CST
Fleet Services

ecoPreserve

# City of Waco - Fleet Study

June 2022

# Serving fleets since 2000

## 500+ Fleet Studies

## Helping fleets improve each day

# Our Team

Randy

Ron

Danielle

Rebecca

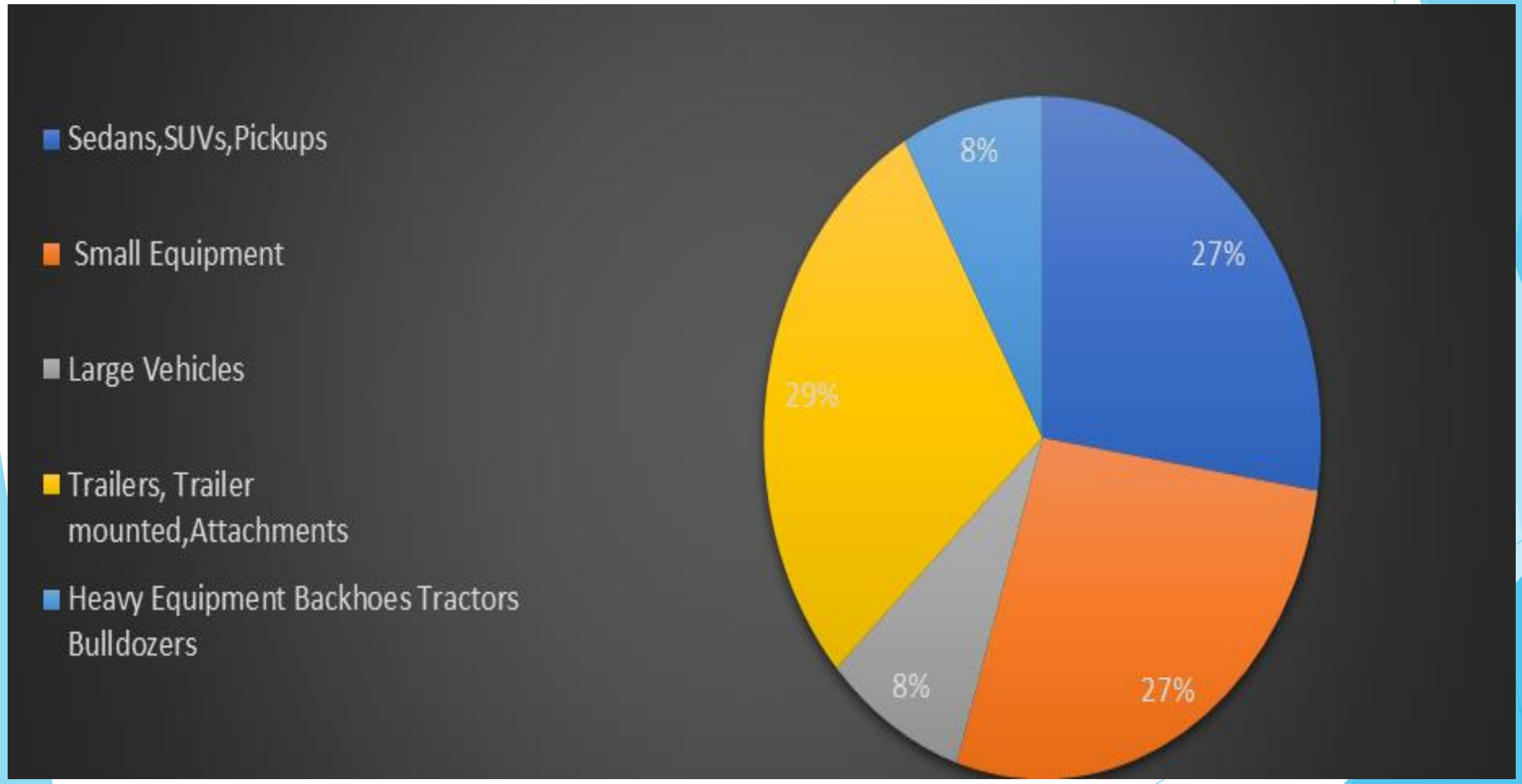
Jon

# Summary of Waco Fleet Study

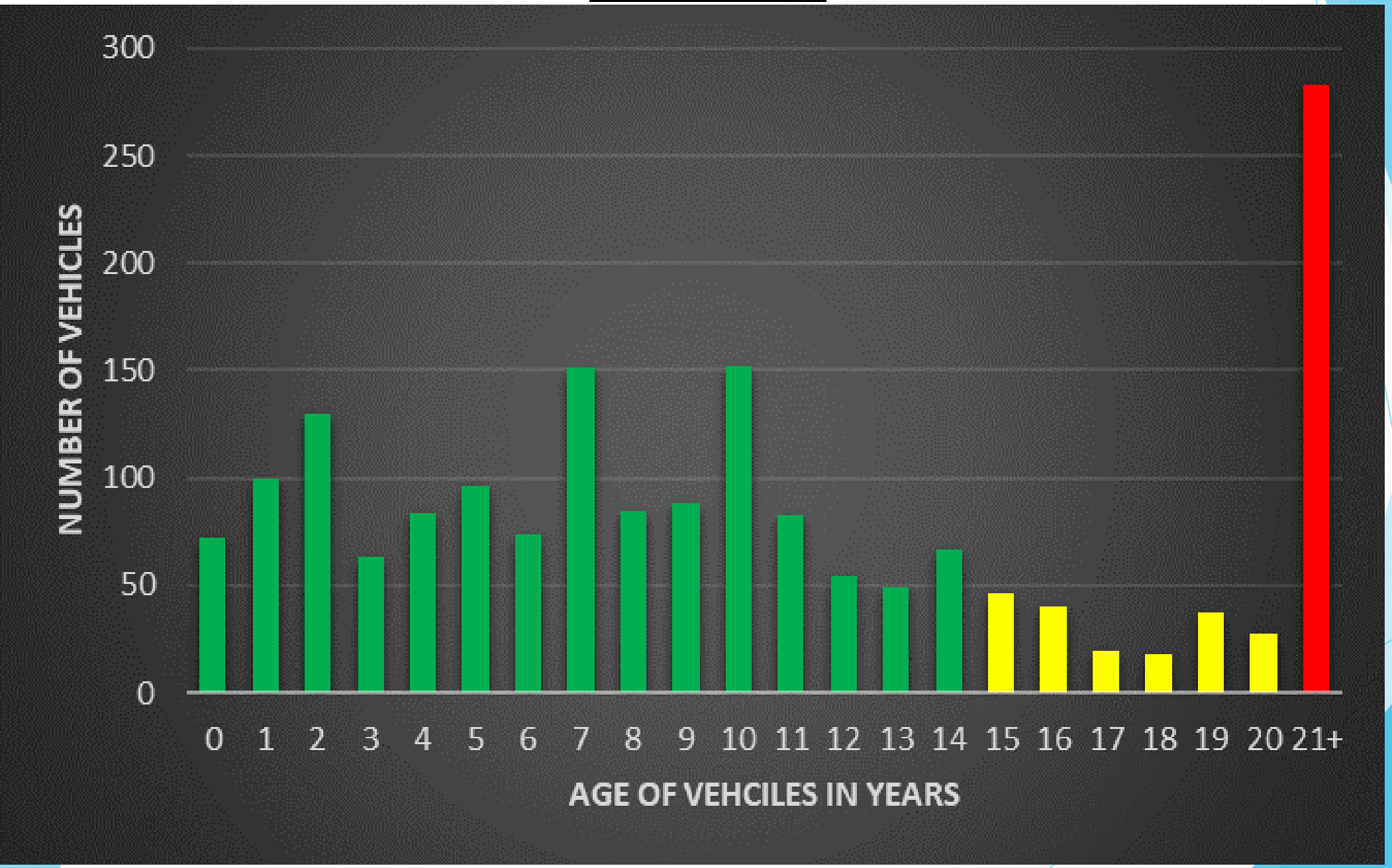
1. Fleet Utilization Study
2. Fleet Electrification Plan
3. Fleet Replacement Plan
4. Other Notes

