

# Fleet Optimization Matrix – Executive Report



CITY OF WEST ALLIS – PUBLIC WORKS DEPARTMENT | JULY 2018

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Dear Dave,

Thank you for the opportunity to consult with you and your team as we explore opportunities to improve your transportation operations within the West Allis Department of Public Works (DPW). The purpose of this assessment process was to identify and target critical transportation functions for possible improvements that can lead to a greater degree of excellence and optimum efficiency. Since DPW is a governmental agency, profit is not an applicable consideration; however, the stewardship of how you use public funds certainly is. Although the unique nature of the DPW operations along with the variety of types of equipment and your past data tracking systems present limitations on optimizing your resources, we will identify potential opportunities for substantial savings in both time and expense. **This report serves to supersede the originally issued fleet optimization matrix executive report issued August 26, 2016. The results of this report are based on information available with completion of the December 31, 2015 year. Certain recommendations of this report may have been previously implemented by the Fleet Division of DPW between the completion of the 2015 year and the current revisions to this executive report. We feel, as a whole, all recommendations of this report are still valid and require further investigation by DPW with the assistance of the West Allis Department of Finance.**

Our overall impression of your transportation functions within the DPW is that there were past needs that have simply evolved into certain functions/processes used to meet today's growing demands of the other DPW divisions. Strategic planning and formal operating procedures that describe performance expectations and accountability were communicated verbally during the assessment process; however, these need to be formally documented for it to become evident in daily fleet activities. All of the mechanics interviewed took pride in being able to perform the job they were assigned and were all particularly proud that they were allowed to creatively solve and even fabricate equipment solutions in-house to meet any and all challenges presented. Everyone was admirably focused short-term on doing a good job to service the transportation needs of the other divisions within the DPW, and this was evident in interviews conducted of the other divisions. You have invested in excellent employees which has allowed you to have the past success you have had. DPW's Fleet Division was set up to provide a competitive advantage over outsourcing labor and equipment costs. To further your efforts related to time and cost, management needs to not only focus on budget compliance but should place equal weight on optimizing efficiency. During the assessment we reviewed several key initiatives Fleet could use to improve performance.

In management, good decisions are based on good data. Vehicle repair and performance data is entered in the City's financial software, SunGard. Currently, the retrieval of Fleet's operational data from the SunGard system needs to be more timely and the reports better formatted for practical use. The available reports were only used sporadically and not to their full capabilities, forcing Fleet management to rely on other record keeping methods for data. The data analysis and reporting capabilities of this software, as currently implemented, are limiting the Fleet Division from proper fleet management, in our opinion. For this assessment we sorted approximately 42,000 work orders in the "parts and labor" file. Common historical operational trends typically found were not evident in review of this data. As a result this data was not used as a basis for providing detailed recommendations for this assessment.

We did discover in our inquiries the current system's data entry process is very manually driven. On an efficiency basis, a staff member spending a significant amount of time entering data into the SunGard system, which has a limited utilization by the Fleet Division, along with tracking this data in a separate method specific to Fleet's requirements needs to be reassessed.

The goal should be to have a database source that houses data usable by all necessary departments involved, Fleet and Finance, for example, or seamlessly transferred between software packages.

This is identified as one of the major opportunities for improvement during this assessment. **It is impossible to effectively manage without access to timely, usable and accurate data.** Benchmarks that are typically useful for comparing performance and generating forecasts for capacity requirements were not easily obtainable for the Fleet Division.

In summary, opportunities for enhanced utilization of information systems for incorporating productive and efficient fleet operations and maintenance are as follows:

1. Ensure information is entered in only one location
2. Determine a regular cadence for entering information
3. Reduce probability of data entry errors by moving away from a manual process
4. Enhance timeliness along with form and manner of information for decision making purposes

There is widespread belief among interviewees that enhanced software capabilities are needed to support the Fleet Division, but internal support to implement a dedicated fleet management system would be a hurdle to overcome. However, it is unclear whether the information gaps could be addressed by greater utilization of capabilities of the current system or if a totally new fleet management software is necessary. Both the SunGard vendor along with the West Allis IT department have the capability to write custom reports for data extraction.

There are several maintenance software programs that can be purchased or a specific IT development effort could be initiated to create the necessary reports. An internal suggestion was an “enterprise asset management software” program called AssetWorks. This program is designed for a fleet such as West Allis with many different types of specialty equipment and includes program features geared toward governmental agencies. Other popular fleet management software systems include Dossier Systems and TMW. Both of these vendors include a specialization for governmental or recycling/refuse entities which could fit the specific needs of DPW. One commonality Schenck has discovered with governmental agencies with their own fleet divisions is that they typically have insufficient maintenance software, mainly due to cost and budget constraints. The decision process for the implementation of a new fleet management software system would be:

1. Identify your needs and wants
2. Integrate software with other current systems
3. RFP for the cost and choose the best product within those parameters

