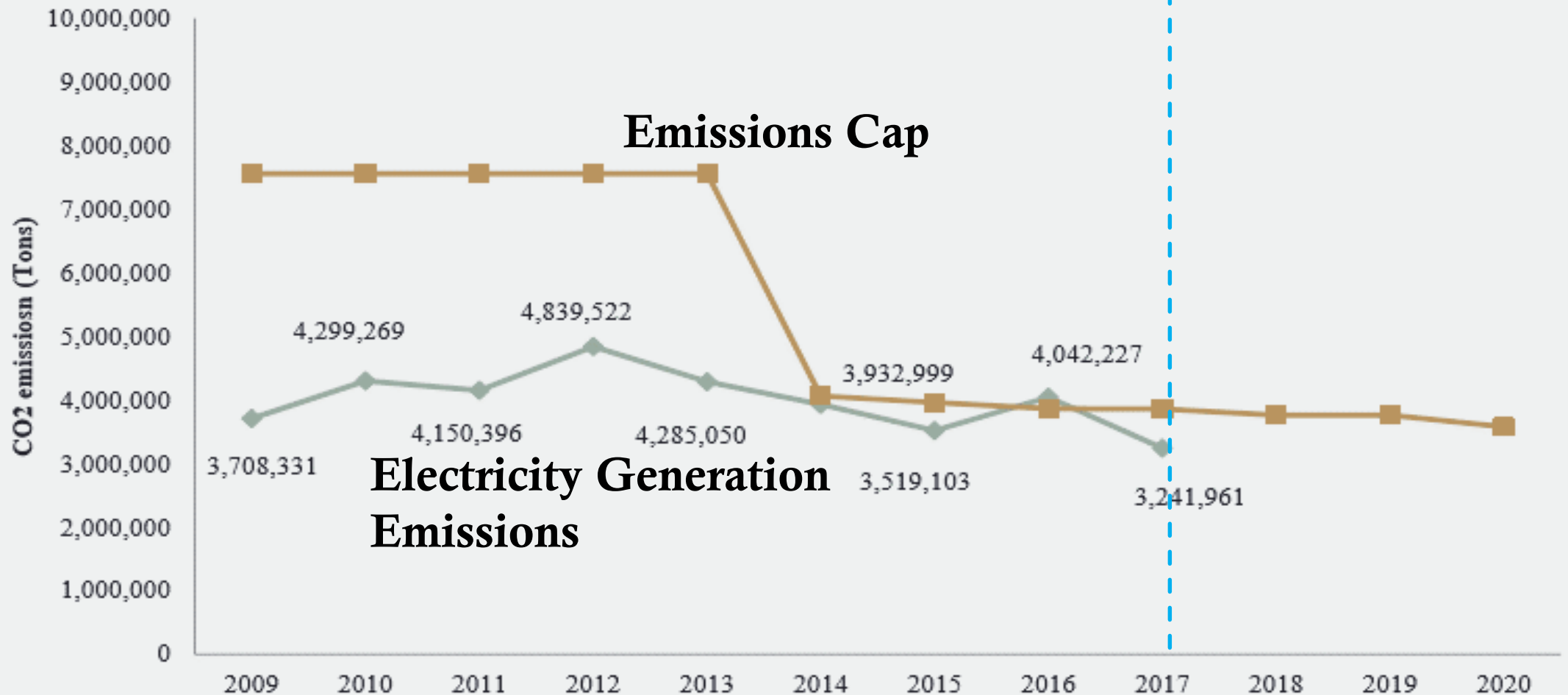


Problem 1: Vehicle Emissions



DECEMBER 7, 1787

The Regional Greenhouse Gas Initiative an initiative of the New England and Mid-Atlantic States of the US



