

CITY OF HAMILTON

PUBLIC WORKS DEPARTMENT
Environment and Sustainable Infrastructure Division

TO: Mayor and Members General Issues Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: November 14, 2011	
SUBJECT/REPORT NO: Hamilton CarShare Revolving Line of Credit and Corporate Membership (PW11081) - (City Wide)	
SUBMITTED BY: Gerry Davis, CMA General Manager Public Works Department	PREPARED BY: Peter Topalovic (905)546-2424, Extension 5129 Alan Kirkpatrick (905)546-2424, Extension 4173 Robert Norman (905)546-2424, Extension 2298
SIGNATURE:	

RECOMMENDATION

- (a) That a loan in the form of a revolving line of credit with a maximum upset limit of \$150,000 at an interest rate of 4.0% in accordance with the City's External Loan Guideline for a term of ten (10) years be approved for Hamilton CarShare;
- (b) That a corporate carsharing membership program be implemented as a 2-year pilot project for use by designated City staff members from Public Works, Planning and Economic Development and Public Health Services. Staff will report back to the General Issues Committee at the end of the pilot;
- (c) That the Mayor and Clerk be authorized and directed to execute a Loan Agreement, security documentation, carsharing membership agreement and any ancillary documents required to give effect to recommendations (a) and (b), all in forms satisfactory to the City Solicitor.

EXECUTIVE SUMMARY

On June 7th, 2010, at the Committee of the Whole meeting, representatives from The People's Car Co-operative Inc., operating as (and referred to hereafter as) Hamilton CarShare, made a presentation to request a revolving line of credit, dedicated parking spaces and participation by the City by way of a corporate membership with Hamilton

CarShare. Hamilton CarShare's services support many of the City's goals including: the advancement of transportation demand management (e.g. the reduction of road and parking congestion); supporting transit oriented development; improving air quality and mitigating climate change; providing essential and equitable mobility; as well as, enhancing neighbourhood vitality. The Committee directed the General Manager of Public Works to report back with respect to the request for a revolving line of credit, parking spaces and any potential liability to the City.

Several meetings were held between Hamilton CarShare and staff to determine the next steps in the project, which include:

- 1) Providing a \$150,000 (maximum) loan by way of a revolving line of credit with the City of Hamilton for the purpose of expanding the current Hamilton CarShare program;
- 2) Providing dedicated parking spaces to Hamilton CarShare through non-revenue generating spaces located at City of Hamilton facilities;
- 3) Participating in a corporate Hamilton CarShare membership as a 2 year pilot program for use by designated staff from Public Works, Planning & Economic Development and Public Health Services;
- 4) Investigating and potentially piloting the use of corporate Hamilton CarShare memberships for Public Health Tobacco Enforcement officers. Hamilton CarShare staff and Tobacco Enforcement management will work together to determine the feasibility and potential phase-in.

Following the completion of the pilot program, staff will report back to the General Issues Committee with respect to the status of the pilot program and evaluation based on the use of the pilot program by staff, overall cost of a CarShare membership compared to owning and operating fleet vehicles, staff evaluation of the pilot program and the amount of uptake in the community. The report will also include a recommendation as to whether the pilot program should be continued on a permanent basis.

In terms of item (2) above, providing dedicated parking spaces to Hamilton CarShare through non-revenue generating spaces located at City of Hamilton facilities, it was determined that Hamilton CarShare will approach departments who own parking spaces on a case-by-case basis to negotiate the designation of the parking space as a "CarShare Only" parking space. These CarShare parking spaces are intended to provide members of the CarShare with preferred parking at various locations in the City. Appendix "C" – Topographical Map of Potential Reserved CarShare Parking Locations outlines the spots that Hamilton CarShare would like to use pending the approval of the affected City department who owns the lot.

In terms of item (3) above, a Hamilton CarShare corporate membership will benefit the City by providing a potential cost saving alternative to owning and operating fleet vehicles. Appendix "A" - Feasibility Analysis for Hamilton CarShare Expansion, provides an analysis of a Hamilton CarShare corporate membership compared to the cost of owning/leasing and operating fleet vehicles. The cost of the City's corporate membership is fully refundable during the 2 year pilot and it is expected that the cost of this pilot

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program will be revenue neutral but will probably result in nominal cost savings (realized by the reduction of the use of fleet vehicles by employees). However, it provides an excellent opportunity to look at the potential to generate more substantial savings in the future if the pilot program becomes permanent. The program also provides an additional benefit to the community, as the public will have access to the vehicles.

Alternatives for Consideration - See Page 13

FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial Implications:

A \$150,000 (maximum upset limit) revolving line of credit to Hamilton CarShare for business development and vehicle procurement, with a 10-year term, will be loaned out at an interest rate of 4%. A loan agreement and security documentation will be developed by the City Treasurer and the City Solicitor. Hamilton CarShare will be required to provide audited proof of their growth and projections, good standing with other municipalities and their credit history.

Fully refundable corporate Hamilton CarShare membership fees and usage rates apply for the use of the vehicles by City Staff. All membership fees will be refunded upon termination of the corporate membership, if the pilot is cancelled. These rates are comparable to the current rates charged for the use of corporate fleet vehicles, as outlined in Appendix "A" - Feasibility Analysis for Hamilton CarShare Expansion.

Corporate Membership Fees	Cost
Application Fee (per corporate driver)	\$ 30
Membership Fee (permits 4 corporate drivers) (refundable)	\$600
Each Additional Corporate Driver (refundable)	\$100
Key deposit (refundable)	\$10

Usage Rates	
Hourly Rate	\$4.00
Per Kilometre Rate	\$0.30
10-hour workday rate	\$35 +\$0.20/km
24-hour rate	\$45 +\$0.20/km

Usage rates include: fuel, maintenance, cleaning and online system operation. Cars are re-fuelled by the user and reimbursed by Hamilton CarShare. Insurance is \$19 per month and covers all corporate drivers on the account.

The membership fees are a one-time expense and fully refundable if the pilot is cancelled. The refundable membership fees will be incurred by the department within which the employee works. However, for the 2-year pilot, the TDM capital budget (4030855820) will cover the cost of the first 60 corporate members. If the pilot program

becomes a long term program, then the department of the corporate employee member will refund the TDM capital budget through internal journal entries.

Appendix “B” – CarShare Cost Comparison Chart, shows the cost of using a CarShare Vehicle, Fleet Hybrid Vehicle and paying reimbursed employee mileage. While paying employees mileage to drive their own cars is the least expensive option (without taking into account insurance), it does not contribute to changing employee commuting patterns and therefore, will not be included in this summary. Appendix B contains this additional analysis, which is not presented here.

CarShare, vs. Fleet Vehicle Costs		
Number of km Driven	CarShare	Fleet Vehicle
6,000	\$4,200	\$7,961
12,000	\$8,400	\$8,567
16,000	\$11,200	\$9,031
Assumptions	Cars are used at a rate of 10km/hr	Based on a hybrid vehicle (best case)

Key Findings:

The preliminary analysis of fleet vehicle and CarShare data indicates that a fleet vehicle driven less than 12,000 km would be more expensive to own/lease and operate than utilizing a Hamilton CarShare membership program. The cost savings associated with using the Hamilton CarShare membership over owning/leasing and operating a fleet vehicle increases as the number of kilometres driven decreases. The pilot will provide an opportunity to develop a business case for each department that investigates the potential to reduce their fleet size, if it meets the department’s goals and demonstrates long term savings.

The City of Hamilton fleet is a large, but efficient fleet, consisting primarily of works vehicles required to provide essential services including sanders, dump trucks and heavy duty pick-up trucks. Other vehicles are required for light duty tasks such as hybrid cars, pick-up trucks, and mini-vans, for which Hamilton CarShare vehicles could functionally provide suitable alternatives. The cost of using Hamilton CarShare corporate memberships to replace light duty vehicles that are driven occasionally with a car, compact pick-up truck and mini-van sharing fleet could result in an opportunity to realize a potential cost savings. While it is not practical to replace all low kilometre fleet vehicles with a Hamilton CarShare corporate membership program, it does illustrate a potential for significant future savings if the pilot program is successful and the individual user’s business case supports the alternative of a car share vehicle. A full cost analysis through the pilot will provide further insight into the cost savings of replacing low kilometre vehicles with Hamilton CarShare corporate memberships.

In a case study of two Public Works pool vehicles it was found that the vehicles were driven a total of 20,000 km in 2010, at a cost of \$20,000. Theoretically, if the department used corporate CarShare memberships instead of the fleet vehicles, the total cost would have potentially been \$14,000, a 30% decrease in cost. The recommended pilot period will determine if these potential savings are realized and if the business case for a permanent CarShare membership is feasible.

There are potential cost saving implications for departments that wish to use fleet vehicles, as they can positively impact their budget by using CarShare memberships rather than using fleet vehicles. However, it should be recognized that departments keep low kilometre vehicles in their fleets for many reasons, including those for specialized uses. These vehicles may not be replaceable.

Potential Tobacco Enforcement Year 2 Pilot:

It is recommended that during the first year of the Hamilton CarShare pilot program that Public Health Tobacco Enforcement management work with Hamilton CarShare to determine if there would be costs savings achieved by using Hamilton CarShare vehicles for enforcement. If this analysis is successful, Tobacco Enforcement may enter the pilot program in year 2 to further test the potential costs savings.

Staffing Implications:

There are no staffing implications associated with the recommendations of this report. The use of corporate Hamilton CarShare vehicles will be expensed in a way similar to that of the current method for expensing business trips in employee owned vehicles. However, staff in Transportation Planning will coordinate the implementation of the pilot program with other key departments and sections, providing support to monitor progress, assess finances during the pilot, assess success and report back to General Issues Committee.

