

Audit Report

# Fleet Preventive Maintenance for Light Duty Vehicles

May 2017



The Fleet Services Department generally performs timely preventive maintenance on City light duty, non-public safety vehicles. However, much of these preventive maintenance services exceed manufacturer recommendations. As a result, select preventive maintenance services performed by Fleet Services cost more than what private service providers charge for the same services. Additionally, vehicles being out of service longer than necessary may ultimately have a negative impact on service delivery to the public.

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Photo: Light duty, non-public safety City of Austin vehicles, March 2017.

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# Objective

Are City vehicles being serviced according to established maintenance schedules, and how does the cost of service compare to industry practices?

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# Background

The Fleet Services Department (Fleet Services) is responsible for managing the City's fleet of vehicles and equipment. This includes vehicle acquisitions, fueling, maintenance, repair, and disposition. Preventive maintenance includes services such as oil changes, air filter changes, state inspections, and routine inspections of the entire vehicle. While select private providers also specialize in preventive maintenance, the business models for managing a fleet in a public setting differ from models used in the private sector as private entities are typically profit-driven.

The City's fleet consists of approximately 3,500 vehicles, of which approximately 1,500<sup>1</sup> are considered light duty, non-public safety vehicles.

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<sup>1</sup> Based on the International City/County Management Association (ICMA) vehicle classification.

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# What We Found

## Summary

Fleet Services generally performs timely preventive maintenance on City light duty, non-public safety vehicles. However, much of these preventive maintenance services exceed manufacturer recommendations. As a result, select preventive maintenance services performed by Fleet Services cost more than what private service providers charge for the same services. Additionally, vehicles being out of service longer than necessary may ultimately have a negative impact on service delivery to the public.

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## Finding 1

### Generally, Fleet Services performs timely preventive maintenance on light duty, non-public safety vehicles.

Fleet Services establishes intervals for when preventive maintenance should be performed to maintain the operation of City vehicles. This approach is consistent with most peer cities contacted. The majority of vehicles we reviewed in this audit were required to receive preventive maintenance service "A" (which is effectively an oil change along with a routine multipoint vehicle inspection) every 6,000 miles or one year, whichever comes first.<sup>2</sup>

Generally, Fleet Services performs timely preventive maintenance on City vehicles. In 56 out of 70 (80%) preventive maintenance services reviewed, vehicles received preventive maintenance when required by Fleet policy.<sup>3</sup> In 13 of the 14 exceptions noted, preventive maintenance was not performed until after the vehicle traveled more than 6,600 miles since the last service.

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The intervals at which City vehicles receive preventive maintenance are established by Fleet Services using a combination of manufacturer recommendations and Fleet employees' professional judgment concerning vehicle usage and the conditions in which the vehicle is operated (e.g. Fleet Services may establish different maintenance intervals for vehicles that frequently idle or experience earlier brake pad deterioration as opposed to those that do not).

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Fleet Services notifies departments when their vehicles are due for service based upon vehicle mileage forecasts and the time that has lapsed since that vehicle's last service. However, departments are not always timely in bringing vehicles in for service, resulting in vehicles being driven beyond when preventive maintenance is due. While Fleet Services is timely in notifying departments that vehicles are due for service, some department staff using Fleet Services asserted they delay bringing vehicles to Fleet Services to receive maintenance because they feel vehicle out-of-service time is excessive, adequate parking is not always available at fleet service centers, and/or adjusting service delivery to accommodate the reduced availability of vehicles is difficult.

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<sup>2</sup> Fleet Services also performs a preventive maintenance service "B" which appears to be identical to the preventive maintenance service "A" based on the inspection checklist. However, the "B" service is performed less frequently (e.g. every 24,000 miles as opposed to every 6,000 miles).

<sup>3</sup> For purposes of our tests, we identified deficiencies as: (1) vehicles where mileage between services exceeded 6,600 (which includes an additional 10% mileage allowance consistent with manufacturer recommendations); or (2) time between services was more than 395 days (which includes an additional 30-day allowance consistent with Fleet Services policies).

## Finding 2

Select preventive maintenance services performed by Fleet Services cost more than what private service providers charge for the same services.

