

January 29, 2010

Brian Nickurak  
Director of Works, District of Invermere  
Box 339 Invermere, BC V0A 1K0  
Canada

Dear Brian,

Thank you for choosing to use the E3 program and E3 Fleet Review as tools for improving your fleet's overall performance.

The District of Invermere fleet is on its way to becoming a well-managed asset. E3 Fleet's goal is to assist you in achieving further improvements and help you reduce emissions, save money, and improve your operational profile. At this time, the fleet data supplied for 2007 is not sufficient to create a full analysis, and the Reports attached based on incomplete data cannot be used for fleet Rating purposes. However, this review is a valuable starting point and identifies opportunities to improve your fleet's performance.

The attached package includes the following:

- Key Performance Indicator report that summarizes key operating parameters of your fleet
- Key Recommendations for further action to improve your fleet operations
- Guide For Managers
- E3 Fleet Review reports

After reviewing the following material, you may have questions and comments. I will be happy to answer your questions about this review and to discuss your reports.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Charlotte Argue'.

Charlotte Argue  
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A Program of:



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## Key Performance Indicators –District of Invermere Fleet

*Note: all KPIs are annualized based on input data for review period. Due to insufficient data, this review cannot be used for Rating purposes.*

E3 Fleet has analyzed the District of Invermere fleet and identified 15 key indicators that provide a snapshot summary of operating parameters. Due to incomplete data available, 7 of the 15 indicators could not be determined. These Key Performance Indicators (KPIs) reflect operating costs, emissions, service levels and in general, client satisfaction with your fleet. Collecting relevant data for your fleet, and subsequently making improvements to each of these indicators will assist in stabilizing operating and capital budgets and reducing cost “spikes” from year to year.

### ***District of Invermere - Key Performance Indicators***

<u>Key Performance Indicator</u>	<u>E3 Fleet Analysis</u>
1. Fleet Median Fuel Efficiency	N/A (l/100km)
2. Fleet Annual Fuel Usage (estimated)	28,549 (liters/yr)
3. Fleet GHG Intensity (tailpipe)	N/A (kg/km)
4. Annual GHG Emissions (tailpipe)	68 Tonnes CO2 Equivalent
5. Fleet GHG Intensity (lifecycle)	N/A (kg/km)
6. Annual GHG Emissions (lifecycle)	97 Tonnes CO2 Equivalent
7. Corporate Average Utilization:	N/A (kilometers)
8. Corporate Average Utilization:	887 (hours)
9. Fleet Average Age:	N/A (years)
10. Units due for Replacement:	N/A
11. Projected Capital Budget (based on current retention practices):	\$ N/A
12. Projected annual cost of R&M, fuel, capital & downtime	\$ 149,624
13. Fleet Availability	99.3 (%)
14. Fleet Average Downtime	2.0 (days)
15. Maintenance Ratio	0.27 (Preventative: Reactive)

In the future, E3 Fleet Review will be able to provide sector benchmark KPIs enabling the District of Invermere fleet to compare itself against similar type fleets.

## Key Recommendations for Action – District of Invermere

**The following recommendations for further action are based on the E3 team’s review and assessment of data supplied, and current Key Performance Indicators. Implementing these recommendations will result in a more cost effective, more fuel efficient and lower emission fleet.**

### ***Data Tracking***

As a first step, it is strongly recommended to identify data gaps missing in the input form and on a go-forward basis implement methods to track this information. A full set of data for your fleet provides valuable information on the performance of your fleet, and allows you to identify problem vehicles and opportunities for improvement. At a minimum, Level I data should be collected, including fuel consumed, km traveled, and vehicle class. (Note: For the purposes of these reports, all trucks were classed as T1s due to insufficient info).

### ***Exception Management***

In the detailed E3 Fleet Review reports, individual vehicles are compared to similar units within the fleet. E3 refers to this practice as “exception management”. Exception management is an extremely valuable tool to attain peak performance in any fleet.

In all fleets there will be top performers and poor performers; these are the exception units. E3 Fleet Review has identified the exception units in the fleet, which enables a fleet’s efficiencies to be improved and emissions and fuel costs reduced.

### ***Parameter Ranking***

Included in the E3 Fleet Review package of reports is one called “*Sorted Fleet Detail Sheet.*” Within the *Sorted Fleet Detail Sheet* report, exceptions within your fleet are identified through parameter ranking. E3 automatically defaults to a 0.5 alert level for ranking, meaning that exceptions are below (or above) 50% of the average for your units. Parameter ranking identifies those units performing at a high level, those performing poorly as well as those performing satisfactorily.