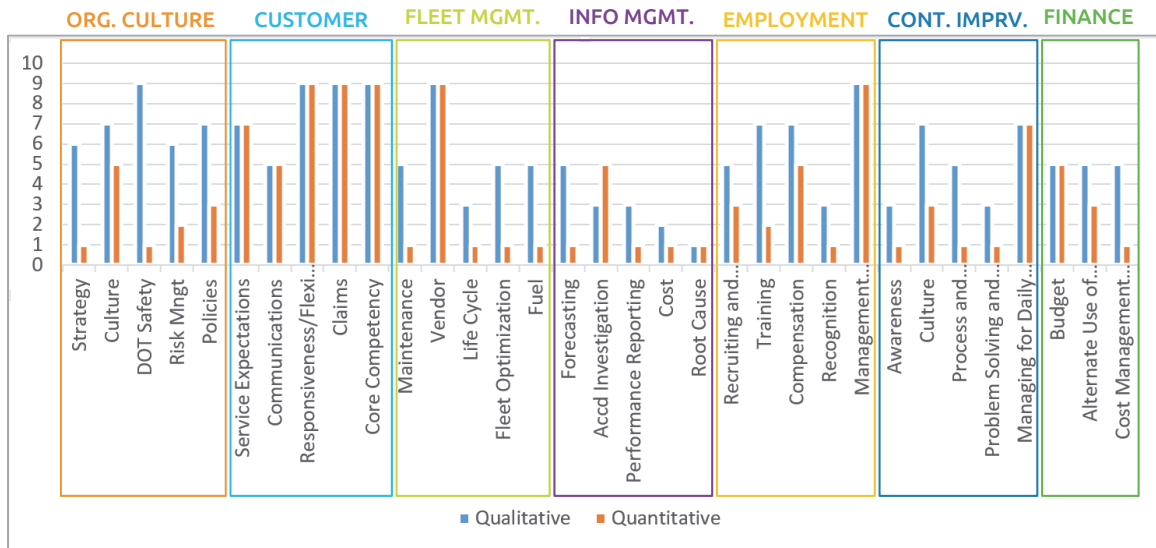
Please note, Fleet Division staff would need the specialized expertise of IT personnel to either improve utilization of the current system or implement a new fleet management system. We recommend that a separate IT project be conducted to identify the key parameters necessary for a new fleet management software and/or the time and effort necessary to complete an internal development on the current system.

During this assessment, the Fleet Division of DPW was evaluated in seven core operational areas we call **foundations**. Within these foundations we then assessed specific **attributes** that are critical to the support and/or effectiveness of these foundations. The foundations and attributes are as follows:

Foundations	Attributes
<b>Organizational Culture</b>	<ul style="list-style-type: none"> <li>▶ Strategy</li> <li>▶ Culture</li> <li>▶ DOT Safety</li> <li>▶ Risk Management</li> <li>▶ Policies</li> </ul>
<b>Customer Relations</b>	<ul style="list-style-type: none"> <li>▶ Service Expectations</li> <li>▶ Communications</li> <li>▶ Responsiveness/Flexibility</li> <li>▶ Claims</li> <li>▶ Core Competency</li> </ul>
<b>Fleet (Vehicle) Management</b>	<ul style="list-style-type: none"> <li>▶ Maintenance</li> <li>▶ Vendors</li> <li>▶ Life Cycle</li> <li>▶ Fleet Optimization (Utilization)</li> <li>▶ Fuel</li> </ul>
<b>Information Management</b>	<ul style="list-style-type: none"> <li>▶ Forecasting</li> <li>▶ Accident Investigation</li> <li>▶ Performance Reporting</li> <li>▶ Cost Management</li> <li>▶ Root Cause Support</li> </ul>
<b>Employment Management</b>	<ul style="list-style-type: none"> <li>▶ Recruiting and Retention</li> <li>▶ Training</li> <li>▶ Compensation</li> <li>▶ Rewards and Recognition</li> <li>▶ Management Interaction</li> </ul>
<b>Continuous Improvement</b>	<ul style="list-style-type: none"> <li>▶ Awareness</li> <li>▶ Culture</li> <li>▶ Process and Productivity Improvement</li> <li>▶ Problem Solving</li> <li>▶ Managing for Daily Improvement</li> </ul>
<b>Finance Management</b>	<ul style="list-style-type: none"> <li>▶ Budget</li> <li>▶ Alternate Use of Capital</li> <li>▶ Cost Management</li> </ul>

Each of these attributes were rated both qualitatively and quantitatively. You were asked to rate Fleet on how you thought Fleet was performing (qualitatively) on a scale of one to nine (one being not good and nine being world-class). During the assessment we assigned a quantitative score based on the available data and observations made during the process. On the surface, we consider a significant difference between any qualitative and quantitative measures as the first indication of a potential opportunity for improvement. This allowed us to focus on these areas more quickly.

BELOW IS THE OVERALL SCORING:



ASSESSMENT OBSERVATIONS

Below is a brief summary of the issues we discovered during this assessment, some being more serious and costly than others. In the next section of this report we will dwell on the more significant and costly issues identified.

**ORGANIZATIONAL CULTURE (FOUNDATION AVERAGE – QUALITATIVE = 7; QUANTITATIVE = 2.4)**

Strategy	DPW including the Fleet Division follow the City of West Allis mission and vision statement.
Culture	Good employee culture was acknowledged verbally by employees.
DOT Safety	Government agencies and municipalities are subject to DOT standards on CDL drug and alcohol. CDL driver pre-employment drug testing policy needs to be updated to meet the DOT standards.
Risk Management	Accidents recorded on the incident ledger totaled 28 for 2015. Safety Committee reviewed all accident but occasionally (2 out of 14 accidents in 2015) ruled “no fault” on preventable accidents. Several drivers have experienced multiple accidents with some degree of progressive discipline.
Policies	DPW, including Fleet Division, follows policies and procedures set for/by City of West Allis. A performance review process is completed annually—additional performance expectations/review set on an as-needed basis by DPW and division.