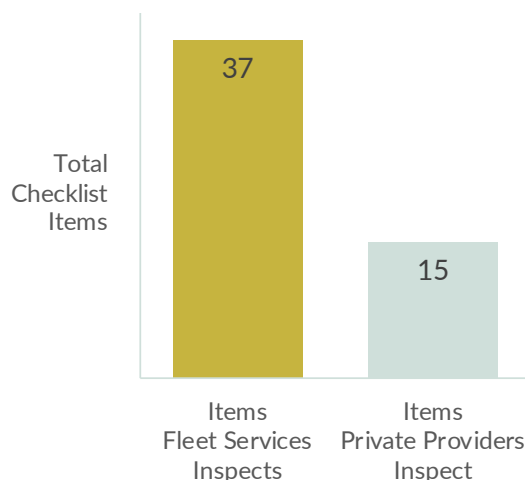
### Fleet Services Inspections Appear to Exceed Manufacturer Recommendations and Private Provider Inspections

The mission of Fleet Services is to provide exceptional service [to City of Austin customer departments] in a safe, efficient, environmentally responsible, and ethical manner. Fleet Services management asserts that their goal in performing comprehensive inspections is to ensure the safety of the vehicle and the drivers consistent with this mission. Maintaining safe vehicles for the benefit of City employees and the public is paramount, and Fleet Services accomplishes this by performing preventive maintenance and vehicle repairs. Fleet Services specializes in the maintenance and repair of many different City-specific vehicles such as fire engines, emergency ambulances, waste haulers, and a wide range of large construction equipment. Maintenance and repair of these types of vehicles and equipment requires the unique expertise of Fleet Services which is unlikely to be available from private providers.

Furthermore, the number of items inspected by Fleet Services exceeds manufacturer recommendations. Also, Fleet Services appears to perform more comprehensive inspections than private service providers that generally perform preventive maintenance in accordance with manufacturer recommendations.

Preventive maintenance services performed by both Fleet Services and private service providers come with a multipoint vehicle inspection. Items commonly inspected by both include: engine belts and hoses, select fluid levels, tires, and other items such as lights and wiper blades. Specifically, based on a comparison of similar services, private service providers inspect an average of 40% of the items Fleet Services inspects during an oil change service (see the Exhibit 1 below).

**Exhibit 1**  
**Fleet Services Inspects More than Two Times the Number of Maintenance Checklist Items Compared to Private Service Providers**



SOURCE: Office of the City Auditor analysis of Fleet Services and private service provider inspection checklists, January 2017

## Fleet Services Inspects More than Two Times the Number of Maintenance Checklist Items Compared to Peer Cities

Fleet Services' maintenance appears to exceed service performed by peer cities. For example, the City of San Antonio sets its preventive maintenance intervals according to manufacturer recommendations. Furthermore, for a preventive maintenance service "A", the City of San Antonio checklist includes review of 13 items, the City of El Paso checklist includes review of 19 items, the City of Dallas checklist includes review of 18 items, and the City of Austin checklist includes review of 41 items.

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The number of items inspected by Fleet Services is significantly higher than those reviewed by private service providers and peer cities.

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While the number of items inspected by the City of Austin is significantly higher than those reviewed by private providers and peer cities, items listed on the checklists may not be a complete depiction of the actual inspection practices. For example, "inspect belts and hoses" may merely look at those immediately visible under the hood, or it may imply that all belts and hoses are reviewed more thoroughly to see if there are cracks, fraying, obvious damage, or if they are loose. See preventive maintenance checklists from the City of Austin, El Paso, Dallas, and San Antonio in Appendix A.

## Cost Comparison to Private Service Providers

We tested a sample of five vehicles representing the most common vehicles in the City's light duty, non-public safety fleet and compared Fleet Services' costs to complete an oil change service (along with the accompanying multipoint inspection) to what private service providers would charge to perform the same services on the same vehicle types. As shown in Exhibits 2 and 3, we found costs to perform an oil change and multipoint inspection at Fleet Services are 2.4 times higher than what private service providers would charge for the same services. The higher number of items inspected by Fleet Services may contribute to the department's comparatively higher costs.<sup>4</sup>