Problem 2: Cost of Vehicle Replacement

CITY OF NEWARK, DELAWARE
SUMMARY OF VEHICLE AND EQUIPMENT REPLACEMENT PROGRAM SCHEDULE
CAPITAL PROGRAM YEARS 2019 - 2023

VEHICLE REPLACEMENT PROGRAM BY DEPARTMENT/DIVISION	R E P L A C E M E N T C O S T S					
	2019	2020	2021	2022	2023	TOTAL
ELECTRIC DEPARTMENT	\$ 218,000	\$ 487,000	\$ -	\$ 250,000	\$ 368,000	\$ 1,323,000
(PUBLIC WORKS & WATER RESOURCES) - WATER DIVISION	124,000	310,000	100,000	50,000	50,000	634,000
(PUBLIC WORKS & WATER RESOURCES) - SEWER DIVISION	-	-	-	-	300,000	300,000
(PUBLIC WORKS & WATER RESOURCES) - STORMWATER DIVISION	315,000	26,000	-	-	45,000	386,000
(PUBLIC WORKS & WATER RESOURCES) - REFUSE DIVISION	-	225,000	430,000	-	-	655,000
(PUBLIC WORKS & WATER RESOURCES) - STREET DIVISION	331,000	196,000	233,000	60,000	611,000	1,431,000
(PUBLIC WORKS & WATER RESOURCES) - ENGINEERING DIVISION	75,000	-	-	-	35,000	110,000
POLICE DEPARTMENT	240,000	351,000	104,000	52,000	585,000	1,332,000
PARKS & RECREATION DEPARTMENT	233,000	65,000	-	145,000	155,000	598,000
(PLANNING & DEVELOPMENT) - PARKING DIVISION	-	49,000	-	-	-	49,000
(PUBLIC WORKS & WATER RESOURCES) - FLEET MAINTENANCE DIVISION	40,000	-	-	-	-	40,000
(ADMINISTRATION) - FACILITIES MAINTENANCE DIVISION	-	-	35,000	-	-	35,000
OTHER DEPARTMENTS/DIVISIONS	155,000	45,000	155,000	-	35,000	390,000
GROSS ACQUISITION COSTS FOR VEHICLES	1,731,000	1,754,000	1,057,000	557,000	2,184,000	7,283,000

Electric Fleet Vehicles!



Challenges and Solutions

Some say it can't be done

Challenges

"EVs don't have enough range"

"There aren't enough charging stations"

"EVs are too expensive"

