

**Performance Audit:  
Streets & Drainage Fleet Audit**

**September 2012**

**City Internal Auditor's Office  
City of College Station**

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# Streets & Drainage Fleet Audit

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# Introduction

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The City Internal Auditor's Office conducted this performance audit of fleet utilization within the Streets & Drainage Division pursuant to Article III Section 30 of the College Station City Charter, which outlines the City Internal Auditor's primary duties.

A performance audit is an objective, systematic examination of evidence to assess independently the performance of an organization, program, activity, or function. The purpose of a performance audit is to provide information to improve public accountability and facilitate decision-making. Performance audits encompass a wide variety of objectives, including those related to assessing program effectiveness and results; economy and efficiency; internal control; compliance with legal or other requirements; and objectives related to providing prospective analyses, guidance, or summary information.

Streets & Drainage is a division within the Department of Public Works. The division consists of 34 full-time employees maintaining approximately 440 miles of paved streets, 100 miles of sidewalks, 40 miles of storm water sewer lines, 17 miles of concrete valley gutters, 32 miles of natural creek line and 380 acres of grass to be mowed and trimmed. They also provide heavy equipment support for other departments and traffic management support for major community events. In addition, Streets & Drainage provides 24 hour, seven day a week response to street maintenance problems, drainage issues and incident management support for public safety agencies.

Streets & Drainage has the most diverse mixture of equipment out of any city agency. The division utilizes 52 motorized vehicles and 30 additional individual pieces of equipment. These vehicles include a combination of light and heavy equipment, full-size and heavy duty trucks, tractors, trailers, 18 wheeler haul trucks, and other various pieces of equipment.

A performance audit of the City's utilization of its vehicle and equipment inventory was included in the fiscal year 2012 audit plan based on direction given by the Audit Committee. A preliminary analysis of the workload involved in a city-wide audit of fleet utilization led to the decision to begin this work by limiting the scope to an individual division within the City. Streets and Drainage was

selected based on their wide use of various types of vehicles as well as its use of take-home vehicles.

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## Audit Objectives

This audit evaluated the utilization of city vehicles and equipment within the Streets & Drainage Division of the Department of Public Works. This report answers the following questions:

- Is the Streets & Drainage Division in compliance with applicable federal, state, and city policies, rules and regulations as it pertains to the utilization of vehicles and equipment?
- Does Streets & Drainage utilize the right number of vehicles and equipment to balance the opposing interests of meeting service-level demands and minimizing costs?
- Does Streets & Drainage utilize the right type of vehicles to effectively accomplish job-related requirements at the most optimal cost?

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## Scope and Methodology

This audit was conducted in accordance with government auditing standards (except for the completion of an external peer review),<sup>1</sup> which are promulgated by the Comptroller General of the United States. Audit fieldwork was conducted from July 2012 through August 2012. The scope was limited to fleet (and fleet related equipment) utilization within the Streets & Drainage Division.<sup>2</sup>

The audit methods included:

- Reviewing the work of auditors in other jurisdictions and researching professional literature to identify best practices regarding fleet utilization.

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<sup>1</sup> Government auditing standards require audit organizations to undergo an external peer review every three years. A peer review is planned for 2013.

<sup>2</sup> The two Irrigation Division Vans were included in the scope when conducting the physical inventory. When examining vehicle security three Sanitation Division vehicles were also included.

- Interviewing Department of Public Works staff responsible for performing various related duties and/or oversight functions.
- Reviewing applicable city policies and procedures and relevant state and federal laws and regulations.
- Performing analytics on the last three years of Streets & Drainage work order data using specialized auditing software to examine daily usage of division vehicles and heavy equipment.
- Analyzing fuel consumption and odometer data from the City's fuel management system for take-home and crew vehicle usage—including organizational logistics (based on observations, interviews and documentary review of the Streets & Drainage strategic business plan).
- Analyzing the overtime and on-call pay received by division personnel to identify the frequency for which employees use take-home vehicles for business purposes.
- Performing comparative analysis of all super-duty, heavy duty, and full-size trucks based on reliability, cost, consumer satisfaction, towing capacity, and fuel economy. In conjunction with this analysis, we performed a needs assessment based on crew logistics/size and maximum equipment towing weight.
- Conducting a physical inventory, reconciliation, and inspection of all Streets & Drainage vehicles and equipment recorded as assets in the City's equipment inventory system.

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## Findings and Analysis

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### Vehicle Inventory is Accurate but Areas for Improvement Exist

We reviewed applicable city policies and procedures and relevant state and federal laws and regulations and found the division to be in general alignment with these rules and regulations. In addition, we conducted a physical inventory of all vehicles and equipment and reconciled our results to the assets recorded in the City's financial system—and we found that all vehicles and equipment on-hand reconciled to these records. However, we found that slight improvement could be made in the following areas: (1) ensuring that all vehicles and unattached equipment are assigned reference numbers, (2) requiring all division employees to complete a defensive driving course according to city policy, (3) reducing the number of take-home vehicles, (4) complying with city fueling procedures, and (5) providing better security of vehicle related assets.