Legal Implications:

Legal Services will draft a Loan Agreement incorporating the terms and conditions contained in this report (PW11### outlining the terms of the revolving line of credit, as well as; any ancillary documentation required to give effect to the recommendations. Legal Services will also determine appropriate security documentation to best protect the interests of the City and minimize financial loss in the event of a default by Hamilton CarShare. Hamilton CarShare is the registered operating name of a not-for-profit corporation, The People's Car Co-operative Inc. and, as such, the bonusing provisions of the *Municipal Act* are not violated by providing the loan to Hamilton CarShare.

HISTORICAL BACKGROUND

As directed by the Committee of the Whole on June 7th, 2010, staff have reviewed and considered the requests made by Hamilton CarShare during its presentation to the Committee. Hamilton CarShare asked for the City to provide a revolving line of credit, dedicated parking spaces and participation by the City by way of a corporate membership with Hamilton CarShare. The review confirms that Hamilton CarShare's requests support many of the City's goals including: the advancement of transportation

demand management (e.g. the reduction of road and parking congestion); supporting transit oriented development; improving air quality and mitigating climate change; the provision of essential and equitable mobility, as well as; enhancing neighbourhood vitality, to name a few. This initiative relates to two Corporate Priorities: Environmental Stewardship and Growing Our Economy. Appendix "A" - Feasibility Analysis for Hamilton CarShare Expansion contains additional background information on Hamilton CarShare.

As of 2011, Grand River CarShare and Hamilton CarShare have 16 cars (4 of those in Hamilton), and 450 total members; with 110 in Hamilton, and the remainder in Waterloo Region. The co-operative has been operating in the Waterloo region for over 13 years and in Hamilton for nearly 2 years. McMaster University has designated a CarShare only parking spot, and Hamilton CarShare recently established a CarShare vehicle there, which became the fourth car in Hamilton. Appendix "D" Car Sharing Overview: A Letter for Council, provides detailed information on Hamilton CarShare operations, membership and revenues.

POLICY IMPLICATIONS

The City of Hamilton has numerous policies and plans in place that support car sharing, including the Urban Hamilton Official Plan (UHOP), adopted by Council July 9, 2009, awaiting Provincial approval, Transportation Master Plan (TMP), and Vision 2020 amongst others listed here:

City Strategic Commitment:

The Hamilton CarShare program complies with the Corporate Strategic Plan as it is an environmentally sustainable solution to reducing Single Occupancy Vehicles (SOVs) on City roads, particularly during peak traffic periods. CarShare membership promotes a sustainable lifestyle and overall positive effects on the environment. This directly relates to increasing alternative transportation usage in such areas as: transit, ridership, walking and cycling. By promoting car sharing it gives a greater incentive for employees to use sustainable transportation alternatives.

Vision 2020: Car sharing supports some of the environmental issues addressed in Vision 20/20. These include

- Consuming Less Energy
- Improving Air Quality
- Changing Employees Mode of Transportation
- Enhancing Personal Health and Well Being

Corporate Air Quality and Climate Change Strategic Plan:

The Smart Commute Program along with an active car sharing program satisfy this plan, because it is able to improve air quality by encouraging people to reduce their single occupancy vehicle (SOV) use and use sustainable transportation alternatives.

Public Works Innovate Now:

Car sharing addresses the priority for Public Works to be a leader in the greening and stewardship of the City. By promoting CarShare membership, employees will have

more incentive to use sustainable transportation modes and therefore be more inclined to use sustainable transportation alternatives to travel to and from work on a regular basis.

Transportation Master Plan (TMP):

Car sharing, in conjunction with Smart Commute Hamilton policies, programs and services align with the goals and objectives of the City's TMP to implement TDM initiatives, improve transit ridership and reduce vehicles on the roads particularly during peak traffic periods. This can be accomplished through support of sustainable commuting options.

International Charter for Walking:

The charter that was signed by the City of Hamilton in 2008 recognizes the importance of improved integration of transportation networks as a key indicator of healthy, efficient, socially inclusive and sustainable communities.

Public Health Services Strategic Plan:

One priority identified by Public Health Services, Healthy Living Division is Obesity: Light Rail Transit, Built Environment and Pan Am. A car sharing initiative supports this priority by promoting active transportation in the workplace and in the community. Through active transportation there is opportunity to include physical activity into daily routines and potential for achieving healthy weights. The benefits of active transportation are outlined in Appendix "A", section 4.

Ontario Public Health Standards:

The societal outcomes of the OPHS include an increased proportion of the population who lives, works, and plays in healthy environments that contribute to chronic disease prevention. Car sharing is supported by requirement #6 in the Chronic Disease and Injuries Program Standard of the OPHS, specifically in the creation of supportive environments for physical activity.

RELEVANT CONSULTATION

This report has been prepared jointly by Transportation Planning in the Environment and Sustainable Infrastructure Division of Public Works and the Healthy Living Division of Public Health Services, as such, its recommendations are aligned with the policies and plans (outlined above) that guide transportation demand management and public health policies and programs. Consultation has also taken place with Central Fleet, Strategic Services and Special Projects (Sustainability/Vision 2020) in the Planning and Economic Development Department, Corporate Finance, Human Resources, Recreation and Facilities Services.

Legal staff, Risk Management staff and Corporate Finance were consulted with regard to the process to provide a revolving line of credit to Hamilton CarShare for \$150,000.

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List of those consulted:

Department	Comments
Public Health Services - Healthy Living	Provided detailed comments and all public health data.
Public Health Services - Health Protection	Contacted - Public Health (PHS) supports the CarShare pilot project. Participation will allow PHS to evaluate how CarShare programs can be integrated into environmentally based transportation policies.
Public Health Services - Tobacco Enforcement	Contacted - regarding Tobacco Enforcement Research and Pilot CarShare fleet vehicles in year 2 of the overall pilot. The manager is willing to explore feasibility.
Public Works - Central Fleet	Good report, very thorough. Eliminates the need for pool vehicles. Agrees with analysis on page 4 in "Key Findings"
Corporate Services	Revisions were incorporated related to the revolving line of credit being proposed.
Planning and Economic Development	Contacted - no comments
Human Resources	Contacted - Human Resources related additions were incorporated
Legal Services	Contacted - provided an in-depth review with revisions that were implemented.
Risk Management	No Comments
Facilities	Facilities is the land owner that works with the department who is using the land, so that department will also have to be consulted, along with the specific facilities, in order to allocate parking spots as reserved CarShare spots. Facilities sees no problem with undertaking the process; spots would be allocated on a case by case basis.
Recreation	Contacted - CarShare will have to negotiate with Recreation on a case per case basis. Many recreation facilities have high demand for parking spots; however, where there is more supply than demand, there may be the potential for reserved Hamilton CarShare parking spots
Hamilton CarShare	Contacted - sent various supplementary documentation which was included in this report and reviewed by legal services and risk management.
Region of Waterloo	The Region of Waterloo's successful relationship with GRCS has enabled us to provide innovative and complimentary transportation options to transit riders, cyclists and pedestrians. I am in concurrence with this report.

ANALYSIS / RATIONALE FOR RECOMMENDATION

The environmental and social challenges posed by Canada's growing dependence on private vehicles are well known. The private vehicle is one of the leading sources of greenhouse gases (GHG) in the country and is responsible for 15 % of Canada's GHG emissions. Vehicle emissions are also directly linked to a number of other issues, including cardiovascular and respiratory illnesses. As well, the private vehicle's relationship to urban sprawl, daily physical activity, traffic congestion and general environmental degradation are strong indicators that support alternative modes of transportation.

Car sharing permits drivers to 'share' a vehicle with other drivers in their community on a fee-for-use basis. It represents an environmentally responsible and economically sound choice for many travel needs, particularly for those errands that demand the use of a vehicle, as well as leisure, and work related trips.

Through car sharing many positive financial, environmental, and social benefits can be achieved including: reducing the amount of vehicles per household and reducing the cost of vehicle ownership, promoting transit as a viable commuting option, improving the local air quality and reducing greenhouse gas emissions, encouraging physical activity by providing viable active transportation options and reducing parking needs in urban areas where shared cars are provided.

Currently within the City of Hamilton, strategies and systems that support Transit Oriented Development (TOD) and Transportation Demand Management (TDM) do not include providing alternative means of travel when transit or active transportation is not a viable option. CarShare vehicles stationed at key sites in the City, where there is demand, would also be available to the surrounding community. This will directly support TOD and TDM programs, as they will serve to manage travel demand and reduce trips made in personal vehicles by providing alternative means of transportation that decrease reliance on personal vehicles when transit and active transportation is not sufficient.

Revolving Line of Credit:

Hamilton CarShare currently has 4 vehicles stationed within the City and approximately 100 members. Similar to the car sharing industry in North America, Hamilton CarShare has reported growth by 30-40% each year, over the last four years. This continuous and sustainable growth has been achieved while contributing substantial interest income to their partner municipalities at 4% to 5% interest, while simultaneously meeting many of their goals. In recognition of Grand River CarShare's thirteen year history of continual sustainable growth, the Region of Waterloo, the City of Waterloo and the City of Kitchener lowered the interest rates on their respective municipal credit facilities, which combined (and including the City of Cambridge) provided total available credit of \$120,000. Thus, Hamilton CarShare's request for a revolving line of credit with an upset maximum limit of \$150,000 is reasonable, given the equivalent community populations of just over 500,000 citizens. The requested funds would help satisfy the rapid growth of the demand for car sharing in Hamilton, as the Hamilton market has

grown to a level in one year that took Waterloo Region eight years to achieve. Appendix “E” Hamilton CarShare Cooperative References, includes signed letters from lenders who have worked with the cooperative over their years of operation and consider them to be in good standing financially.

