



Fleet Mobility Services

Update to City Audit and Finance Committee

Optimizing Fleet, Maintenance Cycles, and Management

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January 24th, 2024



Introduction



Brief Overview of Fleet
Mobility Services



Importance of Efficient
Fleet Management



Optimization
Objectives and Project

Overview

Fleet Mobility Services, a vital department overseeing the comprehensive life cycle management of the City of Austin's 7,300 vehicles and equipment assets. Our purview includes budgeting, acquisitions, make ready preparation, maintenance, disposal, and operation of 42 fuel sites. We ensure seamless vehicle upkeep, embrace innovative technologies, and provide essential administrative support for all City Departments. Our commitment to excellence drives us to enhance mobility, optimize resources, and serve our community.



Comprehensive
Repair and
Maintenance Program



Fuel Supply planning,
forecasting, inventory and
distribution



Acquisitions, Rental and
Accident programs to support all
essential City Services



Organization Structure



FLEET STATISTICS

An annual report throughout the
preceding year 2020.

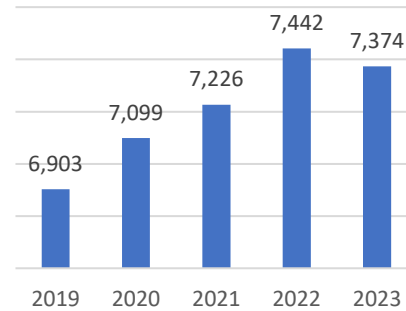
7,374

FLEET ASSETS



Number of fleet asset available for
that departments at any given time

Active Unit Count



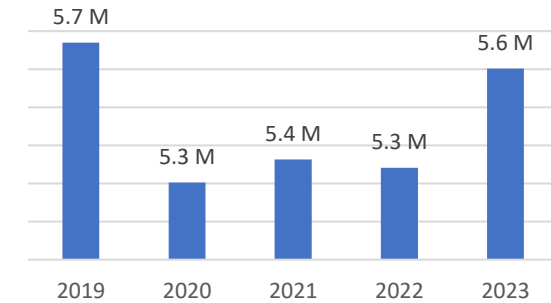
5.6M

ANNUAL FUEL CONSUMED



Annual fuel usage. Includes
Biodiesel, E85, gasoline, CNG, LPG

Fuel Qty Issued



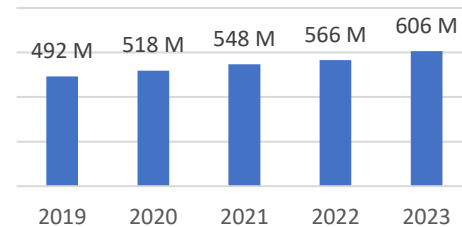
606M

REPLACEMENT VALUE

\$

Average cost to replace all fleet
assets. Refuse, Energy, Water,
Emergency Svc.

Asset Replacement Value



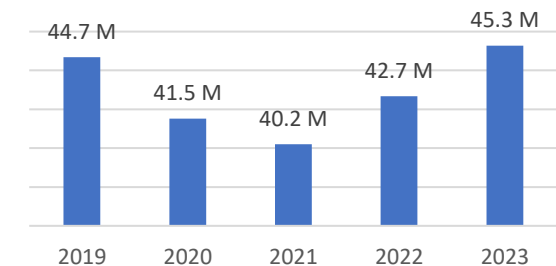
45.3M

ANNUAL MILES DRIVEN



Average cost per mile for all fleet.
Refuse, Energy, Water, Emergency
Svc.