#### The Vehicle Inventory Reconciled to Accounting Records

We conducted a physical inventory of all Streets & Drainage vehicles and unattached equipment. Specifically, we recorded the make, model, year, vehicle identification number, and reference number of each asset and reconciled them to the City's equipment inventory system records. Our review included 54<sup>3</sup> motorized vehicles and 30 additional individual pieces of equipment. Every vehicle recorded in the City's inventory records reconciled to our physical inspection. However, Streets & Drainage may be able to better account for their vehicle and equipment inventory. For example, we found three instances where unattached equipment did not receive a reference number.

A reference number is the number assigned to a vehicle or piece of unattached equipment that can be easily reconciled to city equipment inventory records. These reference numbers are crucial because they can be used to identify, locate, and track the usage of equipment owned by the City. All vehicles and associated unattached equipment

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<sup>3</sup> There are 52 motorized vehicles in Streets & Drainage; however, we included two additional Irrigation Division vehicles within our scope because these vehicles are administered by Streets & Drainage supervisors.

should have an assigned reference number, with the number pasted onto the vehicle. However, we discovered that the following equipment did not have reference numbers: (1) a John Deere shredder, (2) a message board, and (3) the Bobcat attachments.

### **Employees Lack the Defensive Driving Class Requirement**

The City of College Station has a policy of requiring all city employees that operate city vehicles to take a defensive driving course, and to renew the course every three years. Of the 34 employees that work in Streets & Drainage, we found evidence that only 10 had taken the defensive driving course in the last 3 years. Additionally, we gathered from interviews that the defensive driving course has not been offered for about two years—since the course instructor ended employment at the City.

The fact that so few employees are up-to-date on their defensive driving may be increasing the risk of accidents and damage. Furthermore, the fact that the City has a written policy of requiring employees to take the course, and it is not following that policy, could place the City at even greater risk of liability.

### **Take-home Vehicles Could Be Further Reduced**

Due to the nature of the services provided by cities, some city employees need to be able to respond quickly to emergency situations outside of regular office hours. Because of this fact, those city employees that are on-call to respond to these emergency situations often receive take-home vehicles so that they can respond directly to the emergencies, rather than having to make an intermediate stop at city offices to gather the needed equipment.

City policy dictates the following as it relates to take-home vehicles: "City-owned vehicles shall be assigned and used strictly in the performance of official job duties. With prior authorization and approval of the supervisor, employees who are on-call may take city vehicles home overnight to ensure emergency response. Limited personal use of the vehicle will be allowed as long as such use is within the travel route to and/or from the worksite or the employee's home."

Based on our review, we found that Streets & Drainage was in general alignment with this policy. Furthermore, the Division recently

reduced the number of take-home vehicles by disposing of the Streets & Drainage Superintendent's vehicle. However, we found that the number of take-home vehicles could further be reduced and still meet the service demands of the Division.

**It is unnecessary to have two employees taking home vehicles for emergency response purposes.** In Streets & Drainage, the foreman takes home a vehicle every day, and three other division employees rotate in taking home a vehicle. We calculated that on about 80 percent of the workdays there are two employees on-call. However, we found that these on-call employees were called out to respond to a situation only about 6 percent of that time. Because on-call employees are called out so infrequently, there does not appear to be a need for two employees to be on-call at the same time. The second on-call employee presents an added cost to the City that does not seem to be justified by the need to be able to respond quickly to emergency situations.

**Take-home vehicles as an employee benefit may be justified, but are subject to IRS fringe benefit tax regulations.** One of the City's stated goals is to retain and motivate high quality employees. While having two on-call, take-home vehicles may not be justified by an emergency response need; it still might be justifiable as an employee benefit that is necessary to retain high quality employees. If the City decided to end an employee's use of a take home vehicle, it would essentially operate as a reduction in total compensation for that employee since he would then have to supply his own vehicle and fuel for the commute. Therefore, ending an employee's use of a take-home vehicle, without increasing that employee's compensation or benefits in another way, may work against the City's goal of retaining and motivating their employees. *It is important to note, however, that one notable consequence of providing a take-home vehicle that primarily functions as an employee benefit is that it is subject to the IRS fringe benefit tax regulations.*

### **Fueling Procedure Compliance Standards Merit Consideration**

One of the findings of a previous audit conducted in 2009 dealt with the inaccuracy of odometer entries made by employees when using city fueling stations. We found that some Streets & Drainage employees were not fully complying with city fueling procedures. Two audit recommendations related to this finding were issued and management concurred with the recommendations.