Corporate Membership:

One of the most powerful effects of corporate membership is the ability to influence the commuting behaviour of employees. Seventy percent (70%) of employees currently drive their car to work. A Hamilton CarShare corporate membership provided to an employee would ensure that the employee has access to a car to use for work-related purposes and would allow them to take other forms of transportation to work including: transit, carpooling, cycling and walking. If employee participation in the pilot program is high, parking demand is reduced as employees begin to leave their cars at home; while air quality is improved and traffic congestion decreases, especially during the morning and afternoon rush hours. Employees who join the corporate program will receive a social marketing package to educate them on sustainable forms of transit and the related program available to them including CarpoolZone.ca and the Subsidized Employer Commuter Transit Pass Program. Corporate memberships directly target daily commutes by providing an at-work alternative to personal vehicles.

In-Kind Parking Spaces:

Hamilton CarShare wishes to work with various departments in the City to designate Hamilton CarShare only parking spaces, throughout the community, at non-revenue generating City facility lots (i.e. recreation centres, police stations, fire stations, libraries and others). While there currently are not enough vehicles to place in these spaces, they acknowledge that the provision of parking provides significant leverage in extending carsharing services throughout Hamilton. Details of the spaces, including signage and enforcement, will be determined through consultation with the particular department who owns the space. Transportation Planning staff met with Hamilton CarShare staff to outline potential locations for these parking spots. Appendix “C” – Topographical Map of Potential Reserved CarShare Parking Locations, graphically depicts these potential locations.

Hamilton CarShare will approach departments who own parking spaces on a case-per-case basis to negotiate the designation of the parking space as a “Hamilton CarShare Only” parking space. These Hamilton CarShare parking spaces are intended to provide members of the Hamilton CarShare with preferred parking in various locations in the City. Hamilton CarShare has already worked successfully with other land owners in the City to designate spaces in various areas. They wish to expand the preferred parking space network using City owned non-revenue generating lots. Transportation planning staff will connect Hamilton CarShare staff with the proper City staff person in order to facilitate the negotiations, but are not committed to guaranteeing that any spots will be allocated. Hamilton CarShare supports this arrangement.

Hamilton CarShare is suggesting that each proposed parking spot would have erected (at the cost of Hamilton CarShare) a sign, reserving the spot for Hamilton CarShare vehicles. Although there will be instances where there will be a reserved sign erected

where no vehicle is present, it has been demonstrated by Hamilton CarShare, that having a presence such as this in the community is an excellent marketing tool, and significantly impacts membership growth. The placement of the sign shows the community that the stationing of a Hamilton CarShare vehicle at a particular location is supported. Without this presence, local membership growth slows dramatically as residents are less certain if the program will run or not. Normally, a minimum of 25 new members are required, within walking distance (5 min walk time or 400m to 500m in distance), to support a new vehicle.

Car Sharing Supports Sustainable Transportation Programs and Policies:

A corporate car sharing strategy and financial support for Hamilton CarShare are components of Transit Oriented Development (TOD) and Transportation Demand Management (TDM) policy initiatives which also support:

- the integration of transportation networks to promote healthy, efficient, socially inclusive and sustainable communities;
- sustainable levels of physical activity;
- access to transit;
- secure bike parking facilities;
- commuter amenities such as; showers and lockers;
- streets that accommodate pedestrians, cyclists, transit users, and automobiles;
- mixed use development that encourages short trips through walking/cycling; and
- alternative means of transportation that decrease reliance on personal vehicles when transit is not sufficient.

Current strategies and systems supporting the TOD and TDM initiatives do not include providing alternative means of travel when transit or active transportation is not a viable option. For example, current TOD and TDM strategies do not support an employee who cycles into work, and then requires transportation to a meeting that transit cannot accommodate. Another example would be those living in the community who regularly use transit and active transportation, but require a vehicle on an occasional basis and need an affordable alternative to car ownership.

Hamilton CarShare vehicles stationed at key sites in the city (such as City Hall), that would also be available to the surrounding community, will directly support TOD and TDM programs as they will serve to manage travel demand and reduce trips made in personal vehicles thereby:

- encouraging physical activity through active transportation by providing viable transportation options at the workplace
- promoting transit as a viable commuting option
- reducing the amount of vehicles per household and reducing the cost of vehicle ownership
- promoting clean air initiatives and reducing emissions
- reducing congestion; and
- reducing parking demand

Corporate Membership Advantages:

Hamilton CarShare normally establishes a new car in the fleet when the utilization rate of a vehicle reaches fifty percent (50%). For the purposes of the pilot program, enough memberships will be purchased to ensure that an additional Hamilton CarShare vehicle is made available and establish the Hamilton CarShare network of vehicles as a viable transportation option for members of the community. This will greatly enhance the presence of Hamilton CarShare in the community, in addition to their current fleet of four vehicles, and can be used to market and offer a more extensive service to current and potential members. Appendix "A" - Feasibility Analysis for Hamilton CarShare Expansion for a CarShare Feasibility Backgrounder expands on this summary and provides; environmental, social and financial information on the benefits and costs of car sharing.

Communications Plan:

Transportation planning staff will use the existing online form provided by Hamilton CarShare for interested employees to sign-up for the corporate membership program. Newsletters, communications bulletins and special events will be used to launch the program and encourage interest and participation from staff. As a preliminary step, information will be distributed through the Senior Management Team to identify departments and employees who would most benefit from being involved in the pilot program.

Once the pilot program is established and employees are registered, a series of lunch-time seminars will be held for participants to educate them on the car sharing process and the sustainable mobility options that are available to them for their daily commute. These seminars will be mandatory for all participants in the pilot.

Performance Measures related to this program include:

- Satisfactory and responsible use of a \$150,000 revolving line of credit for Hamilton CarShare to procure and maintain the vehicles required for growing the City-wide CarShare program, including the provision by Hamilton CarShare of sufficient and appropriate security as would be required by a prudent commercial lender and a record of regular repayment in accordance with the terms and conditions of a loan agreement;
- a corporate membership agreement with the City of Hamilton and Hamilton CarShare to support a pilot project in three departments including: Public Works, Public Health Services and Planning and Economic Development (at City Hall), on such terms and conditions as may be necessary to support the City's needs;
- the recruitment of a minimum of 30 employees from the three pilot departments as authorized users under the City's corporate CarShare membership during the pilot program;
- the provision of a minimum of 1 new Hamilton CarShare vehicle for use by the City's authorized users of the Hamilton CarShare corporate membership;
- evidence that the usage under the City's corporate CarShare membership is cost effective, as compared to a regular, city-owned fleet vehicle or reimbursing employees for the use of their personal vehicles for work related purposes;

- that discussions be held with various departments and Hamilton CarShare related to non-revenue generating reserved parking spaces throughout the City; and
- measurable reduction of employee use of parking spaces.

ALTERNATIVES FOR CONSIDERATION

Alternative 1 - Only provide the revolving line of credit for \$150,000

While this alternative would allow Hamilton CarShare to grow its business, it would not provide the catalyst needed to seed future growth. Furthermore, by pursuing a corporate membership pilot program, other area employers could be encouraged to follow suit and use Hamilton CarShare vehicles to augment their current fleets.

Alternative 2 - Do not provide the line of credit, but pilot the corporate membership program and reserved CarShare parking recommendations

This alternative is not recommended because it does not provide enough support to the goals of encouraging car share growth and business development. Without the line of credit it will be difficult for Hamilton CarShare to procure new vehicles to increase its service area and supply the signage for reserved Hamilton CarShare parking spots.

CORPORATE STRATEGIC PLAN

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

Skilled, Innovative & Respectful Organization

- ◆ A culture of excellence
- ◆ A skilled, adaptive and diverse workforce, i.e. more flexible staff
- ◆ An enabling work environment - respectful culture, well-being and safety, effective communication
- ◆ Council and SMT are recognized for their leadership and integrity

Financial Sustainability

- ◆ Financially Sustainable City by 2020
- ◆ Effective and sustainable Growth Management
- ◆ Address infrastructure deficiencies and unfunded liabilities

Intergovernmental Relationships

- ◆ Acquire greater share of Provincial and Federal grants (including those that meet specific needs)
- ◆ Maintain effective relationships with other public agencies

Growing Our Economy

- ◆ Competitive business environment
- ◆ A skilled and creative labour pool that supports new employers
- ◆ An improved customer service

Social Development

- ◆ Residents in need have access to adequate support services
- ◆ People participate in all aspects of community life without barriers or stigma

Environmental Stewardship

- ◆ Natural resources are protected and enhanced
- ◆ Reduced impact of City activities on the environment
- ◆ Aspiring to the highest environmental standards

Healthy Community

- ◆ Plan and manage the built environment
- ◆ An engaged Citizenry

APPENDICES / SCHEDULES

- Appendix A - Feasibility Analysis for Hamilton CarShare Expansion
- Appendix B - CarShare Cost Comparison Chart
- Appendix C - Topographical Map of Potential Reserved CarShare Parking Locations
- Appendix D - Car Sharing Overview: A Letter for Council
- Appendix E - Hamilton Car Share Cooperative References

This document is intended to be a standalone feasibility analysis which supplements the information presented in the report and may therefore repeat some of the key elements in the report to ensure that the reader has the necessary background.

1. Introduction

Hamilton CarShare, a not-for-profit co-operative, has been operating in the City of Hamilton since September 2009. The co-op also operates as Grand River CarShare in Waterloo Region, where it was founded in 1998. When the cooperative established itself in Hamilton with strong citizen support, it chose the name Hamilton CarShare for local operations. The growth of the Hamilton CarShare program in Hamilton has been swift in terms of personal Hamilton CarShare memberships. Although the City of Hamilton has not yet participated as a corporate member there is a corporate member in Hamilton – Epiphany Coaches.

