Memorandum

DATE November 30, 2018

TO Honorable Mayor and Members of the City Council

SUBJECT **City of Dallas Fleet Management Study**

On December 5, Donzell Gipson, Interim Director of Equipment and Fleet Management, will brief the City Council on the City of Dallas Fleet Management Study conducted by the firm Alvarez and Marsal. The briefing is attached for your review; it will provide an overview of the consultant's findings and recommendations including a status update on the implementation of process improvements.

The complete fleet management study can be found at the following link:

https://dallascityhall.com/departments/budget/financialtransparency/DCH%20Documents/FMS.pdf

If you have any questions on concerns, please contact Donzell Gipson at 214-671-5131 or via email.

M. Elizabeth Reich
Chief Financial Officer

[Attachment]

c: T.C. Broadnax, City Manager
     Chris Caso, City Attorney (I)
     Carol A. Smith, City Auditor (I)
     Bilierae Johnson, City Secretary
     Preston Robinson, Administrative Judge
     Kimberly Bizor Tolbert, Chief of Staff to the City Manager

     Jon Fortune, Assistant City Manager
     Joey Zapata, Assistant City Manager
     Majed A. Al-Ghafry, Assistant City Manager
     Nadia Chandler Hardy, Assistant City Manager and Chief Resilience Officer
     Directors and Assistant Directors
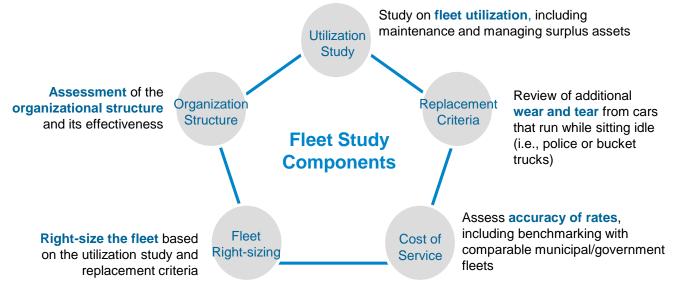
City of Dallas
Fleet Management Study

City Council Executive Summary
December 5, 2018

ALVAREZ & MARSAL

EXECUTIVE SUMMARY - PROJECT OVERVIEW

The Fleet Study, conducted from May to July 2017, reviewed five key areas: *Cost of Service, Utilization, Replacement Criteria, Organizational Assessment, and Right-sizing.*

- This report contains observations and recommendations made by Alvarez & Marsal (A&M) for the City of Dallas (City) 2018 Fleet Management Study (Fleet Study). The Fleet Study included five categories of review including:

Study on **fleet utilization**, including maintenance and managing surplus assets

Assessment of the **organizational structure** and its effectiveness

Review of additional **wear and tear** from cars that run while sitting idle (i.e., police or bucket trucks)

Fleet Study Components

Right-size the fleet based on the utilization study and replacement criteria

Assess **accuracy of rates**, including benchmarking with comparable municipal/government fleets

Utilization Study · Organization Structure · Replacement Criteria · Fleet Right-sizing · Cost of Service

- The objective of the Fleet Study was to assess the operational efficiency of the City's fleet management and operations in Equipment & Fleet Management (EFM) and other Departments that own and/or maintain vehicles, including:

Aviation (AVI)	**Fire & Rescue (DFR)**	**Parks & Recreation (PKR)**	**Police (DPD)**
Public Works (PBW)	**Sanitation (SAN)**	**Storm Water Management (DWU)**	**Water Utilities (DWU)**

Observations developed through benchmarking research, data analysis and interviews with department leadership and staff, informed A&M's recommendations for efficiency initiatives.