CHALLENGES AND SOLUTIONS

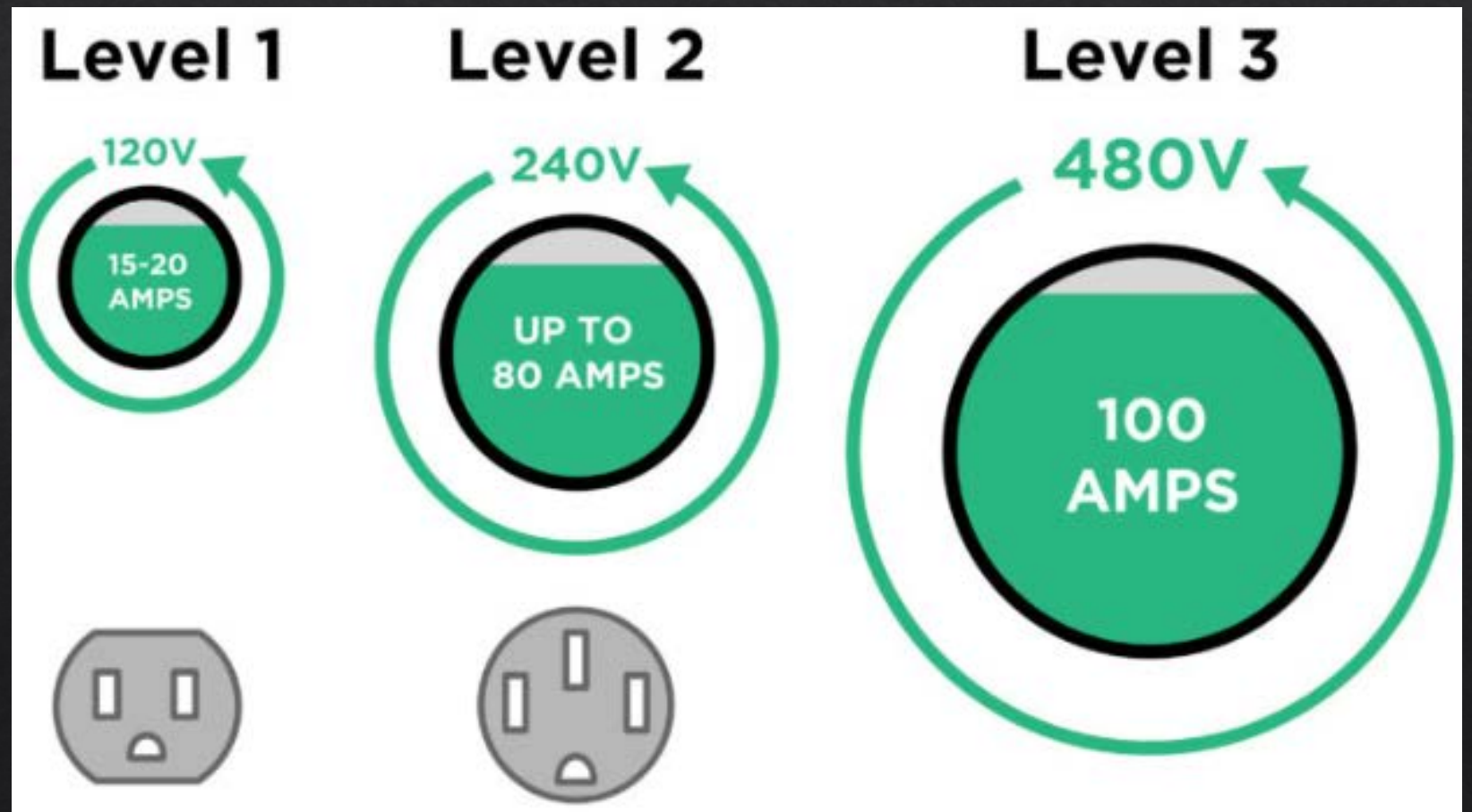
"EVs don't have enough range"

- Newer EVs have longer range
- Range is extended at slower speeds
- City EVs have better range than commuters



CHALLENGES AND SOLUTIONS

"There aren't enough charging stations"



CHALLENGES AND SOLUTIONS

"There aren't enough charging stations"

- ChargePoint and Nuvve examples
- Paid for using discounts, grants from the Regional Greenhouse Gas Institute or VW Mitigation Plan, savings from maintenance and gasoline, and 75% state rebate

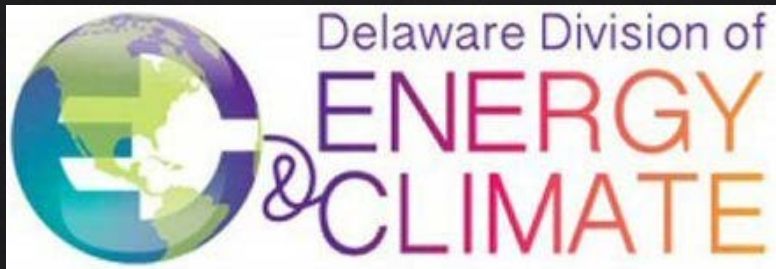


CHALLENGES AND SOLUTIONS

"EVs are too expensive"



- Federal \$7,500 tax credit for municipal leases
- DNREC \$3,500 rebate
- Use the fuel budget
- Sustainable Energy Utility loan
- Climate Mayors website has pre-negotiated rates



Take Action

Let's do this



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Climate Mayors Launches EV Purchasing Collaborative

400+ Cities Plugging into the EV Future

[Visit the EV Platform](#)

Climate Mayors Electric Vehicle Purchasing Collaborative



Available Electric Vehicles

Browse available electric vehicles, leasing options, and charging infrastructure solutions.



Procurement Process

View contract documents and learn about the benefits of cooperative purchasing.



How can I help lead my city?

Develop internal support in all municipal departments to electrify fleet in a timely and cost-effective manner.