# Fleet Utilization Study

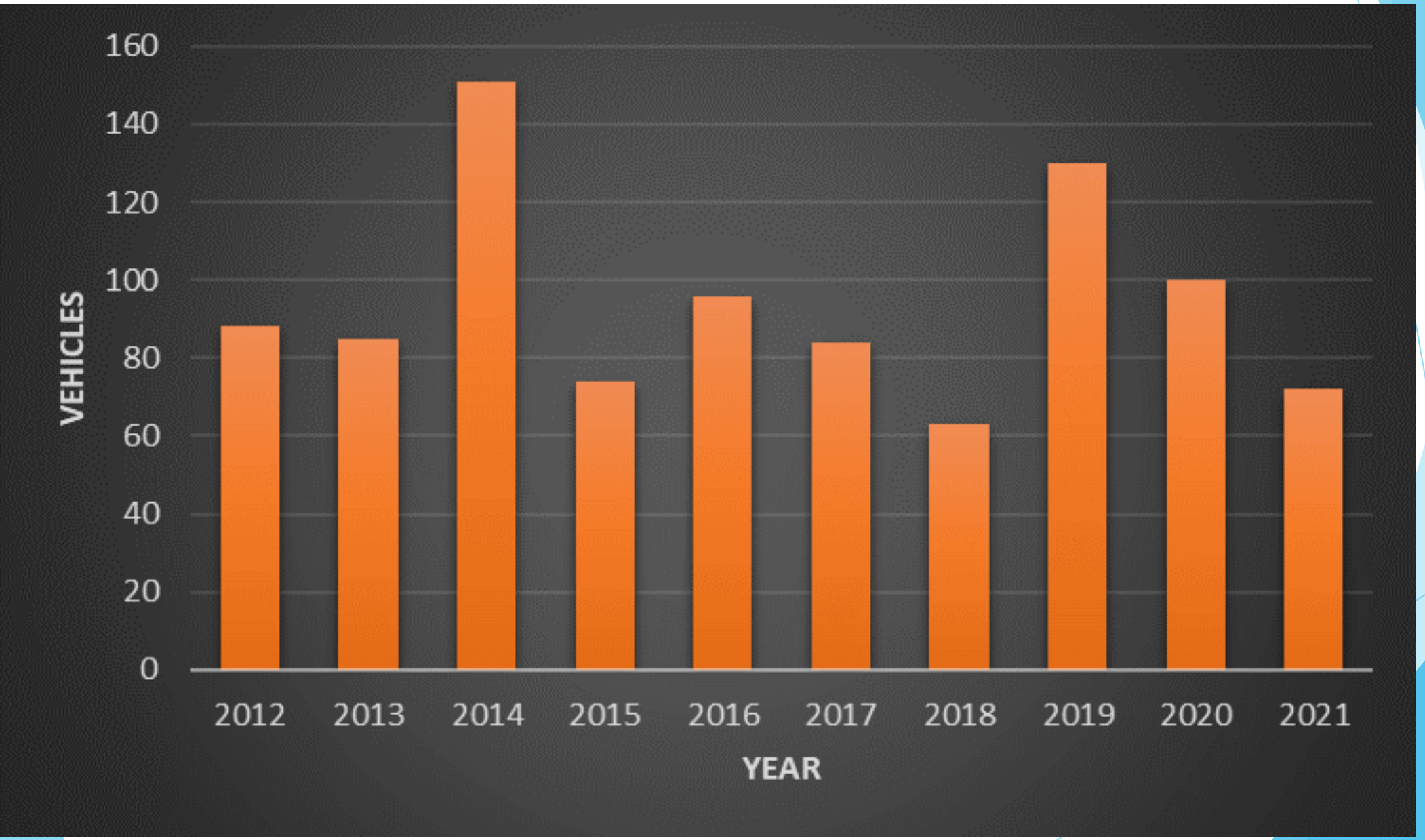
# Fleet Composition



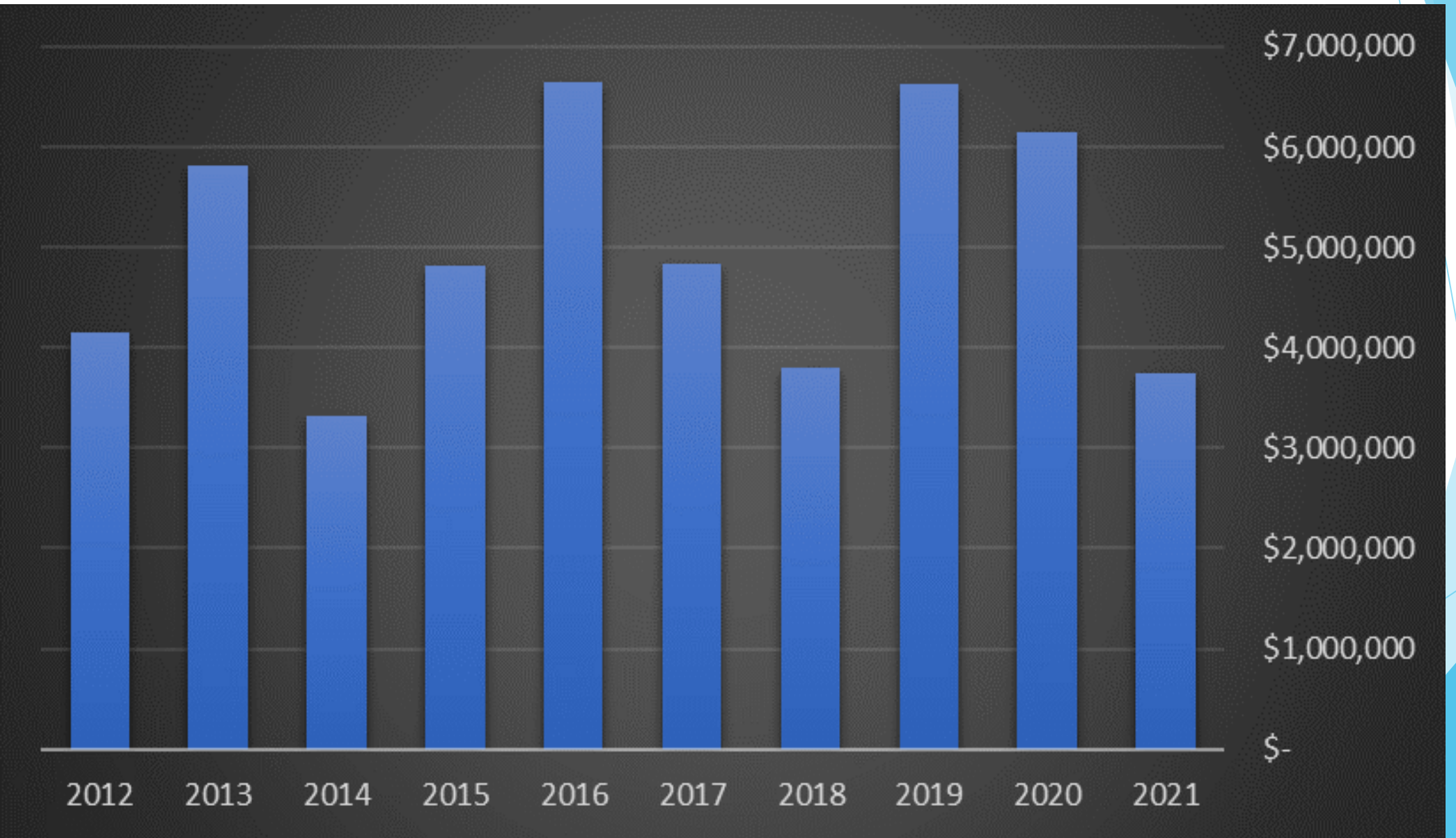
# Vehicle Age


300
250
200
150
100
50
0
NUMBER OF VEHICLES
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21+
AGE OF VEHCILES IN YEARS

