



Urban Transportation Showcase Project
Whitehorse Moves
2004-2007
Final Report

**Whitehorse Moves -
Urban Transportation Showcase Project**
City of Whitehorse, Yukon
Whitehorse Moves

Final Report – March 2008

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Whitehorse Moves – Urban Transportation Showcase Project

Executive Summary

The City of Whitehorse is a modern, northern community with a population of approximately 21,000 people, and is representative of 295 similar sized communities in Canada. The Citizens of Whitehorse are concerned about their environment, and the City has developed and adopted a number of comprehensive documents which outline visions for a sustainable and healthy community. As one of eight Transport Canada selected municipalities, the Whitehorse Showcase Project shows how a municipality can reduce greenhouse gases in the transportation sector as a smaller, full service urban city that serves an engaged and motivated community of diverse citizens.

The Transportation Showcase Project identified measures that reduce green house gases in the transportation sector, changing the way Whitehorse moves by:

- Removing the barriers to active transportation on existing road and trail infrastructure leading to and within the downtown core;
- Educating of the public;
- Developing transportation management programs that reduce the level of single occupant driving by promoting cycling, carpooling, public transportation and walking; and,
- Partnering with groups to identify and help achieve our goals.

INFRASTRUCTURE

Whitehorse Moves was successful in meeting its goal of eliminating barriers to active transportation. These are shown in Figure 1 of the report and include:

- Constructing continuous cycling lanes and multi-use trails to and within the downtown to provide alternatives to using the road network, and introducing a road diet by changing selected arterial roadways from 4 lanes to 3 lanes.
- Improving the alternative transportation environment along one of its main arterial roadways within the downtown core by constructing new bus shelters and signage, installing new bike parking stalls, completing of landscape planters with new trees and shrubs.
- Building a new pedestrian and cycling bridge across the Yukon River as an attractive and additional access to Downtown for pedestrians and cyclists of the City's Riverdale community.
- Building a new lighted stairway within a ravine directly connecting the downtown core with the upper escarpment area for pedestrians and cyclists
- Constructing a roundabout at the intersection of 2 arterial roadways within the

downtown core to improve traffic flow from side streets and pedestrian and cyclist safety, as an alternative to signal lights and stop signs.

PUBLIC EDUCATION

To inform the public about the new infrastructure changes and to promote an awareness of the linkage between the transportation sector and green house gas reductions, the City produced and distributed brochures on sustainable transportation, advertised in newspapers and on radio, staffed trade shows, and attended public meetings and workshops. The City also frequently participated at Showcase meetings and attended other conferences to present and discuss the Whitehorse Moves Transportation Showcase initiative.

Information on transit schedules, the new commuter cycling map, a new downtown walking map prepared by Recreation and Parks Association of the Yukon - one of the City's partners in Whitehorse Moves, were sent to the public, Transit schedules and the commuter map are available on the City's website.

Community advertisements on the radio, newspaper and in the theatre advertised about the Commuter Challenge, carpooling and the Whitehorse Moves Wheel 2 Work Whitehorse an initiative that provided prizes and information to participants who signed up to cycle to work and the kilometres that was accumulated represented a well known local 238 km road race that passes through check points on its way from Haines Junction, Yukon to Haines, Alaska. This program has been included as a best practice for active transportation on the Transport Canada website.

TRANSPORTATION MANAGEMENT PROGRAMS

An overall commuter cycling map was developed that identified cycling routes, traffic safety ideas and rules of the road, with the participation of City departments, the RCMP, the Yukon cycling community and the Yukon Government. Over 5000 copies of the map were distributed to City offices, businesses and government offices for distribution.

Whitehorse Moves proposed to decrease the level of drive alone commuting by designing and promoting programs that encourage transit, carpooling, bicycle use and trip planning portfolio to personalize commuting options. To that end, new bus shelters were purchased and installed along with new more visible bus signage.

Whitehorse Moves implemented carpool.ca, a web based carpooling software program that would organize carpooling opportunities for downtown commuters. The uptake of the carpooling program for our community was not significant, and recommendations have been made to discontinue to the service.

Whitehorse Moves purchased and promoted the use of a bicycle fleet for internal use within the downtown core. New locks, helmets and saddle bags and baskets were included to make carrying of papers and other items easier.

An originally proposed trip planning pilot project for residents was redesigned as a social based marketing program for alternative transportation. This program was

directed to try and change peoples driving habits at least one day a week. Depending on the modal shift, this could equate to a 20% reduction in green house gases associated with commuting 5 days a week.