**CUSTOMER RELATIONS (FOUNDATION AVERAGE – QUALITATIVE = 8.2; QUANTITATIVE = 8.2)**

We agree with you on your perception of your level of service compared to the other city departments. Your service is exceptional! Your unwritten mission is to provide the best possible service with the most efficient use of city resources and funds. Efficiencies are structured to stay within budget.

**Fleet (Vehicle) Mgmt. (Foundation Average – Qualitative = 5.4; Quantitative = 2.6)**

Maintenance	With the Fleet Division’s mix of highly specialized equipment and usage of this equipment, a variable cost method needs to be implemented to determine actual annual costs of operating this equipment. Current metrics were unavailable or not being measured consistently. Mechanic ASE certification is at 63% versus a national average of 50%. This is a huge factor when considering quality of work.
Vendors	The Fleet Division’s goal is to strategically use outside vendors in times of need, and they have developed good partnerships with certain vendors. In some cases, outside vendors should be used initially instead of internal resources if a positive ROI results.
Life Cycle	Fleet Division uses a 10-year rolling equipment plan. Life cycle planning is targeted at retiring vehicles after the cost of repairs exceeds the cost to replace them. This process would be enhanced by incorporating good data and forecasting—which is feasible only by enhancing the present software capabilities. In theory, the targeted life cycle provides the ability to project required maintenance capacity and expenses. Presently this is done intuitively based on historical needs on a rolling 10-year period and by equipment type or usage. This is a significant opportunity for improvement.
Fleet Optimization	Given DPW’s unique equipment needs, their limited geographic range and the specialization requirements for many of their vehicles, traditional utilization benchmarks are not applicable. For example, it is not uncommon for vehicles similar to DPW’s to run 50K-150K miles per year. The best utilized vehicles at DPW may run 9,000 miles with an average of only 3,800 miles per vehicle. This reduced mileage and smaller service area of West Allis provides an opportunity to potentially evaluate unused equipment through a fleet utilization study. Any underutilized vehicles represent excess vehicles.
Fuel	Fuel purchases make up a larger expenditure for DPW. Consistent monitoring of vehicle miles per gallon based on type and usage of equipment needs to be reviewed frequently. This will assist in both identifying poor performing vehicles/equipment (possible repairs necessary) and/or potentially poor operator habits.

**INFORMATION MANAGEMENT (FOUNDATION AVERAGE – QUALITATIVE = 2.8; QUANTITATIVE = 1.8)**

Organizational IT support for DPW is currently provided only on a limited basis; staff is scheduled on-site one day weekly with additional time as needed. This is a huge improvement opportunity. For Fleet to be able to optimize, they need to collect relevant vehicle data and present it in a usable format—but they will need the assistance of IT personnel.

**EMPLOYMENT MANAGEMENT (FOUNDATION AVERAGE – QUALITATIVE = 6.2; QUANTITATIVE = 4.0)**

Recruiting and Retention	Management has personally created a positive work environment which tends to minimize the effect of the opportunities listed in this foundation. Recent changes in retirement benefits (ACT 10) has reduced one of the most significant historical employee benefits.
Training	Internal training programs for skills and safety topics along with situational training are held across multiple divisions of DPW. Trainings are set up on an as-needed basis. Outside ASE certification is encouraged and supported (position salary increase) for mechanic positions.
Compensation	Pay scale growth for experienced mechanics is considerably less than like positions on the open job market. Even with a favorable benefit package the salary growth factor will limit the applicants for open positions and retention of current quality mechanics.
Rewards and Recognition	Positive mechanic efforts are recognized and acknowledged for good performance verbally by Fleet management. There is a rarely used opportunity to recognize employees at an annual meeting and this should be explored. There are no other formal rewards.

Management Interaction      Good interaction and open door policy.

**CONTINUOUS IMPROVEMENT (FOUNDATION AVERAGE – QUALITATIVE = 3.8; QUANTITATIVE = 2.6)**

Awareness      Management has begun the process to get trained in LEAN practices. Implementation of continuous improvement (CI) principles has not yet been initiated.

Culture      Currently, the idea of continuous improvement and what it means is a new concept to many employees in the Fleet Division.

Process & Productivity Improvement      The employees have good work ethic, but should focus on identifying areas for process improvement. Employees of the Fleet Division are working with the situation provided (shop size and design constraints).

Problem Solving      Everyone is very proud of their creative solutions. Currently, CI efforts and training have been limited to management group.

Managing for Daily Improvement      Daily activities scheduled and monitored by lead man’s schedule of necessary preventive maintenance (PMs) and other job requests; however, productivity measurements need to be implemented to take work flow monitoring to the next level. Having metrics allows you to successfully monitor work orders.