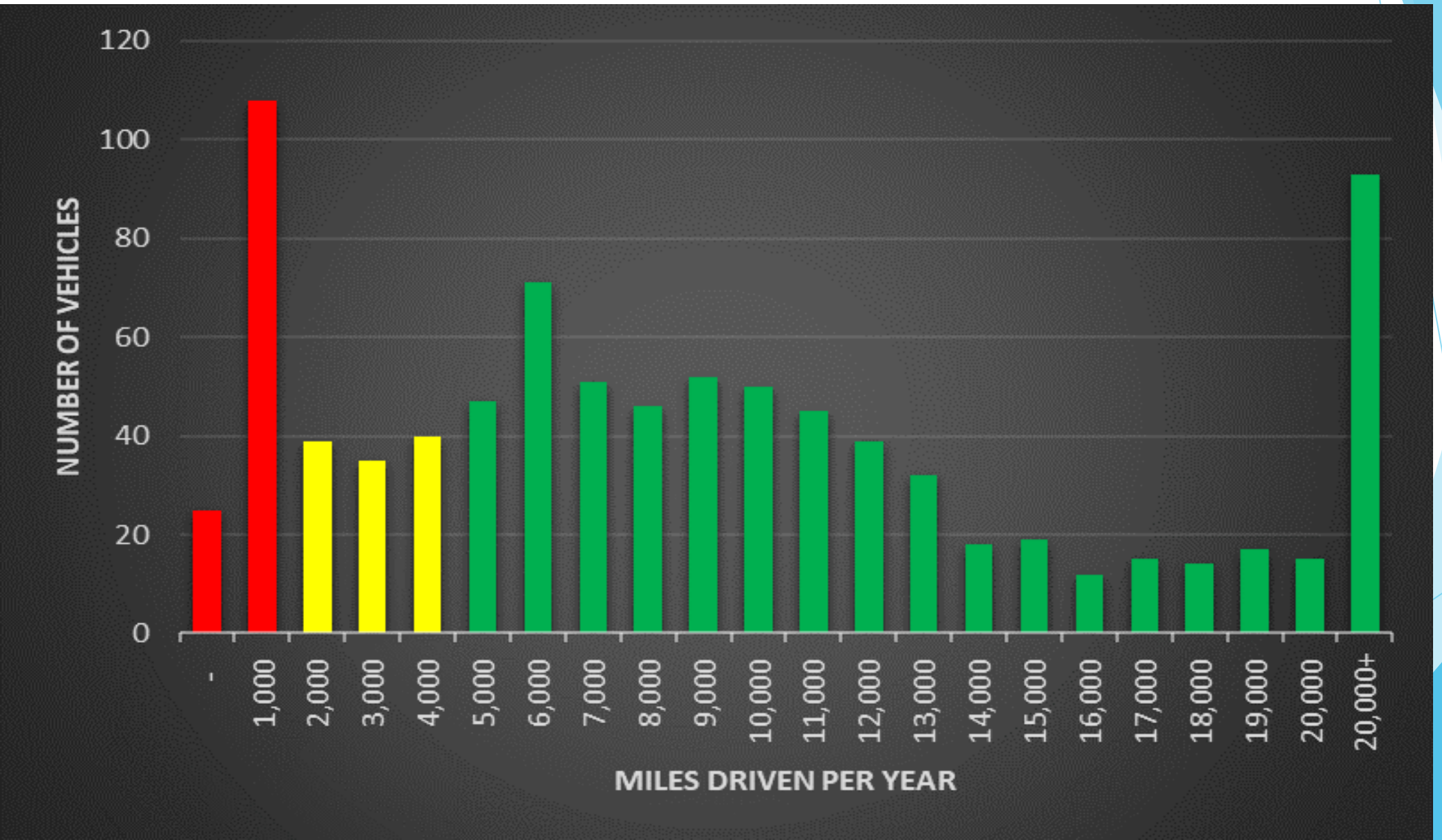
# Vehicle Purchases



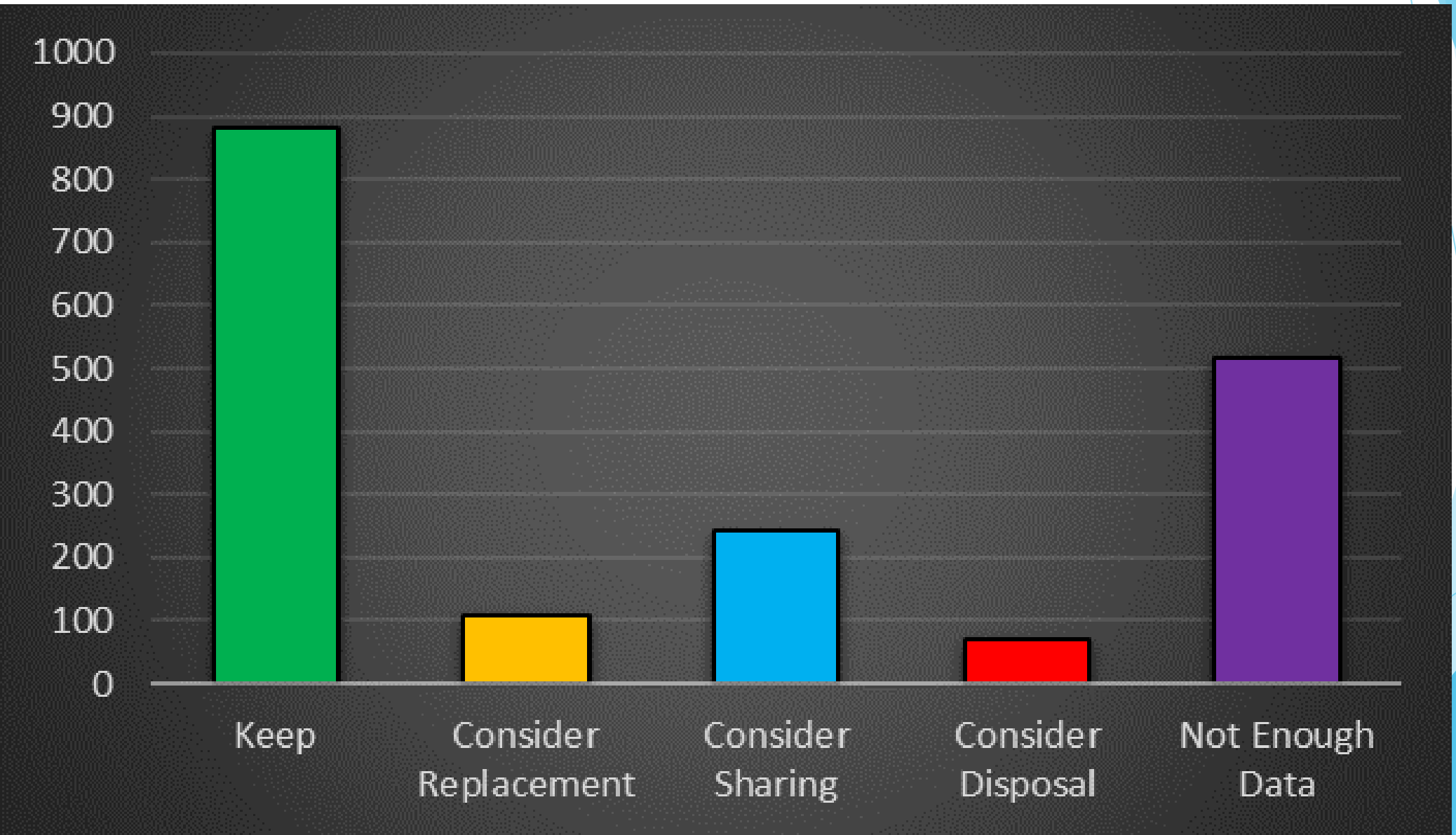
# Capital Purchase Costs by Year



# Mileage by Year

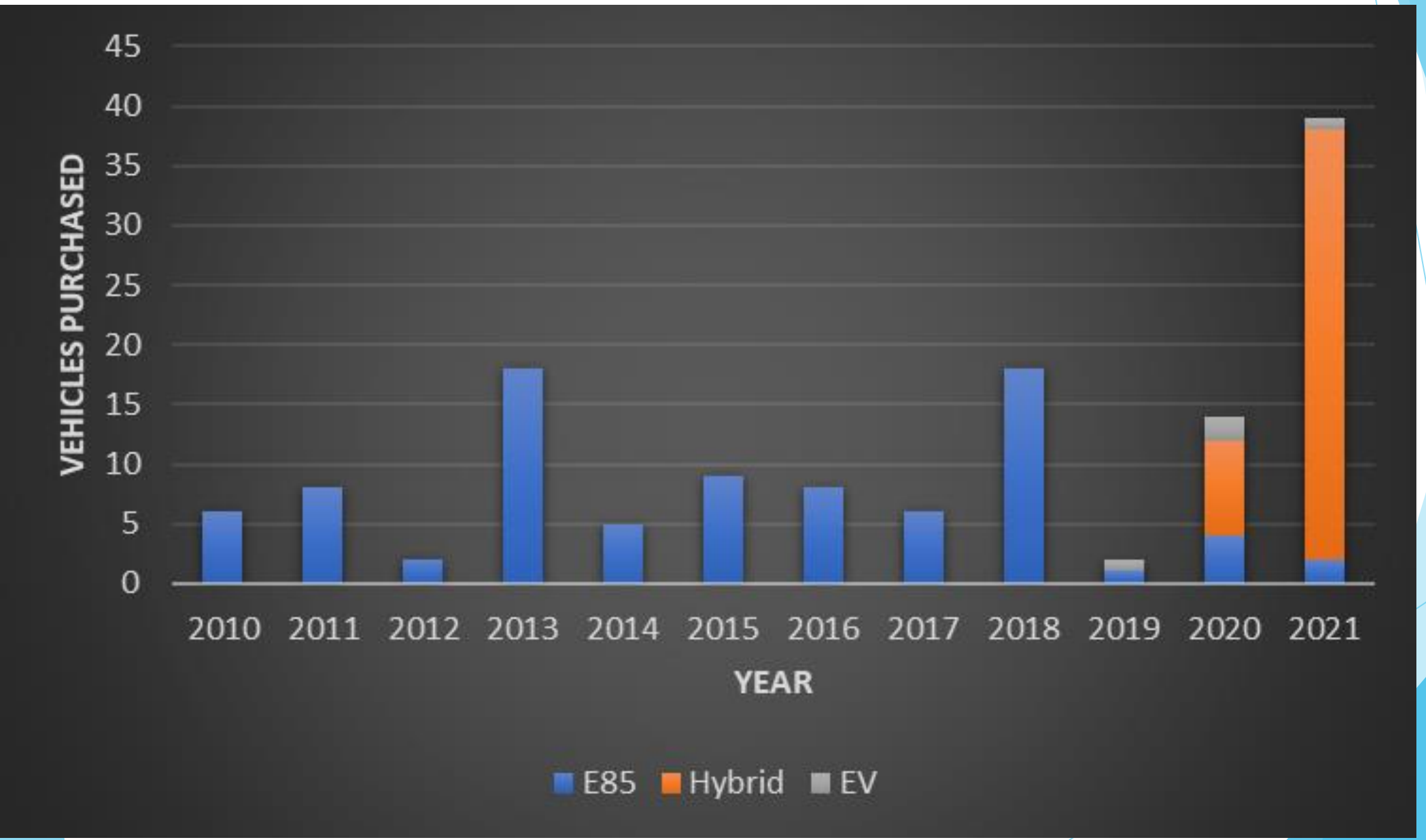


# KRSD (Keep Replace Share, Dispose) Model Results

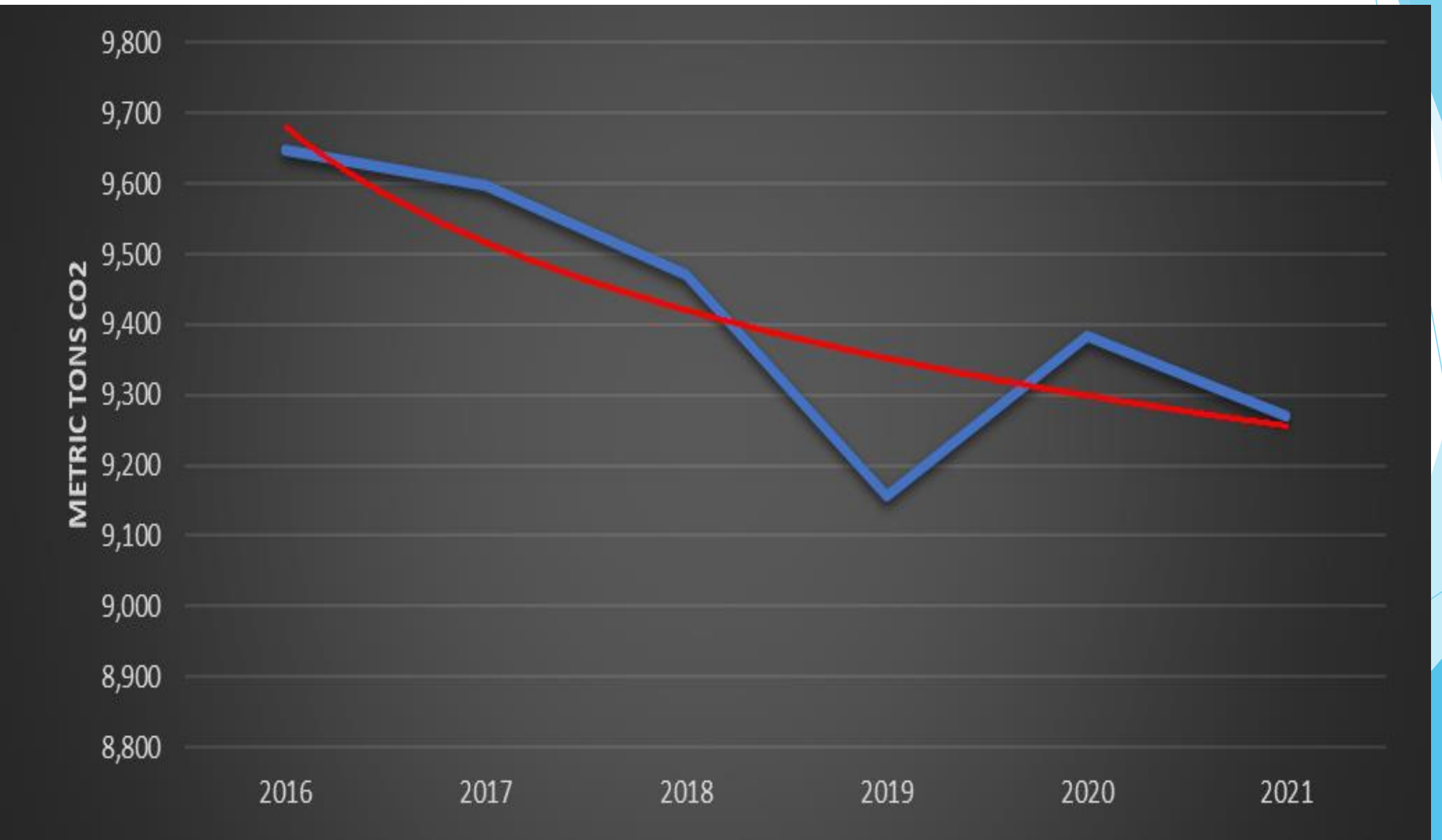


# Fleet Electrification Plan

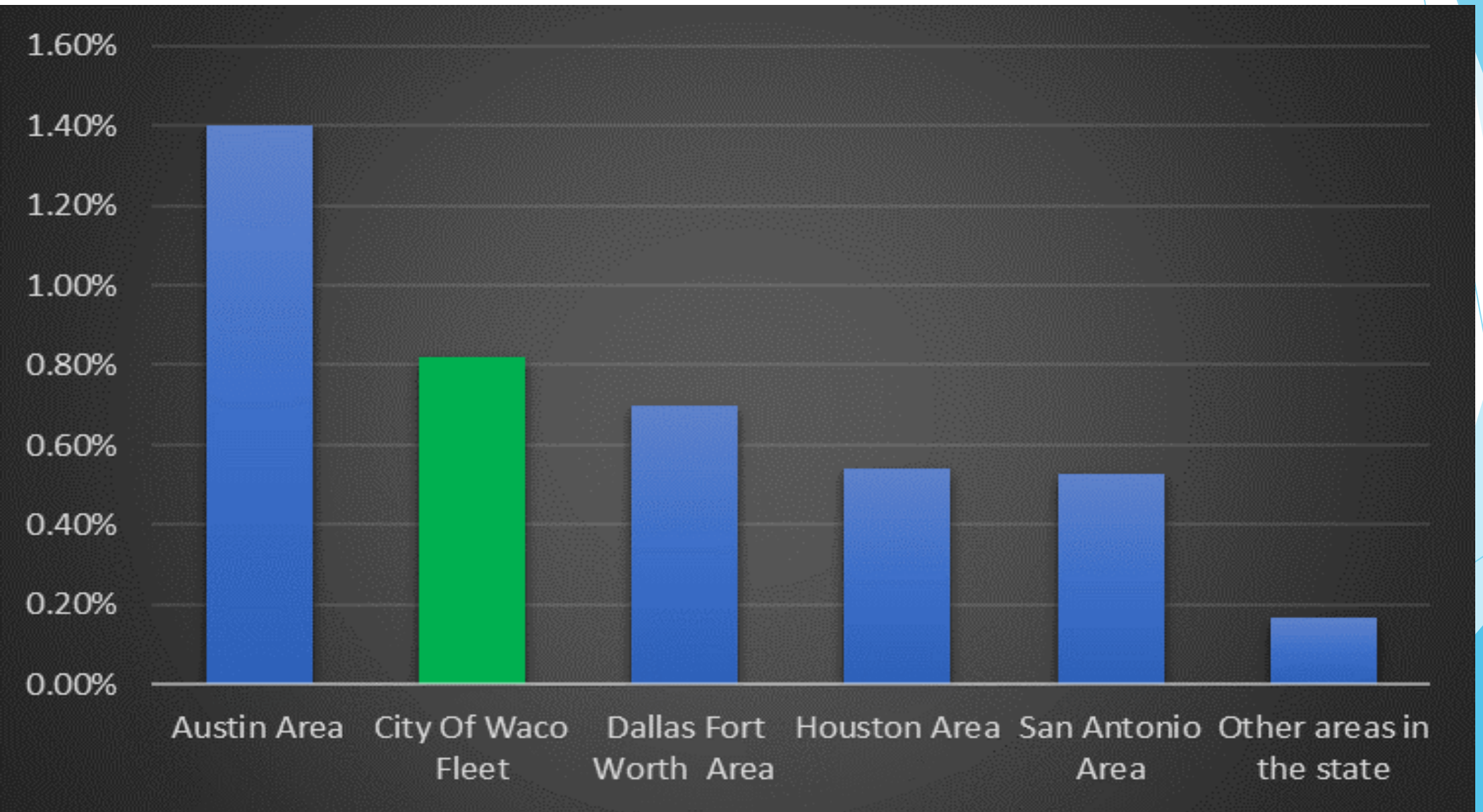
# Alt Fuel Vehicles Purchased



# Fleet Emissions Co2 Metric Tons



# EV Percentage of All Registered Vehicles



# EV Charging

## Current

| Location | Address | Number of L2 Stations |
|---|---|---|
| Operations Center | 1415 N 4th St | 4 |
| EM/IT Building | 721 N 4th St | 1 |
| Water Office Parking Facility | 425 Franklin Ave | 2 |
| **Total** | | **7** |

# EV Charging

# Future

| Building | Address | Number of Future L2 Chargers |
|---|---|---|
| Operations | 1415 N 4th St | 5 |
| Police Tower | 3115 Pine Ave | 20 |
| Solid Waste Office | 501 Schroeder | 5 |
| Cobbs Recycling Center | 2021 N 44th St | 2 |
| Streets Admin | 7801 Monkey Run Rd | 2 |
| WMARSS | 1147 Treatment Plant Rd | 4 |
| Water Office Parking | 425 Franklin | 6 |
| | | 44 |