Vehicle Miles Traveled



FLEET STATISTICS

*An annual report throughout the
preceding year.*

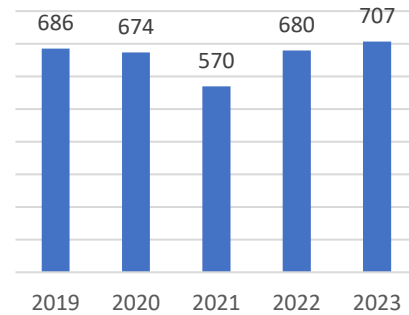
707

VEHICLES PURCHASED

Vehicles purchased by Fiscal Year



Vehicles Purchased



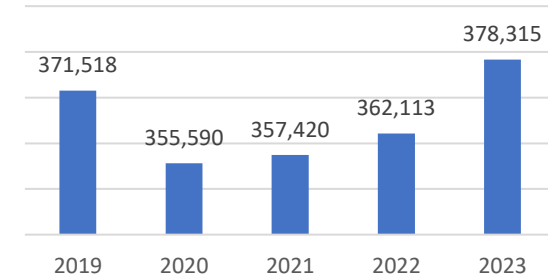
378K

FUEL TRANSACTIONS

Fuel Transactions by Fiscal Year



Fuel Transactions



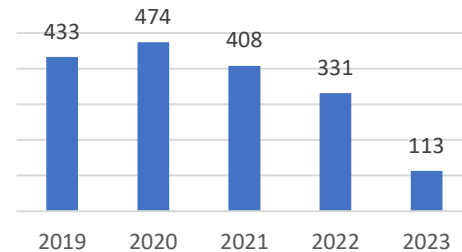
113

VEHICLES AUCTIONED

Vehicles sold at auction by Fiscal Year



Vehicles Auctioned



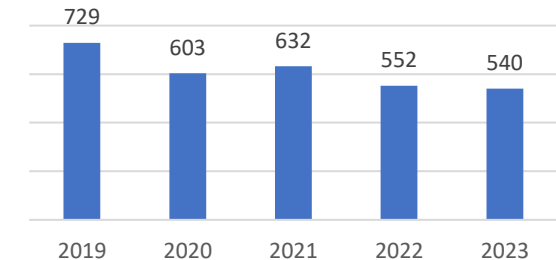
540

ACCIDENTS

Accidents by Fiscal Year



Accidents



KPIs

KEY PERFORMANCE INDICATORS



City of Austin Key Performance Metrics



Key Factors

91%



Availability

1.40



Cost Per Mile

57.0%



Alternative Fuel

6.5%



Electric Drivetrain

48,650

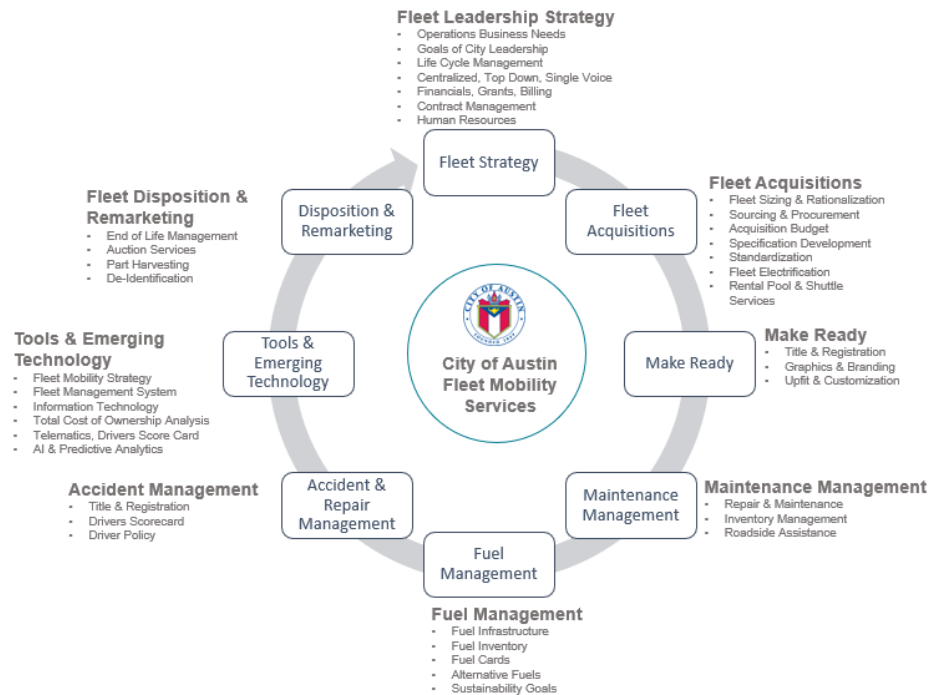


Repair Work Orders

94%



GPS Units



Budget Strategy

- **Strategically Centralized Fleet Budgeting and Planning**
 - Maintenance, Repair and Fuel of all City Fleet Assets
 - Acquisitions and Capital Infrastructure
- **Budget Strategy Overview:**
 - Cost Recovery Financial Model
 - Budget Allocation and Resource Management
 - Performance Metrics and Accountability