**FINANCE MANAGEMENT (FOUNDATION AVERAGE – QUALITATIVE = 5; QUANTITATIVE = 3)**

Budget      DPW lives by a traditional budget which has little change from previous years (historical in nature). In-depth analysis into budget variances from year to year may or may not be reviewed due to data restrictions. Need to peel back layers of details to determine if meeting budget was truly a good outcome.

Alternate Use of Capital      There are limited formal ROI justifications done for new capital expenditures. All new equipment is based on requests from the departments it serves and budget allowance.

Cost Management      Actual costs are measured against the previously determined annual budget. Further analysis should be performed to determine if meeting the budget was good or bad for the year—justify how funds are used.

As you can see, there are substantial improvement opportunities in six of the seven foundation topics, but the most significant opportunities are available in the Organizational Culture, Fleet (Vehicle) Management, Information Management, Employment Management and Continuous Improvement foundations.

**OPPORTUNITIES IDENTIFIED WITH SIGNIFICANT POTENTIAL FOR IMPROVEMENTS:**

**1. SAFETY PROGRAMS**

- ▶ West Allis is not subject to the Federal Motor Carrier Safety Regulations except that all drivers of vehicles with a GVWR/GCWR of over 26,000 lbs. must have a valid current CDL license and must be subject to all of the DOT’s Alcohol and Drug Testing requirements.

After speaking to the city’s HR department, it was discovered that the required pre-employment testing done for all West Allis CDL drivers was a standard city employee testing procedure (10 panel) and **did not meet the DOT testing procedures as listed in CFR 40 & 382.301**. Note that the provider’s random testing program used in your department

was administered and filed correctly. In the future, DOT pre-employment test procedures must be used for all CDL-licensed drivers. Although the risk of enforcement by DOT is low, the possibility of an unfavorable lawsuit is high if an incident were to take place.

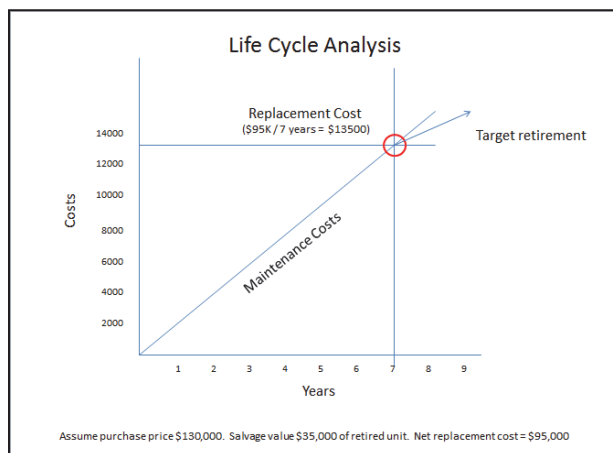
There were 28 total preventable and non-preventable accidents/incidents recorded for 2015 across all divisions of DPW. Out of these 28 accidents, **eight of these drivers have had more than 10 preventable & non-preventable accidents during their career with the city, including four who have more than 20 preventable & non-preventable.** Your safety committee is reviewing all of these accidents and does appropriately counsel and suspend repeat offenders; however, progressive discipline must move past counseling and a suspension. A small accident is a large accident that did not quite happen. This is a serious safety risk. Drivers who are lacking sufficient skills to avoid minor accidents will likely not be prepared to avoid the large accident someday.

The other function of a safety committee, in addition to the preventable or non-preventable determination, is **to conduct a root cause analysis** and take prompt action to correct the cause of this accident before there is a repeat. The root cause analysis should be used for revisions of current standards and policies or setting new ones. A full review of what DPW defines as a preventable and a non-preventable accident/incident should also be completed and communicated to all users of DPW equipment. A root cause analysis should always include a **“Five Whys” test**. By performing this test a fact pattern is formed, leading to the uncovering of all factors that contributed to the incident/accident. The result may potentially show a nonemployee-related cause to the accident. This may lead to additional education and training opportunities for employees and citizens of the city, resulting in a safer environment for all.

- ▶ DPW and all divisions, including Fleet, operate under policies and procedures set for all City employees. These set policies sometimes lack the defined employee guidelines specific to areas such as the DPW Fleet Division. This provides an opportunity to work to enhance policies and procedures for key areas to provide employees with crisper productivity and accountability standards leading to better efficiency results.

**2. VEHICLE MAINTENANCE AND UTILIZATION**

- ▶ Vehicle maintenance and utilization is traditionally the foundation that has potential to hold the most savings opportunities for a cost center-type operation such as the DPW Fleet Division. This foundation can be broken down into two key maintenance and utilization areas: vehicles/equipment and mechanics.
- ▶ The foundation for any maintenance program is a strategic life cycle plan. A vehicle’s life cycle is determined when the projected repair costs exceed the net replacement cost. Typically this is between 5-7 years (10-12 years for refuse). This is a delicate balance to optimize the salvage value while still preventing large repair expenses associated with keeping the vehicle too long. With the City’s unique circumstances of a condensed service area this may move the typical life cycle of normal vehicles and specialty equipment up or down depending on usage.