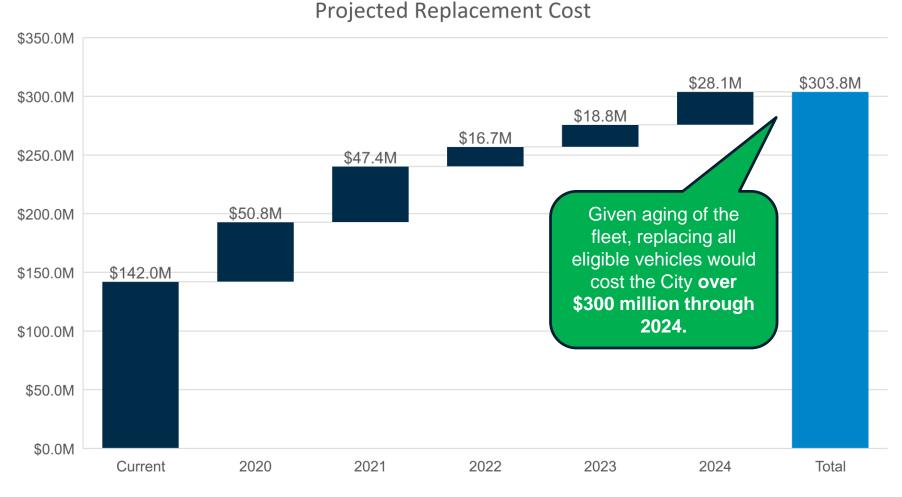- **The City of Dallas is within benchmark ranges for age, mileage, maintenance, and utilization.**
  - Dallas' average vehicle age is 8.6 years, compared to a nationwide average of 7.9 and a Federal civilian average of 9.4.
  - Average annual mileage of 9,088, is in line with the nationwide average of 9,338 and Federal civilian average of 10,176.
  - Average annual maintenance cost is $8,903/vehicle, compared to $8,616 nationwide and $9,113 for Federal civilian.
  - With 47 vehicle/mechanic (actual headcount) in EFM, slightly higher than benchmarks of 55 – 60 vehicles/mechanic.
  - About 32 percent of total fleet is driven less than 5,000 miles per year, compared to 37% for the best in class benchmark.

- **The City is challenged by high vehicle downtime, low preventative maintenance compliance, and the need for improved workflow.**
  - Departments experience high vehicle downtime which impacts their ability to operate effectively
  - Data quality issues prevent robust analysis and limit the City's ability to produce accurate reporting to support decision making
  - Vendor selection and management is not aligned to drive ongoing parts fulfillment and outsourcing of repair services
  - Maintenance facility infrastructure and processes lead to inefficient workflow which constrains operations
  - Inconsistent administration of vehicle replacement drives high late-stage maintenance costs and reduces revenue potential when vehicles are surplused.

- **There are several solutions proposed to improve operations.**
  - Improve data quality through regular reporting and enhanced coordination between the Departments and EFM.
  - Streamline maintenance facility workflow, through expanding dedicated bays and vehicle maintenance scheduling.
  - Enhance communication between EFM and customer departments to ensure mechanics repair vehicles effectively and department staff retrieve completed vehicles from maintenance facilities in a timely manner.
  - Establish a permanent Fleet Oversight Committee for input on vehicle acquisition, replacement criteria, and fleet right-sizing.
  - Consider consolidating fleet management operations within EFM to streamline maintenance and administrative processes.

Note: M5 is the fleet management software utilized by EFM to track and manage citywide vehicles and equipment.

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REPLACEMENT CRITERIA – REPLACEMENT UNDER CURRENT STANDARDS

In 2019, 1,911 vehicles will be eligible for replacement using the current criteria, with a total cost of $142.0 million. The City faces over $300 million in replacement over the next five years.

Projected Replacement Cost

$142.0M — Current
$50.8M — 2020
$47.4M — 2021
$16.7M — 2022
$18.8M — 2023
$28.1M — 2024
$303.8M — Total

Given aging of the fleet, replacing all eligible vehicles would cost the City **over $300 million through 2024.**

NOTE: The projection reflects constant dollar projects without inflation or additional growth estimated included.