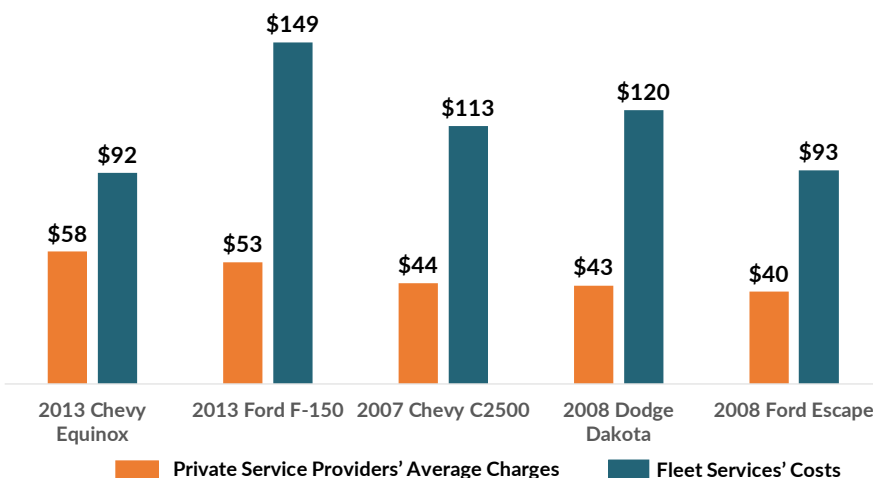
**Exhibit 2**  
**Fleet Services' Costs are Higher than what Private Providers Charge**

Service	Fleet Services Costs	Private Provider Charges	Ratio
Oil Change/ multipoint inspection	\$113.32	\$47.58	2.38

SOURCE: Office of the City Auditor analysis of Fleet Services' and private service provider data, January 2017

<sup>4</sup> Additional costs incurred by the City (over those which may be incurred were the City to use private service providers for select preventive maintenance services) include direct costs and additional indirect costs resulting from employee benefits provided to City staff. Our cost comparisons consider only direct costs and do not consider employee benefits costs.

**Exhibit 3**  
**Cost Comparison Breakdown by Vehicle for an Oil Change Service with Multipoint Inspection**



SOURCE: Office of the City Auditor expense analysis for five of the most common light duty, non public safety vehicles, January 2017

We also tested the costs to perform a state vehicle inspection within Fleet Services compared to what a private service provider would charge for that service. Costs to perform state inspections at Fleet Services are 2.6 times higher than what private providers charge.<sup>5</sup> Specifically, private providers charge \$18.50 per vehicle to perform a state inspection.<sup>6</sup> Costs for Fleet Services to perform the state inspection on average were \$48.65 for the five vehicles tested. Fleet Services management asserts they strive to perform preventive maintenance on vehicles to deter vehicle breakdowns which at times necessitates additional vehicle out-of-service time.

Maintenance beyond what the manufacturer recommends may be excessive and unnecessary. Such maintenance may lead to increased costs to the City and may take away time and money that could otherwise be used to maintain and repair other fleet vehicles and equipment.

A reduction in the amount of preventive maintenance performed as well as a reduction in the frequency of service for light duty, non-public safety vehicles may substantially reduce Fleet Services' costs. This may bring Fleet Services' preventive maintenance services more in line with private service providers. An additional way to gain cost efficiencies may be to outsource select preventive maintenance services to private service providers. For example, the city of El Paso outsources its basic preventive maintenance service to a private service provider but opts to perform the

<sup>5</sup> Fleet Services' higher costs for oil change services and state inspections relate to higher labor costs. Department costs associated with parts and materials (e.g. engine oil and filters) are slightly less than the private providers.

<sup>6</sup> The state inspection fee is regulated by the Texas Department of Public Safety, and the cost is determined by the county of registration and type of inspection required. The five vehicles tested require an annual safety emissions inspection which costs \$18.50. The fee for the vehicle inspection sticker is an additional \$10.00 for general consumers, but municipalities are exempt from paying this sticker fee.

more extensive preventive maintenance services in house, ensuring the City of El Paso Fleet Department inspects each vehicle at least once per year.

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## Additional Observation

Fleet Services often performs additional preventive maintenance services on vehicles when they are brought in for an oil change with multipoint inspection service. However, this may result in vehicles being out of service, and thus unavailable for department use for longer periods of time. If Fleet Services performs more extensive preventive maintenance when vehicles are dropped off, customer expectations may not be met because of the increased time that departments are unable to use vehicles. Increased vehicle out-of-service time may ultimately impact service delivery to the public.

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# Recommendations and Management Response

1

For the vehicles reviewed in this audit, the Director of the Fleet Services Department should:

- a) adjust preventive maintenance services so that Fleet Services performs primarily those preventive maintenance services recommended by the manufacturer; and
- b) reduce the frequency of more extensive preventive maintenance services (PMB).