**Approximately 7 percent of odometer readings were inaccurate.** We found that some Streets and Drainage employees entered incorrect odometer entries when filling up city vehicles at city fueling stations. For example, there were 52 instances of the incorrect meter readings found in 2011 and 2012.<sup>4</sup> This resulted in a 7 percent error rate in both 2011 and 2012. The City's fueling procedures are designed to help reduce the risk of fuel theft, while also generating more accurate data for decision makers. However, the benefits associated with complete fueling procedure compliance may not outweigh the cost associated with ensuring it. There will always be a margin of human error within any manual process, and eliminating all human error can be very expensive. For example, Public Works may be able to ensure complete compliance by implementing an automated meter-reading system; but these types of systems may be cost prohibitive.

**City employees should only use fuel cards to fuel up the card's assigned vehicle.** We found that the fuel cards assigned to specific vehicles are distributing more fuel than is reasonable for that vehicle. For example, there is at least one instance where the quantity fueled was greater than the vehicle's tank capacity. In addition, we found instances where the miles-per-gallon calculations based on the quantity fueled and mileage traveled are lower than expected—indicating that not all of the fuel being dispersed is making it into these vehicles. These facts lead us to two possible conclusions: (1) some employees may not be using their miscellaneous fuel cards, and instead use the vehicle's card to fill up both their vehicle and their equipment, or (2) employees are stealing fuel. Currently, we believe that the answer is the former and not the latter; but we believe that employees should be reminded and encouraged to use their fuel cards properly; and specifically, to only use fuel cards to fill that card's assigned vehicle.

### **Vehicle & Equipment Asset Security Could Be Improved**

The City's fiscal policy states "The City's fixed assets shall be reasonably safeguarded and properly accounted for and sufficiently insured. Responsibility for the safeguarding of the City's fixed assets lies with the department director in whose department the fixed asset is assigned. The Fiscal Services Department shall maintain the

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<sup>4</sup> This analysis excluded heavy equipment. We examined the 10 pickup trucks, 2 vans, and SUV in the Division.

permanent records of the City's fixed assets including description, cost, department of responsibility, date of acquisition, depreciation and expected useful life."

A fixed asset of the City is defined as a purchased or otherwise acquired piece of equipment, vehicle, furniture, fixture, capital improvement, addition to existing capital investments, land, or buildings which has an original cost or value of at least \$5,000 and a useful life of more than three years.

During the course of the audit, we found internal control weaknesses in the security of certain fixed assets and all assets were not kept secure. Further consideration concerning this audit finding was addressed in a separate management letter presented to the Audit Committee and city management on October 1, 2012.

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## **Generally, the Right Number of Vehicles are Utilized**

An important aspect of vehicle management is maintaining the proper number of vehicles. If a city has too few, then it cannot effectively provide services to the community; but if a city has too many it is not efficiently using taxpayer dollars.

In our analysis, we carefully examined each vehicle in Streets & Drainage to determine how often each vehicle is used. For regular street vehicles (i.e. the pickup trucks, two vans, and an SUV) we analyzed usage by examining a combination of total miles driven and gallons of fuel used. For the other vehicles and equipment, which we have called "work vehicles" we examined the work order data, which informed us how many hours each vehicle was used.

### **The Optimal Number of Street Vehicles are Utilized**

In Streets & Drainage, the street vehicles are mostly used for moving employees and equipment to the locations where work needs to be done. The general expectation is that the street vehicles will be used almost every day to drive out to a work site, and then return at the end of the day. If there are shorter work orders, the vehicle may be able to move to multiple sites in a day. Given this expectation, if any of the street vehicles are averaging very few miles per work day, then there are probably too many street vehicles in the Division. Table 1

on the next page shows the average number of miles per work day each vehicle was driven, over the last four quarters.

**Table 1:** Street Vehicles Miles per Workday

Ref#	Vehicle Description	2011		2012		Avg.
		Q3	Q4	Q1	Q2	
3124	TUNDRA	63	47	56	51	54
3228	F350	36	38	42	32	37
3191	F250	36	30	35	32	33
3245	F250	67	42	55	56	55
3107	F250	14	7	13	15	12
3109	F250	6	10	9	27	13
3192	F250	23	25	22	20	23
3201	F250	36	34	24	22	29
3232	F450	11	9	17	18	14
3234	Escape	15	5	13	20	13
3185	CHEV 1/2 Ton	8	8	13	13	11
3501	E250	31	40	37	44	38
3502	E250	38	54	59	60	53

The first four vehicles in Table 1 are vehicles that are used for on-call purposes. The Tundra is also used as a take-home vehicle by the foreman. The next three vehicles in Table 1 are also used as crew leader trucks. The Tundra was purchased in 2012; therefore, the mileage in the previous quarters represents the vehicle it replaced. The street vehicles' mileage ranges from 11 to 55, with an average of 30 and a median of 29.