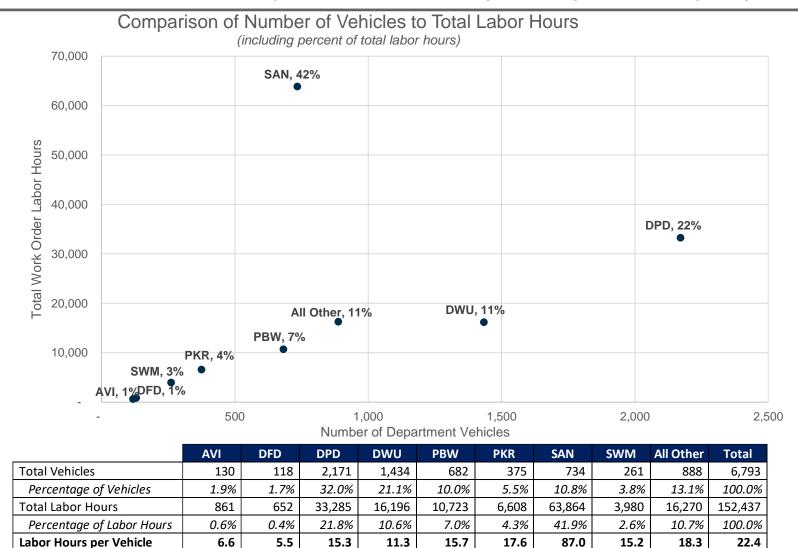# REPLACEMENT CRITERIA – REPLACEMENT UNDER CURRENT STANDARDS

Of the $303.8 million required to replace all eligible vehicles under the current criteria, over $80 million is driven by DFD, with another $120 million driven by SAN and DWU, combined.

Department	Annual Cost for Replacement Eligible Vehicles						
	2019	2020	2021	2022	2023	2024	Total
Enterprise Fund							
AVI	1,205,398	906,580	377,035	613,720	149,580	216,014	3,468,326
DWU	22,760,316	11,973,917	7,284,957	2,936,976	2,794,734	5,271,307	53,022,209
DWU - Storm Water	5,407,424	3,185,694	2,612,421	203,584	512,126	555,552	12,476,801
SAN	25,473,132	7,713,672	10,259,681	3,050,779	3,117,745	3,600,500	53,215,510
Total Enterprise Fund	54,846,270	23,779,864	20,534,094	6,805,059	6,574,186	9,643,373	122,182,847
General Fund							
DFD - EFM Maintained	756,836	265,924	251,399	375,052	108,359	172,441	1,930,010
DFD - DFD Maintained	43,563,852	713,825	16,005,440	3,563,227	8,975,617	13,660,733	86,482,693
DPD	14,060,457	1,485,292	1,755,134	714,016	656,756	733,968	19,405,623
EFM	5,033,849	1,641,547	920,119	549,877	349,095	601,555	9,096,042
PBW	13,463,416	11,447,052	3,553,192	1,094,368	953,508	1,387,654	31,899,189
PKR	6,745,356	7,089,815	2,505,907	1,462,195	689,515	604,466	19,097,253
All Other	3,518,157	4,350,926	1,889,764	2,121,267	528,918	1,261,820	13,670,852
Total General Fund	87,141,921	26,994,379	26,880,955	9,880,002	12,261,769	18,422,637	181,581,663
Total	**141,988,191**	**50,774,244**	**47,415,050**	**16,685,061**	**18,835,954**	**28,066,010**	**303,764,510**

NOTE: The projection reflects constant dollar projects without inflation or additional growth estimated included.