**Management Response:** Agree

**Proposed Implementation Plan:** Fleet expects to complete the review and adjustment of our process by March 2018, and will gather data generated by the changes until March 2019.

**Proposed Implementation Date:** March 2018

2

After implementing the action plan to address the first recommendation, the Director of the Fleet Services Department should perform a cost benefit analysis for light duty, non-public safety vehicles to determine whether Fleet Services should continue to perform select preventive maintenance services, such as oil changes and state inspections, internally as opposed to contracting for those services.

**Management Response:** Agree

**Proposed Implementation Plan:** Fleet will use the data collected from the review and adjustment of our process under finding 1 to perform a cost benefit analysis to determine if contracts are operationally and fiscally feasible for select preventive maintenance services.

**Proposed Implementation Date:** September 2019




# Management Response



## MEMORANDUM

TO: Corrie Stokes, City Auditor - Office of the City Auditor

FROM: Jennifer Walls, Interim Fleet Officer 

DATE: May 5, 2017

SUBJECT: Management Response - Fleet Preventive Maintenance Audit

The purpose of the memorandum is to provide a management response to the Audit of Fleet Preventive Maintenance for light duty vehicles. The Fleet Services Department has reviewed the audit and concurs with the recommendations contained within the report. Attached are the specific management responses to each finding.

Fleet Services remains committed to providing a safe, reliable, and environmentally responsible fleet so that departments can meet their missions and to do so in a fiscally responsible manner.

### **RECOMMENDATION 1**

For the vehicles reviewed in this audit, the Director of the Fleet Services Department should:

- a) Adjust preventive maintenance services so that Fleet Services performs primarily those preventive maintenance services recommended by the manufacturer; and
- b) Reduce the frequency of more extensive preventive maintenance services (PMB).

### **Management Response**

The Fleet Services Department agrees with this recommendation. The City Fleet Department manages the cradle to grave process for 6400+ vehicles and pieces of equipment ranging in age from 1956-2017, all of which have varying preventive maintenance intervals and manufacturer recommendations. As the fleet mix shifts in age, so does the opportunity to adjust the list of items checked during a preventive maintenance inspection, as well as the intervals in which services are performed. As with any technology, improvements in vehicle safety and performance are constantly being made, and as these vehicles and equipment become a larger percentage of the fleet, maintenance intervals may be able to be extended. Fleet is currently in the process of reviewing technical specifications for each vehicle and piece of equipment to evaluate the frequency of preventive maintenance needed. Fleet Services will incorporate any efficiency we observe as a result of this evaluation into our current program. Given the size and diversity of the City Fleet, keeping pace with technical specification changes for the 200+ classes of vehicles can be challenging. We must have a preventive maintenance program that is agile enough to capitalize on the efficiencies offered by new technology, maintain our older fleet and be able to respond to potential safety issues quickly, when they arise. Our current preventive maintenance strategy is and will remain focused on providing a safe, reliable fleet so that departments can meet their missions.

### **Action Plan**

Fleet expects to complete the review and adjustment of our process over the next 12 months, and will begin gathering data generated by the changes, over the following 12 months.

**RECOMMENDATION 2**

After implementing the action plan to address the first recommendation, the Director of the Fleet Services Department should perform a cost benefit analysis for light duty, non-public safety vehicles to determine whether Fleet Services should continue to perform select preventive maintenance services, such as oil changes and state inspections, internally as opposed to contracting for those services.

**Management Response**

The Fleet Services Department concurs with this recommendation. Fleet currently contracts some services and has evaluation tools and protocols in place to determine when it makes the most sense to do so. We will take this opportunity to evaluate the viability of expanding this practice into other areas when it is both operationally and financially feasible. Our current preventive maintenance strategy is and will remain focused on providing a safe, reliable fleet so that departments can meet their missions.

**Action Plan**

Fleet will use the data collected from the review and adjustment of our process under finding 1 to perform a cost benefit analysis to determine if contracts are operationally and fiscally feasible for select preventive maintenance services.