The City of Hamilton has taken a keen interest in green transportation, active transportation and energy initiatives as exemplified by a variety of plans and policies including Vision 2020, the Transportation Master Plan, the Corporate Strategic Plan, the Transportation Demand Management (TDM) Program, Smart Commute Hamilton Transportation Management Association (TMA) programs, the signing of the International Walking Charter, the development of Transit Oriented Development (TOD) guidelines and new initiatives in public health related to the built environment.

Car sharing provides employees and residents with the flexibility to use various forms of transportation in their daily commute. For employees it provides a viable transportation option for work activities that occur off-site, for residents it decreases the need for multiple cars in a household. The ultimate goal is to support active forms of transportation as viable commuting options by providing flexible and dependable cross-city transportation through car share vehicles, transit, cycling and carpooling.

This appendix outlines the business case for car sharing and presents findings that indicate its environmental, social and financial benefits.

2. Business Case information for Hamilton CarShare

Membership Growth since Sept. 2009:

Date	Members
Sept. 14, 2009	31
Dec. 18, 2009	48
July 29, 2010	62
June 29, 2011	100

The membership growth listed above is considered extremely successful, as it took the Kitchener-Waterloo area 8 years to experience this level of growth. It took the Hamilton area only 9 months to grow to 85 members.

Current Hamilton CarShare parking vehicle locations include:

- King St West & Bay Street Municipal Lot
- King St West & Locke St Municipal Lot
- 170 Dundurn St. at First Unitarian Church
- McMaster University Main Campus

Usage Data for Hamilton CarShare vehicles

In their first 9 full months of usage (October 2009-June 2010), the three Hamilton CarShare vehicles averaged 31.3 per cent usage, which is on par with the co-op’s expectations, and on par with the usage of rest of the co-op’s fleet (12 cars located throughout Kitchener-Waterloo and Cambridge). For a car to support itself (covering costs such as gas, maintenance and insurance) it needs to be in use roughly 30 per cent of the time. Usage rates are calculated using billable hours per day (16 hours/day because the co-op charges only a nominal hourly rate between 11pm and 7am). Data for the McMaster main campus vehicle is not yet available because it has only recently been introduced into the fleet.

Current activities of Hamilton CarShare

Besides working with the City of Hamilton on establishing a line of credit, corporate membership and parking locations, Hamilton CarShare is also currently working with McMaster University to further the growth of its carsharing station at McMaster’s main campus. Membership recruitment is underway in the McMaster/Westdale and downtown areas.

Success of other Corporate Memberships

The co-op’s best example of a successful Corporate Membership is the Region of Waterloo’s membership with the co-op. The Region of Waterloo became a corporate member on Feb. 1, 2010, and currently has 35 corporate drivers signed on to the account who use Grand River CarShare vehicles for work-related trips. Corporate drivers are a mix of employees from two different Regional buildings, one in Downtown Kitchener, the other in Uptown Waterloo, both of which are situated near several CarShare vehicles. The Region of Waterloo also provided a parking location to the co-op at its Downtown Kitchener building, and the co-op relocated a nearby car to that parking location for ease of access for Regional corporate drivers.

Another successful Corporate Membership in the co-op is Waterloo Region Green Solutions, otherwise known as REEP, or Residential Energy Efficiency

Project. REEP is a not-for-profit organization which conducts home energy audits and has been a corporate member since February 2007. REEP currently has five corporate drivers.

The University of Waterloo’s Faculty of Environment also signed on as a Corporate Member in May of 2010, and currently has thirteen corporate drivers.

Success of Not-For-Profit CarShare models in other cities:

The not-for-profit car share model is used in many other cities across Canada and the United States. A great example of a successful not-for-profit carsharing organization is Philly CarShare, in Philadelphia, PA. An excerpt from Philly CarShare’s website about its own success with municipal corporate membership:

“The next year brought car sharing innovation to a new level in Philadelphia. In April 2004, the City of Philadelphia itself opted in, becoming the first government worldwide to share cars with local residents in a major fleet reduction effort. The pioneering project helped replace 330 municipal vehicles, saving taxpayers \$6 million (so far). Progressive Berkeley (CA), Portland (OR), and Minneapolis (MN) soon followed Philadelphia’s lead. That same year, Philly CarShare achieved financial sustainability, meaning revenues from the car sharing system covered 100% of operating costs. This achievement also was a first in the U.S. and marked a major milestone for the maturing car sharing industry.”
(<http://www.phillycarshare.org/vision/history>)

The Co-operative Auto Network (CAN) in Vancouver is another successful not-for-profit carsharing co-op, incorporated in 1996. Through its car sharing for business operation, called The Company Car, CAN provides corporate membership to the City of Vancouver; as well as, the Province of British Columbia.

An example of a similar size co-op to Grand River CarShare/Hamilton CarShare is the Victoria CarShare co-op, which was established in 1997, the year prior to Grand River CarShare, and has 20 cars and 455 members, compared to Grand River/Hamilton’s 16 cars and 450 members. City CarShare in San Francisco is another great example of successful not-for-profit car sharing organization.

3. Benefits of Car Sharing as a Complement to Transportation Demand Management Initiatives, Plans and Policies

Transportation Demand Management (TDM) and Transit Oriented Design (TOD) are complemented by car sharing strategies. Car sharing is an important component of these strategies which are further explained in this section.

TOD and TDM Guidelines

Transit Oriented Development and Transportation Demand Management guidelines are two policy initiatives that encourage the use of transit, carpooling and active transportation in the workplace and in the community.

New developments and retrofits can incorporate various strategies and systems to adhere to TOD and TDM guidelines. These strategies encourage employees and citizens to be less reliant on their personal vehicle and make transit and active transportation a more viable and reliable form of transportation. These strategies include:

- Improved access to transit through routing, scheduling and infrastructure
- Secure bike parking facilities
- Commuter amenities such as showers and lockers
- Complete streets that accommodate pedestrians, cyclists, transit users and automobiles
- Higher density developments in the core of the city
- Mixed use development that encourage short trips through walking/cycling

As an example, the new City Hall was re-built with key Transit Oriented Development in mind including:

- Secure bike parking facilities were built along with showers and lockers
- No new parking lots were constructed

These strategies make it easier for employees to be less reliant on their vehicles. In some cases the success of TOD/TDM may allow families with multiple vehicles to reduce the number of vehicles.

Missing Elements

One key element that is missing in many TOD/TDM projects is the provision for an alternative means of travel when transit is not available. For instance, it may be necessary to access a site that is not accessible by transit. When an employee or citizen must access sites with poor transit connections they are forced to rely on their personal vehicle.

Making transit more viable by providing solutions for accommodating non-transit trips

Car share programs help eliminate the issue of remote site access. When transit does not access a destination in a timely and convenient manner, the employee or citizen can use the carshare vehicle to make their trip efficiently.

Prior to the City Hall Renovations, pool cars were made available for employee use, offering the flexibility for employees to travel to work sustainably while having a car available for work purposes. Fleet has discontinued this program due to its cost implications. The implementation of the carshare program at downtown locations will encourage employees to make sustainable trips to work by providing the convenience that the pool cars had provided.

The Hamilton CarShare vehicles will act as key elements of a TOD and TDM program as they work to manage travel demand and reduce trips made in personal vehicles; thereby reducing greenhouse gas emissions, eliminating congestion on roadways, promoting transit as a viable commuting option and improving community health by encouraging physical activity and promoting clean air initiatives.

Connection to the Community

Citizens located near Hamilton CarShare locations will be encouraged to use the vehicles as a supplement to their regular trips made by single occupancy vehicles (SOV). This SOV trip-elimination strategy can make it viable for those in the community to decrease the amount of cars they own, thereby saving the costs of vehicle ownership and promoting the use of transit. This is confirmed by studies which show that car share programs in communities lessen their dependence on Single Occupancy Vehicles

Corporate Memberships to fuel the use of the car

By purchasing corporate memberships for the carshare vehicles the City can ensure that the Hamilton CarShare vehicle is in a viable location that has a continuous demand. This in-turn will make it a viable option for members in the community and can be used to market the service to community members. Corporate uptake in car sharing can have the potential to provide a positive and lasting effect on the surrounding community, make transit use a more viable option and help to reduce vehicle ownership, vehicle ownership costs and the space required to store multiple vehicles. The cumulative effect of TOD/TDM principles/policies and car sharing implementations can help Hamilton achieve its goals of being a more green, clean and healthier place to live.

4. The Benefits of Active Transportation in the Workplace and Community

Reliance on automobile use is associated with poor air quality, decreased pedestrian safety, and physical inactivity. A significant proportion of car use is for short trips that can be replaced with active transportation options that include walking, cycling, and public transit. Participation in active modes of transportation can contribute to an individual’s health and well-being; as well as, the health of the community overall¹. An increased percentage of residents who use active modes of transportation may also reduce automobile transportation and associated air quality and safety concerns ¹

Canadian Physical Activity guidelines recommend that adults engage in at least 150 minutes of moderate to vigorous aerobic physical activity per week in bouts of 10 minutes or more². Rather than relying on being active during leisure time, which many working people may find difficult to achieve, active commuting-walking, taking transit or biking to work- offers a promising means to integrate recommended physical activity into daily routines.

Local work travel and active commuting are interrelated. The need to drive short distances for work purposes for example, to attend off-site meetings is a common reason why active commuters feel obligated to drive to work. By helping employees fulfill their workday travel needs without driving, an organization can eliminate the need to bring a car to work and remove an important barrier to increased use of active transportation options. However, there will always be strong convenience and cost arguments in favour of driving for some work-related trips. In those cases, providing employees with vehicle choices other than their own car can be very effective³.

Even when all the potential benefits of non-driving options for work trips are considered, travel by car will sometimes make the most sense during the workday. For those instances, organizations need to have options available for employees who do not drive to work. By strengthening and promoting those alternative options, it is possible that fewer employees would feel the need to commute by car³.