Operating Budget
\$75.4M

Capital Budget
\$41.4

Maintenance Cycles and Strategies

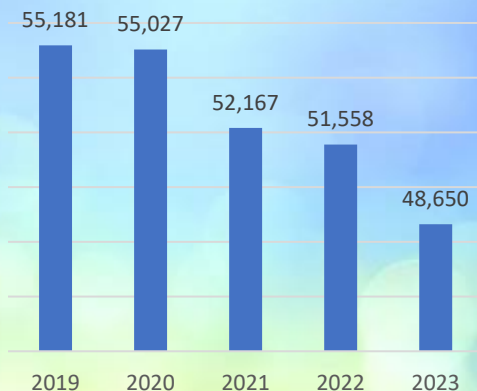
48,650

WORK ORDERS



Work Order count by Fiscal Year

Work Orders



Efficient maintenance cycles are crucial for keeping our fleet operational and minimizing downtime. Our maintenance strategies include:



a. Preventive Maintenance: We adhere to strict preventive maintenance schedules based on manufacturer recommendations. Regular inspections, fluid changes, and part replacements ensure that vehicles are less likely to experience unexpected breakdowns.



b. Predictive Maintenance: Through the use of data analytics, we are moving towards predictive maintenance. By analyzing vehicle performance data, we can anticipate maintenance needs and address potential issues before they lead to breakdowns.



c. Centralized Maintenance Tracking: We use a centralized system called AssetWorks M5 to track maintenance history, schedule upcoming services, and monitor the overall health of each vehicle. This allows us to make data-driven decisions regarding repair or replacement.

Preventive Maintenance Key Performance Indicators (KPIs)

To measure our performance, we track the following KPIs:

1. Vehicle Downtime:

- Measure the average time it takes to complete repairs and return vehicles to active service. Minimizing downtime is crucial to ensure that city vehicles are available for their designated tasks.

2. Vehicle Availability:

- Track the percentage of time that city vehicles are available for use. This KPI directly measures the operational readiness of the fleet and ensures that vehicles are accessible when needed.

3. Maintenance Costs per Vehicle:

- Track the overall cost of maintenance and repairs per vehicle. This KPI helps in managing and optimizing maintenance budgets, ensuring cost-effective operation over time.

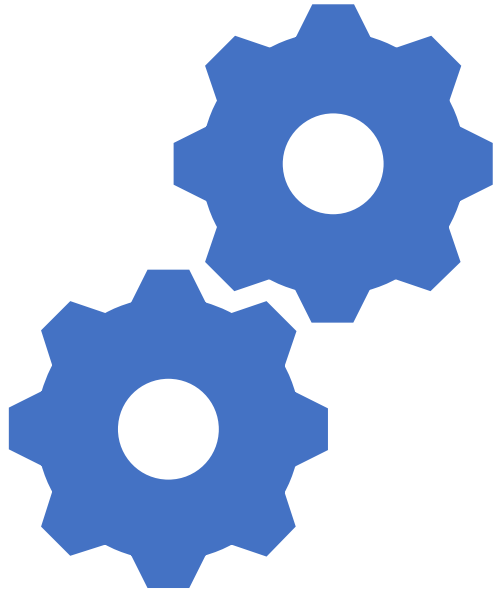
4. First-Time Fix Rate:

- Evaluate the percentage of repairs that are successfully completed on the first attempt. A high first-time fix rate indicates efficiency and reduces the need for repeated repairs, saving time and resources.

5. Workshop Efficiency:

- Assess the productivity and efficiency of the repair facility by tracking the number of jobs completed per technician or per day. This KPI provides insights into the overall operational efficiency of the automotive repair department.

