Agenda - Council – July 21, 2010

Report – Alternate Service Delivery Committee – July 12, 2010

Item No. 1 City of Winnipeg Green Fleet Plan
eFile GL-5.6.1

STANDING COMMITTEE RECOMMENDATION:

On July 14, 2010, the Executive Policy Committee concurred in the recommendation of the Alternate Service Delivery Committee and submits the following to Council

1. That the Green Fleet Plan, as outlined in Appendix A to the report of the Winnipeg Public Service dated April 23, 2010, be approved for full implementation commencing January 1, 2011.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Alternate Service Delivery Committee – July 12, 2010

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On July 14, 2010, the Executive Policy Committee concurred in the recommendation of the Alternate Service Delivery Committee and submitted the matter to Council.

COMMITTEE RECOMMENDATION:

On July 12, 2010, the Alternate Service Delivery Committee concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

ADMINISTRATIVE REPORT

ISSUE: City of Winnipeg Green Fleet Plan

Critical Path: ASD - EPC - Council

AUTHORIZATION

Author	Department Head	CFO	CAO
A Williams	H Hajer	M Ruta	M Ruta Acting CAO

RECOMMENDATIONS

1. That the proposed Green Fleet Plan, as outlined in Appendix A, be approved for full implementation commencing January 1, 2011.

REASON FOR THE REPORT

In 2008, Executive Policy Committee passed a motion directing the Winnipeg Public Service to develop a Green Vehicle Plan. Some of the key components of the motion included:

- The plan includes strategies to reduce fuel consumption and emissions.
- The plan includes performance measures, including monitoring and documenting fuel savings and GHG reductions.
- The Winnipeg Fleet Management Agency is to take the lead on developing the plan, with the assistance of the City's Environmental Coordinator.
- A working group of Departmental/SOA representatives is to be created to develop the plan.

IMPLICATIONS OF THE RECOMMENDATIONS

Environmental:
The purpose of the Green Fleet Plan is to reduce the environmental impact of the City's vehicle and equipment fleet by reducing associated fuel consumption and emissions. The Green Fleet Plan will achieve its goal while maintaining or increasing the level of service offered to citizens of Winnipeg.

By approving the Green Fleet Plan, the City will implement a set of strategies aimed at reducing emissions associated with its corporate vehicle fleet. By 2019, the Green Fleet Plan is aiming to reduce vehicle GHG emissions from 2,109 of its vehicle and equipment fleet complement by 17.65% below 1998 levels. This reduction in corporate fleet emissions is estimated to result in a 4.87% reduction in the City's overall corporate GHG inventory. In addition, by 2011, the Green Fleet Plan will also include a Transit specific Green Fleet Plan aimed at quantifying emissions

from Transit operations and identifying activities to continue to green the Transit fleet which is comprised primarily of buses.

Vehicles are identified as the largest source of GHG emissions of the City's corporate GHG emissions inventory. Emission reduction estimates are based on best available data and actual emission reductions may change as the plan is implemented and measured. An annual report on the plan's progress will be submitted to Executive Policy Committee, and will allow for continual monitoring of the plan to ensure the plan is achieving emission reductions.

Regulatory/ Human Resource:
If approved, the City of Winnipeg Anti-idling Policy component of the Green Fleet Plan will become a mandatory directive to be followed by all members of the Winnipeg Public Service driving City-owned fleet vehicles, along with enforcement actions and penalties.

Financial:
The total cost for implementation of the Green Fleet Plan is estimated at $3.9 million over a ten year time frame. There is an anticipated savings of $4.8 million. As such the estimated net savings to the City to implement the Green Fleet Plan is estimated to be approximately $0.9 million. Most of the savings are attributable to reduced fuel use resulting from more fuel-efficient vehicles and anti-idling efforts. The costs do not reflect the total cost of each initiative, but rather the extra cost that is required to deploy the respective green fleet strategy. For example the cost estimate associated with purchasing hybrid gas electric vehicles is not the full cost of purchasing hybrids, but rather the additional cost of purchasing a hybrid vehicle over a conventional non-hybrid vehicle.

The cost estimates for the plan are based on best available data and based on the assumption that all strategies in the plan will be effective at reducing emissions. If a strategy is found to be non-effective in reducing emissions or if a new technology becomes available to reduce emission in a significant capacity, the plan's strategies may be modified to ensure the City concentrates efforts on initiatives that continue to reduce emissions. With these potential modifications to strategies, the cost estimate associated with the plan may also be modified. The annual report for the Green Fleet Plan will include a review of the effectiveness of the plan, and will also include a review of the actual financial costs incurred and forecasted for the remainder of the plan to reflect any potential cost changes.

HISTORY

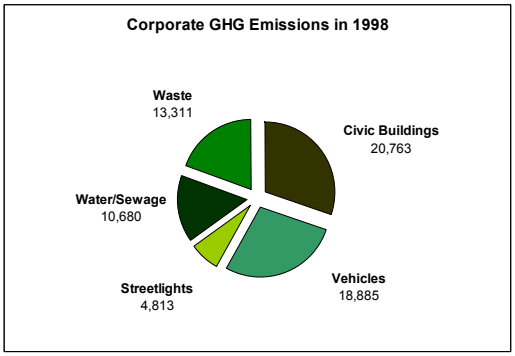
In 2008, Executive Policy Committee passed a motion directing the Winnipeg Public Service to develop a Green Vehicle Plan. Some of the key components of the motion included:

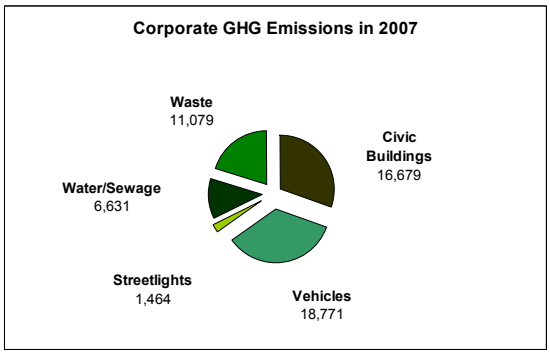
- The plan includes strategies to reduce fuel consumption and emissions.
- The plan includes performance measures, including monitoring and documenting fuel savings and GHG reductions.
- The Winnipeg Fleet Management Agency is to take the lead on developing the plan, with the assistance of the City's Environmental Coordinator.
- A working group of Departmental/SOA representatives is to be created to develop the plan.

In September of 2009, MEAC (Mayor's Environmental Advisory Committee) recommended that the Green Fleet Plan include Police, Fire, Ambulance and Transit

vehicles, which were not originally part of the proposed plan. On January 12, 2010 the Executive Policy Committee (EPC) approved a motion to include Police, Fire, Ambulance and Transit Vehicles and the Green Fleet Plan was redrafted to be inclusive of all City owned vehicles.

The City has been effective at reducing their corporate greenhouse gas emissions by 20% from 1998 levels. Corporate vehicle emissions have decreased since 1998, but not in a substantial manner.





While the City has been involved in many innovative initiatives to green the City's fleet, and City Departments have been making efforts to reduce fuel use and emissions, without a concerted, measurable plan in place, corporate vehicle emissions will remain the same or will potentially increase if service levels increase. Additionally, City Council has committed to a further 20% reduction in our corporate emissions and since vehicles are the largest contributor to the corporate GHG inventory, action is being taken to reduce vehicular emissions from the City's fleet.

City council recently approved the creation of a Corporate GHG reduction strategy in addition to a Communitywide GHG reduction strategy. The Green Fleet Plan will be positioned within the corporate GHG reduction strategy. Since the directive to create a Green Fleet Plan preceded the direction of creating a corporate GHG reduction strategy, the Green Fleet Plan is being moved forward for approval at this time since it is complete and ready for approval and implementation. The Winnipeg Fleet Management Agency is represented on the GHG reduction committee and the committee has reviewed the Plan and provided input into the plan, with particular attention given to ensuring the Green Fleet Plan follows a standardized approach to estimate emissions and financial requirements that will be used by other Departments for their respective initiatives. The standardized approach will enable the City to determine where it is most cost effective to invest money into GHG reductions.