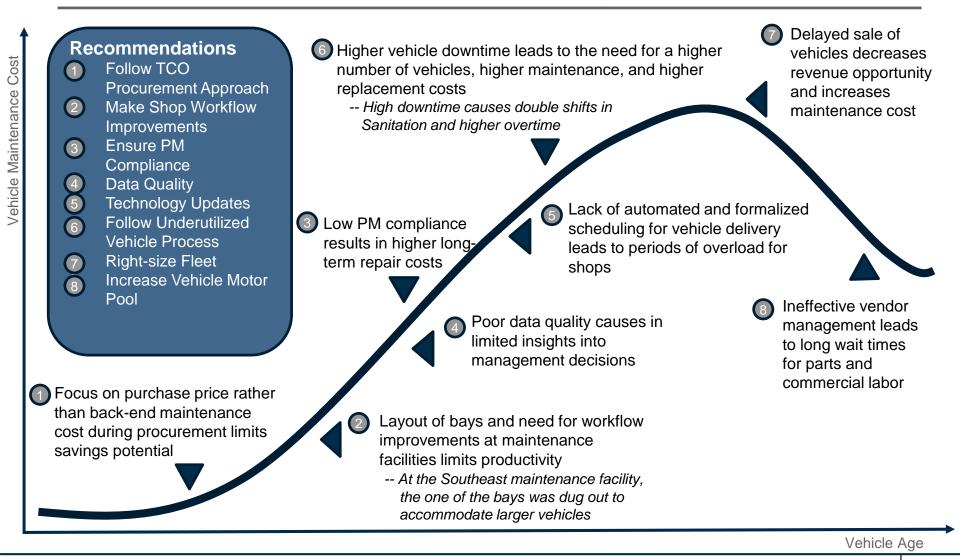# FLEET MANAGEMENT WORKLOAD – TOTAL LABOR HOURS BY DEPARTMENT

While SAN has the sixth highest number of vehicles, closed work orders represent the highest total labor hours and hours per vehicle. This is likely driven by vehicle complexity.

Comparison of Number of Vehicles to Total Labor Hours
(including percent of total labor hours)

	AVI	DFD	DPD	DWU	PBW	PKR	SAN	SWM	All Other	Total
Total Vehicles	130	118	2,171	1,434	682	375	734	261	888	6,793
Percentage of Vehicles	*1.9%*	*1.7%*	*32.0%*	*21.1%*	*10.0%*	*5.5%*	*10.8%*	*3.8%*	*13.1%*	*100.0%*
Total Labor Hours	861	652	33,285	16,196	10,723	6,608	63,864	3,980	16,270	152,437
Percentage of Labor Hours	*0.6%*	*0.4%*	*21.8%*	*10.6%*	*7.0%*	*4.3%*	*41.9%*	*2.6%*	*10.7%*	*100.0%*
Labor Hours per Vehicle	**6.6**	**5.5**	**15.3**	**11.3**	**15.7**	**17.6**	**87.0**	**15.2**	**18.3**	**22.4**

NOTE: DFD includes only vehicles managed by EFM

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EXECUTIVE SUMMARY – DOWNSTREAM CONSEQUENCES

A&M's recommendations are designed to address challenges across the vehicle lifecycle that lead to financial and operational inefficiencies and drive higher overall maintenance costs.

Vehicle Maintenance Cost

Recommendations
1. Follow TCO Procurement Approach
2. Make Shop Workflow Improvements
3. Ensure PM Compliance
4. Data Quality
5. Technology Updates
6. Follow Underutilized Vehicle Process
7. Right-size Fleet Increase Vehicle Motor Pool

6 Higher vehicle downtime leads to the need for a higher number of vehicles, higher maintenance, and higher replacement costs
   -- *High downtime causes double shifts in Sanitation and higher overtime*

7 Delayed sale of vehicles decreases revenue opportunity and increases maintenance cost

5 Lack of automated and formalized scheduling for vehicle delivery leads to periods of overload for shops

3 Low PM compliance results in higher long-term repair costs

4 Poor data quality causes in limited insights into management decisions

8 Ineffective vendor management leads to long wait times for parts and commercial labor

1 Focus on purchase price rather than back-end maintenance cost during procurement limits savings potential

2 Layout of bays and need for workflow improvements at maintenance facilities limits productivity
   -- *At the Southeast maintenance facility, the one of the bays was dug out to accommodate larger vehicles*

Vehicle Age

A&M estimated One-Time Investment of $2 million to 3 million to generate Annual Impact of $9 million to $12 million.**

	Est. One-Time Investment		Est. Annual Impact**	
	(Dollars)		(Dollars)	
	Low	High	Low	High
1 Follow TCO Procurement Approach	$ 160,000	$260,000	$ 175,000	$ 350,000
2 Make Shop Workflow Improvements	850,000	1,120,000	520,000	1,040,000
3 Ensure PM Compliance	100,000	150,000	290,000	510,000
4 Data Quality Improvements	150,000	230,000	-	-
5 Technology Updates / Transformation	230,000	310,000	160,000	210,000
6 Follow Underutilized Vehicle Process	60,000	90,000	3,660,000	4,870,000
7 Right-size Fleet	140,000	240,000	2,100,000	2,790,000
8 Increase Vehicle Motor Pool	50,000	70,000	2,360,000	3,140,000
Total	$ 1,740,000	$ 2,470,000	$ 9,265,000	$ 12,910,000
Cost Savings - General Fund			910,385	1,550,125
Cost Savings - Enterprise Funds			666,023	1,134,047
Cost Avoidance - General Fund			3,767,441	5,010,696
Cost Avoidance - Enterprise Funds			3,921,151	5,215,131