### **Recommended Actions - Fuel Efficiency**

1. **Fuel Data Management** and vehicle operating statistics (i.e., km’s travelled and fuel consumed) are critical to performance management *and* in certain situations, regulatory compliance. It is strongly recommended that you implement a fuel data management system that tracks km driven along with fuel consumed. Optional methods include fuel expense log, a fuel card program or on-board tracking system.
2. **Purchase** high efficiency/low emissions vehicles that meet operational needs e.g. hybrids, Smart cars. Use EnerGuide ratings for vehicles and E3 Fleet Review unit fuel consumption data when making purchasing decisions.
3. **Purchase** the best performing vehicle models when replacing vehicles in the same class.
4. **Investigate and take corrective actions** to improve overall Fleet Median Fuel Efficiency via initiatives such as idling reduction programs, vehicle pooling, trip reduction, route planning, etc (Note: your baseline Median Fuel Efficiency will not be known until you track km with fuel consumed as previously indicated).

5. **Obtain an emissions and efficiency baseline** for your fleet. Once a year's worth of fuel consumed and distance travelled is collected for the fleet, it is recommended to obtain a full baseline report (options include pursuing a Fleet Review or using the E3 Fleet Review Lite tool available to E3 members online). A baseline report will provide a benchmark from which to compare and improve in subsequent years.

### Recommended Actions - GHG Emissions

1. **Use alternative lower carbon fuels** that are available and where operationally practical. Biodiesel is now a mainstream fuel source for many fleets today. To further reduce GHG emissions we suggest expanding the use of biodiesel in your fleet and that where practical you consider the use of other alternative fuels where appropriate e.g. CNG, ethanol or propane.
2. **Consider switching to diesel engines** where operationally practical for future vehicle specifications as diesels are more fuel efficient, delivering overall reduced GHG emissions relative to gasoline powered vehicles and also allowing for the use of renewable biodiesel.
3. **Apply a carbon charge to user departments** placing corporate responsibility for GHG emissions with line departments.

### Recommended Actions - Utilization

1. **Collect vehicle utilization data** from on board diagnostic (OBD) systems, Automatic Vehicle Location systems (if equipped) or engine hour meters and enter data into a data base for future analysis.
2. **Report vehicle utilization** to the municipality's management team as this will highlight under-utilized units and help determine if such vehicles are needed.
3. **Optimizing utilization** would free up capital for other worthwhile purposes such as fleet renewal with newer, more fuel efficient vehicles. We suggest that you undertake a utilization study so as to determine whether all units are necessary in your operations.
4. **Review the current vehicle charge-back system** to ensure that user departments pay the *true* cost of vehicle use encouraging fleet right-sizing and ensuring maximum utilization of all vehicles.
5. **Implement duty cycles for the fleet based on age** as high utilization applications are most cost effectively served by newer units.

### Recommended Actions - Capital budget and Vehicle Replacement

1. **Review your current vehicle replacement and retention strategy.** Implementing a vehicle replacement strategy can have the following benefits:
  - a. Decreased GHG output
  - b. Fuel consumption reduction
  - c. Fuel cost reduction
  - d. Reduced repair and maintenance costs
  - e. Increased vehicle availability and more satisfied fleet 'clients'..
2. **Make vehicle right-sizing a priority.** Select the right sized vehicles for the job at hand.

3. **Request that E3 carry out a detailed Life Cycle Cost Analysis** to further fine-tune current retention strategies and to further evaluate the options for replacement vehicles.

### Recommended Actions - Fleet Availability and Downtime

1. **Drill down and closely evaluate** vehicles with low availability. This may be a sign of an aging vehicle, insufficient preventative maintenance, a vehicle that is not correctly matched to the job at hand, an abusive driver or one who is prone to accidents, or a vehicle type with a low reliability history because of inherent mechanical problems. Excessive vehicle downtime may drive up overall operating costs to an unacceptable level and result in reduced service levels for your internal clients.

### Recommended Actions - Preventative Maintenance

1. **Track preventative and reactive maintenance separately** to assess effectiveness of PM programs and levels of intensity required to maintain the highest practical levels of service.
2. **Include cost of maintenance as part of overall bid assessment for new vehicles** being considered for purchase. E.g. Extending oil drains and maintenance cycles can reduce overall operating expenses and environmental impacts.
3. **Review the effectiveness and frequency of your scheduled preventive maintenance programs** as a potential cause of reduced vehicle availability.

After you've had the opportunity to review your E3 Fleet Review reports, if you have any questions or concerns, please feel free to contact me anytime.

Regards,



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