The City of Winnipeg has approximately 2,700 motorized vehicle and equipment units in its entire fleet. The Green Fleet Plan contains eleven action-oriented strategies to help reduce air pollution and lower noxious air pollutants currently focusing on 2,109 units with the intent to extend the plan to include the entire City fleet by including the emissions benefits from the Transit Department's fleet by 2011. This means that by 2011 all City vehicles and equipment will be following a Green Fleet Plan aimed at reducing emissions and fuel use from their respective operations.

A breakdown of City owned motorized vehicle and equipment is as follows:

City-Owned Vehicle Breakdown (approximate)			
Number of Vehicles	**Description**	**Department**	**% Relative to Total**
1,610	WFMA Managed Units	Variety of Civic Departments	59.65%
105	Fire Dept Heavy Fleet	Winnipeg Fire and Paramedic Services	3.89%
394	Police Vehicles	Winnipeg Police Service	14.60%
590	Buses (545) & Light Fleet (45)	Winnipeg Transit	21.86%
2,699			100%

In the past, the City has monitored its corporate vehicle fleet emissions using the Federation of Canadian Municipalities PCP model. This model was selected as it provides a consistent framework for analysis that can be used to make comparisons with other municipalities. The City's corporate vehicle related greenhouse gas inventory has historical measurements of greenhouse gas emissions from all City vehicles, with the exception of the Transit's vehicle fleet. Part of the new Transit Green Fleet Plan that will be prepared and sent forward as an amendment to this plan in 2011 will be to develop a baseline GHG inventory related to Transit operations and set an emission reduction target specific to overall Transit operations. Transit's emissions performance is most appropriately measured by the emissions avoided when passengers choose to take public transit over their own motor vehicles.

The plan presents estimates for the key activities that are anticipated to provide significant emission reductions and those are listed in the table below.

Summary of Costs and Emission Reductions

Strategy	Key Activity	Operational Expenditures (Millions)		Operational Savings (Millions)		Annual GHG Reduction (Tonnes eCO2/Year)	
		2010 - 2014	2015 - 2019	2010 - 2014	2015 - 2019	2014	2019
	Level I: Already Planned Expenditure						
Alternative Fuels	10% Ethanol Use	$ -	$ -	$ -	$ -	878	878
	Level II: Additional Projects						
Fuel Efficient Vehicles	Green Purchasing Specifications	$ -	$ -	$ -	$ -	236	472
	Hybrid Replacement Program	$ 0.61	$ 1.50	$ 0.21	$ 0.49	158	264
	Diesel Replacement Program	$ 0.45	$ 0.79	$ 0.18	$ 0.31	69	75
Right Size the Fleet	Match Vehicle Use to Job Requirement	$ -	$ -	$ 0.13	$ 0.13	69	75
Alternative Fuels	Biodiesel Use	$ -	$ -	$ -	$ -	199	199
Idle Reduction	Anti-Idling Policy	$ -	$ -	$ 0.82	$ 2.19	670	1,341
	Idle Reduction Technologies	$ 0.14	$ 0.37	$ 0.11	$ 0.20	14	27
Total		**$ 1.20**	**$ 2.66**	**$ 1.45**	**$ 3.33**	**2,293**	**3,332**

While all of the strategies within the Green Fleet Plan have associated performance indicators to measure progress of the strategy, some activities within the strategies present a challenge to make reasonable assumptions of the potential emission reductions until the activities begin to be implemented. As such, only the key activities that have measurable emissions benefits are listed in the table above.

An annual report of the Green Vehicle Plan will be submitted to Executive Policy Committee. The report will be developed by the Winnipeg Fleet Management Agency and will be reviewed by all Departments prior to submission. Transit and Winnipeg Police Service will provide annual information on their green fleet efforts for inclusion in this annual report. Departmental trends will be provided in the annual report and adjustments will be made to the strategies if they are not completing the desired result. This process will ensure that the City is working toward achieving the targeted emission reduction.

FINANCIAL IMPACT

Financial Impact Statement — Date: April 19, 2010

Project Name: Green Fleet Plan — **First Year of Program 2011**

	2011	2012	2013	2014	2015
Capital					
Capital Expenditures Required	$ -	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	-	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants (Enter Description Here)	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other - Enter Description Here	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 532,000
Less: Incremental Revenue/Recovery	362,500	362,500	362,500	362,500	666,000
Net Cost/(Benefit)	$ (62,500)	$ (62,500)	$ (62,500)	$ (62,500)	$ (134,000)
Less: Existing Budget Amounts	-	-	-	-	-
Net Budget Adjustment Required	$ (62,500)	$ (62,500)	$ (62,500)	$ (62,500)	$ (134,000)

Additional Comments: Direct costs include departments' increased lease charges for the incremental vehicle costs. Incremental revenue/recovery amounts include estimates for departments' reduced fuel charges resulting from the use of more fuel efficient vehicles and the anti-idling initiatives. Actual anti-idling results achieved and the related reduction in fuel charges during the projected periods will vary from the projections, and the variation may be material. Transit Department buses and light fleet are excluded, as Transit is submitting a separate plan.

approved by Cheryl Turman CA
Supervisor of Finance & Administration

CONSULTATION

In preparing this Report there was consultation with:

The Green Fleet Plan Working Group facilitated the development of the plan & provided input into the plan components. The working group was comprised of the following Departments and SOAs:

Name	Department	Title
Jody Harris	Corporate Support Services	Manager of Research and Internal Services
Shannon Roberts	Water & Waste	Assistant Controller
Andrea Saj	Water & Waste	
Randy Topolniski	Parking Authority	Manager, Enforcement and Compliance
Greg Robinson	Community Services	Operations and Safety Coordinator
Abdul Aziz	Police Services	Manager of Services Division
Stan Siu	Public Works	Maintenance Services Engineer
Reid Douglas	Fire Paramedic Services	Deputy Chief, Support Services
Stan Dueck	Planning, Property & Development	Acting Manger, Housing Development
Glen Stefanyshen	Planning, Property & Development	Maintenance System Engineer
Tony Dreolini	Transit	Manager of Plant & Equipment
Iain Day	Winnipeg Golf Services	COO, Acting
Patti Regan	Office of the Chief Administrative Officer	Manager of Sustainability
Corrine Evason	Materials Management	Analyst, Trainer
Herb Hajer	Fleet Management Agency	COO
Sean Madden	Fleet Management Agency	Project Coordinator (temporary)
Ajaleigh Williams	Fleet Management Agency	Project Coordinator

The City's Corporate GHG reduction committee reviewed the plan and provided comments that were included.

The Mayor's Environmental Advisory Committee (MEAC) was consulted on the Green Fleet Plan components and their input was included in the plan.

SUBMITTED BY

Department: Winnipeg Fleet Management Agency
Division
Prepared by: Ajaleigh Williams
Date: April 23, 2010
File No.

Appendix A- Green Fleet Plan



Green Fleet Plan

Appendix A:

Draft Green Fleet Plan
Last Update: April 23, 2010

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1 Plan Development

The Green Fleet Plan was written by staff at the City of Winnipeg's Fleet Management Agency. Prior to developing the plan, the Agency reviewed municipal green fleet plans and incorporated elements from existing municipal plans, current green fleet activities being pursued by the City's Fleet Management Agency, best industry practices for greening a municipal fleet and incorporated recommendations from the City of Winnipeg's Green Fleet Plan Committee, the City of Winnipeg's GHG Reduction Committee and the City of Winnipeg Mayor's Environmental Advisory Committee.

A Green Fleet Plan Committee was established at the onset of the plan development to provide input on the content of the plan and as such, the Plan is a culmination of strategies and actions brought forward through consultation with various City of Winnipeg Departments.

The Green Fleet Plan committee consisted of eighteen City of Winnipeg Departmental and Special Operating Agency representatives who developed and reviewed all of the plan components.