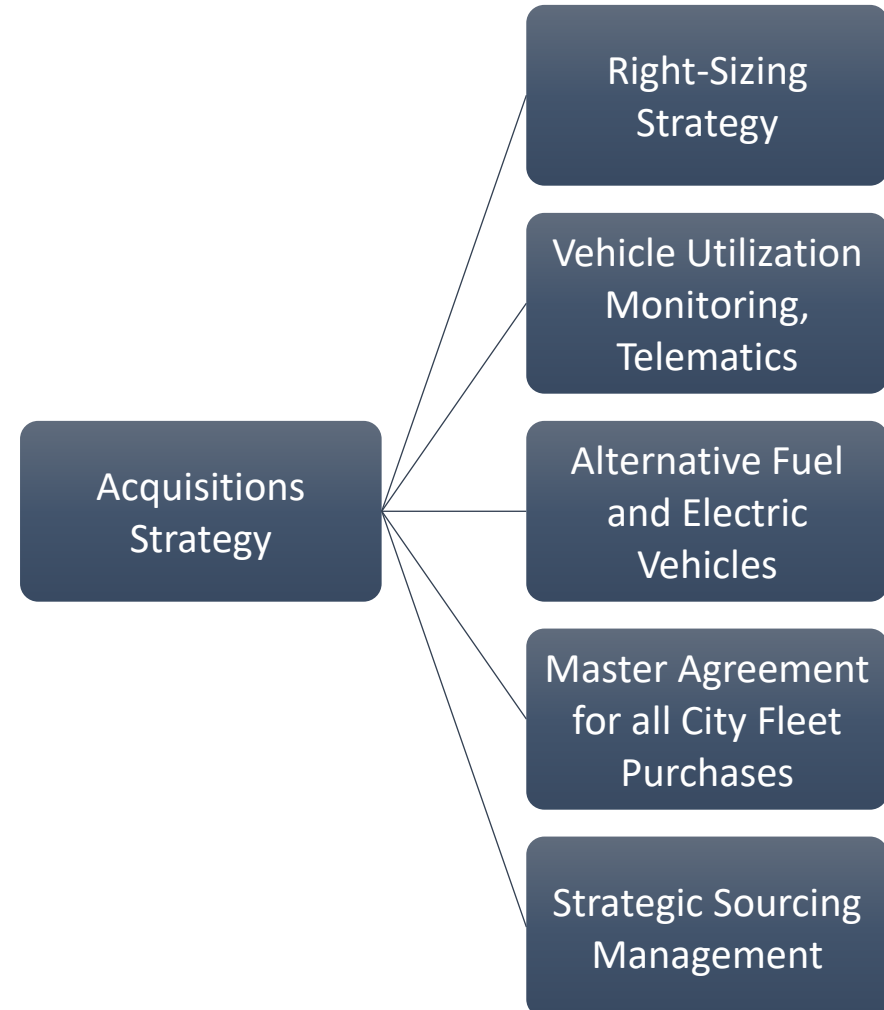




Fleet Management Optimization Processes

- Ensuring Smooth Operations
 - Vehicle Procurement:
 - Asset Tracking and Optimization
 - Data-Driven Decision-Making
 - Driver Training and Safety

City Fleet Asset Optimization



Capital Asset Management

Total Cost of Ownership

- What is Capital Asset Management (CAM)?
 - CAM is a software application that is attached to AssetWorks M5 and is dedicated to managing the analysis, planning, procurement and disposal of Fleet Assets and Capital Equipment



What does CAM do Specifically?

Calculate life-cycles and forecast maintenance costs
Forecast asset replacement eligibility
Build replacement and capital plans
Request new and replacement assets



What does CAM Measure and Score?

Asset Age
Usage (Distance, Hours, Count)
Energy Costs
Maintenance Cost
Downtime Hours
27 potential criteria in total



CAM Concept



Plan Summary

Category Forecast

Department Forecast

Department Search:

Replacement Expenditures

Order Qty

Depreciation

Salvage Revenue

Net Revenue

AFS

ENTFUND

GENFUND

4400

4600

5600

6400

7400

7500

7800

8300

8500

8600

8610

8700

9100

9102

9200

9300

AUSTIN FLEET SERVICES

ENTERPRISE FUND

GENERAL FUND

MANAGEMENT SERVICES

MUNICIPAL COURT

COMMUNICATIONS & TECH. MGT.

RADIO COMMUNICATIONS

FINANCIAL SERVICES

BUILDING SERVICES

FLEET SERVICES

FIRE DEPARTMENT

LIBRARY OPERATING

PARKS & RECREATION

PARKS & RECREATION

POLICE OPERATING

HEALTH OPERATING

HEALTH HS TRAVS O

ANIMAL CONTROL

EMS OPERATING

GENFUND

Department Forecast

Forecasted plan: 10 - 202

Order Qty

Depreciation

Salvage Revenue

Net Revenue

AUSTIN FLEET SERVICES

ENTERPRISE FUND

ELECTRIC OPERATING

AUSTIN RESOURCE RECOVERY

CODE COMPLIANCE

WATER OPERATING

WASTEWATER OPERATING

TRANSPORTATION

TRANSPORTATION-PARKING

DEVELOPMENT SERVICES DEPARTMENT

PUBLIC WORKS & TRANS

PUBLIC WORKS DEPT-CONST_ENG_PM

PUBLIC WORKS DEPT-STREET_BRIDGE

WATERSHED PROT. DEV. REV. ENT.