Contact Us

Questions? Our team is happy to help! Connect with our partners or fill out the Contact Us form.

About the Collaborative

The collaborative is an unprecedented cooperation of Climate Mayors cities across the country to leverage their collective buying power and accelerate the conversion of municipal fleets to electric—sending a powerful signal to the global car market and helping America maintain its commitment to the Paris Climate Agreement. It is a turnkey, one-stop, online procurement portal providing municipalities equal access to competitively bid electric vehicles and accompanying charging infrastructure, innovative financing options, and access to policy guidance and expert resources.

ELECTRIC VEHICLES



Search Options

Make



Model



Class



Year



Max Electric Range



Additional features

RESET ALL



2019 CHEVROLET
BOLT

\$32 702

9.3 Hours at 240V 238-miles



2019 CHRYSLER
PACIFICA HYBRID

\$40 340

2 Hours at 240V 33-miles



2019 FORD FUSION
ENERGI TITANIUM

\$32 709

2.5 Hours at 240V 21-miles



2018 HONDA CLARITY
PLUG-IN HYBRID

\$32 922



2019 KIA SOUL

\$31 165



2019 NISSAN LEAF

\$26 528

2019 Nissan LEAF



PRICE **\$26 528**

36 MONTH LEASE **\$489/Month**

48 MONTH LEASE **\$423/Month**

60 MONTH LEASE **\$381/Month**

CLASS **Hatchback**

YEAR **2019**

ELECTRIC RANGE **151-miles**

DRIVE **FWD**

EXTERIOR COLOR **Glacier White**

INTERIOR COLOR **Black**

Don't forget your charging infrastructure! Click here to learn more.

TECHNICAL

FEATURES & OPTIONS

SPECIFICATIONS

LEASING

TO PURCHASE

- View vehicle specifications.
- If these vehicle specifications meet your needs, then issue a Purchase Order to National Auto Fleet Group.
- Email the Purchase Order and specifications to National Auto Fleet Group: fleet@nationalautofleetgroup.com. Once received an order confirmation will then be sent back.

\$15,528

City of Newark
220 S Main St
Newark, DE 19711-4594

ID# 29420

Is this your organization?

Great news—your organization is already a Sourcewell member! Using the ID number provided on this page, you can immediately utilize Sourcewell awarded contracts by providing this number to the vendor you wish to purchase from.

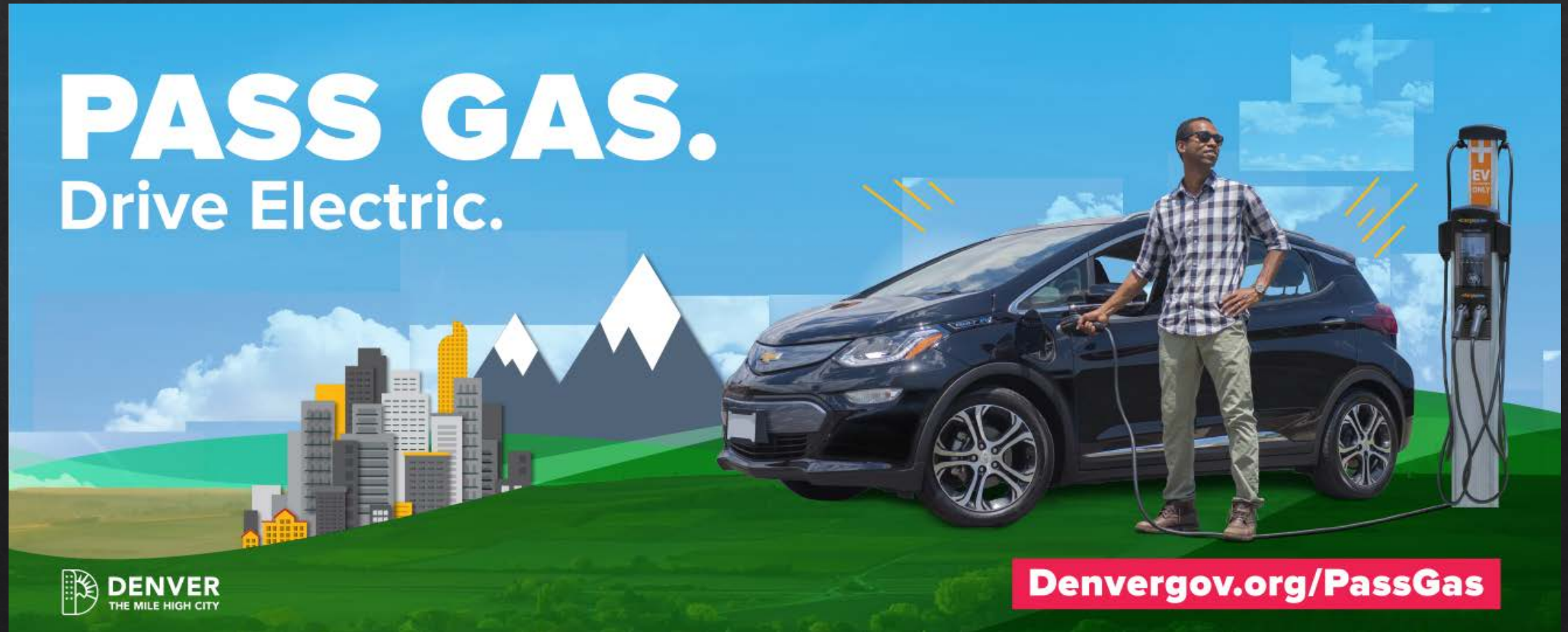
[Update your organization's information](#)