The Winnipeg Fleet Management Agency and the City's Environmental Coordinator were co-chairs of the Green Fleet Plan Committee.

2 Acknowledgements

The Co-Chairs of the City's Green Fleet Plan committee would like to thank the City of Winnipeg's Green Fleet Plan Committee for their ongoing efforts input into the development of the Green Fleet Plan.

Additionally, the Co-chairs would like to thank the City of Winnipeg Mayor's Environmental Advisory Committee and the City of Winnipeg's Greenhouse Gas Reduction Group for providing their input and recommendations that were incorporated into the development of the Green Fleet Plan.

3 Executive Summary

The City of Winnipeg is dedicated to reducing emissions from its corporate vehicle fleet and has developed a Green Fleet Plan to reduce the environmental impact of the City's vehicle and equipment fleet by reducing fuel consumption and emissions.

The Green Fleet Plan will achieve its goal of reducing emissions while maintaining or increasing the level of service offered to citizens of Winnipeg.

The City of Winnipeg will implement a set of eleven strategies aimed at reducing its 2019 greenhouse gas emissions from its corporate fleet by 17.65% from 1998 levels.

Estimated GHG Reductions		
1998 GHG Levels	2007 GHG Levels	2019 GHG Levels (estimate)
18,885 tonnes	18,771 tonnes	15,553 tonnes

City wide, this reduction equates to a reduction of 4.87 % of the City's total corporate GHG inventory from 1998 levels. Vehicle emissions are the largest source of greenhouse gas emissions from the City's corporate activities.

The Green Fleet Plan is anticipated to result in a net savings to the City over the ten year timeframe for which it is implemented. The total cost of the Green Fleet Plan is estimated at $3.9 Million. There is an anticipated savings of $4.8 Million. The net savings is estimated at $0.9 Million.

The City of Winnipeg has approximately 2,700 motorized vehicle and equipment units in its entire fleet. Winnipeg's Green Fleet Plan contains eleven action-oriented strategies to help reduce air pollution and lower noxious air pollutants currently focusing on 2,109 units with the intent to extend the plan to include the emissions benefits from the Transit Department's fleet by 2011.

All of the strategies within the Green Fleet Plan have associated performance indicators to measure progress towards that strategy. However, certain actions within the eleven strategies do not include emission reduction estimates associated with that action because the action is not readily quantifiable For example, certain strategies include actions to investigate the feasibility of initiatives that could reduce emissions and until this investigation is complete the emission reduction cannot be reasonably assumed. The plan does present estimates for key actions that are anticipated to provide significant emission reductions. As the plan is rolled out, all possible activities that can be measured in terms of their emission reduction potential will be quantified in the annual reporting for the plan.

Each of the strategies and corresponding actions that have quantifiable emission reductions are denoted in the table below.

Summary of Costs and Emission Reductions

Strategy	Key Activity	Operational Expenditures (Millions)		Operational Savings (Millions)		Annual GHG Reduction (Tonnes eCO2/Year)	
		2010 - 2014	2015 - 2019	2010 - 2014	2015 - 2019	2014	2019
	Level I: Already Planned Expenditure						
Alternative Fuels	10% Ethanol Use	$ -	$ -	$ -	$ -	878	878
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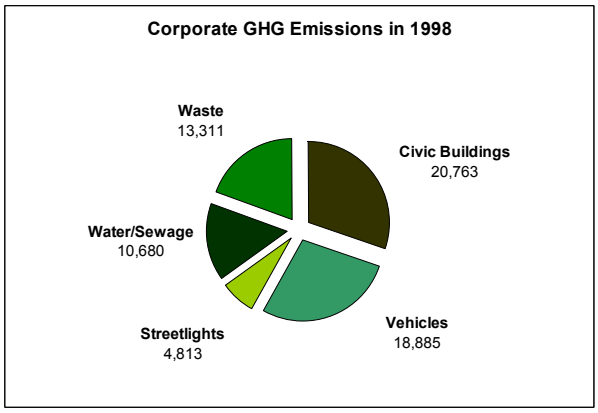
Total		**$ 1.20**	**$ 2.66**	**$ 1.45**	**$ 3.33**	**2,293**	**3,332**

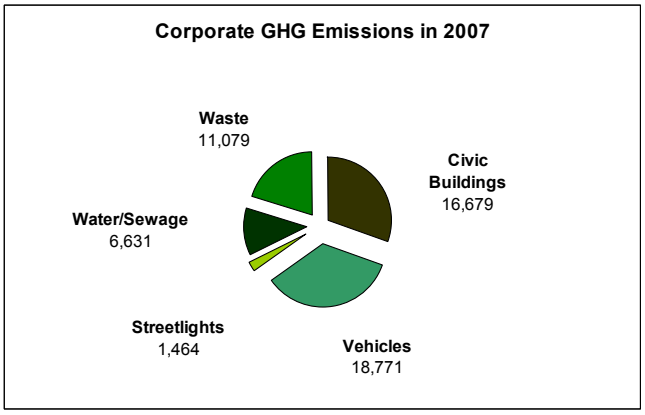
Each year, performance indicators will be measured to assess the progress and success of all strategies and the overall plan towards our emission reduction goal.

An annual report of the Green Fleet Plan will be submitted to Executive Policy Committee for review. The report will be authored by the WFMA with the input from all participating departments. Departmental trends will be provided in the annual report and adjustments will be made to the strategies if they are not completing the desired result. This process will ensure that the City is working toward achieving the targeted emission reduction.

4 Introduction

Since 2003 the City has been implementing a corporate Climate Change Action Plan that has thus far reduced corporate GHG emissions to 20% below 1998 levels. The largest sources of corporate GHG emissions are from the Vehicle and Civic Building sectors as shown in the following charts:





The City of Winnipeg reduced corporate emissions from 68,452 tonnes of CO2 equivalent greenhouse gases in 1998 to 54,624 tonnes of CO2 equivalent greenhouse gases in 2007. Emissions from the City's vehicle fleet have also been reduced during this period and the City of Winnipeg is deploying a Green Fleet Plan to ensure this downward trend continues.

The combustion of fossil fuels to power vehicles and engines such as cars, trucks, buses and construction equipment has significant environmental and health impacts. Some of the pollutants emitted from City vehicles and equipment include greenhouse gases, volatile organic compounds (VOC's), nitrogen oxides (NOx), particulate matter (PM), carbon monoxide (CO), and sulfur oxides (SOx), all of which cause varying types of detrimental environmental and health effects. According to Environment Canada, air pollution is inextricably linked to numerous health conditions including respiratory diseases (i.e. asthma), cardiovascular disease, allergies, and neurological effects[1].

Over the last several years the City has been actively involved in exploring opportunities for greening its fleet operations and the Green Fleet Plan will continue these efforts while deploying additional strategies aimed at making the fleet as environmentally sustainable as possible.

5 Current Green Fleet Actions to Date

[1] 2007, Environment Canada, *Transportation,* Retrieved January 28, 2009 from http://www.ec.gc.ca/cleanair-airpur/Transportation-WS800CCAF9-1_En.htm

Some of the types of green fleet actions currently deployed by the City include:

Low Emission Diesels:

The City has purchased new pieces of heavy equipment since 2007 that have low emission engines, which results in lower emissions and improved fuel efficiency over older diesel vehicles in the fleet. The upcoming 2010 diesel engines standard will have significantly lower emissions over previous models. While the 2007 diesel engines emit a slightly higher amount of pollution per litre than gasoline fuel, the fact that many newer diesel engines are 20% more fuel efficient than pre 1990 models, makes them a greener choice. Additionally, the new engines have improved operational capabilities.

Hybrid Evaluations:

The City has fifty three hybrid gas electric vehicles in its fleet and continually monitors and assesses vehicle performance and the fuel efficiency of these hybrids. To date, these vehicles have performed well in all seasons and have proven to be the most fuel-efficient vehicles in the fleet. The City's Transit Department has also conducted evaluations with hybrid bus technology.