PARTNERING

Whitehorse Moves was also successful in getting strong partnerships with businesses, government, organizations and the general public who worked together to implement the goals of the Project.

City Council and staff were also committed to the Project, committing the funds as required to reconstruct the infrastructure as necessary to eliminate barriers during 2004 to 2006. \$2.7 million was spent on the project. \$700,000 was committed by Transport Canada under the Showcase Program, with \$230,000 in funding and in-kind services coming from City partners.

City Council also committed funds in 2007, 2008 and future years to further improve the infrastructure for active transportation opportunities.

MONITORING AND REPORTING

One of the goals of the Showcase Program was to monitor and report on the success of Whitehorse Moves to meet the goals and reduce green house gases within the transportation sector.

According to the City's annual citizen survey, Whitehorse residents report that trails and paths leading to downtown have improved significantly, from 48% in 2002 and 2004 who thought the trails were good or excellent, to 76% in 2006.

For cycling or walking commuters in downtown, 30% of respondents to the 2006 citizen survey thought that cycling was safer.

An overall increase of 10% in the number of households has had at least one member of the household walk or cycle to downtown in 2006.

400 trail users completed individual surveys. Cycling was estimated by the users to account for 43% of all their work related trips in the summer. This dropped to 7% in the winter, with the user using their own vehicle or carpooling with a friend or family member.

Commuters to downtown between April and October have increased their frequency of cycling and walking since the changes were implemented.

There has been a decrease in 2006 in the percentage of households that use transit when compared to previous years, according to the citizen survey, but those who use transit are using it more often. In 2006, transit ridership increased about 16% when compared to 2004. Improvements in transit

frequency are cited as the reason why people use alternatives, since frequencies are every 35 minutes during peak times, and every 70 minutes during non-peak times.

Carpooling remains a challenge in Whitehorse. While 85 people did sign up for the program, no sharing of rides occurred. The most common barrier to carpooling has been the need to run errands after work, and difficulty in organizing fluctuating needs. Other issues that affect carpooling is related to low density of houses which decreases the probability of finding a match.

Initially controversial, roundabouts were installed in 2004. According to the Citizens survey in 2006, 67% thought the roundabouts were effective.

For the road diets installed on 4th Avenue and Quartz, 58% of respondents to the Citizen survey thought the changes were good or excellent. 24% thought the changes were poor.

A Greenhouse gas reduction of 78 tonnes CO₂ was achieved with increased transit use, while an estimated 12 tonnes of green house gases were reduced within the City's Wheel to Work Whitehorse program.

CONCLUSIONS

The Urban Transportation Showcase Program (UTSP) provided the opportunity that enabled the City to obtain funding and technical expertise that focused on making important changes in transportation planning and opportunities to expand active transportation initiatives. The commuter multi-use trail and cycling network has been greatly enhanced, and its use and public awareness has improved, and continue to evolve with the development and implementation of the City's new Trail Plan. The City's new Sustainability Plan which is being developed for Whitehorse has alternative transportation in the form of improved Transit and multi-use trails and cycling lanes as a major focus.

New Programs to encourage active transportation use such as Wheel 2 Work Whitehorse will continue to be developed and implemented.

Transit improvements are strongly supported by Council and the public, and changes to make our system more effective are being piloted.

While the UTSP was only a three year program, the effects and momentum of the Whitehorse Moves Project will be carried through on future transportation decisions. Without the UTSP and the funding that were provided to facilitate the changes in Whitehorse, the existing infrastructure with its numerous physical barriers would undoubtedly not have been possible, except possibly over time, if ever.

LESSONS LEARNED

Extensive public consultation in the form of public meetings and workshops is recommended for identifying and designing changes that will effectively eliminate barriers to active transportation initiatives. Such changes should be adopted in the form of new policies, such as a city wide transportation study.

Identifying interest groups and stakeholders to partner on new initiatives and involving those groups and stakeholders along with interested individuals from the general public in identifying, designing and implementing those changes that will lead to transportation alternatives to vehicle use is a key to success.

For small communities, spreading multiple projects over a couple of years is beneficial for communities with limited contractors, labour and management staff. Staging new traffic changes roundabouts, and road diets for multiple roadways, over 2 years, allows motorists opportunities to become accustomed to the changes before fully implementing the changes on the other streets.

For active transportation initiatives, ensure trails and cycling lanes are continuous and connected before endeavouring to change peoples driving habits.

Extensive public education on radio, newspapers, public meetings, trades shows, and community newsletters is of paramount importance to help get the word out on changes. However, if changes in infrastructure are phased over multiple years, education over each year will be necessary before implementing the changes.