[Add a contact for your organization](#)

Benefits

Show me the money!

Electrified Transportation System





Buy the Numbers



Cost of current 5-year vehicle replacement plan for 11 sedans:

\$299,000

Cost of 5-year EV plan for 11 Nissan Leafs and 6 ChargePoint CT4000s:

\$179,874

Procurement Savings:

\$119,126



Buy the Numbers



Cost of current 5-year vehicle replacement plan for 11 sedans:

\$299,000

Cost of 5-year EV plan for 11 Nissan Leafs and 11 Nuvve charging stations:

\$185,020

Procurement Savings:

\$113,980

“Buy American” Option: Tesla Model 3



Cost of current 5-year vehicle replacement plan for 11 sedans:

\$299,000

Cost of EV plan for 11 Tesla Model 3s and 11 Tesla charging stations, minus lifecycle fuel and maintenance savings:

\$273,292

Lifecycle Savings of 11 Tesla Model 3s:

\$25,708



What if Cops Drive EVs?



Vehicle Replacement Program Schedule - Police

CITY OF NEWARK, DELAWARE
VEHICLE REPLACEMENT PROGRAM SCHEDULE 2019-2023
POLICE DEPARTMENT PAGE 1 OF 2

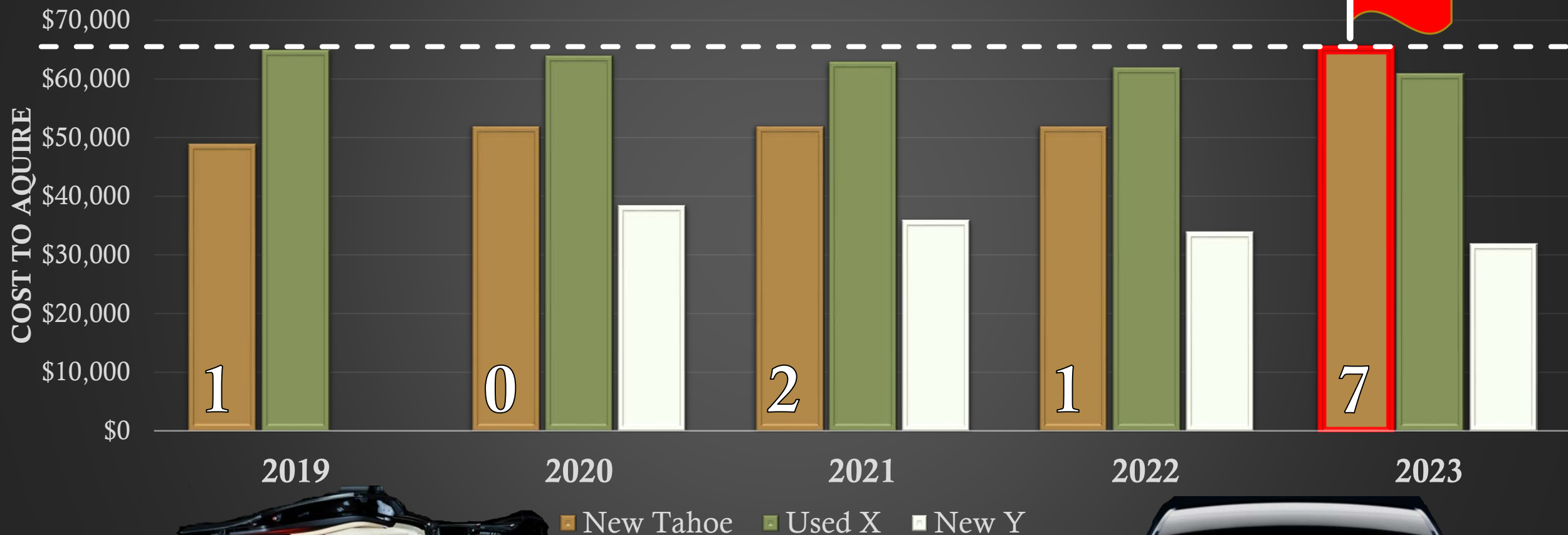
VEH NUMB	DESCRIPTION	PURCHASE DATE	PURCHASE PRICE	MILEAGE AS OF 07/31/18	EST MILEAGE AT REPL	NORMAL YEARS LIFE	NORMAL REPL YEAR	BUDGET REPL YEAR	EQUIPMENT SINKING FUND BASIS	REPLACEMENT COSTS				
										2019	2020	2021	2022	2023
911	2012 Chevy Impala	06/09/12	21,534	41,415	65,000	7	2019	2020	21,534					
912	2010 Ford Crown Victoria Sedan	05/28/10	23,474	79,483	65,000	7	2017	2020	23,474					
913	2013 Chevy Impala	08/09/13	22,644	37,665	65,000	7	2020	2020	22,644					
920	2011 Ford Crown Victoria Sedan	07/22/11	24,414	46,492	75,000	7	2018	2020	24,414					
994	2008 Ford Crown Victoria Sedan	05/09/08	24,420	91,996	75,000	5	2013	2019	24,420					