One alternative is a corporate membership with a CarShare Co-operative that would allow for low emission cars to be available to employees during work hours. On evenings and weekends, the vehicles are available for carsharing by Car Co-operative members in the community. This potential partnership would facilitate the more rapid growth of car sharing within a municipality and the associated benefits; as well as, provide a low emissions option for staff who must drive while at work.

Engaging in regular physical activity through active commuting is an effective strategy for reducing the risks of chronic disease and premature mortality⁵. Aside

from the health benefits; active commuting has the potential to facilitate positive social, environmental, and economic outcomes. Below are some of the benefits of active commuting.

Health Benefits:

- Individuals who commute actively to work are likely to be fitter and less likely to be overweight or obese than those who rely on their cars⁶.
- All-cause mortality, disease specific mortality, and cardiovascular risk are lower among groups who use active transportation⁶.
- Evidence shows that active transportation is more easily sustained than other forms of physical activity or exercise programs; walking and cycling as a means of transportation offers a promising way to address widespread levels of inactivity in the population⁶.
- A recent US study found that about 1/3 of transit users achieved 30 minutes of daily physical activity from walking to and from pick-up points¹
- A transition away from motorized transportation modes towards active transportation modes may also offer co-benefits such as, reduced traffic-related emissions and noise⁶.

Air Pollutant and Greenhouse Gas Emissions:

- The motorized transportation sector is the largest and fastest growing source of greenhouse gas emissions in Canada. In 2007 on-road passenger transportation contributed approximately 44% of all transportation-related emissions⁶.
- Increasing vehicle kilometres travelled per person will likely drive increases in pollutant emissions in coming years. As a result, the transportation sector will continue to be a major source of air pollution in urban areas, and a critical contributor to population exposure due to the proximity of vehicles to people⁶.
- Active transportation modes produce no in-use emissions and have low lifecycle greenhouse gas emissions⁶.
- Active transportation does not produce any direct emissions and offers low cost opportunities to reduce emissions and improve local air quality⁶.

Economic Benefits:

- The average household driving costs are \$8,441.25 per year for a sedan compared with the cost of car sharing which is \$1,140; households would save \$7,301.25 per year by having alternative driving options. (Canadian Automobile Association 2009 national average for a 2009 Chevrolet Cobalt LT 4 door sedan driven 18 000 km/year)⁷.
- A growing proportion of households would prefer to drive less and rely more on walking, cycling and public transit, provided these alternatives are convenient, comfortable, safe, and affordable⁸.

- Cities designed for active transportation will ease barriers to participation in work-force and education opportunities for low income populations along with great overall community access for all priority populations⁴.

The benefits of active transportation are numerous and workplaces that promote and support their employees also stand to gain.

Workplace Benefits:

- Approximately 35,000 employed Hamiltonians walk, ride their bike, or take public transit to work¹.
- Active and sustainable modes of transportation enhance employee productivity, health and job satisfaction³.
- Active commuters reduce costs by making fewer demands for subsidized parking and mileage³.
- Healthy commuters are more relaxed and alert at the workplace taking fewer sick days and reducing accidents at work³.
- Employers who promote and facilitate the well being of employees, communities, and the environment enjoy greater loyalty and respect from employees and customers alike³.

It has been suggested that when all impacts are considered, improving active and sustainable transportation can be one of the most cost effective ways to achieve public health objectives⁶. The introduction of car share vehicles at a workplace would demonstrate support for employees to choose active transportation options while providing them with a low emissions option when a vehicle is required. Supporting active transportation as a sustainable form of physical activity offers a promising way of addressing widespread levels of inactivity in the population, which could have a dramatic impact on population health.

5. Analyzing the Costs of Fleet Vehicle Ownership

The costs of owning a fleet vehicle over an 8 year period can range between \$6,500 and \$10,000 dollars per vehicle, per year. There are two types of costs associated with a vehicle: fixed and running costs.

Fixed costs are paid monthly or annually and are not affected by how much driving is done. Fixed costs include the annual "rental" cost, which is the actual purchase price of the vehicle divided by the number of years it will be used for. The fleet's Ford Escape Hybrid SUVs are charged to the user groups at an annual cost of \$5,900. The vehicle licence plate must also be renewed annually, at a cost of \$74. Insurance is also a fixed cost but the City's Risk Management section charges each user based on what losses they have incurred over the past four years. It is not broken down by vehicle. Insurance costs are not included in this analysis.

Running costs are those costs incurred in actually moving a vehicle from point A to point B. Running costs include fuel, and maintenance, both of which are directly related to the kilometres driven. For fuel, the cost variables are the price of fuel (bulk gasoline bought by the City is about \$1.00/litre), the fuel efficiency of the vehicle (Ford Escape Hybrids average about 8.0 litres/100 km) and the number of kilometres travelled (about 16,000 km per year for a City vehicle). Maintenance will also be affected by the distance travelled and on average costs about \$0.03/kilometer is reasonable.

Therefore, per year the costs for this type of vehicle are:

Fixed - \$5,975.00

Running-Fuel (based on 16000 km and 8 litres/100 km)= $8(16000)/100*1.00 = \$1280.00$

Running-Maintenance (based on 16000 km and \$0.03/km) = $16000*0.03 = \$500.00$

Running-Cleaning and incidentals = \$100.00

Total ownership costs = \$7,800.00 + insurance costs

Therefore, the average cost of maintaining a vehicle (without insurance) is a minimum of \$7,800.00. Generally, when taking the fleet of cars and SUV's this number can float between \$7,500.00 to \$10,000.00 depending on vehicle age and kilometres travelled. For the purposes of this analysis, \$8,500.00 will be used as the average, since in the case of the Hybrid-SUV, it is considered an above average performer.

6. Analyzing the Costs Associated with a Hamilton CarShare Membership

The following is a summary of the fees associated with membership in the Hamilton CarShare corporate program:

Corporate Membership Fees (all fees are paid as one time fees)	
Application Fee (per corporate driver)	\$30 (waived)
Membership Fee (permits 4 Corporate Drivers)	\$600
Each Additional Corporate Driver	\$100
Key Deposit (per driver, refundable)	\$10
Corporate Membership Total 30 Drivers	\$ 3500
Corporate Membership Total 90 Drivers	\$ 10100
Usage Rates	
Hourly Rate	\$4.00
Per Kilometre Rate	\$0.30

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Feasibility Analysis for Hamilton CarShare Expansion
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The membership fees listed above are one time costs which are refundable if the membership is cancelled and therefore will not be included in the costs analysis. It will be considered a start-up cost.

Hamilton CarShare’s data indicate that the average trip usage rate for a vehicle is 9 km/hour. However, over the entire City of Hamilton fleet, the average trip usage rate is 11 km/hour. The usage rate a measure of how far the car travels in a given time period, including the stops it makes, for instance, while the driver attends a meeting or visits a worksite.

The cost to operate a fleet vehicle (assuming 16000 Km travelled) is \$0.53 per km and is also similar to the per km fee that is paid to those who use their personal vehicle for work purposes.

If a Hamilton CarShare vehicle is used instead, the per km rate would be \$0.30. Assuming that the car usage rate is 8.3 km/hour, the hourly rate per km would be \$0.49 Km. Therefore the total cost to operate the vehicle would be \$0.75 per km.

If the car is assumed to have an average usage rate of 10 km/hour the hourly rate per km would be \$0.39 per km for a total CarShare rate charge of \$0.69/km.

The calculations above were used to tabulate cost comparisons between CarShare vehicles, fleet vehicles and paying employees mileage in “Appendix B – CarShare Cost Comparison Chart”. The results of these calculations are summarized in the following table:

Annual CarShare, Fleet and Straight Mileage Comparison			
Number of Km Driven	CarShare	Fleet Vehicle	Straight Mileage
6,000	\$4,200	\$7,961	\$3,120
12,000	\$8,400	\$8,567	\$6,240
16,000	\$11,200	\$9,031	\$8,320
Assumptions	Cars are used at a rate of 10km/hr	Based on a hybrid vehicle (best case)	Does not include insurance costs paid to employee

Key Findings:

The data collected indicates that a fleet vehicle driven less than 12,000 km annually would be slightly more expensive to own and operate than using a corporate CarShare membership. The cost savings associated with using the Hamilton CarShare membership over owning and operating a fleet vehicle increases exponentially as the number of kilometres driven decreases.

Therefore, a Hamilton CarShare membership could help make the City's fleet more efficient by allowing the removal of occasional use vehicles.

In a case study of two Public Works pool vehicles it was found that the department would save a minimum of \$10,000 per year by using Hamilton CarShare memberships instead of its two occasional use pool vehicles.

There are important cost savings implications for departments that wish to use fleet vehicles, as they could save money by using Hamilton CarShare membership rather than using fleet vehicles, depending on the total annual mileage that employees drive. Taking into consideration fixed and variable costs, vehicle mileage and usage rates, a Hamilton CarShare vehicle is a feasible alternative to a fleet vehicle when the demand for the vehicle will result in a usage of less than 12,000 km per year. A corporate membership with Hamilton CarShare will allow City departments to more efficiently meet their fleet and pooled-vehicle demands.

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10. Hamilton Fleet and CarShare Fleet data provided by Hamilton Fleet and Facilities staff and the Grand River CarShare and Hamilton CarShare staff

**Appendix “B” to Report PW11081
Car Share Cost Comparison Chart
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The following charts compare the costs of owning a fleet vehicle to the costs of having a Hamilton CarShare corporate membership. It also compares these values to the costs of expensing mileage for the use of employee-owned vehicles. The purpose of this Appendix is to determine the feasibility of using Hamilton CarShare corporate memberships instead of corporate-owned fleet vehicles for pool-car usage.