cc: Mark Washington, Assistant City Manager

# Appendix A - Fleet Services' Preventive Maintenance Checklist Compared to Peer Cities

Fleet Department Checklist Items Tested		Items Inspected by Peer Cities			
Category	Service	Dallas	San Antonio	El Paso	
Engine	Oil Filter/Leaks	Green	Green	Green	
	Fuel Filter/Leaks	Green	Green	Green	
	Belt/Hoses/Coolant	Green	Green	Green	
	Air Filter/Intake/Turbo	Green	Green	Green	
Interior	All Gauges Operation	Green	Green	Green	
	Lights/Turn/High Beam	Green	Green	Green	
	Seats & Seat Belts	Green	Green	Green	
	Horns/Wipers/Washer	Green	Green	Green	
Braking	Parking Brake Operation	Green	Green	Green	
	Stopping Inspect	Green	Green	Green	
	Visual Inspection	Green	Green	Green	
	Fluid Leaks	Green	Green	Green	
Steering & Suspension	Fluid Level/Leaks	Green	Green	Green	
	Free Play/Binding	Green	Green	Green	
	Shocks/Springs/Hanger	Green	Green	Green	
Exhaust	Leaks	Green	Green	Green	
	Mountings	Green	Green	Green	
Tires & Wheels	Side Walls	Green	Green	Green	
	Tread Wear	Green	Green	Green	
Drivetrain	Transmission/Filter/Level	Green	Green	Green	
	Shifting Operations	Green	Green	Green	
	Differential Leaks	Green	Green	Green	
	Driveshaft	Green	Green	Green	
Heating & A/C	AC Operation	Green	Green	Green	
	Heater Operation	Green	Green	Green	
	Blower Operation	Green	Green	Green	
Electrical	Battery/Alternator/Cables	Green	Green	Green	
	Strobes/Work Lights	Green	Green	Green	
	Starter/Cranking	Green	Green	Green	
	Lights/Turn/Stop	Green	Green	Green	
	Clearance/Hazards	Green	Green	Green	
Lubrication	Lube All Fittings	Green	Green	Green	
Tires	Measure tread depth & PSI	Green	Green	Green	
Walkaround inspection	Decals	Green	Green	Green	
	Glass	Green	Green	Green	
	Mirror	Green	Green	Green	
	Reflectors/Tape	Green	Green	Green	
TOTAL ITEMS INSPECTED		37	10	19	29
AVERAGES			27%	51%	78%
OVERALL			52%		

 Green boxes indicate the peer city inspects the item

City of Austin Preventive Maintenance Checklists for PMA and PMB (same form)

	PMA <input type="checkbox"/>	PMC <input type="checkbox"/>	<h1 style="margin: 0;">Unit Inspection</h1>	Date:	SC#:
	PMB <input type="checkbox"/>	21-00-000 <input type="checkbox"/>		Unit #:	
<b>WALK AROUND INSPECTION   INSPECT FOR DAMAGES:</b>			License Plate:	Work Order #:	
<input type="checkbox"/> Decals <input type="checkbox"/> Glass <input type="checkbox"/> Mirror <input type="checkbox"/> Reflectors   Tape			VIN:		

*Initial each box, add ✓ or X for Condition. If X, report in Notes/Findings. See reverse side for inspection description*

⊙ Verify mileage on odometer | hour meter ⊙

ENGINE	Condition	Initials
Oil   Filter   Leaks		
Fuel   Filter Leaks		
Belt   Hoses   Coolant		
Air Filter   Intake   Turbo		

DRIVETRAIN	Condition	Initials
Transmission   Filter   Level		
Shifting Operation		
Differential Leaks		
Driveshaft		

INTERIOR	Condition	Initials
All Gauges Operation		
Lights   Turn   High Beam		
Seats & Seat Belts		
Horns   Wipers   Washer		

REAR ENGINE/COMPONENT	Condition	Initials
Oil   Filter   Leaks		
Fuel System		
Cooling System		
Operation		

HYDRAULICS	Condition	Initials
Operate All Functions		
Fluid Leaks   Cyl.		
Filter   Hoses   Level		

HEATING & A/C	Condition	Initials
AC Operation		
Heater Operation		
Blower Operation		

BRAKING	Condition	Initials
Parking Brake Operation		
Air Brake Test		
Stopping Inspect		
Visual Inspection		
Fluid Leaks		

ELECTRICAL	Condition	Initials
Battery   Alternator   Cables		
Strobes   Work Lights		
Starter   Cranking		
Lights   Turn   Stop		
Clearance   Hazards		

STEERING & SUSPENSION	Condition	Initials
Fluid Level   Leaks		
Free Play   Binding		
Shocks   Springs   Hanger		