AVIATION OPERATING

CONVENTION CENTER

CONVENTION CTR PALMER

PARD GOLF ENTERPRISE

GENERAL FUND

\$86,968,249

\$24,104,918

\$33,443,496

\$31,442,330

\$

\$60,660,696

\$11,612,053

\$19,784,299

\$14,413,156

\$

\$6,061,924

\$1,149,282

\$1,735,607

\$1,541,404

\$

\$15,873,920

\$4,957,417

\$10,683,158

\$6,264,166

\$

\$228,134

\$44,280

\$44,731

\$56,567

\$

\$7,149,311

\$925,693

\$1,039,345

\$1,256,592

\$

\$10,732,392

\$1,374,324

\$1,172,577

\$848,131

\$

\$1,101,545

\$273,790

\$80,300

\$335,084

\$

\$70,718

\$29,066

\$0

\$21,297

\$

\$1,050,817

\$87,473

\$287,111

\$352,613

\$

\$0

\$0

\$159,297

\$0

\$

\$135,756

\$92,922

\$27,972

\$126,195

\$

\$11,425,089

\$1,093,633

\$2,193,898

\$2,901,814

\$

\$4,255,894

\$850,326

\$295,093

\$446,204

\$

\$1,370,606

\$48,660

\$868,009

\$241,791

\$

\$96,081

\$15,376

\$15,606

\$21,297

\$

\$31,078

\$0

\$0

\$0

\$

\$1,077,430

\$669,811

\$1,181,594

\$0

\$

\$26,307,553

\$12,492,865

\$13,659,197

\$17,029,173

\$

Category Forecast

Department Forecast

Department Search:

Replacement Expenditures

Order Qty

Depreciation

Salvage Revenue

Net Revenue

AFS

ENTFUND

GENFUND

AUSTIN FLEET SERVICES

ENTERPRISE FUND

GENERAL FUND

AUSTIN FLEET SERVICES

ENTERPRISE FUND

GENERAL FUND

\$86,968,249

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\$33,443,496

\$31,442,330

\$

Advanced Mobility Strategy





Fleet Mobility Services

Mobility Strategy

Connected City. Smart City.

Advance Automotive Technology:

Embracing Cutting-Edge Mobility Solutions:

- Electric Vehicles
- Efficient Vehicle Acquisitions
- AI-Powered Predictive Analytics
- Innovative Vehicle Maintenance
- Integration of Autonomous Mobility



A Smart City Initiative

Enhancing Safety and Mitigating Risks:

Empowering Safer Urban Mobility:

- Deploying Advanced Driver Assistance Systems (ADAS) and Telematics
- Real-time Driver Feedback Mechanisms
- Proactive Accident Reduction Strategies
- Integration of Autonomous Driver Assist Technologies

Environmental Leadership:

Driving Sustainable Practices:

- Aligning with City Sustainability Goals
- Reducing Carbon Emissions
- Adopting Alternative and Renewable Fuels
- Ensuring Eco-Friendly Disposal Methods

Achieving Cost Containment:

Optimizing Fleet Management Costs:

- Streamlined Vehicle Fleet for Efficiency
- Data-Driven Predictive Analytics for Budgeting
- Innovative Vehicle Maintenance Approaches
- Efficient Accident Repair and Disposal Strategies

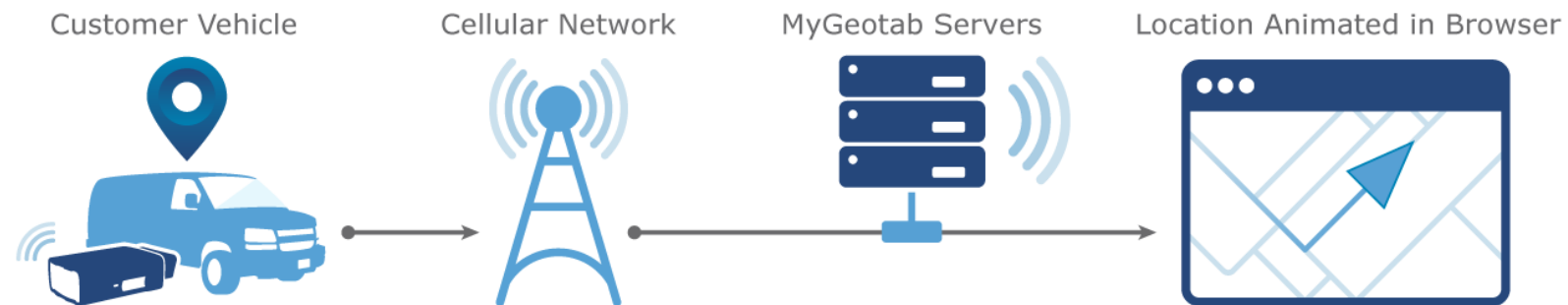


Asset Tracking

GPS Telematics



Imagine a highly intelligent computer in your vehicle that is able to report on nearly every detail — from utilization, speed and idling, to fuel use, low tire pressure, and more. This information can mean saving on maintenance costs by better monitoring vehicles or improving fuel efficiency by learning more about driving habits. All of this describes the universe of telematics, also known as GPS fleet tracking.