Table 1: Hamilton CarShare Corporate Membership Costs shows the total cost per year to use the Hamilton CarShare membership depending on how much the car is driven (denoted by Average Trip Usage Rate). The City of Hamilton average vehicle usage rate is 11 km/hr and Hamilton CarShare’s Average Usage Rate across its entire fleet is 10 km/hr. In terms of the analysis, 10 km/hr was taken to be the average that a City employee would use the vehicle; this number includes the time the car is parked while the employee attends a meeting or performs a site visit.

Using these averages, it is shown that a Hamilton CarShare vehicle can cost as much as \$9,400.00 to operate and at the lower end only \$7,600.00. This all depends on the usage rate of the vehicles. If the car is driven less, it will cost less, as there are no fixed costs associated with the Hamilton CarShare vehicles.

Box 1: Car Share Corporate Membership Costs						
Table 1: Hourly Rate						
Based on: 12000 km						
Hourly Rate (\$/hr)	Average Trip Length (Km/hr)	Hourly Rate converted to \$/Km	Mileage Rate	Total Mileage Rate	Total Cost per year	
\$4.00	8.3	\$0.48	\$0.30	\$0.78	\$9,360	
\$4.00	9.0	\$0.44	\$0.30	\$0.74	\$8,880	
\$4.00	9.5	\$0.42	\$0.30	\$0.72	\$8,640	
\$4.00	10.0	\$0.40	\$0.30	\$0.70	\$8,400	
\$4.00	10.5	\$0.38	\$0.30	\$0.68	\$8,160	
\$4.00	11.0	\$0.36	\$0.30	\$0.66	\$7,920	
\$4.00	11.5	\$0.35	\$0.30	\$0.65	\$7,800	
\$4.00	12.0	\$0.33	\$0.30	\$0.63	\$7,560	

Table 2 will investigate the costs of a City-owned fleet vehicle so that it can be compared to the data in Table 1 and determined if a Hamilton CarShare vehicle is a feasible alternative.

Table 2: Fleet Vehicle Ownership Costs shows the cost of owning and maintaining a City-owned fleet vehicle. This cost varies with the cost of gas and maintenance, depending on the kilometres travelled. The values in the table below show four different scenarios based on the price of gas. In this scenario, the fixed costs remain the same whether the car is driven or not, while a Hamilton CarShare corporate membership offers the flexibility of reducing the fixed costs associated with fleet vehicles and therefore vary only with how much the car is driven.

Box 2: Fleet Vehicle Ownership Costs						
Based on:		Mileage:	12000 Km			
		Fuel Efficiency:	8 L/100Km			
Fixed Costs		Variable Costs				Total Cost
Lease	Insurance	Fuel		Maintenance		
		Rate (\$/L)	Cost (\$/year)	Rate (\$/Km)	Cost (\$)	
\$5,975.00	\$1,200.00	\$1.00	\$960.00	\$0.035	\$420.00	\$8,555
\$5,975.00	\$1,200.00	\$1.10	\$1,056.00	\$0.035	\$420.00	\$8,651
\$5,975.00	\$1,200.00	\$1.20	\$1,152.00	\$0.035	\$420.00	\$8,747
\$5,975.00	\$1,200.00	\$1.30	\$1,248.00	\$0.035	\$420.00	\$8,843
Average:					\$8,699.00	per year
					\$0.72	\$/Km

In *Table 3: Straight Mileage Costs*, the costs of paying an employee to use their own personal vehicle for corporate business (minus insurance) is presented. It is assumed that all mileage was charged at \$0.52, given that it represents the cumulative mileage of many employees who travel less than 5000 km per year.

Box 3: Reimbursed Mileage Costs	
Based on: 12000 km	
Rate/Km	Total
0.52	\$6,240
per year	

A comparison between the data in Table 1 and Table 2 shows that for 12000 vKt (vehicle kilometres travelled) or less, the Hamilton CarShare membership is a lower cost, as compared to the City-owned fleet vehicle to drive, maintain and insure. As the amount of vehicle kilometres travelled by staff decreases, the costs of the CarShare also continue to decrease, while the much of the costs associated with the fleet vehicle remain fixed.

The data in Table 3 shows that paying employees for the mileage they drive is the least costly option over both the fleet vehicle and the Hamilton CarShare membership, but this strategy does not allow employees to take other forms of

**Appendix “B” to Report PW11081
Car Share Cost Comparison Chart
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transportation to work and does not lessen the City’s Green House Gas emissions or improve air quality.

The above calculations shown in Tables 1, 2 and 3 are repeated in Tables 4, 5 and 6, but are based on 16000 km rather than 12000 km of annual vehicle kilometres travelled. In this scenario, the Hamilton CarShare costs are greater than owning a fleet vehicle because the Hamilton CarShare is priced and intended to be used as a replacement for occasional use fleet vehicles. Therefore the recommendation from this analysis is to use Hamilton CarShare vehicles to replace occasional use fleet vehicles. Fleet vehicles that are used very frequently should not be replaced.

Box 4: Car Share Corporate Membership Costs						
Hourly Rate						
Based on: 16000 km						
Hourly Rate (\$/hr)	Average Trip Length (Km/hr)	Hourly Rate converted to \$/Km	Mileage Rate	Total Mileage Rate	Total Cost per year	
\$4.00	8.3	\$0.48	\$0.30	\$0.78	\$12,480	
\$4.00	9.0	\$0.44	\$0.30	\$0.74	\$11,840	
\$4.00	9.5	\$0.42	\$0.30	\$0.72	\$11,520	
\$4.00	10.0	\$0.40	\$0.30	\$0.70	\$11,200	
\$4.00	10.5	\$0.38	\$0.30	\$0.68	\$10,880	
\$4.00	11.0	\$0.36	\$0.30	\$0.66	\$10,560	
\$4.00	11.5	\$0.35	\$0.30	\$0.65	\$10,400	
\$4.00	12.0	\$0.33	\$0.30	\$0.63	\$10,080	

Box 5: Fleet Vehicle Ownership Costs						
Based on: Mileage: 16000 Km						
Fuel Efficiency: 8 L/100Km						
Fixed Costs		Variable Costs				Total Cost
Lease	Insurance	Fuel		Maintenance		
		Rate (\$/L)	Cost (\$/year)	Rate (\$/Km)	Cost (\$)	
\$5,975.00	\$1,200.00	\$1.00	\$1,280.00	\$0.035	\$560.00	\$9,015
\$5,975.00	\$1,200.00	\$1.10	\$1,408.00	\$0.035	\$560.00	\$9,143
\$5,975.00	\$1,200.00	\$1.20	\$1,536.00	\$0.035	\$560.00	\$9,271
\$5,975.00	\$1,200.00	\$1.30	\$1,664.00	\$0.035	\$560.00	\$9,399

Average: **\$9,207.00** per year
\$0.58 \$/Km

Box 6: Reimbursed Mileage Costs	
Based on: 16000 km	
Rate/Km	Total
\$0.52	\$8,320 per year

Overall Summary of the Findings:

Annual CarShare, Fleet and Straight Mileage Comparison			
Number of Km Driven	CarShare	Fleet Vehicle	Straight Mileage
6,000	\$4,200	\$7,961	\$3,120
12,000	\$8,400	\$8,567	\$6,240
16,000	\$11,200	\$9,031	\$8,320
Assumptions	Cars are used at a rate of 10km/hr	Based on a hybrid vehicle (best case)	Does not include insurance costs paid to employee

The analysis of fleet vehicle and CarShare data indicates that a fleet vehicle driven less than 12,000 km would be more expensive to own/lease and operate than utilizing a Hamilton CarShare membership program. The cost savings associated with using the Hamilton CarShare membership over owning/leasing and operating a fleet vehicle increases as the number of kilometres driven decreases. Therefore, Hamilton CarShare memberships can make the fleet more efficient by removing the need to own/lease casually-used vehicles.

The City of Hamilton fleet consists of over 700 vehicles; 300 of these vehicles were driven less than 10,000 km in 2010. Of those 300 vehicles, 210 were specialty vehicles such as sanders and dump trucks or heavy duty pick-up trucks. The remaining 90 casually-used vehicles were light duty cars, pick-up trucks, and mini-vans, for which Hamilton CarShare vehicles could functionally provide suitable alternatives. The overall cost to own/lease and operate these casually used vehicles was over \$600,000. The cost of using Hamilton CarShare corporate memberships to replace these vehicles with a car, compact pick-up truck and mini-van sharing fleet would be just over \$370,000, resulting in an opportunity to realize a potential upset savings of nearly \$250,000. While it is not likely practical to replace all casually-used fleet vehicles with a Hamilton CarShare corporate membership program, it does illustrate a potential for significant future savings if the pilot program is successful and is continued.

In a case study of two Public Works pool vehicles it was found that the vehicles were driven a total of 20,000 km in 2010, at a cost of \$20,000. If the department used corporate CarShare memberships instead of the fleet vehicles, the total cost would have potentially been \$14,000, a potential 30% decrease in cost.