Fuel Efficiency

The City ensures that fuel efficiency is a key criterion in all its vehicle purchasing tenders so that fuel efficiency is a part of the set of evaluation criteria considered when selecting vehicles for purchase. The City also distributed a comprehensive fuel efficiency guide to City employees that highlights tips and strategies on how to reduce fuel consumption such as having properly inflated tires and employing fuel efficient driving techniques.

Idle Monitoring & Technology Evaluations:

In instances where a vehicle is normally required to be kept running, such as to have safety lights engaged while at a job site or to prevent ignition failure during cold weather, the City is evaluating technologies that could provide the necessary auxiliary heating, cooling and battery power using a fraction of the fuel that would normally be consumed while idling. Some City Departments, such as the Transit Department already have an anti-idling policy in place to reduce idling in City buses and other Departments such as the Parking Authority have technologies installed in their vehicles that monitor real-time idling in their vehicles to help reduce their carbon footprint.

Biodiesel Study:

In 2009, the City of Winnipeg completed a year-and-a-half long study on biodiesel fuel. The results of the study will be released in 2010. Biodiesel is a cleaner burning alternative to diesel fuel that can be made from new or used animal fat and vegetable oil such as canola or restaurant grease. This evaluation is part of a program funded through a partnership with Transport Canada. Twenty Streets Maintenance vehicles began used a blend of 5% and 10% biodiesel to 95% and 90% diesel fuel (B10) as part of the evaluation.

Evaluating Advanced Vehicle Technologies:

Every day new vehicle technologies are being deployed to green the transportation sector. The City continually monitors new advanced vehicle technologies and the Winnipeg Fleet Management Agency is currently evaluating a plug-in hybrid gas electric vehicle as part of a project funded by the Province of Manitoba. The project entails converting a City of Winnipeg Toyota Prius to become a plug-in hybrid gas electric vehicle. The vehicle's estimated average mileage is 125 mpg.

Support for the Red River Valley Clean Cities Coalition Winnipeg Chapter:

Winnipeg Fleet Management Agency provides administrative support to the Red River Valley Clean Cities Coalition (RRVCCC) Winnipeg Chapter Inc. The RRVCCC Winnipeg Chapter is a voluntary partnership between government, business, non-profit organizations and post-secondary institutions with a mandate to promote alternative fuels, clean vehicle technologies (including idle reduction and fuel efficiency), and sustainable transportation choices in Manitoba. The Coalition hosts conferences, workshops and events to educate local stakeholders on sustainable transportation topics of interest and is part of a larger program coordinated by the U.S. Department of Energy. There are 90 coalitions in the U.S. and the Winnipeg Chapter is the only Canadian partner in the program. The Clean Cities website is located at http://www.cleancitieswinnipeg.org/

Participating in the municipal fleet forum-CAMFM:

The City of Winnipeg is a founding member of a municipal fleet forum called the Canadian Association of Municipal Fleet Managers. The forum was launched in 2004 and is a consortium of municipal fleet managers. The mandate of the association is to share information on alternative fuels, advance vehicle technologies, environmental initiatives, in addition to best business practices for municipal fleets across Canada.

Boards and Workshops:

The City has been invited to sit on various boards and attend focus group workshops to provide input into policy direction on sustainable transportation initiatives in Manitoba. Most recently the City participated on the Provincial Vehicle Standards Advisory Board which was appointed by the Minister of Energy and Mines, Jim Rondeau. The Board's mandate was to establish vehicle fuel economy standards for new vehicle sales in Manitoba. The City has also been represented on the Provincial Biodiesel Board and currently sits on a board established by Manitoba Hydro that is a stakeholder group focused on investigating the feasibility of electrifying the transportation system, including discussions on plug-in hybrid gas electric and fully electric vehicle opportunities.

6 Purpose, Scope and Emission Target

6.1 Purpose

The purpose of the Green Fleet Plan is to reduce the environmental impact of the City's vehicle and equipment fleet by reducing fuel consumption and emissions. The Green Fleet Plan will achieve its goal while maintaining or increasing the level of service offered to citizens of Winnipeg.

Consideration of all strategies within the Green Fleet Plan will take into account life cycle cost management principles that are the cornerstone of the City's fleet management business.

6.2 Scope

Scope of Vehicles & Equipment
All City of Winnipeg vehicles and equipment will fall into the scope of this plan. The City of Winnipeg has a vehicle and equipment inventory of 2,699 units in its fleet ranging in scale from riding lawn mowers to Transit buses. The City of Winnipeg's Fleet Management Agency (WFMA) is responsible for managing 1,610 of these units, representing approximately 60% of City vehicles. There are 1,089 units that are not managed by the WFMA, including Winnipeg Transit Department fleet, Police Department fleet and the Fire and Paramedic Department's heavy fleet. These categories of vehicles, equipment and buses have unique operating requirements within the City of Winnipeg and will address the greening of their fleet in a slightly different manner than the 1,610 WFMA-managed fleet vehicles and equipment.

The breakdown of the City's vehicle inventory is as follows:

City-Owned Vehicle Breakdown (approximate)			
Number of Vehicles	**Description**	**Department**	**% Relative to Total**
1,610	WFMA Managed Units	Variety of Civic Departments	59.65%
105	Fire Dept Heavy Fleet	Winnipeg Fire and Paramedic Services	3.89%
394	Police Vehicles	Winnipeg Police Service	14.60%
590	Buses (545) & Light Fleet (45)	Winnipeg Transit	21.86%
2,699			100%

The breakdown of fuel use by City owned vehicles is as follows:

Annual City Fuel Use Breakdown (approximate)			
Annual Fuel Use (L)	**Description**	**Department**	**% Relative to Total**
5,011,880	WFMA Managed Units	Variety of Civic Departments	22.24%
391,895	Fire Dept Heavy Fleet	Winnipeg Fire and Paramedic Services	1.74%
1,257,327	Police Vehicles	Winnipeg Police Service	5.58%
15,878,502	Buses	Winnipeg Transit	70.45%
22,539,604			100%

*Note - External Customer Annual Fuel Use is 586,686 Litres

Due to the specific nature of their operations, the Winnipeg Police Service and Winnipeg Fire and Paramedic Department will be expected to adhere to most, but not all, of the actions identified within each of the strategies in this plan. Specific exemptions of the Winnipeg Police Service and Winnipeg Fire and Paramedic Department are noted within the strategies section and primarily relate to vehicles responding to emergencies. Ambulances are repaired by Winnipeg Fleet Management Agency, but will be excluded from the Plan since they are primarily provincially owned. Winnipeg Transit also presents an operating environment with unique opportunities and challenges in greening their fleet, most notably because the Transit fleet is comprised primarily of Transit busses. An alternate, Winnipeg Transit-specific Green Fleet Plan will be created as an amendment to this Plan in 2011.

All City departments and SOAs included in the scope, with exception to those noted, will implement all applicable strategies included in the Green Vehicle Plan unless it is demonstrated that the strategies are not operationally feasible for the department or SOA. For example, emergency vehicles such as Fire Trucks responding to a Fire will not be required to follow the City's anti-idling directive at that time.

All 2,699 City vehicles will report on their green fleet initiatives in the same annual report so that the City can assess the concerted efforts to green transportation related initiatives from operating vehicles, equipment and buses used for the delivery of City services. The WFMA will work collaboratively with the Police Department, Fire Department and Winnipeg Transit to develop templates for reporting requirements.

Scope of Emission Analysis

Currently, the City of Winnipeg's vehicle and equipment fleet's environmental impact is measured directly by total annual fuel usage and the total equivalent annual carbon dioxide tailpipe emissions released. Total annual fuel use is therefore a key indicator for the Green Fleet Plan for which the City of Winnipeg currently has the ability to track accurately and for which there is sufficient historical data for use as a baseline comparator.

While total fuel consumption is a very useful and practical indicator of the City of Winnipeg's overall progress towards a greener fleet, the Green Fleet Plan acknowledges that a full life cycle analysis of all vehicles & equipment, fuels, technologies, and alternative means would ultimately provide a much clearer understanding of the full environmental impact of the City's fleet. Life cycle analysis considers the total environmental impact of a given product or service necessitated by its existence from resource extraction, processing, distribution, manufacturing, transport, use, decommissioning, and disposal, and thus enables more sound decision making.