905	2014 Chevy Caprice PPV Patrol	04/03/14	35,898	48,678	75,000	5	2019	2019	35,898					
906	2015 Chevy Tahoe C1500 PPV Patrol SUV	12/22/14	36,499	52,840	100,000	5	2019	2021	36,499					
907	2013 Chevy Tahoe K1500 LS SUV	06/28/13	38,543	82,842	75,000	5	2018	2020	38,543					
909	2018 Chevy Tahoe PPV Patrol SUV 4x4	08/05/18	35,636	83,252	90,000	5	2019	2019	35,636					
910	2013 Chevy Caprice PPV Patrol	06/22/13	47,309	0	120,000	7	2017	2019	47,309					
918	2017 Chevy Tahoe PPV Patrol SUV 4x4	07/26/17	34,910	100,077	110,000	5	2023	2023	34,910					
923	2017 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	47,842	16,159	75,000	5	2023	2023	47,842					
925	2017 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	48,546	24,526	75,000	5	2023	2023	48,546					
926	2018 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	47,842	21,941	75,000	5	2023	2023	47,842					
928	2017 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	47,842	0	75,000	5	2023	2023	47,842					
934	2017 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	47,842	0	75,000	5	2023	2023	47,842					
935	2018 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	33,834	25,436	75,000	5	2023	2023	33,834					
936	2017 Chevy Tahoe PPV Patrol SUV 4x4	06/22/17	37,987	28,212	75,000	5	2023	2023	37,987					
937	2017 Chevy Tahoe PPV Patrol SUV 4x4	07/18/17	47,309	13,654	75,000	5	2023	2023	47,309					
938	2006 Ford E250 Van	07/18/17	38,432	10,534	75,000	5	2023	2023	38,432					
939	2005 Ford Excursion	12/08/06	78,599	6,470	65,000	5	2016	2020	78,599					
942	2014 Chevy Silverado 1500 (Seizure)	01/28/08	N/A	37,110	N/A	N/A	N/A	N/A	N/A					
993	2012 Chrysler 300 (Seizure)	01/12/18	25,000	40,552	N/A	N/A	N/A	N/A	N/A					
998	2008 Chevy Mobile Command Center	07/31/09	197,920	2,350	N/A	N/A	N/A	N/A	N/A					