Change in behaviour will be slow given that the motoring public continues to prefer vehicles and have been using vehicles for decades.

With the new intersection controls such as roundabouts, involving truck and transit drivers, city maintenance crews, Bylaw and police, and general public opportunities to test out the new system in large open spaces will help designs deal with road radius and visibility concerns, and give users a chance to gain experience before implementation. Including people with accessibility challenges is also recommended.

Alternative transportation has to be an enjoyable experience and rewarding. Programs to encourage cycling like Wheel 2 Work Whitehorse should be inexpensive and have a positive marketing look that attracted people to the program.

For monitoring and surveying successes of infrastructure changes, ensure staff is trained, have available and dedicated time to develop and complete effective surveys and that sufficient funding is available.

URBAN TRANSPORTATION SHOWCASE PROJECT

Whitehorse Moves - Final Report

Table of Contents

Executive Summary.....	i
Urban Transportation Showcase Project	1
Background	1
Whitehorse Moves - Transportation Showcase Project.....	1
Partnerships	2
Infrastructure Upgrades to Eliminate Barriers.....	6
Infrastructure Upgrades to Eliminate Barriers.....	7
Two Mile Hill Multi-Use Path	9
Two Mile Hill Multi-Use Path	10
Two Mile Hill Multi-Use Path	11
Puckett’s Gulch Staircase and Airport Trail.....	11
Quartz-Copper Road Diet	12
Quartz-Copper Road Diet	13
Fourth Avenue Road Diet.....	13
4 th Avenue Streetscape and Greening	14
Robert Service Way Roundabout.....	17
Rotary Centennial Pedestrian Bridge.....	17
Public Education and Outreach	19
Infrastructure Project Education.....	19
General Education and Awareness.....	21
Anti-idling Campaign.....	21
Tire Pressure Clinic.....	22
Additional Public Education.....	23
Transportation Demand Management	25
Transit encouragement	25
Carpooling.....	27
Bicycle Fleet.....	28
Personalized trip planning Portfolio.....	28
Wheel 2 Work Whitehorse	31
Monitoring and Benefits	35
Green House Gas Reductions	35
Level of Satisfaction.....	38
Changes in Commuting Patterns	41
Motivation for Modal Shift.....	47
Other Initiatives.....	52
Future Directions	53
Future Sustainable Transportation Initiatives in Whitehorse.....	56
Sustainability Plan.....	56
Black Street Reconstruction.....	56
Cycling Lanes and Multi-use Reconstruction	56
Transportation Demand Management	56
Lessons Learned	58
Infrastructure.....	58

Public Education and Outreach	59
Transportation Demand Management	61
Monitoring	62
Conclusions	64
Appendix A - Table C.6 Final Financial Report Template	
Appendix B - Survey Methodology	



Whitehorse Moves officially got off the ground in October 2002 with a walkable community design charrette. Many of the barriers and traffic design concepts (see above) were developed at this workshop, incorporated into the City's Transportation Study, and confirmed in an April 2003 workshop held prior to developing the Urban Transportation Showcase Proposal



Urban Transportation Showcase Project

Background

The Urban Transportation Showcase Program was developed as one element of the Government of Canada's Action Plan on Climate Change in 2000. It responded to the fact that greenhouse gas emissions from transportation amount to one-quarter of our national total and that they are growing rapidly. Urban areas contribute two-thirds of this transportation emissions total.

Green house gas reduction supportive policies have been developed and adopted by Whitehorse in recent years. The **2002 Official Community Plan** together with the **2003 City-Wide Transportation Plan** are comprehensive documents which outline a 20 year community vision for a sustainable and healthy approach to land use planning and transportation planning respectively.

In 2002, the City conducted a 5-day public design charette involving citizens, elected leaders, municipal staff, transportation and planning experts and business leaders. This initiative, called the **Whitehorse Moves Community Transportation Workshop**, was another step in the development of our community as envisioned by Whitehorse residents who care about the quality and health of their living and working spaces. The aim of the workshop was to develop transportation ideas and solutions that would lead to a sustainable future that reduce air pollution but encourage a thriving downtown core.

In November 2003, Transport Canada selected eight municipalities from across Canada to showcase a transportation initiative that could show how a municipality could reduce greenhouse gases in the transportation sector. As one of those selected municipalities, the Whitehorse Showcase Project recognizes these important principles in a uniquely Northern fashion and as a smaller, full service urban city that serves an engaged and motivated community of diverse citizens.