The Green Fleet Plan will continue to utilize total fuel use as a primary indicator for City vehicles with the exception of the Transit fleet. The intent is to expand the scope of its analysis towards a life cycle analysis model and a net emissions reduction from Transit operations as resources to do so become available.

The scope of analysis for the Transit Department will be different than that used for the rest of the Green Fleet Plan due to the nature of Transit operations. The Transit Department's emissions

performance is most appropriately measured by the emissions avoided when passengers choose to take public transit over their own motor vehicles. There are a variety of reasons for this difference. For example, the demand for Transit service has increased in recent years and is expected to continue. This increase in demand will require additional service hours and an increase in the size of Transit's fleet. This type of demand-driven operational change will result in an increase in the fuel consumed and the production of GHG emissions by Transit vehicles; however, the true impact of improved Transit operations will be a net reduction of vehicle emissions produced in the City.

6.3 Emission Target

By 2019, The Green Fleet Plan is aiming to reduce GHG emissions by 17.65% from 1998 levels for the 2,699 units addressed within the Green Fleet Plan. This reduction in the corporate vehicle fleet emissions is estimated to result in a 4.87% reduction in the City's overall corporate GHG inventory.

Each year an inventory on the GHG emissions from the City's fleet will be evaluated to ensure there is a continuing trend to decreasing emissions. The emissions estimates included in the Green Fleet Plan are based on best available data and once the strategies begin to be deployed and actual emissions are documented, it will provide the City with a mechanism to assess the effectiveness of each strategy in the Plan.

While all of the strategies within the Green Fleet Plan have associated performance indicators to measure progress of the strategy, some activities within the strategies present a challenge to make reasonable assumptions of the potential emission reductions until the activities begin to be implemented. For example some of the strategies are to investigate the feasibility of actions that could reduce emission and until the feasibilities are complete the emission reduction cannot be reasonable assumed. The plan does present estimates for the key activities that are anticipated to provide significant emission reductions. As the plan is rolled out, all possible activities that can be measured in terms of emission reduction will be quantified in the annual reporting for the plan. Each of the strategies that have quantifiable emission reductions are denoted in the table below.

Quantifiable Strategies and Associated Emission Reductions

Strategy	Key Activity	Annual GHG Reduction (Tonnes eCO2/Year)	
		2014	2019
Idle Reduction	Anti-Idling Policy & Idle Reduction Technologies	684	1,368
Alternative Fuels	10% Ethanol & 2% Biodiesel Use	1,078	1,078
Fuel Efficient Vehicles	Green Specifications, Hybrids, Diesels	463	812
Right Size the Fleet	Match Vehicle to Job Function	69	75
Total		**2,293**	**3,332**

It is estimated that the Green Fleet Plan will achieve an annual reduction of 3,332 tonnes of CO2 equivalent emissions by 2019. This estimate is based on best available data and actual emission reduction may be greater or less than anticipated. The greatest reduction in emissions is anticipated to come from idle reduction, followed by alternative fuel use, the purchase and use of fuel efficient vehicles and right sizing the fleet.

In the past, the City has monitored its corporate vehicle fleet emissions using the Federation of Canadian Municipalities PCP model. This model was selected as it provides a consistent framework for analysis that can be used to make comparisons with other municipalities. The City's corporate vehicle related greenhouse gas inventory has historical measurements of greenhouse gas emissions from all City vehicles, with the exception of the Transit's vehicle fleet.

As such, the City does not currently have an inventory for GHG emissions from Transit operations. Part of the new Transit Green Fleet Plan that will be prepared and sent forward as an amendment to this plan will be to develop a baseline GHG inventory related to Transit operations and set an emission reduction target specific to overall Transit operations. The PCP model does not include public transit fleets as the performance indicator used by the model is based on reductions in GHG emissions as measured by fuel consumption. This performance indicator is not appropriate for a public transit operation as it does not measure the true impact of its operations on the vehicle emissions produced in a City.

Transit's emissions performance is most appropriately measured by the emissions avoided when passengers choose to take public transit over their own motor vehicles. There are a variety of reasons for this difference. For example, the demand for Transit service has increased in recent years and is expected to continue. This increase in demand will require additional service hours and an increase in the size of Transit's fleet. This type of demand-driven operational change will result in an increase in the fuel consumed and the production of GHG emissions by Transit vehicles; however, the true impact of improved Transit operations will be a net reduction of vehicle emissions produced in the City.

The Transit Department currently operates a fleet of 545 transit buses and 45 pieces of on-road auxiliary vehicles necessary to support operations. The Transit Department will work with the City's Fleet Management Agency to develop a separate Transit specific amendment to the City's Green Fleet Plan to be incorporated into the next annual report in 2011. The Transit Department has been pursuing green fleet activities for many years. Initiatives include the implementation of an anti-idling policy for bus operators in 2005 and testing a variety of alternative fuels and hybrid bus technologies. By creating a green fleet plan aimed at the Transit operations, the Transit Department will be able to establish appropriate performance measures, develop strategies to further reduce emissions from its fleet and establish goals for emissions reductions.

7 Strategies

A variety of Green Fleet strategies will be deployed immediately upon approval of the Green Fleet Plan to achieve the targeted emission reductions. Each year, performance indicators will be compiled to assess the progress and success of all strategies and the overall plan.

An annual report of the Green Vehicle Plan will be submitted to the City's Executive Policy Committee for review. Departmental trends will be provided in the annual report and adjustments will be made to the strategies if they are not completing the desired result. New technologies that reduce emissions and vehicle models that are more fuel efficient than their predecessor are continually coming to the market and as such, when these become available new strategies may be identified on an annual basis to incorporate them into the Green Fleet Plan. This process will enable the City to achieve the targeted emission reduction in the most cost effective manner.

Most strategies will be initiated through the Winnipeg Fleet Management Agency in cooperation with affected departments and SOAs since the Agency is the primary entity responsible for purchasing, maintaining and disposing of City vehicles and equipment included in the Green Fleet Plan.

All strategies will be implemented using the principles of life cycle cost management to ensure the strategy does not significantly impact a department's ability to undertake its required functions. The principles of life cycle cost management include the following elements:

- Vehicle capital cost;
- Vehicle operating cost;
- Vehicle functionality (ensuring the vehicle meets operational requirements);
- Vehicle useful life;
- Vehicle resale value; and
- Vehicle maintenance requirements.

There are eleven strategies that will be deployed to Green the City's vehicle and equipment fleet managed by WFMA which include:

1) Right Size the Fleet

Goal: Implement actions to reduce the overall number of vehicles and fuel used by the City's fleet in addition to ensuring all City vehicles are appropriately sized for their required job function.

Actions	Performance Indicator	Responsibility
(a) When a vehicle is due for replacement, WFMA will meet with departments and SOAs to determine whether an existing vehicle actually needs to be replaced to meet operational needs. If the vehicle is not required, it will not be replaced, thus reducing the size of the City's	Number of vehicles in the City's fleet	WFMA in cooperation with Departments and SOAs Police and Fire will

vehicle fleet.		complete this action within their own respective Depts.
(b) Investigate the feasibility of using bicycles instead of vehicles for relevant applications such as in Parks, Parking authority, some Police patrol staff and City pool vehicles, which is at the discretion of individual departments.	Number of vehicles in the City's fleet	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action within their own respective Depts.
(c) Encourage multi-purpose vehicles, such as outfitting one vehicle with multiple attachments so the vehicle can conduct multiple functions, that otherwise would have required two separate vehicles.	Number of vehicles in the City's fleet	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action within their own respective Depts.
(d) Encourage vehicle sharing amongst Departments and SOAs whereby the vehicle is only needed on a seasonal basis for respective Departments and SOAs. The method to implement will include: • Upon the year a vehicle is to be replaced, Departments and SOAs will advise WFMA of vehicles and equipment that are used for seasonal functions. • WFMA will review opportunities for vehicle sharing from other seasonal use vehicles. • WFMA will provide the recommendation to both departments and will implement the option based on Departmental and SOA approvals.	Number of vehicles in the City's fleet	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action within their own respective Depts.
(e) When a vehicle is up for replacement, the WFMA will meet with Departments to ensure the right size vehicle is purchased for the required job function. This may entail purchasing a smaller vehicle if it meets operational needs or purchasing a larger vehicle in instances where it would improve the fuel efficiency to have a larger vehicle that can carry heavier loads required to undertake a job function.	Reduction in fuel use	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action within their own respective Depts.