LUBRICATION	Condition	Initials
LUBE ALL FITTINGS	Yes	N/A

EXHAUST	Condition	Initials
Leaks		
Mountings		

**TIRES - (32 nds & PSI) Measure tread depth and tire pressure**

	T		T
	PSI		PSI
T		T	
PSI		PSI	
T		T	
PSI		PSI	

TIRES & WHEELS	Condition	Initials
Side Walls		
Tread Wear		
DOT		

*\* Note: This Inspection list may not be all inclusive. Please use a Supplement Unit Inspection Form as needed.*

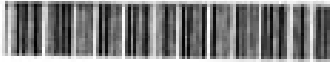
<b>Notes &amp; Findings</b>		
<b>Inspector Name</b>	<b>Sign:</b>	<b>Date:</b>
Print:		

# City of Dallas Preventive Maintenance Checklist for PM-A

## Work Order Job Worksheet

Dallas City Hall

Report Printed: 02/05/2015 17:01:27 By User: MIKE.MCCLATCHY



Work Order: 1300106001

Unit No: 991007

WO Location: 4	Northeast Service Center	Total Job Count: 2
WO Reason: NON-SCHEDULED		Unit Description: 1999 FORD F250
Date Opened: 12/16/2014 08:35:02	By: MARK HILL	Alt. Unit No: _____ License No: 111-2004
WO Status: Closed	Unit Status: A	Serial No: 1FTFX27W9XKB66838
Promised Date: 12/16/2014	Where Parked:	Tech Spec: 99TB06B MCC: 200200
Meter 1: M 187,085	Life Use 1: 187,032	Using Dept: EBS-OUTSIDE EQUIPMENT RENTAL
Meter 2: N 0	Life Use 2: 0	In-Service Date: 06/02/1999
Contact: Mike McClatchey		Contact No: 2146701545

Work Order Instructions / Comments



### PM-999-102 - PERFORM PM OIL & FILTER CHANGE WITH LUBE

Job Reason: PM	Job Location: 4	Northeast Service Center
Job ID: 403337	Opened Date: 12/16/2014	Status: <b>DON</b>
Work Req No:	Due Date: 12/16/2014	Est. Job Cost: -
Campaign No:	Scheduled: N	Warranty: N
Assigned To:	Priority: 5	Shift:
Accident No:	External Data:	Est. Labor Hrs: 0.8

Job Instructions and Notes:

(MILL) FUNCTIONS	OK	NA	REPAIRS NEEDED
1. CHANGE OIL & FILTER	_____	_____	_____
2. LUBE VEHICLE	_____	_____	_____
CHECK FOR LEAKS AND FILL ALL FLUID LEVELS			
UNDER HOOD			
1. BRAKE FLUID	_____	_____	_____
2. POWER STEERING	_____	_____	_____
3. ANTIFREEZE	_____	_____	_____
4. FUEL	_____	_____	_____
5. TRANSMISSION FLUID	_____	_____	_____
UNDERCARRIAGE			
1. BRAKE FLUID	_____	_____	_____
2. POWER STEERING	_____	_____	_____
3. ANTIFREEZE	_____	_____	_____
4. FUEL	_____	_____	_____
5. ENGINE OIL	_____	_____	_____
6. TRANSMISSION	_____	_____	_____
7. DIFFERENTIAL	_____	_____	_____
10. 3RD MEMBER OIL LEVEL	_____	_____	_____
11. CHECK OIL LEVEL MANUEL TRANS	_____	_____	_____
OTHER FUNCTIONS			
1. CHECK AIR PRESSURE IN TIRES	_____	_____	_____
2. CLEAN BATTERY CABLES	_____	_____	_____

City of Dallas Preventive Maintenance Checklist for PM-B

Work Order Note Editor

Work Order Number: 1300189324

Notes for job PM-999-103 - PERFORM PM LIGHT EQUIPMENT PM.