In addition to our quantitative analysis of street vehicles, we performed a qualitative assessment of the organizational structure of the Division. We examined the structure of crew/crew leader assignment, the work they perform, and how they are transported to different types of job sites.

Based on our (1) quantitative analysis of the number of miles the street vehicles were used and (2) qualitative assessment of crew logistics, we concluded that Streets & Drainage owns the proper number of street vehicles—within the Division's current organizational framework. However, if how work is supervised could be restructured; there may be an opportunity to reduce the number of trucks assigned to crew leaders by moving to a more pooled vehicle type of system. The drawback to pooled vehicles, however, is that maintenance costs could increase because of decreased level of accountability and ownership.

## **Generally, the Right Number of Work Vehicles are Utilized**

In determining whether a city has the correct number of vehicles, the critical question is how much and how often the vehicles are used. Vehicles that are rarely used can then become candidates for discussion on whether those vehicles should be disposed.

Using work order data, we examined the hours and dates recorded for each work vehicle. This data was then used to see which days, and for how long, each vehicle in the Division was used. If the vehicle was used less than 10 percent of the days available (i.e. less than once every two weeks) then it was marked as a candidate for further investigation. It is important to note that just because a vehicle was used less than 10 percent of the time does not necessarily mean that it is underutilized.

Generally, Streets & Drainage possesses the right number of work vehicles. However, our analysis has found that there are a few areas where Streets & Drainage could possibly afford to downsize the number of vehicles they own. These vehicles can be divided into three groups: (1) rarely used vehicles that are already marked for disposal, (2) vehicles Streets & Drainage possesses more than one of a specific type, and (3) vehicles Streets & Drainage possesses only one of a specific type.

Our methodology for determining how many vehicles are needed of each type had two major steps. The first step involved calculating the minimum number of vehicles Streets & Drainage needs, and the second step involved determining the maximum number of vehicles needed.

- Minimum number of vehicles needed. In calculating the minimum number of vehicles needed, we identified the fewest number of vehicles Streets & Drainage could own and still provide the same total hours of service, if the Division utilized the vehicles for a full 8 hours each day.<sup>5</sup> This calculation is useful because it shows us the absolute minimum number of vehicles the Division could have and still maintain its current productivity levels.
- Maximum number of vehicles needed. In determining the maximum number of vehicles needed, we examined how many

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<sup>5</sup> In mathematical terms, this is the average hours the vehicle type is used each day divided by 8 hours.

vehicles were used each day; reasoning that if Streets & Drainage never actually uses all of the vehicles at the same time, then there is no need to have that many vehicles. For example, if the Division owned 10 vehicles of a type, but never used more than 8 on a single day, then at the most they would only need 8 of those vehicles.

**Audit findings concurred with management’s decision to dispose of two rarely used vehicles.** There are two vehicles that the Department of Public Works has already marked for disposal; they are the chip spreader and the oil truck. Our own independent analysis also showed that Public Works should consider disposing of these vehicles.

**Based on quantitative analysis, Streets & Drainage may be able to dispose of some vehicles.** The second group of vehicles includes vehicles where Streets & Drainage possesses more than one vehicle in a specific type, and could possibly afford to dispose of one or two of that type. This includes small dump trucks, mowers, and tractors.

Table 2 below is designed to help show the minimum number of vehicles needed of each type. For example, the first column in period 10 shows the average hours per day that all vehicles within that type were used between July 20, 2009 and July 19, 2010.<sup>6</sup> The second column shows the calculation for the minimum number of vehicles that would be needed to maintain this average, assuming that the vehicles are used 8 hours a day.<sup>7</sup> Table 2 tracks this data back over the last three years.

**Table 2: Minimum Number of Vehicles Needed**

Vehicle Type	Period 10		Period 11		Period 12	
	Avg. Hrs/Day	Min. No.	Avg. Hrs/Day	Min. No.	Avg. Hrs/Day	Min. No.
Small Dump Truck	7.8	1	7.5	1	7.5	1
Mower	12.8	2	16.7	3	21.1	3
Tractor	12.6/14.3 <sup>8</sup>	2	15.6	2	13.6	2

**Note:** Periods are from 7/20 - 7/19 (e.g., period 10 is 7/20/09 - 7/19/10)

<sup>6</sup> This average includes every day that the vehicles in each type were used, but does not include days where these vehicles were used for zero hours. This helps reduce any bias created by seasonality of usage.

<sup>7</sup> I.e. Average hours per day divided by 8 hours, and then rounded up to the nearest whole number.

<sup>8</sup> Two calculations are provided to account for the additional tractor that was acquired in April of 2010.

Table 3 below, is designed to help show the maximum number of vehicles needed of each type. The left most column in the table shows the number of vehicles (in a given type) used on a given day; while the next three columns show the percentage of days that number of vehicles was used.