# EV Plan

**4 – current electric vehicles**

**54 additional vehicles were identified for electric vehicle.**

**4 – being replaced with Electric Vehicles.**

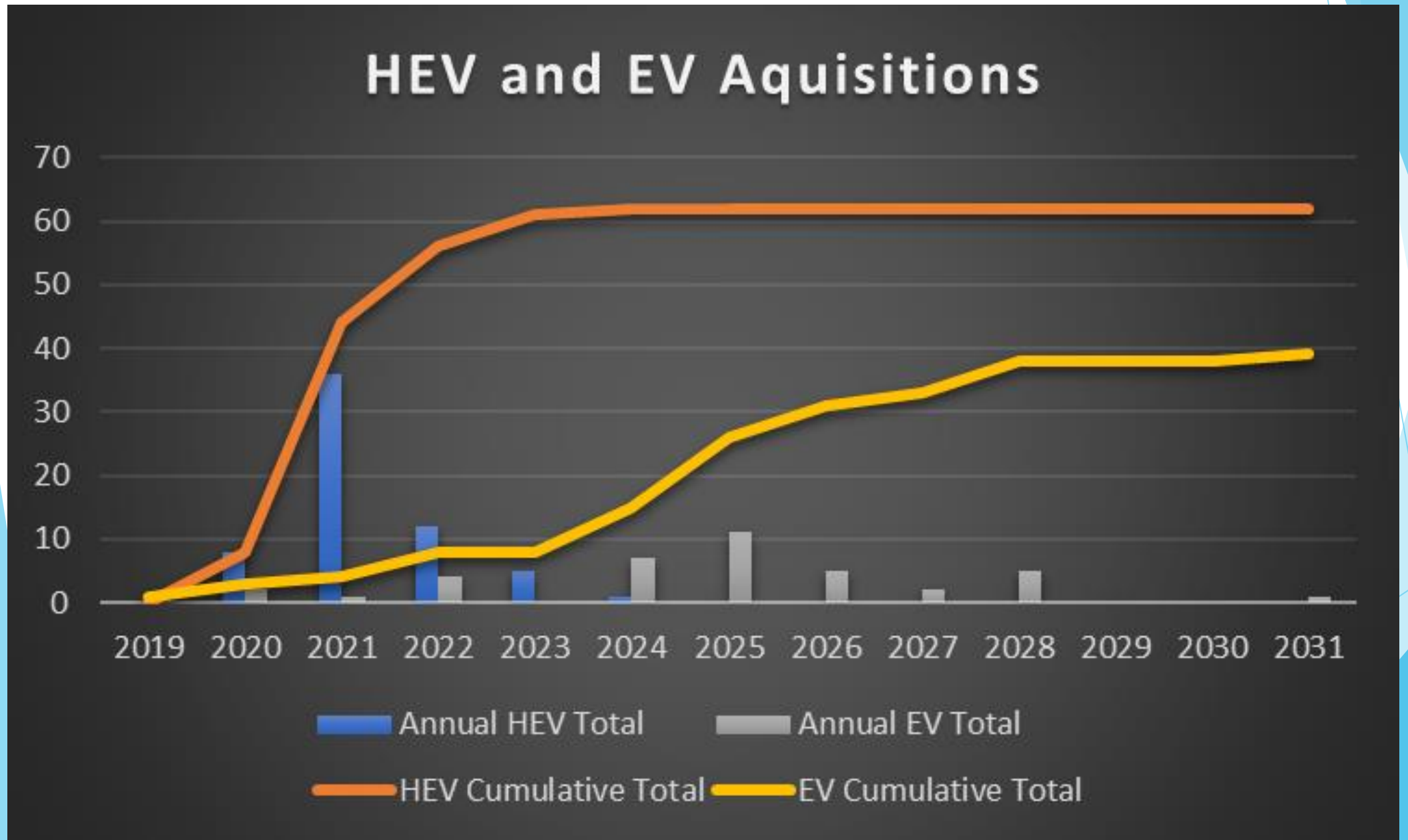
**Of the remaining 50 vehicles,**

- **29 are pickup trucks,**
- **16 are sedans, and**
- **5 are SUVs.**

# EV Plan- Sedans, SUVs, Pickups

| Year | Sedan | SUV | Pickup | Total | | HEV | EV |
|---|---|---|---|---|---|---|---|
| 2022 | 1 | | 12 | 13 | | 12 | 1 |
| 2023 | 0 | | 5 | 5 | | 5 | 0 |
| 2024 | 6 | 1 | 1 | 8 | | 1 | 7 |
| 2025 | 9 | 1 | 1 | 11 | | 0 | 11 |
| 2026 | | 1 | 4 | 5 | | 0 | 5 |
| 2027 | | 1 | 1 | 2 | | 0 | 2 |
| 2028 | | | 5 | 5 | | 0 | 5 |
| 2029 | | | | 0 | | 0 | 0 |
| 2030 | | | | 0 | | 0 | 0 |
| 2031 | | 1 | | 1 | | 0 | 1 |