Note Text				Locked	Except
CAB & INTERIOR	OK	NA	REPAIRS NEEDED		
1. VERIFY MILEAGE					
2. VERIFY HOUR METER OPERATION					
CHECKS	OK	NA	REPAIR NEEDED		
1. CONDITION OF INTERIOR					<input type="checkbox"/>
2. A/C OPERATION					
3. HEAT & DEFROSTER OPERATION					
4. INTERIOR LIGHTS					
5. HORN					
6. GAUGES					
7. WIPERS					
8. WASHERS					
9. SEAT BELTS					
10. BRAKE OPERATION					
11. PARK BRAKE OPERATION					
WALK AROUND CHECKS	OK	NA	REPAIRS NEEDED		
1. BODY CONDITION					
2. DECALS					
3. LIGHTS					
4. LENS					
5. GLASS					
6. STATE INSPECTION		DATE	MO	YR	<input type="checkbox"/> <input type="checkbox"/>
UNDER HOOD	OK	NA	REPAIRS NEEDED		
1. INSPECT COOLANT HOSES					
2. INSPECT ENGINE BELTS					
3. REPLACE AIR FILTER AS REQ.					
UNDERCARRAGE	INSPECTIONS	OK	NA	REPAIRS NEEDED	
1. EXHAUST SYSTEM					
2. PARKING BRAKE CABLES					
3. STEERING					
4. BRAKE PADS, ROTORS, SHOES, DRUMS					
5. ENGINE & TRANS MOUNTS					
6. SUSPENSION					
FUNCTIONS	OK	NA	REPAIRS NEEDED		
1. CHANGE ENGINE OIL & FILTER					
2. REPLACE FUEL FILTER AS NEEDED					
3. TEST ALTERNATOR OUTPUT					
4. TEST COOLANT AT LEAST -10					
5. RECALIB RADIO FREQ FUEL DEVICE					
SEE 20-99-102 CHECK LIST					

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City of San Antonio Preventive Maintenance Checklists for PM-A, PM-B, and PM-C

PREVENTIVE MAINTANANCE SCHEDULE

**\*PM-A (5000 MILES)**

CHANGE OIL AND FILTER

CHECK AND TOP OFF ALL FLUID LEVELS

CHECK AIR AND CABIN FILTERS

SERVICE BATTERY CABLES

INSPECT BELTS AND HOSES

INSPECT FOR CURRENT REGISTRATION / STATE INSPECTION STICKERS

CHECK FOR ANY FLUID LEAKS (ENGINE, TRANS, COOLANT, DIFFERENTIAL, POWER STEERING)

VISUAL INSPECT BRAKES / ROAD TEST

INSPECT TIRES AND ADJUST PRESSURES

INSPECT ALL LIGHTS, HORN AND ALL SPECIAL EQUIPMENT

VISUAL INSPECT UNDERCARRIAGE, INTERIOR, GLASS, INTERIOR TRUNK AREA.

INSPECT WIPER BLADES

LUBE CHASSIS

**\*PM-B (15,000 MILES)**

\* INCLUDES ALL ITEMS ON PM-A

CHANGE AIR AND FUEL FILTERS

INSPECT CABIN FILTER (REPLACE IF NEEDED)

INSPECT BRAKES AND ROTATE TIRES

**\*PM-C (30,000 MILES)**

\*INCLUDES ALL ITEMS ON PM-A AND PM-B

CHANGE TRANSMISSION FLUID AND FILTER

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# City of El Paso Preventive Maintenance Checklist for PM-A

Unit# \_\_\_\_\_ Miles/Hours: \_\_\_\_\_ next PM Due: \_\_\_\_\_

## **Fleet Vehicle PM-A**

**5,000 Miles**

**Labor – .8 hour**

### **Items to be replaced**

- Motor oil and filter
- Lubricate chassis

### **Items to be inspected or repaired as needed:**

- Instruments
- Horn
- Door glass operation
- Lighting system
- Suspension
- Steering
- Seat belts
- Fluid levels and/or leaks
- Tires
- Rims
- Hub Caps
- Hoses
- Belts
- Exhaust sys.
- Battery
- Keys
- Registration current?

Comments:

Date: \_\_\_\_\_ Work Order # \_\_\_\_\_ Technician : \_\_\_\_\_

NOTE: The City of El Paso outsources a majority of its preventive maintenance "A" services to private service providers.



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# City of El Paso Preventive Maintenance Checklist for PM-B

Unit# \_\_\_\_\_ Miles/Hours: \_\_\_\_\_ next PM Due: \_\_\_\_\_

## **Fleet Vehicle PM-B**

**15,000 Miles**

**Labor – 3 hours**

### **Items to be replaced**

- |                                               |                                             |
|-----------------------------------------------|---------------------------------------------|
| <input type="checkbox"/> Motor oil and filter | <input type="checkbox"/> Inline Fuel Filter |
| <input type="checkbox"/> Lubricate chassis    | <input type="checkbox"/> Air Filter         |