Whitehorse Moves - Transportation Showcase Project

The Transportation Showcase Project as proposed for the City identified measures that reduce green house gases in the transportation sector by changing the way Whitehorse moves by:

- Removing the barriers to active transportation on existing road and trail infrastructure leading to and within the downtown core;
- Educating the public;
- Developing transportation management programs that reduce the level of drive alone by promoting cycling, carpooling, public transportation and walking; and,
- Partnering with groups to identify and help achieve our goals.

Partnerships

In 2002 and 2003, the City conducted numerous public meetings as part of the public process used in developing the City-Wide Transportation Study. The community expressed a desire to see a balance in the way the City deals with the design of infrastructure to meet the needs of vehicular traffic and alternative transportation initiatives.

To aid in the development of this Transportation Showcase Project, the City held a number of public workshops in April 2003 where brainstorming ideas were identified and their input considered in finalizing the project.

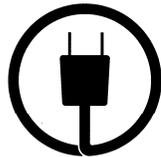
The Whitehorse Moves Showcase Project would not have been possible without the tremendous partners, providing financial assistance, in-kind support, technical expertise, and advice. Partnerships were cultivated and expanded as Whitehorse Moves took shape.

We thank the following funding partners that supported our project from the beginning:



Transport Canada

Provided the main financial support to implement the showcase program, as well as provided expertise, advice and opportunities to exchange ideas with others.



YUKON ELECTRICAL
An ATCO Company

Yukon Electrical Company Ltd.

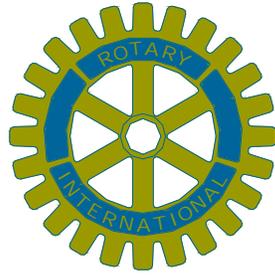
Provided funding for improved street lighting on 4th Avenue and trail lighting on Puckett's Gulch stairs

YUKON
ENERGY



Yukon Energy Corporation

Provided funding for the Rotary Centennial Bridge, and helped produce an educational pamphlet on trail interpretation.



Rotary Clubs of Whitehorse

Provided fundraising for construction of the Rotary Centennial Bridge through the “*purchase a plank campaign*”.



Recreation and Parks Association of the Yukon (RPAY)

Provided public education and outreach for active living, organized the annual Commuter Challenge and Walk to School Day. Was a partner in the *Wheel 2 Work Whitehorse* Program, providing valuable program development advice along with financial support.



Northern Climate Exchange

Provided general public education and outreach on climate change and actions, and were the main Yukon College contact for advertising the carpooling program to Yukon College students and staff.



Main Street Yukon

Provided downtown business support and advice; and Hougens’ Group and Coldwell Bankers, two Downtown businesses, provided financial support for new landscape planter boxes.



Cycling Association of Yukon

Yukonaise Association Cycliste

Cycling Association of the Yukon

Provided advice and expertise on individual commuter route designs and advice on the commuter cycling map.



Riverdale Community Association
Provided advice and support in the design of the Rotary Centennial Bridge and the implementation of active and alternative transportation opportunities.



Yukon Council on Disability
Provided advice on accessibility issues.



Skookum Asphalt
Provided advice and support in the design and construction of the Rotary Centennial Bridge and trail development. Provided financial support for the Millennium Trail, constructed prior to the bridge.



Yukon Territorial Government
Provided advice on monitoring and policy development; provided some funding for preparation of the Cycling Commuter Map.

We are grateful for new partnerships that were formed during Whitehorse Moves:



One Tonne Challenge – October 2004-March 2006
Assisted during the implementation phase by raising the awareness of climate change, green house gas reduction strategies and actions that were achievable by the individual. A One Tonne Challenge survey helped evaluate which greenhouse gas reduction actions participants were able to follow through with.



Yukon Girl Guides

The first national initiative to provide a program and badge for climate change was developed with the assistance of the One Tonne Challenge and the Whitehorse Moves Showcase Project. Green house gas reductions through the transportation sector are an important component of the badge.

icycle sport



Icycle Sport

This local business provided Wheel 2 Work Whitehorse prizes at cost and/or donation.

The partnerships developed through Whitehorse Moves helped to make the overall program successful. By virtue of the fact that many of the partners were involved in the infrastructure upgrades required to eliminate the barriers to active transportation meant that their members were informed and active participants in Whitehorse Moves Showcase Project.

Many other people, too numerous to mention, partnered with the City staff, consultants and contractors by participating in workshops and public meetings before and during the development of this Showcase Project.