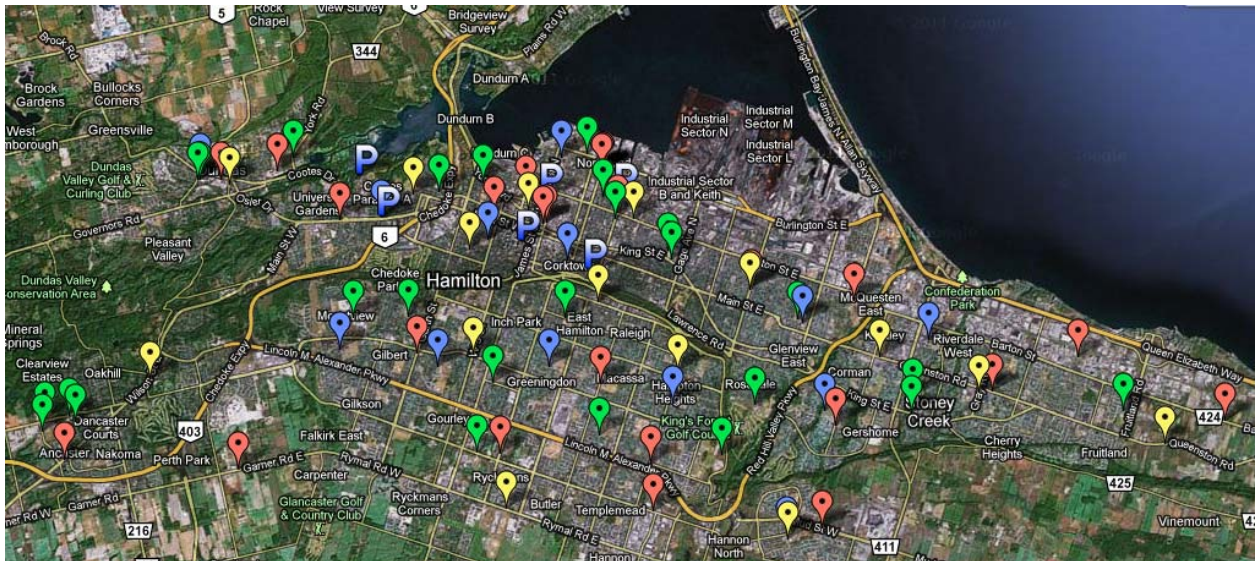
There are potential cost saving implications for departments that wish to use fleet vehicles, as they can positively impact their budget by using CarShare

memberships rather than using fleet vehicles. However, it should be recognized that departments keep low kilometre vehicles in their fleets for many reasons, including those for specialized uses. These vehicles may not be replaceable.

Taking into consideration fixed and variable costs, vehicle mileage and usage rates, a Hamilton CarShare vehicle may be a feasible alternative to a fleet vehicle when the demand for the vehicle will result in a usage of less than 12,000 km per year. The two-year CarShare pilot program will be vital to developing a business case for departments who wish to investigate the potential cost savings.

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Topographical Map of Potential Reserved CarShare Parking Locations
Page 1 of 1

This Appendix outlines the proposed non-revenue generating parking spaces located at City of Hamilton facilities which Hamilton CarShare wishes to use. It was determined that Hamilton CarShare will approach departments who own parking spaces on a case-by-case basis to negotiate the designation of the parking space as a “Hamilton CarShare Only” parking space. These Hamilton CarShare parking spaces are intended to provide members of the CarShare with preferred parking in various locations in the City. Hamilton CarShare has already worked successfully with other land owners in the City to designate spaces in various areas. They wish to expand the preferred parking space network and will attempt to do so with City-owned non-revenue generating lots on their own accord. Potential spots that Hamilton CarShare is interested in negotiating with various City departments for their use are outlined below:



Legend:

- Blue P - future Hamilton CarShare parking spaces we have reserved
- Green Markers - pools and arenas
- Blue Markers - community and recreation centres
- Yellow Markers - libraries
- Red Markers - fire stations

Current CarShare vehicles are located at:

1. King at Bay Street (Hamilton Car Park 80 - 191 King St. W.)
2. King near Locke Street (Municipal Car Park 22 - 451 King St. W.)
3. First Unitarian Church Parking Lot (170 Dundurn St. S.)
4. McMaster University (1280 Main Street West)



Hamilton CarShare

19 Bold St.
Hamilton, ON L8P 1T3
tel: 905-543-4411
fax: 519-579-2195
info@hamiltoncarshare.ca
www.hamiltoncarshare.ca

July 14, 2011

Peter Topalovic (M.Eng)
Project Manager - Transportation Demand Management
Environment & Sustainable Infrastructure, Public Works, City of Hamilton
77 James St. N., Suite 320
Hamilton, ON L8R 2K3

Dear Mr. Topalovic,
Please find included in this letter information about Hamilton CarShare to support the forthcoming report regarding Hamilton CarShare to City of Hamilton Council. An overview of Hamilton CarShare, how carsharing works, as well as Hamilton CarShare's history in the community is outlined below.

Overview - What is Hamilton CarShare?

Hamilton CarShare is a non-profit co-operative which provides its members access to vehicles on a self-serve, pay-per-use basis. The co-operative began operating in Hamilton in September 2009, after a group of citizens expressed interested in bringing carsharing to the city. The co-op also operates as Grand River CarShare in Waterloo Region, where it was founded in 1998 as the first carsharing organization in Ontario.

Hamilton CarShare's mission is to deliver a carsharing service and to promote carsharing as an important component of a sustainable transportation system within the City of Hamilton and the Region of Waterloo. Through this the co-op seeks to reduce overall transportation costs, traffic congestion and air pollution, thus improving our communities.

Reservations for CarShare vehicles can be made for as little as 30 minutes, or as long as needed, and gas and maintenance costs are included in driving rates. Driving rates are \$4/hour and \$0.30/km. The 10-hour business day rate is \$35 plus \$0.20/km, and the 24-hour rate is \$45 and \$0.20/km. All memberships pay a monthly fee of \$19 (regardless of the number of drivers on the account), towards the cost of insurance.

By filling in transportation gaps with occasional car use, Hamilton CarShare also helps support the use of greener transportation modes such as transit and cycling. Many CarShare members also already own a car, but supplement their driving needs with CarShare reservations a few times a week. The same philosophy applies for Corporate Members, who can limit the size and cost of their corporate fleets (or eliminate owning a corporate vehicle altogether) by using CarShare vehicles when their fleet needs extra capacity. Employees who have access to CarShare vehicles for work-related trips are also able to choose transit or cycling for their daily commute, thereby reducing parking demand at employer parking lots.

Hamilton CarShare and Grand River CarShare currently have more than 435 members (110 in Hamilton, 325 in Waterloo Region) who have access to a fleet of 16 vehicles (four in Hamilton, 12 in Waterloo Region),

stationed along main transit corridors. As membership grows and vehicle usage increases, additional vehicles are added to the fleet to meet membership and usage demands.

Hamilton CarShare is governed by a volunteer board of directors, elected from the membership, and supported day-to-day by four full-time staff members (one based in Hamilton, three based in Waterloo Region).

How Carsharing Works

To be a member of Hamilton CarShare, the only requirements are that you are at least 23 years old, hold a full G class Ontario driver's license, and have a relatively clean driving record, with no at-fault accidents in the last three years. As part of the application process, the co-op obtains a copy of each driver's abstract to ensure these requirements are met.

Once members are approved, they take part in a one-hour orientation, where they are given all the details about using CarShare vehicles, how to reserve them, how to record their trips in the log, and what to do in the event of a late return or emergency situation. The co-op has many back-up and emergency provisions in place, and staff are on call to assist members 24 hours a day.

Once the orientation is complete, members are free to use the online reservation system or telephone reservation line to book their CarShare trips. Availability of CarShare vehicles is excellent with 1-2 days advance notice, and same-day and spur-of-the moment accessibility is also very good. This is made possible because the co-op keeps a close eye on car usage and membership growth, and adds additional vehicles when fleet availability is impacted by increasing use. As it is, approximately one-third of reservations are made within two hours of needing a car.

Once a member makes a reservation, to use the car, they simply go to the vehicle they have reserved, use their access key to get the car keys from the lockbox located near the vehicle, and then make their trip. When their trip is complete, they fill out the log book provided in the car, and make note of any expenses such as gas, which will be reimbursed to them on their next invoice. Then, they lock the car and return the keys to the lockbox. With the co-op's self-serve reservation and lockbox system, using CarShare vehicles is simple and hassle-free.

All CarShare vehicles are parked in reserved parking locations, complete with CarShare Reserved Parking signage, making the cars easy to find. All vehicles also have Hamilton CarShare decals, making them easy to spot if you're using the car for the first time. Currently in Hamilton, CarShare vehicles are located at:

- City of Hamilton Parking Lot #80 - 191 King St. W., at Bay St.
- City of Hamilton Parking Lot #22 - 451 King St. W., near Locke St.
- First Unitarian Church - 170 Dundurn St. S.
- McMaster University Parking Lot E - corner of Stearn Dr. and Michell Cres.

The co-op also has five other reserved parking locations, designated for future growth. These spots are signed with Future Station parking signs to encourage membership growth.

How Hamilton CarShare began - a story of community cooperation

Hamilton CarShare began to organize in March 2009 when Green Venture and Clean Air Hamilton hosted carsharing workshops at the First Unitarian Church. Dozens of community members came out to learn about

**Appendix “D” to Report PW11081
Hamilton Car Share Cooperative References
Page 3 of 5**

carsharing, and they also began figuring out how a carsharing organization could look in their community. The group decided they wanted to be a non-profit, and also be a co-operative.

As part of those workshops, Grand River CarShare was invited to attend, and the co-op saw a way it could help the citizens of Hamilton achieve their carsharing goals. Grand River CarShare presented an offer to the group to expand service from Waterloo Region to Hamilton, with the provision that once 50 members were recruited, three cars would be launched.

A smaller group of residents formed out of the larger group at the workshops, and they weighed their options. Should they organize their own co-op and work on development for years, or should they join Grand River CarShare, and have a carsharing organization up and running in Hamilton much more quickly? Ultimately the group of citizens decided to join the existing co-operative, and started working to begin operations in Hamilton, under the co-op’s second operating name, Hamilton CarShare.

The new Hamilton CarShare officially launched its membership recruitment drive at the May Day Festival in early May, and in June began negotiating for parking locations for its first three cars. By August, the goal of 50 members had been met, and preparations for a September launch were underway.