2) Purchase the Most Fuel Efficient Vehicles where Operationally Feasible

Goal: Purchase the most fuel efficient vehicle or equipment, providing it meets operational requirements of the Department or SOA.

Actions	Performance Indicator	Responsibility
(a) Ensure all light duty fleet tenders put a significant weight on fuel efficiency to ensure light duty vehicles are as fuel efficient as possible.	Reduction in fuel use	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action

		within their own respective Depts.
(b) Review all light fleet tender processes to ensure the process maximizes the potential to purchase the most fuel efficient vehicle possible, including encouraging a larger set of vendors to bid on City tenders and writing green specifications aimed at reducing fuel use into all City vehicle tenders.	Reduction in fuel use	WFMA in cooperation with Departments and SOAs. Police and Fire will complete this action within their own respective Depts.
(c) Purchase hybrid-electric vehicles for light duty, high and extreme usage vehicles, when operationally proven hybrid models are available and meet operational needs. Fifty percent of all high and extreme usage vehicles will be hybrid where hybrid models exist.	Reduction in fuel use	All Departments and SOAs, with the exception of Police and Fire who will assess the feasibility of this action on a case by case basis.
(d) Purchase fuel efficient diesel vehicles and equipment over less fuel efficient gasoline vehicles and equipment where diesel models are available and meet operational needs, in all cases where the diesel alternative is available.	Reduction in fuel use	All Departments and SOAs, with the exception of Police and Fire who will assess the feasibility of this action on a case by case basis.
(e) Assess opportunities on a case by case basis for accelerated vehicle replacement for light duty applications (where a vehicle is not yet due for replacement) but that could immediately benefit from a more fuel efficient vehicle and whereby WFMA can accommodate the resale of the vehicle in question.	Reduction in fuel use	WFMA in cooperation with interested Departments and SOAs. Police and Fire will complete this action within their own respective Depts.

3) Replace Older Diesel Engines with Low Emitting Diesel Engines

Goal: Replace older diesel engines with new diesel engines that emit significantly less pollution than older models.

Actions	Performance Indicators	Responsibility
(a) When a diesel unit is due for replacement, replace the older and higher emitting diesel engines with newer low emitting diesel engines.	Reduction in emissions	All Departments and Special Operating Agencies, with the exception of Police and Fire who will assess the feasibility of this action on a case by case basis.
(b) Assess opportunities on a case by case basis for accelerated vehicle replacement of older diesel vehicles not yet due for replacement but that could benefit from a lower emitting diesel engine and whereby WFMA can accommodate the resale of the vehicle in question.	Reduction in emissions	WFMA in cooperation with interested Departments and SOAs. Police and Fire will complete this action within their own respective Depts.

4) Evaluate and Use Alternative Fuels

Goal: Use Alternative Fuels in City vehicles when they are either mandated or have been evaluated and proven to meet operational and economic needs for the City and whereby environmental benefits are demonstrated.

Actions	Performance Indicators	Responsibility
(a) Continue using the provincially mandated 10% blend of ethanol fuel in all gasoline vehicles and equipment operated by the City.	Reduction in emissions	All Departments and Special Operating Agencies.
(b) Begin using a B2 blend of biodiesel upon renewal of the City fuel tender to comply with anticipated Provincial requirements.	Reduction in emissions	All Departments and Special Operating Agencies
(c) Investigate the feasibility of using higher level blends of biodiesel such as B5.	Reduction in emissions	WFMA in cooperation with Materials Management and all Departments and Special Operating Agencies.
(d) Assess all alternative fuel opportunities as they arise, and where they are operationally feasible.	Reduction in emissions	WMFA in cooperation with all Departments and Special Operating Agencies

For the purposes of this Green Fleet Plan alternative fuels are considered to be ethanol, biodiesel, natural gas, propane, and hydrogen. While electricity is an alternative fuel, this plan puts all measures associated with evaluating gas electric hybrids, plug in hybrids and electric vehicles in the strategy associated with testing green advanced vehicle technologies or purchasing fuel efficient vehicles.

5) Implement and Enforce a Corporate Anti-idling Policy and Install Idle Reduction Technologies

Goal: Implement and enforce a City wide anti-idling policy that limits the amount of time a City vehicle or piece of equipment can idle and install idle reduction technologies on City vehicles that idle significantly at job sites.

Actions	Performance Indicators	Responsibility
(a) Implement and enforce a City wide anti-idling policy that limits the amount of time a City vehicle or piece of equipment can idle, with an aim to reduce City idling by 50% by 2019.	Reduction in idling and reduction in emissions	All Departments and Special Operating Agencies Police and Fire will aim to reduce idling by 5% by 2019 due to the nature of their operations.
(b) Install idle reduction technologies such as auxiliary power units that provide battery power, heating and cooling to vehicles while they are at a job site and require these functions.	Reduction in idling and reduction in emissions	All Departments and Special Operating Agencies.

Since the anti-idling policy is multi-faceted, the policy is included in Appendix A of the Green Fleet Plan.

6) Deploy Fuel Efficient Driver Training

Goal: Deploy fuel efficient driver training to all City vehicle and equipment operators, so that operators can learn specific driving techniques that can reduce fuel use while driving or operating vehicles and equipment in the City's fleet.

Actions	Performance Indicator	Responsibility
(a) Create an internal cross departmental/SOA working group to deploy this strategy.	Group created	WFMA to initiate
(b) The group will be responsible to: • Investigate what driver training program(s) would be suitable for City Departments, starting with an exploration of programs deployed by other municipalities and programs offered by organizations such as the Smart Driver Training offered through the federal government's FleetSmart program or using simulators to provide fuel efficient driver training. The training could also include a component on how to reduce vehicle idling. • Assess how the program will be funded. • Develop a mechanism to measure the success of the program. • Develop a schedule for deploying the fuel efficient driver program.	Fuel efficiency driver training plan created.	Fuel Efficient Driver Training Internal Working Group
(c) Assess which department will be responsible for deploying the driver training program.	Formalize departmental responsibility	Fuel Efficient Driver Training Internal Working Group
(d) Deploy the training City wide.	All relevant City operators trained	TBD Police and Fire will assess the feasibility of this action on a case by case basis.
(e) Provide WFMA with an annual report on the progress of the program.	WFMA receives reporting.	TBD

7) Evaluating New Advanced Vehicles and Technologies

Goal: Evaluate advanced vehicles and technologies that offer the potential to reduce fuel use and emissions in City vehicles and equipment, where pre-established data exist to demonstrate its benefits to reduce fuel use and emissions. The evaluation results will be assessed to consider the adoption of the vehicle or technology fleet wide where appropriate.

The Department responsible will be able to determine whether any alternative vehicle or technology is suitable or potentially beneficial for evaluation and will conduct the evaluation within their Departments.

Actions	Performance Indicators	Responsibility
(a) Investigate the feasibility of evaluating a large set of all electric vehicles in cooperation with other local public entities. This could include developing a car share opportunity for testing electric vehicles in Manitoba.	Public partners approached and feasibility of the project is assessed.	WFMA in cooperation with other interested local public entities.
(b) Evaluate a plug in hybrid gas electric vehicle conversion that is part of a project sponsored by the Province of Manitoba. The project includes the conversion of 10 Toyota Prius' to become plug in hybrid gas electric models.	Plug in hybrid evaluation complete and report submitted.	WFMA in cooperation with the Province of Manitoba.
(c) Evaluate new hybrid gas electric vehicle models, such as hybrid pick up trucks, as they become available to assess the actual fuel consumption gains and operational functionality. Report on progress.	Number of hybrid evaluations and associated reports completed.	WFMA in cooperation with interested Departments and SOAs.
(d) Evaluate a fully electric street sweeper.	Electric street sweeper evaluation complete and report completed.	WFMA in cooperation with Parks division.