Barriers to alternative Transportation in Whitehorse:

- Low density
- Spread out – longer travel distances
- High traffic speed on road networks
- Lack of bike and pedestrian facilities
- Un-pleasant pedestrian environment
- Lack of connectivity for trail and cycling lanes
- Topography and winter conditions

Opportunities

- Downtown is compact, centrally located and designed on a grid
- 65% of the population works downtown
- Active living community
- Active, concerned and connected interest groups
- Ground work completed through Transportation Plan, Trail Plan, Official Community Plan, and Community Design Workshops
- Residents desire for a walkable, people oriented community

Infrastructure Upgrades to Eliminate Barriers

Whitehorse with a population of 20,416 (2006 Statistics Canada) covers a large area of approximately 416 square kilometres. Sixty five percent of the population live within 5 kilometres of the downtown core which is the major destination point for the citizens to access services, work and shop. The downtown core is compact, located within the Yukon River valley, and accessible from the neighbouring residential areas in 4 directions.

Whitehorse is an active living community. There are many community groups and individuals involved in outdoor recreational activity during the winter and summer seasons. Cycling and walking are popular and cross country skiing is very popular in the winter. However, for the commuting adult public, a number of barriers exists that impacts negatively active transportation to and within the downtown core from nearby residential areas.



Bike and trail route connectivity, accessible standards, and few alternative routes have been identified as constraints to encouraging and increasing alternative mode activities. Whitehorse residents require safer and better multi-use trails to foster and promote their active living activities for winter and summer.

Slowing the speed of traffic, reducing traffic noise, improve lighting and the safety of cyclists, pedestrians, and traffic at intersections and along roadways, and increasing the comfort for walking and transit users were key to implementing changes identified in the 2002 Whitehorse Moves design charette. New traffic calming features such as installing roundabouts at intersections in lieu of traffic signals or stop signs, and implementing road diets that remove excess lanes along roadways, but are able to handle the daily traffic flows.

Seven infrastructure projects were proposed for construction as part of the Whitehorse Moves Showcase Project (Figure 1).

Two arterial roadway corridors 4th Avenue and the Copper/Quartz Road are central city asphalt surfaced arterial roads that are major connections routes through and to the downtown core. These 4 lane roads were selected for road diets which now have 2 through traffic lanes, a central dual left turning lane, and 2 new separate bike lanes.

Originally anticipated and constructed to have new traffic signals at the intersection of 4th Avenue and Robert Service Way - an arterial roadway paralleling the Yukon River and a river trail that comes from the neighbourhood of Riverdale, a roundabout was proposed to provide easy, continuous and safe movement for vehicles and minimizes the distances that pedestrians and cyclists have to cross the intersection before they access a median for refuge. By avoiding the use of traffic signals, and eliminating the existing stop signs, the speed of vehicles on the main road was reduced, enabling motorists in all directions to pass through the intersections more effectively and also encouraged cycling and pedestrian use, thus reducing air and noise pollution and increasing safety. With no traffic signals to maintain and operate, the City is able to have lower annual operating costs for electricity and replacement parts.

Alternative trail networks were also selected for improvements to help encourage walking and cycling to the downtown core. A multi-use trail from the Alaska Highway located above the valley and connects to 4th Avenue provides a new paved trail that is separate from the fast moving traffic on 2 Mile Hill and away from intersecting roads and commercial driveways.

Puckett's Gulch (extension of Black Street, an east/west connector road through the escarpment and to the Yukon River) is located within the centre of the downtown core and provides the location a new paved trail and staircase from the Alaska Highway. Upper escarpment neighbourhoods west of downtown now have an alternative to the noise, exhaust and the rush of the fast moving traffic along 2 Mile Hill and 4th Avenue.

A new pedestrian multi-use bridge across the Yukon River between the neighbourhood of Riverdale and downtown provides a secondary, more pleasant alternative to the busy and congested roadway and narrow bridge that connects Riverdale.