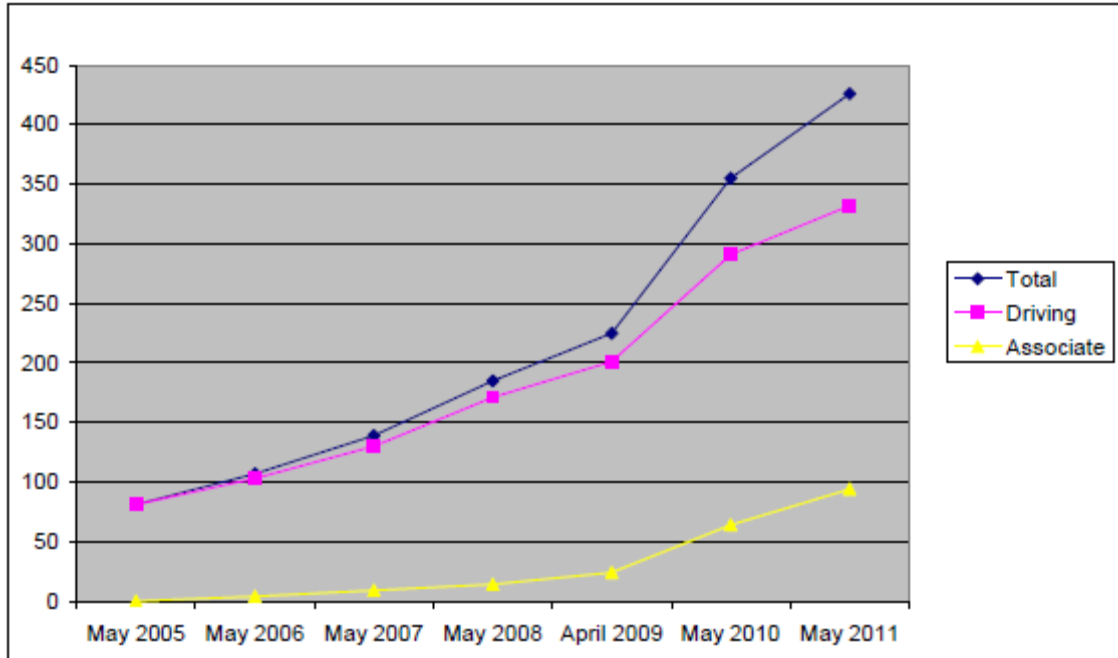
On September 16, 2009, Hamilton CarShare officially launched its first three vehicles, along with its first parking location providers the City of Hamilton and the First Unitarian Church. A media event and launch barbeque were both successful, and marked an impressive accomplishment of community cooperation.

Over the two years since Hamilton CarShare’s launch, membership has continued to grow steadily, and more than 100 members now participate in the co-operative. The co-op’s fourth vehicle was added in May 2011 at McMaster University, and the co-op continues to develop relationships with many community organizations, including the City of Hamilton, Smart Commute Hamilton, McMaster University, Green Venture, and many others.

Sincerely,

Janet MacLeod
Operations Coordinator

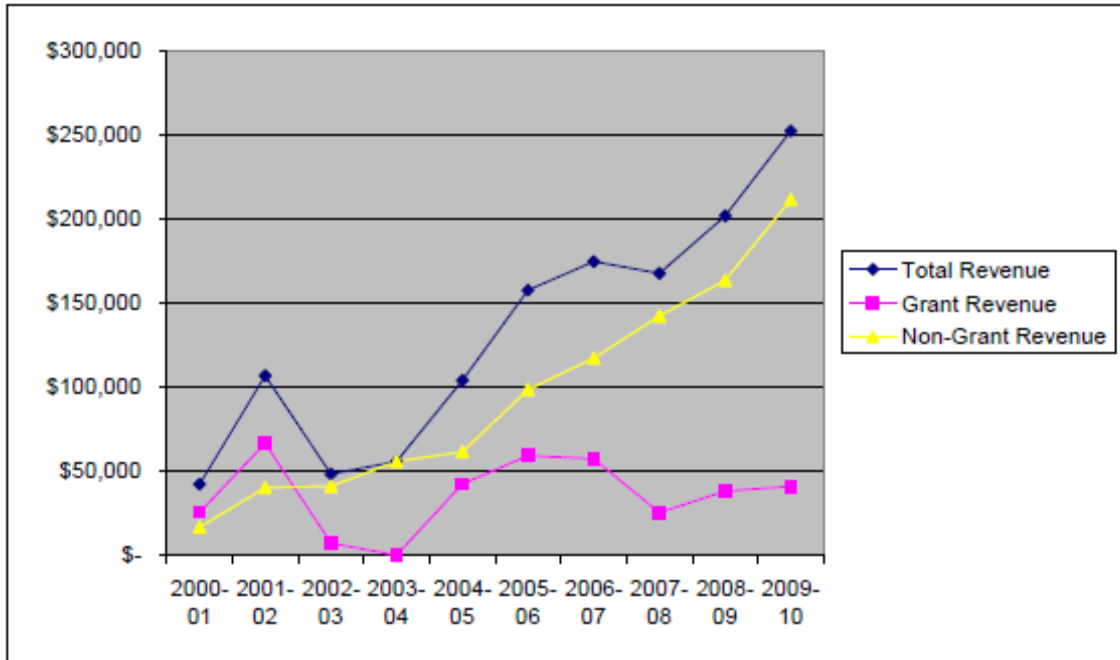
Membership 2005-2011



Date	Total	Driving	Associate
May 2005	81	81	0
May 2006	107	103	4
May 2007	139	130	9
May 2008	185	171	14
April 2009	225	201	24
May 2010	355	291	64
May 2011	426	332	94

Membership as reported in Management Reports to the Board of Directors

Grand River CarShare/Hamilton CarShare Revenue 2001-2010



Fiscal Year	Total Revenue	Grant Revenue	Non-Grant Revenue
2000-01	\$ 42,213	\$ 25,544	\$ 16,669
2001-02	\$ 106,741	\$ 66,541	\$ 40,200
2002-03	\$ 48,183	\$ 7,143	\$ 41,040
2003-04	\$ 55,759	\$ -	\$ 55,759
2004-05	\$ 103,857	\$ 42,400	\$ 61,457
2005-06	\$ 157,482	\$ 59,081	\$ 98,401
2006-07	\$ 174,460	\$ 57,345	\$ 117,115
2007-08	\$ 167,510	\$ 25,335	\$ 142,175
2008-09	\$ 201,575	\$ 38,145	\$ 163,430
2009-10	\$ 252,105	\$ 40,815	\$ 211,290

Revenue as reported in Audited Financial Statements prepared by:
 Miller & Company/Ellen Miller Chartered Accountant/John M. Lindsay Chartered Accountant

Appendix "E" to Report PW11081
Hamilton Car Share Cooperative References
Page 1 of 3



FINANCE

150 Frederick Street
Kitchener ON Canada N2G 4J3
Telephone: (519) 575-4704
Fax: (519) 575-4547
www.region.waterloo.on.ca

July 13, 2011

The People's Car Co-operative Inc.
o/a Grand River Carshare / Hamilton Carshare
290 King Street East, Unit 203
Kitchener, ON N2G 2L3

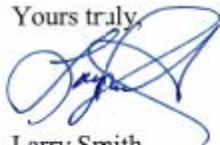
To Whom It May Concern:

Re: Credit Facility – People's Car Co-operative Inc.

The Regional Municipality of Waterloo (the Region) and the People's Car Co-operative Inc. entered into a loan agreement on October 22, 2002. Since that time, all amounts owing to the Region have been paid pursuant to the terms of the loan agreement.

Should you have any questions or concerns or require any additional information with respect to this matter, please contact me directly at (519) 575-4593.

Yours truly,

A handwritten signature in blue ink, appearing to read "Larry Smith".

Larry Smith
Senior Financial Analyst - Transit
4th Floor - Financial Services



July 11, 2011

The People's Car Share Inc. o/a Grand River CarShare/Hamilton CarShare

290 King St. E.
Unit #203
Kitchener, ON
N2G 2L3

Re: Request for a reference for City of Hamilton

To whom it may concern:

The People's Car Share Inc. has a Line of Credit ("LOC") with the City of Waterloo. The LOC commenced on August 1, 2002, was renewed on April 30, 2009, and now has an expiry date of April 30, 2014.


The maximum limit on the line of credit is \$30,000, and interest is set at 4.5%. As of July 11, 2011, the balance outstanding is \$29,464. It should be noted that the outstanding balance as at June 14, 2011 was \$11,464. Since June 14, 2011, The People's Car Share Inc. has requested two separate advances on the line of credit:

- \$5,000 on June 15, 2011 – general operations during the summer months (anticipated to be repaid in the fall)
- \$13,000 on July 8, 2011 – purchase of replacement vehicle

The People's Car Share Inc. does pay down the line of credit on a regular basis and is otherwise current.

Please contact me if you have any questions or concerns.

Thank you,



Paul Grivicic, CA
Financial Analyst
paul.grivicic@waterloo.ca
519-747-8538



Saturday, July 09, 2011

The People's Car Co-operative Inc. o/a Grand River Carshare/Hamilton Carshare

290 King St E Unit 203
Kitchener, ON Canada N2G 2L3

To Whom It May Concern:

The People's Car Co-operative Inc. has been a member with Libro Financial Group since May 3, 2006. Since this time, the account has operated to satisfaction and all loans have been paid as agreed.

I trust this is sufficient for your records. Should you have any further questions, please contact me at (519) 744-1031.

Yours truly,

A handwritten signature in black ink, appearing to read "Kevin Morris", written over a horizontal line.

Kevin Morris
Account Manager