**Table 3: Percentage of Days Vehicles Utilized**

Vehicle Type	No.	Period 10	Period 11	Period 12
Small Dump Truck	1	85.7%	75.5%	74.4%
	2	14.3%	20.9%	23.2%
	3	0.0%	3.6%	2.4%
Mower	1	49.5%	17.0%	10.4%
	2	42.2%	56.7%	13.9%
	3	8.3%	26.3%	69.3%
	4	0.0%	0.0%	6.4%
Tractor	1	26.4%	31.3%	34.9%
	2	56.6%	30.7%	34.9%
	3	17.0%	28.0%	29.6%
	4	0.0%	10.0%	0.7%

Based on our analysis summarized in Table 2, Streets & Drainage has a minimum need of one small dump truck, three mowers, and two tractors. Based on our analysis of maximum need summarized in Table 3, three small dump trucks, four mowers, and four tractors are utilized during the same day only under the very rarest of circumstances. For example, in each of the last three years, Streets & Drainage has used all three small dump trucks on the same day less than 4 percent of the time. Additionally, most of the time the Division uses only one of the dump trucks each day. In the most recent year, the Division used all four mowers on the same day 6.4 percent of the time, but not at all in prior years. Tractor use has been volatile due to cuts to the herbicide program, resulting in usage of all four tractors to drop from a maximum of 10 percent in period 11 to 0.7 percent in the most recent year.

Based solely on the quantitative analysis and the assumption that management could reasonably rearrange the scheduling of vehicles within a specific vehicle type, Table 4 on the next page summarizes the minimum and maximum vehicle requirements for the three classes of vehicles previously discussed.

**Table 4: Min & Max Need (based on quantitative analysis)**

<b>Vehicle Type</b>	<b>Min Need</b>	<b>Max Need</b>	<b>On-Hand</b>
Small Dump Truck	1	2	3
Mower	3	3	4
Tractor	2	3	4

**Qualitative factors should be considered when making vehicle and equipment needs assessments.** The above stated conclusions are based almost entirely on the quantitative analysis, and we recognize that qualitative aspects must play into the decision process as well.

Small dump trucks. Two of the small dump trucks are used as sand spreaders when roads are icy. Because of this, Streets & Drainage generally leaves at least one of these trucks idle during winter months so that it can be ready for sand spreading at a moment's notice (otherwise, it would take a few hours to attach the sand spreader to the truck). That being the case, reducing the number of small dump trucks to one or two could prove more difficult than the work order data indicates because during some of the time that these dump trucks are registered as not working, they are essentially working on-call. Management will have to decide if the cost savings of having fewer small dump trucks outweighs the cost of potentially having to increase the time and labor required in using the sand spreader.

Mowers. In the last year, three mowers were used almost 70 percent of the time. In addition, work order data indicates that three mowers would operate on average approximately 7 hours per day when in use. If one of these mowers needed repairs or broke down, the service demands of the Division would probably be encumbered. In addition, mowers are one of the least expensive work vehicles in the Division's inventory. Therefore, the cost savings from disposing of the vehicle would be minimal versus the potential costs of not being able to meet service demands if one of the mowers were in the shop being repaired when needed.

Tractors. The sudden drop in usage of tractors can be explained through qualitative analysis. One of the four tractors is the herbicide tractor, and the City recently stopped their herbicide program. If the City does not intend to reinstitute the herbicide program then Streets & Drainage may only need a maximum of three tractors. However, if in the future the City does intend to reinstitute the herbicide program, then the maximum number of tractors needed is probably four.

**Some rarely used stand alone vehicles may not be needed.**

The final group of vehicles includes the arrowboard, the dozer, and the Broce broom. These three vehicles are in their own group because while they are rarely used, Streets & Drainage possesses only one of each; so if they were to dispose of one of them, they may also lose the ability to perform certain functions.

Table 5 below shows the percentage of days each year the arrowboard, dozer, and Broce broom were used, as well as the average number of hours each time it was used.

**Table 5:** Stand-alone Vehicle Usage

Vehicle Type	Period 10		Period 11		Period 12	
	Avg. Hrs/Day	% of Days	Avg. Hrs/Day	% of Days	Avg. Hrs/Day	% of Days
Arrowboard	n/a	0.0%	n/a	0.0%	6.9	2.4%
Dozer	12.1	5.6%	6.4	7.2%	4.6	4.0%
Broce broom	5.6	3.6%	5.9	3.6%	4.0	2.0%

**Note:** Periods are from 7/20 - 7/19 (e.g., period 10 is 7/20/09 - 7/19/10)

Arrowboard. Because Streets & Drainage rarely uses the arrowboard, it may want to consider disposing of it. On the other hand, since the City already owns the arrowboard, and it requires minimal upkeep and maintenance, it would be reasonable to keep the board for now; but when the arrowboard eventually needs to be replaced, Steets & Drainage may consider an alternative to purchasing a new arrowboard.