**Note: Investment and savings ranges shown above reflect estimates of impacts of A&M recommendations.

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EXECUTIVE SUMMARY – IMPLEMENTATION PLAN

The eight key improvement areas require a 24+ month implementation plan

Work Step	Yr	Short Term												Medium Term												Long Term					
	Mo	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1 FOLLOW TCO PROCUREMENT APPROACH						▬	▬	▬	▬	▬	▬	▬																			
2 MAKE SHOP WORKFLOW IMPROVEMENTS							▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬						
Make Scheduling Improvements						▬	▬	▬	▬	▬																					
Revamp Intake / Outtake Process									▬	▬	▬	▬	▬																		
Change Workorder Management										▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬						
3 ENSURE PREVENTATIVE MAINTENANCE COMPLIANCE							▬	▬	▬	▬	▬	▬																			
4 DATA QUALITY IMPROVEMENTS							▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬									
5 TECHNOLOGY UPDATES / TRANSFORMATION							▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
Billing, Customer Transparency							▬	▬	▬	▬	▬																				
Performance Reporting Enhancements									▬	▬	▬	▬	▬	▬	▬	▬	▬	▬												
Long Term System Enhancements																		▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
6 FOLLOW UNDERUTILIZED VEHICLE PROCESS							▬	▬	▬	▬																					
7 RIGHT-SIZE THE FLEET								▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬	▬
8 INCREASE VEHICLE MOTOR POOL								▬	▬	▬	▬	▬	▬	▬	▬	▬	▬													

EXECUTIVE SUMMARY – KEY ACTION ITEMS

Key next steps the City must take to improve fleet management fall into five categories – *Establish PMO and Governance Structure, Organizational Changes, Data and Technology, Shop Workflow Improvements, and Agency Communications*

Establish PMO & Governance

✓Establish Project Management Office
✓Establish Fleet Advisory Board
✓Establish Risk Management and Procurement Working Groups

Organizational Changes

✓Conduct staffing and pay scale assessments
✓Hire Service Advisors, Service Technicians, and a Data Quality Analyst
✓Conduct Total Cost of Ownership strategic sourcing exercise to improve pricing and vendor management

Data & Technology

✓Conduct an M5 system assessment to enhance system use and capabilities
✓Require tracking of all assets in M5 to improve data integrity
✓Activate key M5 modules to enhance capabilities and improve coordination with other systems

Shop Workflow Improvements

✓Enhance shop layout and workflow to reduce downtime and increase vehicle availability
✓Restructure work order management and establish quality control function
✓Refresh equipment and infrastructure to drive more efficient vehicle processing and repair

Department Communication

✓Simplify and automate the billing procedures for increased transparency and customer service
✓Incentivize PM compliance and proper user maintenance reduce non-target repair costs
✓Engage departments in regular reporting and analysis of fleet management data

EXECUTIVE SUMMARY – MAINTAINING THE MOMENTUM

The City should engage in four rapid assessments to continue the process of transforming fleet management, and make informed decisions on how to proceed.

Focus Area	Purpose	Timeframe
Procurement / Strategic Sourcing	Evaluate pain points and develop the Citywide requirements analysis to drive procurement for fleet operations	60 days
Billing / Transparency	Revise the City's billing process and integrate the process with M5 to increase transparency and accuracy of billing based on services received by each department.	90 days
Right-sizing	Develop utilization thresholds for each vehicle category and individually review each vehicle that falls below the threshold.	180 days
Mechanic Pay / Compensation	Evaluate the current mechanic compensation structure against the market to ensure that wages and other benefits are competitive and allow the City to attract and retain the best talent.	30 days

ALVAREZ & MARSAL

City of Dallas Fleet Management Study

City Council Briefing
December 5, 2018

Donzell Gipson, Interim Director
Equipment and Fleet Management
City of Dallas

Eric Kuhns, Assistant Director
Equipment and Fleet Management
City of Dallas

Purpose/Presentation Overview

- Address consultant recommendations from the Fleet Efficiency Study

- Provide overview and status update on process improvements for Fleet Services

- Upcoming Agenda Items

- Next Steps

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What We Learned From the Study