| **TOTAL** | **16** | **5** | **29** | **50** | | **18** | **32** |

# Hybrid Electric Vehicles(HEV) and Electric Vehicles(EV) Plan



# EV Recommendations

Recommendation : Include tracking software on future Electric Vehicle Charging Infrastructure (EVCI)

Recommendation : Reevaluate the Battery Electric Vehicle (BEV) and Plug In Hybrid Electric Vehicle) market every 12 months

Recommendation : Explore additional vehicles for conversion potential

# EV Plan

**Recommendation: Verify any potential fleet vehicle purchase**

**Is the vehicle in production?**

**Is the vehicle available?**

**Is the manufacturer reliable?**

**Is the vehicle reliable?**

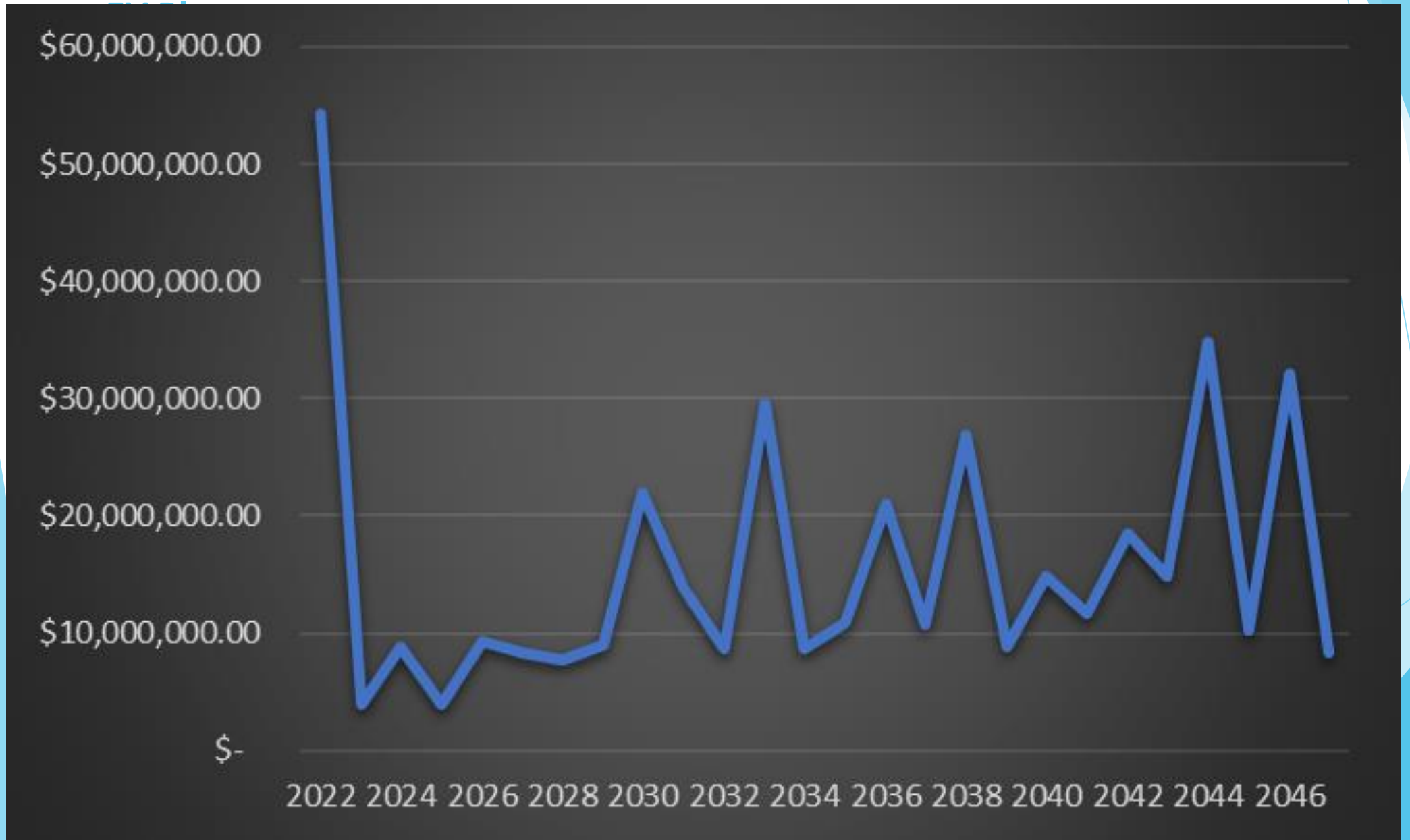
**Where do I take the vehicle for warranty or regular repairs?**