Dozer. The fact that the dozer is rarely used (according to work order data), combined with the fact that the Division's Bobcat has a dozer attachment, indicates that Streets & Drainage may be able to dispose of the dozer, and then use the Bobcat on the occasions that the dozer is needed.

However, while the dozer is not used very often on work orders, we were informed that the dozer is often used internally by the Division in the work yard. These jobs are not recorded on work orders, so we cannot say whether the extra work performed in the yard justifies keeping the dozer. Additionally, while the Bobcat has the ability to function as a dozer, the Bobcat's dozer blade is smaller than the dozer's, and the Bobcat itself is less powerful (Bobcat: 55 horsepower; dozer: 77 horsepower). Therefore, the Bobcat may be

unable to perform some of the dozing functions that the dozer can. Consequently, management will have to weigh the cost of keeping the dozer verses having only the Bobcat to perform dozing functions.

Broce Broom. The Broce broom sweeper is the smallest of Streets & Drainage's three sweepers. According to division employees, it is primarily used in situations when the larger street sweepers are too large to access an area. As can be seen in Table 5, the Broce broom is used very infrequently. Given this fact, Streets & Drainage could probably dispose of the Broce broom and find another method for sweeping during those infrequent occasions when the larger street sweepers are unable to perform the task.

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## **Generally, Effective Pickup Make & Models are Purchased**

There are several factors the City needs to consider when purchasing vehicles; among them are the vehicle's specifications, purchase cost, maintenance cost, and compatibility<sup>9</sup> with other city vehicles.

We performed a comparative analysis only on Street & Drainage pickup vehicles. Performing comparative analysis to identify the ideal vehicle make and models for a specific job function consumes a significant amount of audit resources. Therefore, while it is possible to perform this similar analysis on other vehicles within Streets & Drainage, we decided to limit the scope of our review to pickup trucks in order to produce a more timely report.

### **Fords & Toyota Pickups are Rated Higher than Competitors**

One of the best sources of information regarding vehicles is Consumer Reports. Consumer Reports is known for performing independent tests and analysis of consumer goods in order to help purchasers decide which goods best fit their needs. Therefore, we used Consumer Reports as a source in evaluating the effectiveness of Streets & Drainage's pickup trucks purchases.

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<sup>9</sup> For example, replacement parts that can be used in multiple vehicles, reducing the amount of mechanic training needed, etc.

Table 6 below compares vehicles of all truck classes to each other using Consumer Reports information. The models and makes that rated better than their competitors are highlighted.

**Table 6:** Vehicle in Class Comparisons

Make	Model	Towing Capacity	Max Load	Owner Satisfaction	Reliability	Cost	MPG
<b>Ford</b>	<b>F-350</b>	<b>12,500</b>	<b>NA</b>	<b>NA</b>	<b>3</b>	<b>1</b>	<b>NA</b>
Dodge	3500	10,050	NA	NA	1	1	NA
Chevrolet	Silverado 3500	17,000	4,165	NA	1	1	NA
GMC	Sierra 3500	17,000	4,165	NA	1	1	NA
Chevrolet	Silverado 2500	13,000	2,485	4	1	1	14
GMC	Sierra 2500	13,000	2,485	4	1	1	14
Dodge	2500	13,450	2,290	4	1	1	13
<b>Ford</b>	<b>F-250</b>	<b>14,000</b>	<b>2,080</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>16</b>
Nissan	Titan	7,300	1,600	3	5	NA	14
Chevrolet	Silverado 1500	9,500	1,570	3	2	2	14
GMC	Sierra 1500	9,500	1,570	3	2	2	14
Ford	F-150 V6	8,200	1,435	5	3	2	15
Ford	F-150 V8	7,700	1,405	4	3	2	15
<b>Toyota</b>	<b>Tundra</b>	<b>10,300</b>	<b>1,395</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>15</b>
Dodge	1500	8,400	1,335	4	2	2	14

According to the data, the Toyota Tundra was the best in its class of full-size pickups based on owner satisfaction, reliability, cost, towing capacity and fuel economy. The Ford F350 and Ford F250 were the best in class in super heavy duty and heavy duty truck classes, respectively, using the same criteria. Not included in Table 6 are the ratings for compact trucks, where the Toyota Tacoma rated higher than its competitors. We excluded compact trucks from our analysis because their towing capacities do not meet the specific needs of Streets & Drainage.

Based on our analysis, the Toyota Tundra rated as the best overall vehicle. The towing capacity of a Toyota Tundra is over 2,000 lbs greater than the F150 and only 3,700 lbs less than the F250. With a towing capacity of 10,300 lbs, the Tundra is capable of handling most large towing needs, but at a significantly lower cost than the F250—on average, \$4,319 cheaper. The Tundra also rated higher than its Ford competitors in the area of reliability.