Top 5 Benefits of Telematics



Reduce Fuel Costs

Having the ability to track vehicles gives you much greater visibility over your fleet and you can gain insights on ways to reduced overall fuel costs.



Cost-Effective Maintenance

Telematics provides insights into the condition of your vehicles giving you the ability to do preventative maintenance and reduce maintenance expenses.



Better Communication

Data gathered by telematics systems enables you to cut through noise and quickly identify issues and communicate them across your team.



Enhance Safety

Vehicle tracking and telematics provides insights into driver behavior which enables you to create driver risk profiles and provide more effective driver coaching.



Resource Management

Vehicle tracking and telematics provides insights into driver behavior which enables you to create driver risk profiles and provide more effective driver coaching.

7000 Fleet Assets Installed and Connected:

Successful completion of the installation phase, with over 7000 fleet assets equipped with GeoTab telematics devices.

Full connectivity achieved, ensuring real-time tracking and data transmission for every vehicle in the city's diverse fleet.

25 Departments Including all Utilities and Public Safety:

Comprehensive program integration, involving 25 city departments.

Inclusive coverage spans across all utility services and critical public safety sectors, fostering citywide collaboration.

Over 2500 Management Trained System Users:

Extensive training initiatives have equipped over 2500 key management personnel with the skills to effectively utilize the telematics system.

Ensuring that decision-makers in various departments can leverage the full potential of the technology for strategic fleet management.

Real-time Visibility into Fleet Operations:

The telematics system provides real-time tracking, enabling continuous visibility into the location, status, and health of fleet assets.

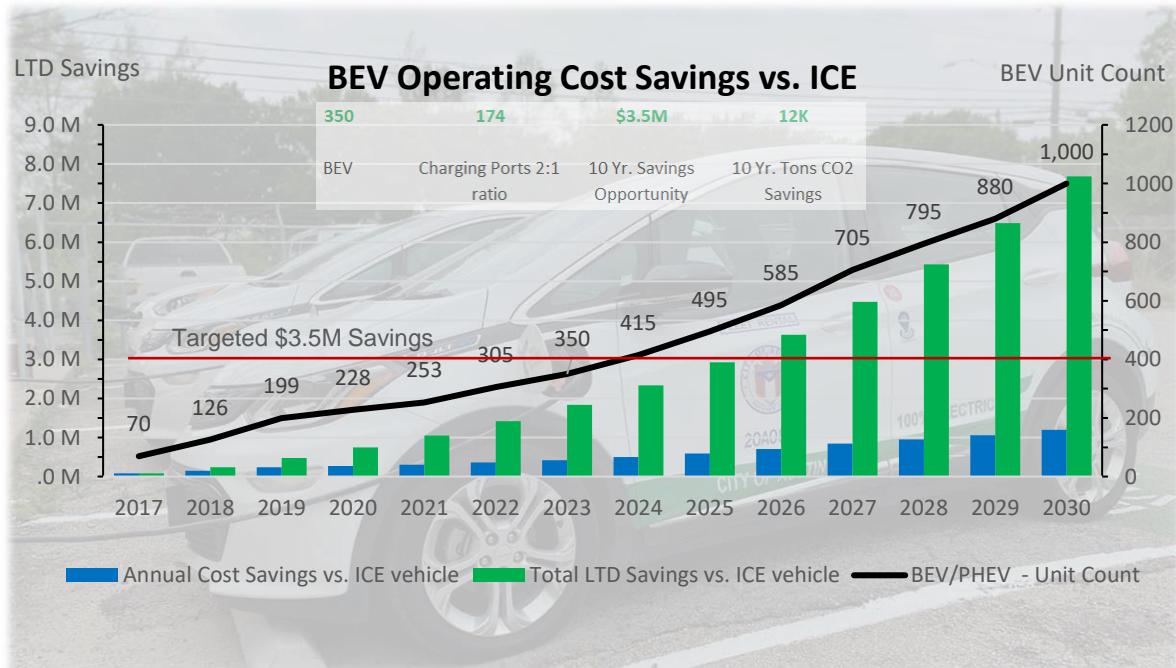
Enhanced decision-making capabilities for improved operational efficiency.

Positive Impact on Safety and Compliance

Efficient Driver Coaching and Behavioral Change:

Battery Electric Vehicle Program

City of Austin Fuel and Maintenance Cost Savings



CY23: 350 BEV in service end of year; LTD Operating Cost Savings vs. ICE \$1.8M

Annual Cost Savings vs. ICE Per Unit:

Avg. Annual Cost Saving Fuel:	48%	\$576
Avg. Annual Cost Saving Maintenance:	52%	\$629
Avg. Annual Operating Cost Savings:	100%	\$1,205

Ahead of Planned Savings of \$3.5M in 10 Yrs.