**What shop support is needed for the vehicle?**

**Is the total cost of ownership in line with comparable vehicles?**

# Fleet Replacement Plan

# Business as Usual cost to keep fleet within Life Cycle



# Recommended Fleet Replacement Plan

| | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Recommended Spend | $8,964,898 | $9,233,845 | $9,510,860 | $9,796,186 | $10,090,072 |
| Smoothed catch up | $5,535,977 | $5,535,977 | $4,613,314 | $4,613,314 | $4,613,314 |
| Total Spend | $14,500,875 | $14,769,822 | $14,124,174 | $14,409,500 | $14,703,386 |
| Avg Vehicle Age | 13.0 | 12.3 | 11.7 | 11.3 | 10.8 |

| | 2027 | 2028 | 2029 | 2030 | 2031 |
|---|---|---|---|---|---|
| Recommended Spend | $10,392,774 | $10,704,557 | $11,025,694 | $11,356,464 | $11,697,158 |
| Smoothed catch up | $4,613,314 | $2,306,657 | $2,306,657 | $2,306,657 | $2,306,657 |
| Total Spend | $15,006,088 | $13,011,214 | $13,332,351 | $13,663,121 | $14,003,815 |
| Avg Vehicle Age | 10.4 | 10.0 | 9.9 | 9.7 | 9.6 |

# Study Recommendations

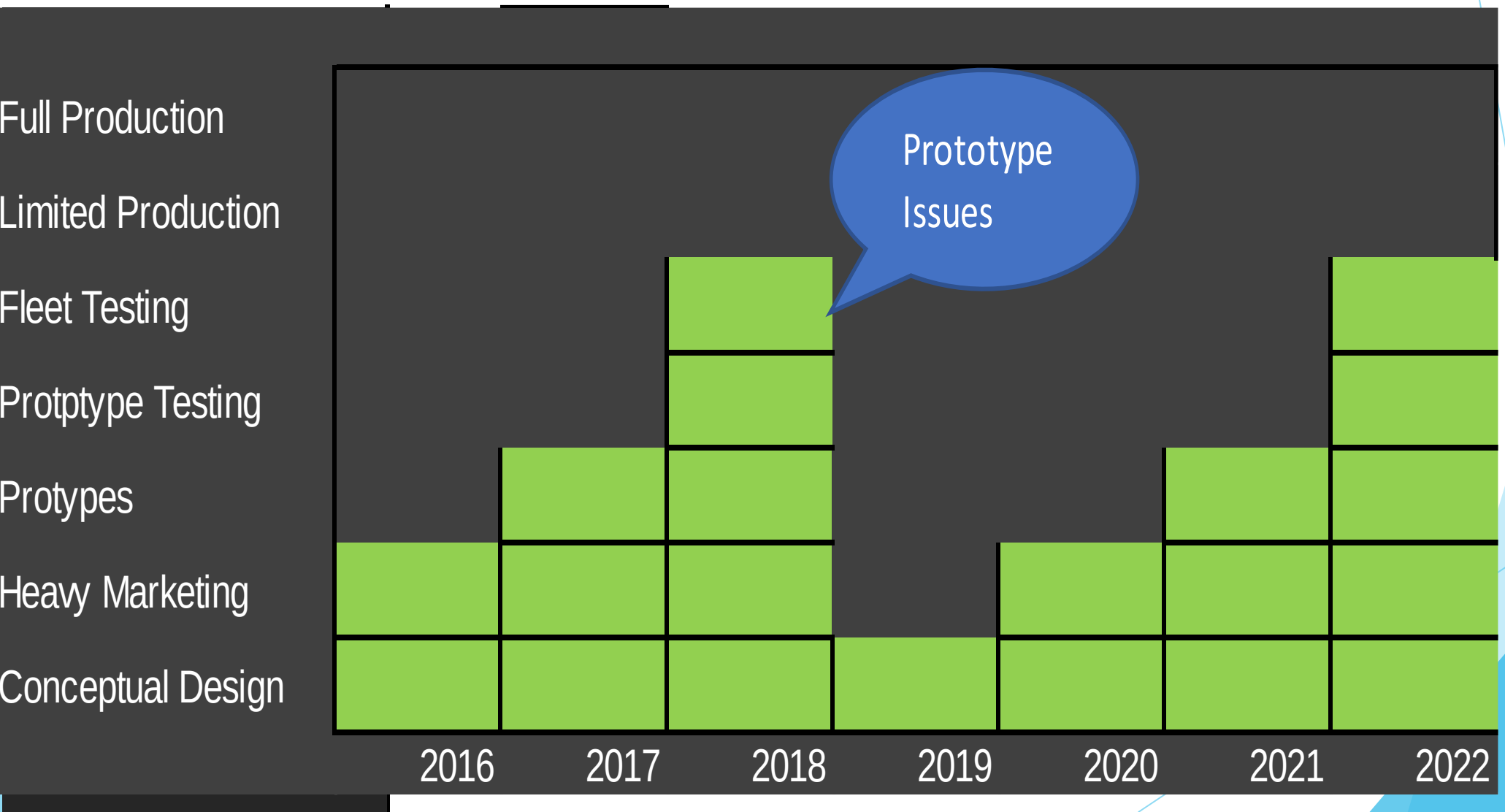
| Evaluate | Upgrade | Update | Create | Create | Add |
| --- | --- | --- | --- | --- | --- |
| Recommendation Evaluate low use vehicles eliminate/share to generate savings | Recommendation Upgrade to FASTER Web | Recommendation Update Fleet Policies | Recommendation Create Service Level Agreements | Recommendation Create a FMSC | Recommendation Add a New Vehicle Request Form/Procedure |

# Study Recommendations

| Create | Implement | Continue | Implement | Implement |
| --- | --- | --- | --- | --- |
| Recommendation Create a Motor Pool | Recommendation Implement Telematics | Recommendation Continue Rightsizing the Fleet | Recommendation Implement Replacement Plan and Capital Budget to Support Plan | Recommendation Implement automated interface between Fuel Master and Faster Web after Faster Web is installed. |

# Additional Info

# Additional Info - Medium Duty Electric Vehicles Timeline



# Questions?