## **Generally, Division Purchasing Decisions are Reasonable**

Streets & Drainage pickup trucks perform two primary functions, (1) hauling equipment and (2) transporting division crews to job sites. Therefore, towing capacity and crew logistics are the two greatest factors that should be considered when making pickup truck purchasing decisions. Streets and Drainage mostly uses Fords, with one Toyota and one Chevrolet. This is mostly in line with our own findings, and our only suggestion would be to replace the Chevy with a Ford or Toyota once the Chevy needs to be replaced.

**F250s are capable of safely hauling all equipment hauled by pickup trucks in the Division.** During our review, we calculated the weight of all equipment and trailers hauled by division pickup trucks. Based on our review, the Ford F250 pickup trucks are capable of safely hauling all trailers and equipment that are hauled by pickups in the Division. It is important to note that of all the equipment that is currently hauled by pickup trucks in Streets and Drainage, the Tundra is on the limit of not being able to adequately, safely haul the three heaviest pieces of equipment—the multi terrain loader, dozer, and Bobcat. Each of these vehicles weighs between 7,700 and 9,000 lbs and is towed on trailers that weigh between 2,500 and 3,200 lbs.

**Pickup cab sizes may be larger than necessary.** There are three basic cab sizes for pickup trucks: Regular cab, which includes only a front row of seats; double cab which has a front and back row of seats; and crew cab, which has extended back seats. Regular cabs are the cheapest, and crew cabs are the most expensive.

Streets and Drainage has a tendency to purchase the more expensive 4-passenger trucks, which may not be needed. Based on current crew demands, there may be a need for only two 4-passenger trucks instead of the seven 4-passenger trucks that are part of the current inventory. In addition, the most expensive crew-cab trucks have been purchased for the foreman and his three crew leaders.

However, the above statement is based on the assumption that passenger seats are only needed for carrying people. Streets and Drainage employees also use the back seat to store supplies, and locking those supplies in the cab is safer than leaving them in the bed of the truck. The City should take into account both of these sets of facts in the future when deciding what type of cabs to purchase for their trucks.

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## Recommendations

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There are a few slight improvements Streets & Drainage could make to better manage its fleet assets. They are encompassed in the following audit recommendations:

1. The Director of Public Works in association with the Chief Financial Officer should ensure that each vehicle and each unattached piece of fleet related equipment has an associated reference number.
2. The Director of Public Works should work with the City Manager and the Human Resources Director to develop a plan to ensure that all employees that are operating city vehicles are in compliance with city policy and have taken a defensive driving course within the last three years.
3. The Director of Public Works should develop a plan that reviews the security of all vehicle and equipment related assets. Specifics relating to this audit recommendation are discussed in a separate management letter.
4. The Director of Public Works should take action to ensure that his employees are following proper fueling procedures within acceptable limits. The City's fueling procedures are designed to help reduce the risk of fuel theft, while also generating more accurate data for decision makers. However, because the cost of ensuring 100 percent compliance with fuel policies could outweigh the benefits, management should institute a target level of compliance that balances the cost of ensuring compliance with the benefits provided by compliance.
5. The Director of Public Works should consider the costs and benefits of disposing of the following vehicles and equipment: the Broce broom, a small dump truck, a mower, a tractor, the arrowboard, and the dozer.

## Appendix A: Management's Response to the Audit Recommendations



TO: Ty Elliot, City Internal Auditor

THROUGH: David Neeley, City Manager

FROM: Chuck Gilman, P.E., PMP, Director of Public Works

SUBJECT: Management Response to Streets & Drainage Fleet Audit

DATE: September 27, 2012

The following is the Public Works Department's response to the recommendations made in the City Auditor Office's Streets & Drainage Fleet Audit. Each of the five recommendations includes a response describing how the recommendation will be addressed by the Public Works department.

### **1. Audit Recommendation:**

The Director of Public Works in association with the Chief Financial Officer should ensure that each vehicle and each unattached piece of fleet related equipment has an associated reference number.

### **Management Response:**

Management concurs with this recommendation and will ensure that each vehicle and each unattached piece of fleet related equipment has a reference number that is either unique to that piece of equipment or is associated with the reference number of the equipment that the unattached piece of equipment is associated with.

### **2. Audit Recommendation:**

The Director of Public Works should work with the City Manager and the Human Resources Director to develop a plan to ensure that all employees that are operating city vehicles are in compliance with city policy and have taken a defensive driving course within the last three years.

### **Management Response:**

Management concurs with this recommendation and will work with the Human Resources Director to review the City's existing policy regarding defensive driving for employees that are operating city vehicles to make any necessary revisions, and take steps to ensure compliance with that policy.