- ▶ Reliable and itemized historical data by individual piece of equipment will show the trends of poor vehicle operations through increased repairs and maintenance costs. We would expect as a vehicle ages to see incremental increases in repair costs. The average age of the trucks in the present West Allis fleet is 11 years (Class 8 refuse: 9 years; Class 8: 14 years; Class 7: 10 years; Class 4: 10 years; Class 3: 17 years; Class 2 pickups: 7.5 years; Class 1 cars/SUV: 7.6 years). With the Fleet Division’s wide variety of specialized equipment, **it is recommended a life cycle analysis is completed on a class-by-class basis.** The results should be compared across governmental fleet benchmarks as a source of reasonableness. Note, Fleet’s life cycle by class may fall above or below the benchmarks based on facts and circumstances; it will be important for the Fleet manager to investigate large variances to determine if there is an opportunity to revise Fleet’s life cycle and to assist in reasonably budgeting annual repair costs.
- ▶ Along with the life cycle analysis on a class basis, a **utilization study needs to be conducted to explore the utilization and sizing of the current fleet.** As a department cost center, it is Fleet’s responsibility to be tracking and monitoring the current and correct size of the fleet along with utilizing the current fleet according to the City residents’ requests and demands, all within the budgeted funds allotted. Through the utilization study along with the life cycle analysis, Fleet management will be able to determine overall annual/quarterly and potentially monthly repair and maintenance metrics based on need, demand and life of the fleet. These metrics will feed directly into the second area of this foundation, the necessary capacity of mechanic hours.
- ▶ In theory, once we identify a reasonable maintenance cost trend per vehicle, we can then forecast the need for maintenance and the necessary capacity to deliver the expected repairs. In addition, with reliable parts history per vehicle we could begin predictive maintenance by using a probability of failure factor. Spec’ing the vehicles to reduce component failure is a common practice but we need to know what parts are high frequency failures. Your present operating procedures and records are not yet this progressive but this should be a reasonable goal for future years.
- ▶ In interviewing Fleet management and mechanics, the agreed-upon view was they were behind in preventive maintenance (PM) work and thus more mechanics were needed. On the surface, it would logically make sense to hire more mechanics to keep up with the work. As the layers of this viewpoint are pulled back the following issues were discovered.
  - There were a large number of repair jobs in process at any given time. This was supported by interviewees as generally being the case. Reasons given included, waiting for parts and getting pulled off one job to take care of a “quick fix” job. Fleet’s average **downtime** on every vehicle repaired is **1.81 days** out of a sample of 2,100 work events (removing excessive downtimes from the average). An average downtime for vehicle repairs should be between 1-2 days—average looks okay. Again as the layers are pulled back there were 383 vehicle with downtime over two days and 168 vehicles down for over a week. All of the mechanics admitted that they often have 3-4 trucks in the process of repair. They stated that the two reasons for the downtime was the above **“quick fixes” or waiting for parts.** Long downtimes are usually a result of waiting for parts. When we consider how expensive these vehicles are, the lost time of a broken-down vehicle can be huge. Fleet does not have the lost revenue aspect but no doubt you have added extra vehicles to use during the wait time. In Lean terms, these high levels of Work in Process (WIP) are a red flag. For the Fleet Division, high WIP is a significant contributor to long repair in process times, as supported by the data, and poor flow as witnessed by interviewee’s desire for a larger work place. Interestingly, long repair in process times have not resulted in customer dissatisfaction, presumably because there is enough spare equipment to cover the customer division’s needs.
    - After talking to several mechanics, the parts issue seemed to be extreme. Interviewees reported having the right parts and supplies on hand for PM work, but repair parts inventory and procurement seems to be a factor contributing to long repair times and high levels of WIP. One interviewee reported it’s not uncommon for repair parts to be at a dealer 20 minutes away, but it takes all day to get the part because it is collected on a once daily parts run.
    - The parts room needs to ensure they are stocking critical parts and focus on increasing their responsiveness in getting parts. Inventory control and management is a science now with modern parts tracking and bar

coding. Your parts room is still working with systems used in the mid-1960s—it is in desperate need of an upgrade. **We recommend that an inventory project be initiated to upgrade the parts room and solve the extended downtime for repairs.**

- Quick fix work often interrupted mechanics, preventing them from staying focused on the scheduled work order. A recommendation was made to keep quick fix work to one mechanic on a rotating basis. This may not only help in work productivity in the shop by other mechanics, who are not being interrupted by quick fix work, but also increases morale when mechanics know they will not be interrupted from their scheduled job for this other work.
- ▶ In interviewing mechanics, when asked how long it should take them to complete a repair order, the response was they had a reasonable idea based on if they had performed the repair in the past; however, no projected timeline was provided to them with the work order. The result is an opportunity to improve your productivity management. Without the metrics to actively manage and measure productivity of mechanics and the work orders, the original assumption that more mechanics are necessary to complete the work cannot be verified. We recommended **a mechanic productivity/utilization study** be completed along with the vehicle studies described above. With completion and cross-referencing of these studies, the total necessary mechanic hours and the necessary number of mechanics required will be determined. DPW has a **great advantage by having its Fleet Division**; it is important to use this shop and resources in the most efficient and effective manner possible.
- ▶ Note that alternate fuels have proven to be applicable for city vehicles, even refuse vehicles. Natural gas (NG) vehicles will require a \$1-2M investment in a fueling station and the vehicles will cost an additional \$20K-\$30K per vehicle. However, they may deliver a 40% reduction in fuel consumption. In your fleet that would save about \$86,000 per year. Assuming a \$2M increase in purchase prices and a \$2M fueling station. It would take a 46-year payback. The City of Milwaukee received a grant and has some NG vehicles in operation. Apparently the board was very involved. Although it cannot be cost justified, at the current time, it may be at least worth exploring with Milwaukee. Hybrid vehicles actually may have a better ROI.