8) Investigate Maintenance and Management Practices to Reduce Fuel Use

Goal: Investigate opportunities where maintenance or management practices can be modified to reduce fuel use, reduce unnecessary kilometers traveled and/or reduce vehicular emissions.

Actions	Performance Indicators	Responsibility
(a) Ensure planning of proposed relocation of the Agency's main vehicle and repair facility considers the impact on the City's Green Fleet Plan.	Site location assess GHG impact.	WFMA in cooperation with affected Departments and SOAs.
(b) Construct touch-less car washes that use recycled water at City owned fuel sites which enables City vehicles to refuel and receive a car wash at the same location. The intent is to reduce the kilometers traveled and associated fuel use by City vehicles traveling to other car washes offsite.	Car Washes installed and fuel use reduced.	WFMA
(c) Investigate the feasibility of heating the City's vehicle maintenance facilities and machine shop with used waste oil during the winter months.	Feasibility study complete and a recommendation made on the action.	WFMA
(d) Ensure all vehicles and equipment are brought to WFMA facilities for regularly scheduled preventative	Annual review to determine if all	All Departments and SOAs,

maintenance to ensure that vehicles are operating at peak performance.	vehicles were brought in for preventative maintenance.	with the exception of Police and Fire's heavy fleet who will conduct their own regularly scheduled PMS at their respective repair facilities.
(e) Explore opportunities for improving fuel efficiency in the existing fleet by way of investigating the feasibility of programming existing fleet for automatic vehicle shut off time that could be deployed to reduce idling time in existing city vehicles.	Reduction in fuel use.	WFMA Police and Fire will complete this action within their own respective Depts.
(f) Ensure tires are always properly inflated to levels prescribed by the owners' manual to ensure optimal fuel efficiency. Some items that could be investigated include: • Investigate the feasibility of WFMA conducting monthly site visits to large City yards to inflate tires of vehicles and equipment that do not have properly inflated tires. • WFMA to investigate opportunities to deploy tire automated tire inflation or monitoring devices. • WFMA to investigate one tire gauge for each light duty vehicle when it is brought in for repair. • Departments to measure the tire inflation levels of their vehicles at a minimum of once per month.	Feasibility studies completed by WFMA and departments measuring tire inflation documented on pre and post trips.	All Departments and SOAs. Police and Fire will complete this action within their own respective Depts.
(g) Investigate the opportunity to use wide base tires in applicable instances within the fleet. The practices used in other vicinities and can reduce fuel use in vehicles and equipment.	Feasibility study on wide base tires complete.	WFMA Police and Fire will assess the feasibility of this action on a case by case basis.
(h) Ensure all City vehicles and equipment use the appropriate age and model of tires. Inappropriate tires tend to reduce fuel efficiency and present a safety concern.	Maintenance records identifying the work performed to match tires on City vehicles.	WFMA Police and Fire will assess the feasibility of this action on a case by case basis.

9) Inclusion of Personal Vehicle Use, Rental Vehicles and Outsourced Work

Goal: Apply the strategies of the Green Fleet Plan to all outsourced work involving vehicles and equipment, after a reasonable amount of consultation has taken place with the private sector bidding on City work.

Actions	Performance Indicators	Responsibility
(a) Ensure any City employee using their personal vehicle for City business follows the principles of the Green Fleet Plan where possible, such as following the anti-idling policy.	Communication conducted to all City employees using personal vehicles.	WFMA in cooperation with Departments and SOAs.
(b) Identify the GHG impact associated with personal	Report on	WFMA

vehicles used for City business and identify any opportunities to decrease the GHG from these vehicles, such as making a fuel efficient City pool vehicle available for Departments or SOAs.	personal vehicle use GHG impact.	
(c) Explore the opportunity for requiring adherence to the City's anti-idling directive in all outsourced tenders' bid opportunity templates.	Decision on whether or not to include the statement in tenders.	WFMA in cooperation with Departments and SOAs.
(d) Explore the opportunity to prioritize low-emitting engines in call-out lists for outsourced work in City tenders. Consultation with the private sector would be a part of this exploration.	Decision on whether or not to include the call out list in tenders.	WFMA in cooperation with Departments and SOAs.
(e) Investigate the feasibility of applying the strategies of the green fleet plan to all pieces of equipment rented by the City for delivery of City services.	Decision on whether to apply the Green Fleet Plan strategies to rental units.	WFMA in cooperation with Departments and SOAs.

10) Transportation Demand Management

Goal: Explore opportunities for deploying Transportation Demand Management to the corporate and employee environment with the aim of reducing unnecessary vehicle kilometers traveled during the work day and for work commutes.

Actions	Performance Indicators	Responsibility
(a) Develop a working group to investigate and implement transportation demand management strategies that could be deployed to reduce the amount of unnecessary vehicle kilometers traveled by City employees during the work day such as ensuring all City boardrooms have access to equipment to conduct teleconferences rather than driving to meetings.	Working group initiated and report provided on opportunities for TDM for the corporate environment.	Environmental Coordinator
(b) Develop a working group to investigate transportation demand management strategies that could be deployed to reduce the amount of unnecessary vehicle kilometers traveled by City employees for work commutes such as exploring the development of a carpooling program for City employees, installing bike racks at all City facilities, encouraging the use of transit, and developing informational materials for City employees promoting sustainable transportation options available for work commutes.	Working group initiated and report provided on opportunities for TDM for the work commutes.	Environmental Coordinator

11) Communication and Outreach

Goal: Support internal and external communication and outreach on sustainable transportation.

Actions	Performance Indicators	Responsibility
(a) Undertake a City wide communication strategy to	Communication	WFMA

explain the components of the Green Fleet Plan to all relevant Departmental representatives including as many operators of City vehicles and equipment as is feasible.	strategy completed.	
(b) Continue to provide administrative support to the Red River Valley Clean Cities Coalition Winnipeg Chapter Inc, a non profit organization dedicated to promoting the use of alternative fuels, advanced vehicle technology and sustainable transportation in Manitoba.	Number of annual outreach activities on sustainable transportation.	WFMA
(c) Communicate the efforts of the Green Fleet Plan at conferences, workshops and through the City of Winnipeg's greenspace webpage.	Number of conference or workshop presentations, and number of activities posted on the City's greenspace webpage	WFMA

8 Financial Requirements

There is an anticipated net savings to City of approximately $900,000 to be gained from the implementation of the Green Fleet Plan. The total cost of the Green Fleet Plan is estimated at $3.8 Million. There is an anticipated savings of $4.80 Million.

Operational Expenditures (millions)	$ 3.8
Operational Savings (millions)	$ 4.8
Net (millions)	$ 0.9

The costs provided are the cost premiums for City Departments and SOAs to green their fleets. City Departments have an ongoing requirement to purchase vehicles for the delivery of City services. The costs do not reflect the total cost of each initiative, but rather the extra cost that is required to deploy the respective green fleet strategy. For example the cost estimate associated with purchasing hybrid gas electric vehicles is not the full cost of purchasing hybrids, but rather the additional cost of purchasing a hybrid vehicle over a conventional non hybrid vehicle.

Although it is expected that the overall commitments within the Green Fleet Plan will provide a City wide cost savings, the objective is also to achieve cost neutrality on a departmental basis wherever possible. In other words, the intention is to make every effort to balance operational expenditures and operational savings for each individual department and special operating agencies. The WFMA, with the support of departments and special operating agencies will provide the analysis required to forecast these costs and savings by department or agency and provide strategic advice for competitively adhering to the Green Fleet Plan actions on an ongoing basis.