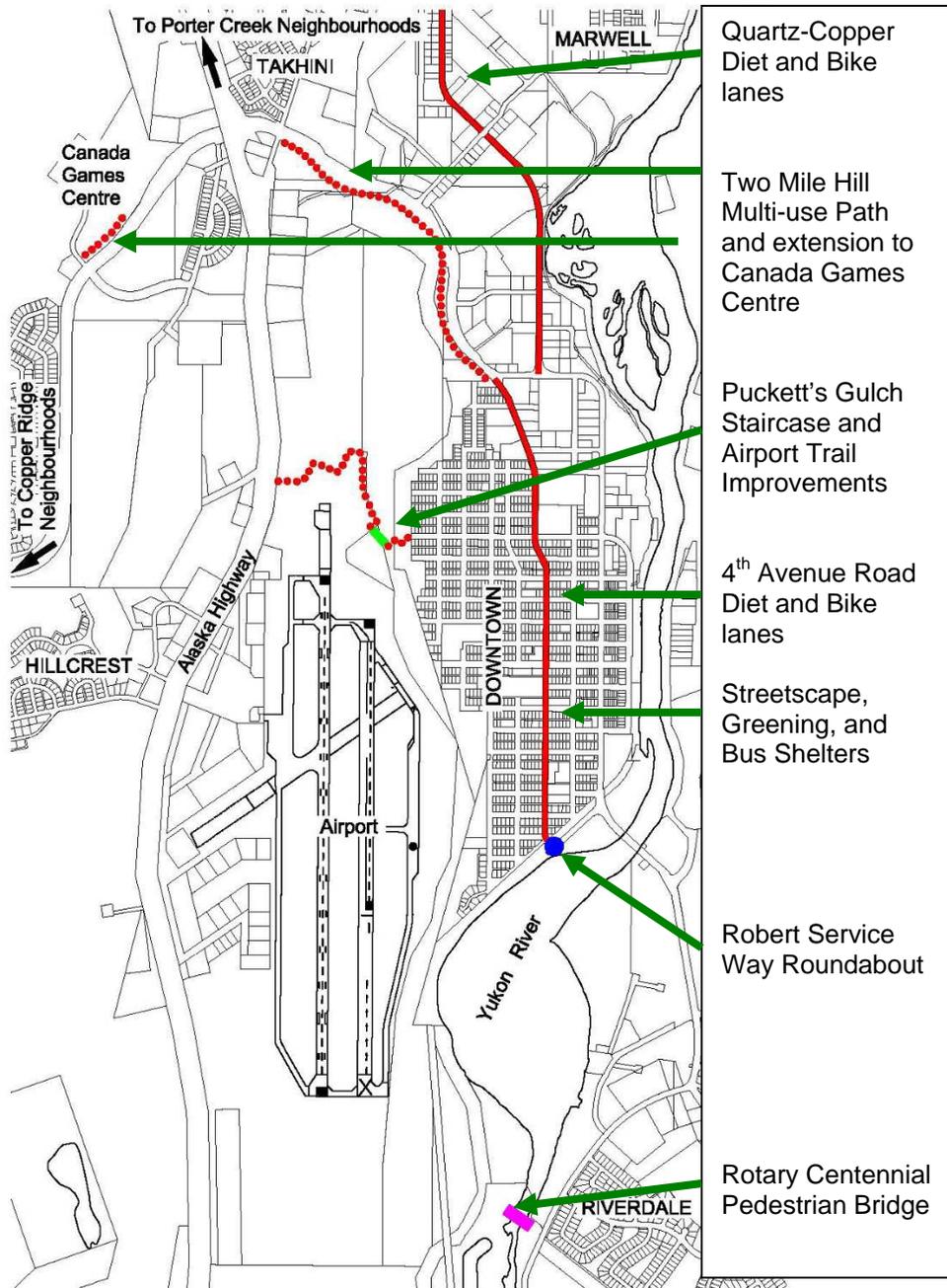
To encourage and increase transit use and pedestrian activity to and from the downtown, two projects were selected that improve "walkability", all season accessibility and waiting comfort for transit riders using the bus for daily work access. 4th Avenue Streetscape Improvements will install trees, new lighting, and bike racks at several locations in conjunction with the 4th Ave "road diet". Bus Shelters in the downtown, coupled with new more visible signage and bus schedules were proposed to support the users.

The Whitehorse Showcase Project was awarded in November 2003, but finalizing the funding agreement and the targets for the project was not completed until spring 2004. Consequently, design and construction of the infrastructure projects could not all be completed in 2004. Further, with funding

coming from the Federal Government, 3 of our projects required environmental assessments, which further delayed project design and tendering so completion extended into 2005.

All of the targets identified in the Showcase Agreement for infrastructure improvements related to the construction of continuous cycling lanes and improving the alternative transportation environment were met or exceeded.

Figure 1: Map of Downtown highlighting the infrastructure changes completed through Whitehorse Moves Showcase Project





Two Mile Hill Multi-Use Path—before and after the installation of an off-road multi-use path. Path increases the speed of downhill cyclists and increases safety due to the elimination of intersection crossings.