### 3. INFORMATION MANAGEMENT

- ▶ As discussed on page one of this report, having increased ability to incorporate data in decision-making would allow the Fleet Division to optimize your fleet in several areas (utilization, downtime, parts inventory, PMs, fuel mileage and spec'ing). There is widespread belief among interviewees that the capabilities of the current system to support the Fleet Division is inadequate, and there is support to implement a dedicated fleet management system. Management's suggestion, **AssetWorks**, looks as good as any. It is unclear whether the information gaps could be addressed by greater utilization of capabilities of the current system. The current system vendor does have capability to write custom reports, and the West Allis IT department has capability to write reports as well. The challenge with any software program is to enter data correctly and to learn how to use all of its features that apply. In the assessor's opinion, the Fleet staff will need the specialized expertise of IT personnel to either improve utilization of the current system or implement a new fleet management system. Improved data utilization enabling good management control could deliver analysis which would pinpoint key areas of potential cost savings along with enhanced utilization and productivity.

Other fleet management software systems include Dossier Systems and TMW. Both of these vendors also include a specialization for governmental or recycling/refuse entities. The key with a new fleet management software system would be figuring out the needs and wants of the system, integration of the software with other current systems along with the system cost, and then picking the best product in those parameters. **We recommend that a separate IT project be conducted to identify the key parameters necessary for a new fleet management software and/or the time and effort necessary to complete an internal development on the current system.**

#### 4. EMPLOYEE MANAGEMENT

- ▶ Everyone appeared to thoroughly enjoy working for Fleet and recognized the value of their team relationships. With no turnover events in 2015, there is not much to critique. The only concern expressed by all of those interviewed was the effect that Act 10 had on their retirement.
- ▶ Employee skill training is completed on an as-needed basis after initial hiring of the employee. Fleet management is aware of and open to providing additional training opportunities to mechanics as time and cost allow. However, there is the opportunity to implement a performance need-based training system. Currently, performance is tracked through the annual review process similar to all City employees. Additional metrics need to be added to this annual review to determine which mechanics need additional training and identify the correct training areas before this type of training system can be implemented. The Fleet division does encourage all mechanics to work toward and receive their ASE certifications. Seven out of 11 mechanics are certified, which is a large percentage, and a great strength of the DPW Fleet Division.
- ▶ Starting compensation for a certified mechanic with one to five years of experience was comparable when reviewed against third party mechanics – \$59,862 for DPW Fleet mechanic as compared to \$60,000 outside shop mechanic. Add in a substantial benefits package and the result leads to a more than competitive overall compensation package. The opportunity lies in rate/merit increases. Third party mechanics receive substantial merit increases as their years of experience increase while a DPW Fleet mechanic receives limited increases based on position level. Example, a Fleet division mechanic with ten years of experience in the same position level for all ten years will see limited merit increases as their years of experience grow outside the normal cost of living adjustments. Opportunities to attract experienced mechanics would be to offer additional incentives such as a sign-on bonus. While opportunities to retain experience mechanics could be performance bonuses and some form of activity-based pay tied directly to quality and productivity which would raise take-home pay to an attractive level for an experienced mechanic along with a Fleet payback in improved productivity.
- ▶ A significant area for potential improvement in employee relations is to increase formal and informal opportunities for recognition or reward. Everyone appreciates personal recognition for a job well done or particularly an extra effort. Those interviewed could recall limited recognition by management. There is an annual opportunity to be recognized for a special effort but it is rarely used. This would be so easy and inexpensive and will always deliver a positive effect.

#### 5. CONTINUOUS IMPROVEMENT / OPERATIONS MANAGEMENT

##### Physical work space

- The physical workplace is hindering productivity. Numerous interviewees expressed the desire for a “more modern” or “larger” facility. However, when questioned further about how a more modern facility would help them, none could state specific reasons. Most interviewees cited insufficient room to work, a lack of bays and issues moving equipment through the facility as the reasons for needing a larger facility.
- Traffic flow into the oil & lube area and maintenance bays is restricted, requiring operators to make sharp right angle turns with large vehicles. This requires moving vehicles around, wasting time and breaking up work flow.
- In the assessor’s observations, a lack of workplace organization is hindering productivity and raising potential safety concerns. There was an extremely high level of clutter present in most of the Fleet Division’s work areas. Division employees are accustomed to this, and don’t seem to see it as a hindrance.
- Numerous safety issues were observed, such as steel bars hanging out the back of a pickup truck into an aisle way and tripping hazards in work areas. Again, Division employees have adapted and have learned to look out for safety issues, as evidenced by a low incident rate. However, this may present a greater risk for new employees.
- Most work areas had unusually high levels of dust and dirt, as compared to other similar workplaces.
- Lighting was insufficient in some areas.