2026 Will exceed original 10-year savings est. \$3.5M
12-18 months ahead of plan

Fleet Charging Infrastructure



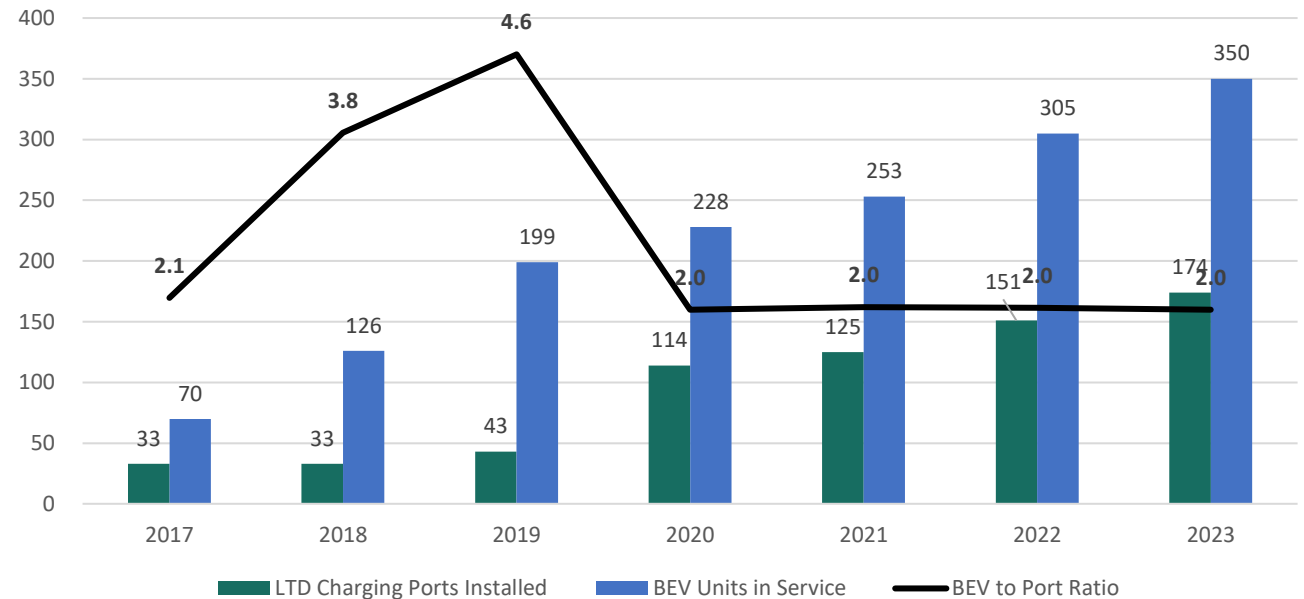
City of Austin – Fleet Charging Infrastructure

Charging Station Stats:

- 174 Charging Ports
- 2.1 BEV per port
- 566 Avg. Charging sessions per month
- 7.75 Avg. MWh Energy used per month
- \$4.17 Cost per month per vehicle