The anticipated cost per unit reduction of CO2 equivalent is denoted in the table below. While some activities may appear to be more cost effective than others, this table should be assessed based on both the cost effectiveness of a strategy alongside with the magnitude of achievable emission reductions from that activity.

Key Activity	Operational Expenditures to 2019 (Millions)	Operational Savings to 2019 (Millions)	Net Cost to 2019 (Millions)	Annual GHG Reduction in 2019 (Tonnes eCO2/Year)	Cost Per Unit Reduction ($/Tonne eCO2 in Thousands)
Match Vehicle to Job Function	$ -	$ 0.25	$ (0.25)	75.08	$ (3.35)
Anti-Idling Policy	$ -	$ 3.02	$ (3.02)	1,340.65	$ (2.25)
10% Ethanol Use	$ -	$ -	$ -	878.37	$ -
Green Purchasing Specifications	$ -	$ -	$ -	472.13	$ -
Biodiesel Use	$ -	$ -	$ -	199.19	$ -
Hybrid Replacement Program	$ 2.12	$ 0.70	$ 1.42	264.39	$ 5.37
Idle Reduction Technologies	$ 0.50	$ 0.32	$ 0.19	27.40	$ 6.92
Diesel Replacement Program	$ 1.24	$ 0.49	$ 0.75	75.08	$ 9.96
Total	$ 3.86	$ 4.77	$ (0.91)	3,332.29	

WFMA will monitor and apply for funding opportunities as they become available to help further emission reduction efforts. For example, in the past WFMA has applied for the hybrid rebates and provided the rebates direct to the Department or SOA purchasing the hybrid.

9 Reporting on Progress

WFMA will work with affected Departments and SOAs to develop a report on the Green Fleet Plan's annual progress towards meeting emission targets, and provide an update on actual emission benefits and actual costs of each strategy.

The report will be reviewed by all Departments and SOAs prior to sending it to the Executive Policy Committee to allow for Departmental and SOA input into the plan.

WFMA will be compiling all required documentation on Green Fleet Plan activities. Throughout the year, should a Department or SOA indicate it is not feasible for them to be following the strategies outlined in the plan, WFMA will request documentation and justification from the Department's or SOA's divisional manager so that it can be included in the annual report. This will ensure that WFMA has all documentation required to provide an in-depth analysis and summary of Green Fleet Plan strategies in the annual reporting required for the plan.

This will ensure the City of Winnipeg is meeting its commitment by quantifying specific actions taken on each strategy outlined in this plan.

Specifically, the annual progress report will report on the following:

- GHG inventory for all vehicles included in the plan and other indicators outlined in this report at the Departmental and SOA level;
- Actual costs being incurred to carry out the strategies;
- A review of current strategies and overall progress towards the targets set out in this report;
- Recommendations for additional strategies to be added to the Plan.

The Police and Transit Departments will provide all of the necessary documentation to the Winnipeg Fleet Management Agency to report on their respective green fleet activities, so that all City efforts will be reported on annually within the same annual green fleet plan report.

10 Appendix A: Anti-Idling Policy

TITLE	***Corporate Vehicle and Equipment Idling policy***		
EFFECTIVE DATE	***June, 2006***	**NUMBER**	***FS01***

ADMINISTRATIVE DIRECTIVE NO. **-***

Vehicle Idling

Authority for directive: Glen Laubenstein, Chief Administrative Officer
Last updated: March 17, 2009

On September 19, 2006, Council adopted the City of Winnipeg Climate Change Action Plan. In this plan, the City of Winnipeg committed to developing and issuing an administrative directive regarding unnecessary vehicle idling. This commitment was reinforced on February 6, 2008 when EPC directed the Winnipeg Public to:

> *report back to the appropriate Committee of Council with a City of Winnipeg Green Vehicle Plan, developed in consultation with appropriate city departments, and that the Plan include, but not be limited to the following components:*
>
> > *Strategies to reduce fuel consumption and emissions, including:*
> > *• Right-sizing the Fleet*
> > *• Purchasing the most fuel efficient vehicles, where operationally feasible*
> > *• Purchasing hybrid vehicles, where operationally feasible*
> > *• **Developing an Anti-idling Policy***
> > *• Using alternative fuels (i.e. ethanol and biodiesel)*

This anti-idling policy is in response to the direction of Council, and for this reason the anti-idling directive is to be followed while using City owned or leased vehicles and equipment.

A. PURPOSE OF THE DIRECTIVE

This directive serves to:

- Reduce greenhouse gas emissions arising from the City's vehicle fleet
- Reduce air pollution from vehicle and equipment exhausts.
- Promote energy conservation.
- Reduce fuel costs
- Reduce wear and service needs on vehicles and equipment.

B. GENERAL GUIDLINES

All City employees will be expected to follow the anti-idling policy while driving City owned vehicles and equipment, unless it is exempted through the anti-idling policy exemption list. Winnipeg Transit will continue to follow their Departmental anti-idling policy which is specific to Transit buses.

As a general rule the following will apply to all individuals driving City vehicles and equipment:

1. Vehicles will be shut off whenever idling time is expected to exceed 3 minutes, when not traveling in traffic.

2. In winter months, engine warm-up periods will not exceed 5 minutes, unless the owner's manual specifies differently (provided required airbrake pressure and/or other safety or critical settings have been reached).

Exemptions:

Exemptions to this policy exist under the following circumstances:

a) For required vehicle maintenance and diagnostic purposes;

b) When power is required for auxiliary equipment;

c) At the discretion of management when the health and safety of employees or others may be jeopardized;

d) If the unit is not expected to be able to restart due to a mechanical or problem or environmental condition;

e) Fire, Police and other emergency response units, unless they are conducting solely administration functions;

f) Where the vehicle's job function requires it to be stationary while working such as when a vehicle's job function is to provide traffic safety such as four-way beacons to divert traffic (in the longer term technological solutions such as auxiliary power units will be explored to limit the need to have a vehicle running for this reason);

g) If employees are working in an area that they do not feel is safe or if an employee is working alone and feels at risk by not having the vehicle running;

C. EDUCATION:

For the first year of deployment, Departments and SOAs will conduct communication campaigns to educate drives on the detriments of idling and the City's anti-idling policy.

Fleet will provide a package to departments on the City's anti-idling policy and ways of reducing idling.

An anti-idling brochure will be developed and distributed to operators explaining the anti-idling policy. The brochure can be distributed at appropriate Departmental meetings, such as tailgate meetings and will also be included in the new employee packages through Corporate HR.

All documentation will be provided on the City's intranet site.

E. MONITORING

The Fleet Management Agency will act as the monitoring agent of idling trends for Departments that fall under Fleet's jurisdiction. The mechanism to monitor idling time will be by providing fuel exception reports to Departments that highlight when a vehicle uses a considerable amount of more fuel than a similar make and model. For any vehicles found with exceptional fuel use, the Winnipeg Fleet Management Agency will conduct a maintenance diagnostic on the vehicle and correct any potential maintenance problems that may be causing an exceptional amount of fuel use to be used. Should there be no maintenance issues identified, individual Departments and SOAs will be notified and will be responsible for identifying whether the vehicle type has any reason to be using this excess of fuel as it may be linked to unnecessary vehicle idling. The Department or SOA will be responsible for communicating to employees that unnecessary idling needs to be reduced.

On an annual basis, Fleet Management Agency will report to the EPC on the Green Vehicle Plan which will include a report on any vehicles found to be using an excess of fuel compared to similar makes and models.

D. ENFORCEMENT:

The first year of deployment will be focused on encouraging employees to comply with the anti-idling policy.

After the first year, any employees who are found to be in violation of this policy will be subject to discipline in accordance with the appropriate progressive disciplinary action of the Department.

For the most part, the employee enforcement will be done on a case by case basis where an employee is approached during an idling incidence and asked to shut off the vehicle during when idling does not need to be occurring. In some instances, where an employee has a designated vehicle, the employee can be approached to reduce idling if the fuel exception reports documents excessive cases of idling.

Disciplinary action for violation of this policy will begin 1 year after it is put in place, with a review of the policy taking place after 2 years.