- There were specific positive aspects of workplace organization present:
  - Marked aisle ways in the truck bays
  - Tire chocks to prevent loaders from parking in aisle way; chocks are brightly painted for visibility
  - Tool boards present in some areas
  - Color-coded fluid containers; however, it would be helpful to have a color code chart present in the area
- No interviewees recognize lack of workplace organization, cleanliness or lighting as a detriment, even when specifically asked.
- In the assessor's opinion, the lack of workplace organization, cleanliness and safety concerns may be a detriment to hiring mechanics from private industry.

### Fabrication Area

- The fabrication area seems to be a particular source of pride for the Fleet Division. Fabrication employees are highly skilled, creative and motivated workers.
- In terms of clutter, organization, potential safety concerns and poor material flow, the fabrication area is among the Fleet Division areas with the greatest opportunity for improvement. Compared to most commercial fabrication shops, the workplace is extremely uncondusive to productivity. It is a testament to the resourcefulness and personal safety consciousness of fab area employees that they are able to function as well as they do.
- Hindrances to productivity do not seem to be a concern, as there are no measures of productivity for the fabrication area, and workers in the area have adapted to the way it is.
- There is certainly not a lack of local commercial fabrication shops where this work could potentially be contracted. In the assessor's opinion, there are distinct advantages to maintaining in-house fabrication capability, however that may not always be the best option. All fabrication jobs should be subjected to an ROI analysis.

### Fleet Tools

- There appeared to be three main locations for Fleet tools.
  1. The secure tool shop holds several lockers containing specialty tools used for specific tasks or specific vehicles. These are all stacked in their plastic containers, but without any sort of labeling or organization. There doesn't appear to be an inventory list for this tool shop.
  2. Organization in the area reserved for larger tool equipment needs to be addressed. Accessing a tool requires shifting, moving and unstacking other items depending on where it is located within the area. A number of these items clearly had not been cleaned before being returned to storage.
  3. The quantity of tools in the small engine shop seemed excessive given the number of equipment pieces that were being serviced during our observation. This was supported by the clutter and subsequent grime that was observed around, even concealing some of the tools.

### Metrics

- No operational metrics were observed or described by interviewees.
- Without relevant operational metrics in place, there is no objective way to judge the productivity and efficiency of an operation, and no incentives to improve it. It is analogous to playing a game without keeping score.

### Scheduling

- Shop Lead does all scheduling for the Fleet Division. He maintains a balance between PMs and repair work. There was limited evidence of systematized scheduling tools being utilized (i.e. computerized scheduling system, Excel spreadsheet, visual scheduling boards). An opportunity is available to make this a more visual process to all mechanics.

## 6. FINANCE

- ▶ Similar to other governmental agencies or divisions of governmental agencies, Fleet is strictly working off of a budget prepared using historical data with some minor, if any, inflation measures. Fleet is very resourceful at utilizing the resources and funds provided to them, which was evident through interviewees' comments and pride in their work. The issue at hand is that the annual budget is prepared using this historical data which has no productivity measures in place to verify if the data is on par with industry norms or equipment changes. By using historical data year after year in budget calculations the annual budget starts to become inflated until funds are pulled back from certain divisions.

The one root cause of this inflation of budget amounts stems from inefficiencies. An inefficient fleet management system impairs management's ability to manage the productivity of workers, predict maintenance costs and compare with other measurements on a real-time basis to assist in leaning out actual expenses to meet budget. Increased use of a quality fleet management system will not only assist in the daily operations but also in the annual budget requirements.

Secondly, Fleet does not have a formalized return on investment calculation and standards when it comes to large capital improvements (equipment purchases and large repairs). This calculation would assist in providing details for additional budget funds or retaining allocated budget funds for capital expenditures which may be necessary during the budgeting process. Again, data to make these necessary calculations would be entered and tracked in an appropriate fleet management system. In addition, this calculation could be used to push certain repair items to outside vendors and thus keep Fleet's mechanics working on cost-effective repair jobs. The ROI calculations on repair work need to truly be an even comparison—same metrics would go into the internal costs as quoted by a third-party provider (parts, labor costs and time). As stated prior, the City of West Allis has a competitive advantage with the DPW Fleet Division; it is important to use this resource and advantage in the most cost-effective means—proper ROI analyses provide proof of this advantage.

Finally, looking over the annual budgets provided by management for the Fleet Division, we are drawn to the line item "rentals." In our conversations we determined this amount was a charge back amount for the vehicles owned by the Fleet Division however used by the other divisions of DPW. This amount is added to the budget as a credit (expense offset) to the Fleet Division. The concern with this amount is how it is calculated. This amount is communicated to Fleet during the budget process but the question should be, is it an accurate number. Normally in industry this rental amount is based on fair-market-value (FMV) rent of a similar piece of equipment if it was to be rented from a third-party. This FMV rent is based on type and age of the equipment rented. Based on this amount staying relatively consistent from year to year there seems to be minimal involvement in this calculation (no consideration to new equipment added etc.). There is an opportunity for the Fleet Division in obtaining this calculation or at least determining how the rental charge back is calculated to determine if this is a reasonable amount or if the other divisions are using the equipment on the Fleet Division's cost.