- How little fleet governance we had and what that has cost/caused

- The consultant's approach was an efficient way to align data across departments

- The City did not have an existing enterprise view or sustainable fleet strategy

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City of Dallas

Process Improvements

- Organizational Assessment

- Follow Total Cost of Ownership (TCO) Approach

- Make Shop Workflow Improvements

- Utilization, Right Sizing, and Motor Pool

- Technology and Data Quality

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City of Dallas

Organizational Assessment

Consultant Observations	Completed	In-Progress	Next Steps
Hiring			
1. Develop "Temp" to "Hire" Program	√		
2. 15+ hired and assigned to work at various City service centers	√		
Training			
3. Modernize Training Program by increasing hands on instruction and utilizing free training opportunities from existing vendors		√	
Employee Compensation			
4. Address tool/boot allowance and certification pay		√	
5. Engage Human Resources in the City-wide Compensation Study			√

Follow TCO Procurement Approach

Consultant Recommendation	Completed	In-Progress	Next Steps
Fleet Governance			
1. Establish a Fleet Advisory Board to establish standards		√	
2. Ensure (PM) periodic maintenance compliance		√	
3. Centralize decision making on fleet purchases		√	
Vehicle Procurement			
4. Evaluate the total cost of ownership versus short term initial purchase or operational reliance on rental equipment	√		
5. Determine the most cost effective funding mechanism for fleet purchases	√		
Enhance Outsource Contracting Options			
6. Work with Office of Procurement Services for better specifications and timely execution of contracts		√	

Government Performance and Financial Management

City of Dallas

Make Workshop Flow Improvements

Consultant Recommendation	Completed	In-Progress	Next Steps
Scheduling Improvements			
1. Staff realignment by shift and service center	√		
2. Add 3rd shift at the NW Service Center for Sanitation Services Vehicle maintenance	√		
Shop Infrastructure/Equipment			
3. Purchase new shop equipment to increase safety, productivity and diagnostic capabilities		√	
Revamp Intake/Outtake Process			
4. Hire (6) Service Advisors to engage customers and perform better quality control		√	
Change Workorder Management			
5. Maintenance Triage to better address customer needs and improve turnaround time		√	

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Government Performance and Financial Management

City of Dallas

Underutilization, Right Sizing & Motor Pool

Consultant Recommendation	Completed	In-Progress	Next Steps
Underutilization			
1. Identify potential surplus vehicles			√
2. Validate mileage, use, and hours in operation of vehicles with low annual mileage as criteria for low utilization			√
Right Sizing			
3. Identify options to share vehicles			√
4. Determine requirements based on operational needs		√	
5. Develop business rules to earn authorizations to validate requirements for fleet purchases or retention of their fleet			√
Increase Motor Pool			
6. Identify city facilities for expansion of motor pool		√	

Technology & Data Quality

Consultant Recommendation	Completed	In-Progress	Next Steps
Maximize Use of the Fleet Management System (M5)			
1. Enforce requirement to track all vehicles and equipment in M5	√		
2. Evaluate implementation of M5 system modules currently not in use	√		
3. Integrate with Risk Management System (Origami) on accident data			√
4. Offer refresher and on-going M5 training tailored to individual roles	√		
Assign staff support to monitor data quality			
5. Hire/Train incumbent to fill role of Data Quality Senior Analyst	√		
Simplify and automate billing			
6. Identify top disparities in lease rates and actual work order totals for transparency and customer service	√		

Government Performance and Financial Management

City of Dallas

Upcoming Agenda Items

- The December 12, 2018 City Council Agenda includes 1st phase of FY18-19 fleet purchase

- Working with DPD, CIS and City Attorney on changes to tow response for City Fleet

- City to operate as Vehicle Registration agent for Dallas County

- Working with Cedar Valley College on MOU to secure necessary training

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Government Performance and Financial Management

City of Dallas

Next Steps

Short Term

- Continue discussions with departments about potential underutilized vehicles and right-sizing their assigned fleet

- Expand the motor pool system to increase vehicle utilization thru sharing

Long Term

- Review funding strategy to address replacement eligible vehicles during future budget cycles

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Fleet Services Update
(Dallas Fleet Management Efficiency Study)

City Council Briefing
December 5, 2018

Donzell Gipson, Interim Director
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