CITY OF NEWARK, DELAWARE
VEHICLE REPLACEMENT PROGRAM SCHEDULE 2019-2023
POLICE DEPARTMENT PAGE 2 OF 2

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\$65,000 SUV Price Point



Model X



Model Y

\$65,000 SUV Price Point – With Everything





What if Cops Drive EVs?

Cost of current 5-year vehicle replacement plan for 23 sedans and 11 police SUVs:

\$1,414,000

5-year EV plan for 23 Nissan Leafs, 11 Teslas, 23 chargers, and 15 mods:

\$908,193

Procurement Savings:

\$505,807



Fuel and Maintenance

- Gasoline saved with Nissan Leafs:

19,559 gallons

- Gasoline saved if upgrading the police:

97,446 gallons

- Fuel Savings if gasoline is \$2.25 per gallon:

\$263,261

- Fewer moving parts

- No oil to change:

\$13,600

- Less time in the shop

- Less coordination for maintenance downtime

Lifecycle CO₂ Emissions Reduction

Phase 1 – Leafs for everyone (11 sedans) ...and *commit to no new fossil-fueled vehicles!*

253 tons of CO₂ in current plan - 46 tons in new plan (conserv. est.) = 207 tons reduced

Phase 2 – Cops driving Teslas (23 cars and SUVs)

1,126 tons of CO₂ in current plan – 130 tons in new plan (conserv. est.) = 996 tons reduced

Phase 3 – Pickup Trucks

Phase 4 – Other utility vehicles

Total (34 cars and SUVs)