### **Items to be inspected or repaired as needed:**

- |                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|
| <input type="checkbox"/> Instruments               | <input type="checkbox"/> Hub Caps                  |
| <input type="checkbox"/> Horn                      | <input type="checkbox"/> Hoses                     |
| <input type="checkbox"/> Wipers and Fluid          | <input type="checkbox"/> Belts                     |
| <input type="checkbox"/> Door glass operation      | <input type="checkbox"/> Exhaust system            |
| <input type="checkbox"/> Lighting system           | <input type="checkbox"/> Battery                   |
| <input type="checkbox"/> Suspension                | <input type="checkbox"/> Keys                      |
| <input type="checkbox"/> Steering                  | <input type="checkbox"/> Registration current?     |
| <input type="checkbox"/> Seat belts                | <input type="checkbox"/> Axle Seals & Bearings     |
| <input type="checkbox"/> Fluid levels and/or leaks | <input type="checkbox"/> Drive Shaft               |
| <input type="checkbox"/> Tires                     | <input type="checkbox"/> Mounts, Engine and Trans. |
| <input type="checkbox"/> Rims                      | <input type="checkbox"/> Brakes                    |
| <input type="checkbox"/> HVAC                      | <input type="checkbox"/> Starting system           |
| <input type="checkbox"/> Charging system           |                                                    |

Comments:

Date: \_\_\_\_\_ Work Order # \_\_\_\_\_ Technician : \_\_\_\_\_

# Appendix B - Fleet Services' Preventive Maintenance Checklist Compared to Private Service Providers

Fleet Department Checklist Items Tested		Items Inspected by Private Providers		
Category	Service	Jiffy Lube	Firestone	Goodyear
Engine	Oil Filter/Leaks			
	Fuel Filter/Leaks			
	Belt/Hoses/Coolant			
	Air Filter/Intake/Turbo			
Interior	All Gauges Operation			
	Lights/Turn/High Beam			
	Seats & Seat Belts			
	Horns/Wipers/Washer			
Braking	Parking Brake Operation			
	Stopping Inspect			
	Visual Inspection			
	Fluid Leaks			
Steering & Suspension	Fluid Level/Leaks			
	Free Play/Binding			
	Shocks/Springs/Hanger			
Exhaust	Leaks			
	Mountings			
Tires & Wheels	Side Walls			
	Tread Wear			
Drivetrain	Transmission/Filter/Level			
	Shifting Operations			
	Differential Leaks			
	Driveshaft			
Heating & A/C	AC Operation			
	Heater Operation			
	Blower Operation			
Electrical	Battery/Alternator/Cables			
	Strobes/Work Lights			
	Starter/Cranking			
	Lights/Turn/Stop			
	Clearance/Hazards			
Lubrication	Lube All Fittings			
Tires	Measure tread depth & PSI			
Walkaround inspection	Decals			
	Glass			
	Mirror			
	Reflectors/Tape			
TOTAL ITEMS	37	10	15	19
AVERAGES		27%	41%	51%

 Green boxes indicate the private provider inspects the item

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## Scope

Scheduled maintenance performed within fiscal years 2014 through 2016 on light duty, non-public safety City vehicles.<sup>7</sup>

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## Methodology

To accomplish our audit objectives, we performed the following steps:

- interviewed Fleet Services staff and management;
- reviewed preventive maintenance intervals established by Fleet Services;
- analyzed the Fleet Services' maintenance database (the M-5 system) to evaluate the cost and time required to perform preventive maintenance services as well as the time and mileage between preventive maintenance services;
- obtained data from private service providers that perform vehicle preventive maintenance services and compared their time and cost estimates of service to Fleet Services' performance;
- obtained information from the Fleet Departments of peer cities in Texas<sup>8</sup> and compared this information to the City of Austin Fleet Services Department;
- evaluated internal controls related to the Fleet Services Department; and
- evaluated the risk of fraud, waste, and abuse with regard to preventive maintenance practices in the Fleet Services Department.

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## Audit Standards

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>7</sup> Public safety vehicles were excluded from testing in this audit because they were reviewed previously in the Public Safety Vehicle Repair Audit. See: <http://www.austintexas.gov/sites/default/files/files/Auditor/au13018.pdf>.

<sup>8</sup> Texas peer cities contacted include: Dallas, El Paso, Fort Worth, Houston, and San Antonio.

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The Office of the City Auditor was created by the Austin City Charter as an independent office reporting to City Council to help establish accountability and improve City services. We conduct performance audits to review aspects of a City service or program and provide recommendations for improvement.

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