Puckett's Gulch with Wooden bicycle ramp,

open steel stairs to shed snow and night-time lighting to increase safety. These stairs connect to downtown via a green corridor around the airport.

Two Mile Hill Multi-Use Path

The 2 Mile Hill is the major arterial roadway that connects the Alaska Highway and the residential neighbourhoods located on the upper escarpment to the downtown core. A new bike path was proposed for the south and west side of this arterial roadway in order to keep cyclists off of this traffic heavy, high speed road. The path follows green space adjacent to the escarpment, and is as an alternative to the trail on the opposite side of the road which has numerous intersections and driveways accessing existing businesses.

An environmental assessment had to be completed before work could begin on this project. The assessment was completed in September 2004. A portion of the new path at the south end of 2 Mile Hill had to occupy a portion of a First Nation land claim. An agreement with the First Nation allowed land to be reconfigured in order that the path could be constructed separately from their land. Construction at the north end of the path began in September 2004 and was completed and paved in 2005. In addition to constructing this new path, a separate bike path was extended further west, connecting the Highway to the newly constructed sport and fitness multiplex, called the Canada Games Centre, and connected to a new multi-use trail constructed just south of the complex by the Yukon Government, which was not part of the Showcase Project but was developed to service the several communities located further west of the new Centre. The Canada Games Centre was constructed for the 2007 Canada Winter Games in Whitehorse in February and March 2007.

Puckett's Gulch Staircase and Airport Trail

Puckett's Gulch Staircase and Airport Trail provides a separate path from the upper escarpment area serving the community of Hillcrest and other areas west of downtown. This staircase and trail is a more pleasant alternative to traveling down 2 Mile Hill which is a very noisy, heavy traffic arterial roadway.

An environmental assessment was completed in September 2004. The Airport Trail was paved by October 2004 while the staircase construction was started in October 2004 and completed in 2005. New trail lighting by Yukon Electrical was installed in November 2004 to provide lighting in this secluded area to improve safety. The stairs were made with galvanized steel grating to reduce maintenance requirements, and includes a wooden guide for people who use bikes.

The stairs has also become a major health and fitness centre for the public with many individuals using the staircase during the work day and weekends.

Working in partnership with business. A brochure was designed to advise business owners what effect the road diet might have on their short and long term operations. Information shared at public meetings resulted in a portion of Copper being redesigned to better suit the needs of the businesses—the central turning lane was deleted, but the bike lanes and parking were maintained,

Road Diet for Quartz/Copper Rds—Tlingit to Second Ave

- Road Diet Involves:**
- Repainting roadway surface to a two lane standard with centre two-way left turn lane and bicycle lanes
 - Retrofitting traffic signals and signs to suit new road geometry
 - Upgrade street signage

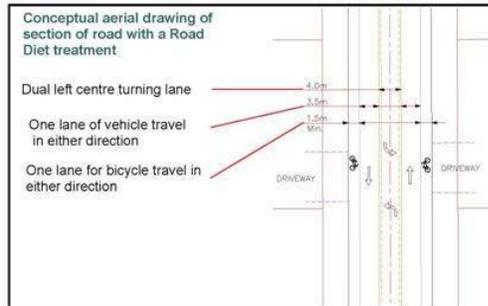
How will this decrease GHG emissions?
By providing a safer route to cycle and walk on a designated lane

How will my business be affected?
Access to properties for left turning vehicles will be improved. There is little road work to be completed—this road diet involves mostly line painting with some minimal concrete work along Copper and Quartz. All of the costs associated are covered under the Transportation Showcase Program.

When will the work start?
Design work will commence in May

When will the work be completed?
Expected completion September 2004

How will the public be informed of the new road geometry?
New signage will be installed, notifications will be on the City Page and the City web site.



Sample road (below) before a road diet and after (a digitally altered photograph with the new line painting). Bike lanes will not be painted blue, colour used a visual aid in the photo.



Road Diets with central dual left turning lane and cycling lanes—calm traffic, improve traffic flow, and provide a visible, safe place for cyclists to ride.

New signs were needed to advise road users of the new central turning lane, and that for portions of the road with inadequate space for a bike lane, that the road lane needs to be shared by motorists and cyclists.



Quartz-Copper Road Diet

The Quartz-Copper Road Diet was completed by the end of October 2004. The proposed design included changing both Quartz and Copper Roads into three lanes of vehicle traffic (with a central dual-left lane and one lane of traffic in either direction) and bike lanes along each side. Public meetings and discussions with the commercial and industrial businesses which are located along Copper Road resulted in the road diet configuration being amended to maintain existing parking spaces along both sides of the road in-lieu of the central dual left turning lane, while Quartz Road was changed to the three-lane configuration.