## RECOMMENDATION SUMMARY:

### HIGH IMPORTANCE:

1. **Correct your pre-employment drug testing process** to immediately begin using the DOT's Part 382.301 and Part 40 procedures. *Corrected as of February 9, 2018 meeting.*
2. **Develop and implement a plan to make better use of information to improve fleet management.** This plan should include:
  - Identify information gaps
  - Develop robust processes for collection and entry of data
  - Develop a deeper understanding of the capabilities of the current systems
  - Identify methods to improve data utilization using existing tools, i.e. Excel

- Investigate fleet management software as a potential replacement for existing systems
  - In the assessor’s opinion, to merely implement new software without a complete information plan would not result in improvements for the Division.
3. **Perform a fleet vehicle utilization study.** This will determine if Fleet is sized correctly in terms of necessary pieces of equipment. By correctly sizing the fleet, key metrics can then be set to assist in determining the optimal number of mechanics necessary.
  4. **Determine staffing requirements of the Fleet Division through a mechanic productivity study.** The recommendations in this study along with the metrics set with the vehicle utilization study will set the number of maintenance hours and thus the number of mechanics necessary to complete those identified hours.
  5. Implement a **standardized return-on-investment (ROI) calculation** and metrics to assist in providing detail on necessary capital expenditures and why they do or do not fall into the current budget cycle along with cost benefit if major repairs are sent to outside vendors or kept in-house.
  6. **Downtime of vehicles in process of repair must be reduced. Conduct an inventory system assessment to establish a world-class inventory control process.** There needs to be an urgency to deliver requested parts within a specific time period (i.e. if not in stock it will be found and delivered with 2 hours). Currently, important work bay space is being utilized by vehicles waiting on parts.

**OTHER:**

1. **Establish a life cycle plan that fits DPW needs. This plan should incorporate both industry standards along with facts and circumstances specific to DPW’s condensed service area.** It should be known at any time what a certain vehicle and/or piece of equipment is estimated to cost annually for repairs and maintenance. The life cycle plan needs to be reviewed and used to determine if any major repairs are completed or if the vehicle replaced. Note, in all practical matters, certain makes and models may age better thus making sense to keep those vehicles well beyond the expected life cycle.
2. **All unscheduled repairs need to be completed through the work order system. Limit “quick fixes” to only safety defects or major breakdown situations.** Create a “quick fix” area during times when drivers are coming and going to catch necessary repairs as needed; educate mechanics to push non-safety or major breakdown situations professionally through the work order system. **Redesign the PM program to include both the large and time-consuming annual inspection along with normal inspections during an oil and lube service—this is all preventive maintenance.** A review of all unscheduled repair work needs to be completed monthly/quarterly to determine if any of the repairs should have been captured on the previous PM and thus was a service failure. Place priority into the PM program and minimize having your mechanics interrupted.
3. Establish strict accident performance standards and **conduct mandatory defensive driving training annually. Drivers with multiple accidents must be reassigned to non-driving positions.** Schedule ride-alongs in the progressive disciplinary process. **A root cause analysis must be completed for all accidents.**
4. **Draft new policies and procedures which specifically list performance expectations as well as rewards and consequences. Train everyone on the “conditions for employment.”** This will establish accountability and crispness in your management control process.
5. **Design an intentional recognition and reward program.** Ensure that a manager notices and personally thanks employees on good work and especially for performance above the norm.
6. **Focus on process improvements** designed to reduce out-of-service times for repairs, and reduce the number of jobs in process. Factors to improve may include:
  - Assessment of procurement and inventory management systems and processes
  - Analysis of critical spare parts

- Scheduling methods
  - Implement metrics for time out of service
7. **Assess the layout of the entire facility** to identify opportunities to improve flow.
  8. **Implement performance metrics** for the Fleet Division.
  9. Consider **flexing some mechanics' work schedules** to enable some PMs to be done in non-core hours; note this has to be welcome by all parties involved.
  10. If the Fleet Department is to maintain in-house fabrication capabilities, it is strongly recommended that the **layout and organization of the Fab area be improved** to commercial standards. In the assessor's opinion, this can be done within the existing facility.
  11. While the lack of **workplace organization** is a significant hindrance to productivity, the amount of time and effort necessary to make a significant improvement would be substantial.
  12. Work with all other divisions/departments necessary to **determine how the rental charge back is being calculated** and if the other divisions are being charged accordingly. Determine if the Fleet Division can take ownership of this annual calculation.
  13. Use recommendations above to help **make the annual budget a future/predictive**-looking process with efficiencies instead of historical in nature.

Your mission is to deliver excellent service to your departments as efficiently as possible and prove why it is a competitive advantage for DPW to have a Fleet Division. Repeating historical trends and procedures simply compounds past inefficiencies. Change can be difficult but very rewarding. For DPW, profitability is not a concern but good stewardship of city funds is. In business, waste is anything the customer is not willing to pay for. At DPW, the waste identified represents savings for the City. There is no doubt that it will require crisper performance expectations and standards followed by solid management control and accountability. We are proposing that DPW undertake the recommended studies detailed above to identify key areas of waste and inefficiencies. All of your employees are proud of their ingenuity. Apply that same zeal to a world-class department and you all will be proud.

Feel free to call or email with questions or assistance implementing the recommendations discussed above.

Sincerely,



Schenck SC