### **3. Audit Recommendation:**

The Director of Public Works should develop a plan that reviews the security of all vehicle and equipment related assets. Specifics relating to this audit recommendation are discussed in a separate management letter.

## Appendix A (cont.): Management's Response to the Audit Recommendations

### Management Response:

Management concurs with this recommendation and will develop a plan to perform a risk assessment that will address the security of all facilities, vehicles and equipment related assets. Additionally, departmental policies regarding to the security of vehicle and equipment related assets have recently been updated, discussed with staff, and are being implemented.

### **4. Audit Recommendation:**

The Director of Public Works should take action to ensure that his employees are following proper fueling procedures within acceptable limits. The City's fueling procedures are designed to help reduce the risk of fuel theft, while also generating more accurate data for decision makers. However, because the cost of ensuring 100 percent compliance with fuel policies could outweigh the benefits, management should institute a target level of compliance that balances the cost of ensuring compliance with the benefits provided by compliance.

### Management Response:

Management concurs with this recommendation and will amend fueling policies and procedures to include a target level of compliance for the correct entry of odometer readings when refueling. Fleet staff currently performs routine checks on odometer entries to ensure compliance. However, these checks have been done based only on the driver's license number of the fuel system user. Fleet staff will begin performing these checks by vehicle as well since several vehicles are used by multiple individuals and crews.

The audit found instances where the miles-per-gallon calculations based on the quantity fueled and mileage traveled are lower than expected. In addition to the steps that will be taken to continue to improve compliance with fueling procedures, it is important to note that many of these vehicles are used for functions that are not included in the EPA MPG calculations. Many of the Streets & Drainage trucks haul trailers with work equipment on a daily basis, and are used to drive in and around worksites. Additionally, some trucks have light bars with white, blue or yellow caution lights used for traffic control purposes on work sites as well as during special events such as Texas A&M football games. The power draw of these light bars requires the truck engines to be running, which further reduces fuel economy.

### **5. Audit Recommendation:**

The Director of Public Works should consider the costs and benefits of disposing of the following vehicles and equipment: the Broce broom, a small dump truck, a mower, a tractor, the arrowboard, and the dozer.

### Management Response:

Management concurs with this recommendation and has considered the costs and benefits of disposing of each of these vehicles and equipment as part of the FY 2013 budget process as well as a result of this audit. Over the past two years the Public Works department has identified several additional pieces of equipment that were underutilized and will liquidate that equipment in FY 2013. The Broce broom is increasingly being utilized for sweeping hike & bike trails that were recently completed, and will be utilized more as the inventory of hike & bike trails increase in the future.

## **Appendix A (cont.): Management's Response to the Audit Recommendations**

The audit report discussed qualitative factors that must be considered when analyzing whether to dispose of the small dump truck, mower, and tractor such as standby and redundancy needs. Additionally, the small dump trucks are used to haul materials for smaller drainage projects such as culvert replacements. Due to vacancies that have existed in this division throughout the past two years, many planned drainage improvement projects that this truck would be utilized for have not been completed. In the future, as we work toward a more definitive split between street crews and drainage crews, we anticipate that we expect more utilization from the small dump trucks. Also, much of the work completed using the mower and tractor is seasonal in nature. This equipment is heavily used during the growing season, but is used less frequently during the winter months. Therefore, we do not expect full utilization of our tractors, mowers, or shredders.

The arrowboard is utilized for traffic control purposes during roadway maintenance and special events such as Texas A&M home football games and as discussed in the audit report, has minimal upkeep and maintenance associated with it.

Finally, as discussed in the audit report, the dozer is used by crews to move rock and other stockpiled materials around the Public Works operations yard and provides the additional power necessary for these tasks. Public Works will continue to analyze the costs and benefits of the department's vehicles and equipment and will recommend disposing of any vehicles or equipment that are identified as underutilized or unneeded in the future.

### **Additional Information:**

- As noted in the response to Audit Recommendation number five above and in the audit report, staff has identified several underutilized vehicles and pieces of equipment for disposal during the past two years. Superintendent take home vehicles have been eliminated and a pooled vehicle system has been established for use by all Public Works office staff. This will result in the disposal of two passenger vehicles in FY13. In addition to the two pieces of heavy equipment identified in the audit for disposal, the oil distributor truck and chip spreader, Public Works has also identified one additional piece of heavy equipment that will be disposed of in FY13. In total, these changes will result in an annual savings of over \$55,000.

- The audit found that Division Purchasing Decisions are Reasonable regarding the make & model of Streets & Drainage pickup trucks. Another issue Public Works takes into consideration when making passenger vehicle decisions is the uniformity of the fleet across the City to minimize the number of different parts that are needed as well as the availability of multiple sources of warranty and service work from local dealerships.