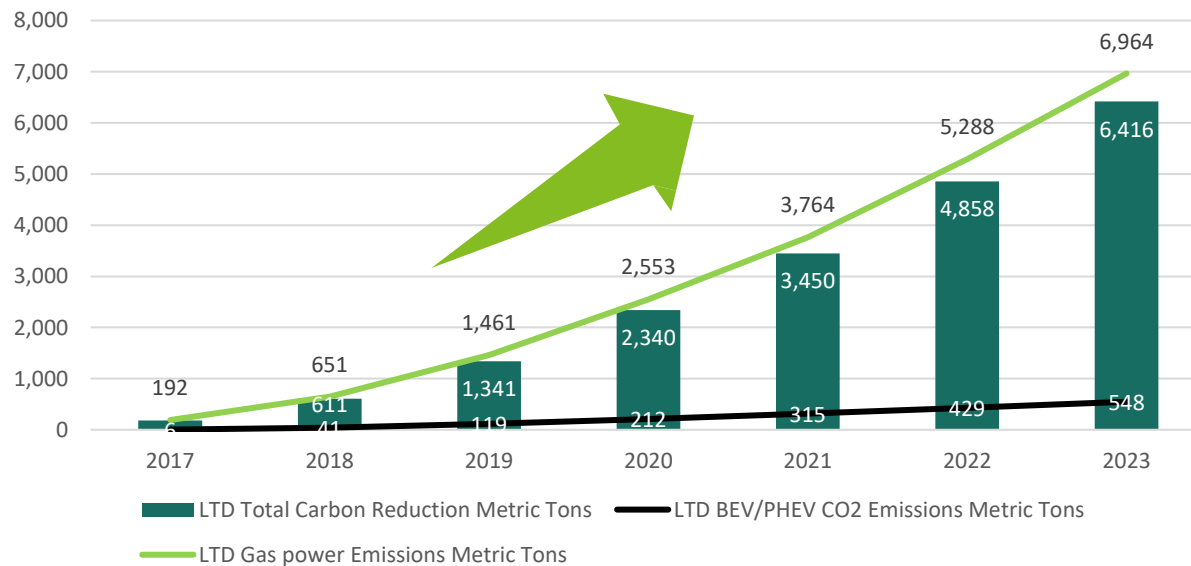
BEV Units and Charging Ports



Environmental Impact

City of Austin GHG Impact

LTD BEV Total Carbon Reduction Metric Tons



The transportation sector accounts for over a quarter of total U.S. greenhouse gas (GHG) emissions. Because of this, many organizations now recognize the important role that they play in minimizing the harmful effects of climate change.

6,416

METRIC TONS CARBON SAVINGS

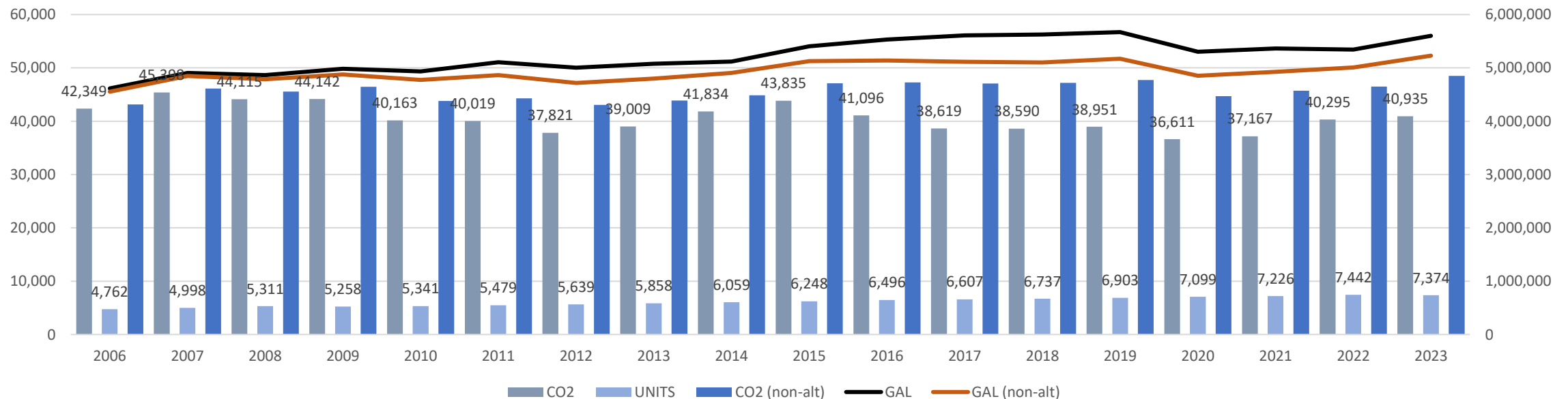


2023 Forecast 6,416 Metric Tons CO2 Savings on 350 EVs

Alternative Fuels

- Fleet size: FY23 7,374 up 2,612 (54%) from FY06
- Fuel usage: Increased 985K gallons or (21%) from FY06
- CO2 Emissions: Lower 4,463 (10%) metric tons since peaked in FY07 from 45,398 metric tons
- CO2 Emissions per unit: Down 39% or 3.53 metric tons per unit from FY07 to FY23 driven by vehicle OEM manufacture improvements, Fleet replacement strategy and the use of alternative fuels
- CO2 Emissions without alternative fuels: Carbon emissions would be 7,566 metric tons higher in FY23

TOTAL FUEL CONSUMPTION AND CO2 EMISSIONS (METRIC TONS)



Conclusion



Operational Efficiency Excellence: The City of Austin Fleet Mobility Services Department is dedicated to achieving operational excellence, maximizing cost efficiency, and ensuring a seamless customer experience.



Commitment to Sustainability and Safety: Our commitment to sustainability goes beyond goals and initiatives; it's ingrained in our operational DNA. We prioritize both environmental stewardship and the well-being of our community.



Operational Alignment for Success: Success is not only about individual achievements but also about alignment across operations. The initiatives outlined today are designed to enhance operational alignment.



Fleet Mobility Services

Thank You

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