1,203 tons of CO₂ emissions saved over current lifecycle plan

Phase 3: Pickup Trucks

Rivian

Starting at \$69,000



Atlis

Starting at \$45,000



Ford

Price not set yet



Phase 4: Utility Trucks

Garbage

Mail

VW Microbus



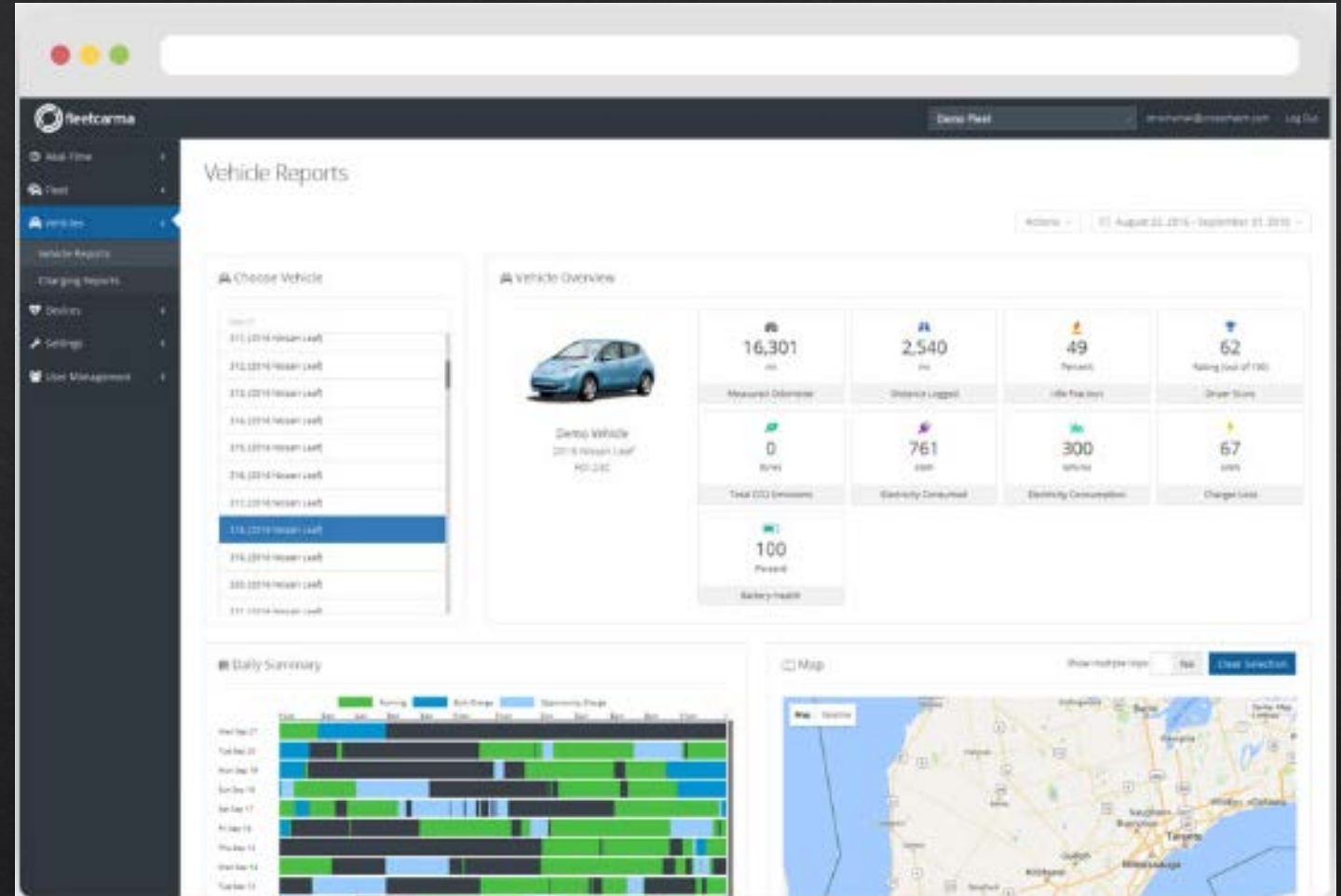


fleetcarma®

a division of GEOTAB

Fleet Pool Dispatch

View all vehicles available within
a geofence and their current
state-of-charge (if electric)



Delaware Clean Cities Coalition

▼

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 **Div. of Climate,
Coastal, & Energy**

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Livable Climate ▶

Renewable Energy ▶

Energy Efficiency ▶

The Delaware Clean Cities Coalition helps Delaware residents, businesses, and fleet operators work together to reduce the use of petroleum, develop regional economic opportunities, and improve air quality. The Coalition is housed within the DNREC Division of Climate, Coastal, & Energy.

The Coalition is sponsored by the U.S. Department of Energy’s Vehicle Technologies Program and is charged with building partnerships to reduce petroleum use in Delaware’s transportation sector. It is part of a [national network](#) of [clean cities](#) coalitions.

The coalition is made up of over 40 stakeholders from state and local governments, Delaware businesses, fuel suppliers, vehicle retailers, fleet owners, non-profit organizations, and other interested parties. It provides tools and resources for voluntary, community-centered programs to meet its goals.



Contact Information

[Kathy Harris](#) 

Clean Cities Coordinator

Suite 5A



The ZEV Task Force is 9 states working together to support electric vehicles.

[Learn More](#)



California



Connecticut



Maryland



Massachusetts



New Jersey



New York



Oregon



Rhode Island



Vermont



Summary & Discussion

City fleet EVs aren't just good clean fun. They are also safer, cheaper, and more reliable than fossil-fueled vehicles