Continuous bike lanes as proposed were provided along the Quartz and Copper Road area, connecting downtown with the Porter Creek neighbourhood located to the north.

The City produced handouts, newspaper and radio ads regarding “new” dual left turning lanes associated with this Road Diet. Although this layout is common in many urban areas, a dual left lane was new to the City of Whitehorse.

Fourth Avenue Road Diet

4th Avenue is one of the major arterial roadways that pass through the downtown core, connecting the arterial connecting roads of 2 Mile Hill at the north end and Robert Service Way at the south end. The reconfiguration changed much of the 4 lane road to a 3 lane road with a dual left centre turning lane with bike lanes in either direction. The work was originally scheduled to be completed in 2004 along with the Copper/Quartz Road work, but the funding agreements were not executed in time to consult with the businesses and public in the downtown core, so completion of the project was deferred and completed in 2005. Work did begin in 2004 with construction of new parking bays along portions of 4th Avenue to address parking issues of businesses located there. New and improved street lighting was installed by Yukon Electrical Company, one of the partners on the Showcase Project.

Reducing the road cross section at the north end of 4th Avenue, where the road connects to 2 Mile Hill, resulted in a decrease in vehicle traffic flow as vehicles accessed the 2 Mile Hill which connects the upper escarpment area. Very vocal motorists upset with this change prompted Council to call an emergency meeting to review the road diet concept on 4th. The result being that the north section of 4th Avenue was reverted back to 4 lanes of vehicle traffic requiring cyclists and motorists to “*share the road*”. Council, however, did leave majority of 4th Avenue as a road diet, and also advised the now very vocal cycling community that although insufficient funds were available to address separate cycling lanes in this area in 2005, new funding would be allocated in 2007 which would allow the road to be widen enabling separate bike lanes adjacent to the 4 lanes of traffic.

With the redesign of 4th Avenue, it was anticipated that the traffic flow onto adjacent arterial roadways would increase, necessitating the need for a dual left turn lane from Two Mile Hill away from 4th Avenue. This configuration was implemented, resulting in an increase in vehicle accidents at this location. A Traffic Safety specialist was contracted to review the statistics from this intersection and the layout of the traffic lanes, draw conclusions and make recommendations as to correct the problem. Following review, it was confirmed that the number of accidents far exceeded the normal frequency of accidents at similar dual left intersections, yet the number of vehicles turning left was not as high as forecast, with most vehicles continuing to use 4th Avenue. The recommendation, therefore, was to return to a single left turn lane and two lanes of through traffic onto 4th Avenue. These changes were implemented in the fall of 2006. Traffic accidents at this intersection have since declined dramatically, with no traffic impact.

4th Avenue Streetscape and Greening

Landscaping improvements were deferred to 2005 and 2006 due to work on 4th Avenue road diet having not been completed before. The City began working with downtown businesses in the design of streetscape improvements and received many encouraging offers from local businesses to partner in the development of these landscaping features through contribution agreements.

Trees and shrubs were planted along 4th Avenue in 15 planter boxes by October 2005.

Annual flower planting opportunities were incorporated and designed with the participation of the business. Originally, the City had discussions with the business community on the location and maintenance of these planters. It was hoped that the business community would take responsibility for maintenance



of these planters but that has so far not occurred, and City parks crews maintain the planters.

New bicycle racks have been installed along 4th Avenue in conjunction with many planter boxes. In addition to those racks, Whitehorse Moves contracted 6 local artists to design and build unique bike racks. Business owners were invited to participate in the design concept to better complement their business - the music store received a bike rack in the shape of a large harp, while the bike rack at the



Photos of 2 new Bicycle racks located downtown Whitehorse

Engineering and Public Works building is fabricated with recycled pipe materials.

Over the last two years, the City has funded four business specific bike racks while other business owners have voluntarily installed another two. It is anticipated that the requests for bike storage will increase. Bike lockers is the next step in providing a more secure and protected place to store the expensive bicycles that many commuters now own, and the City has budgeted funds to purchase new lockers in 2008/2009.

To ensure that bike racks not only add to the street as art work, but are also functional, the City has requested that new bike racks meet the design criteria outlined in *Bicycles at Rest – bicycle parking best practices guide* (Luton, 2005).

The City of Whitehorse formed a new Transit Task Force in 2004 after a new City Council was elected. This Task Force had the responsibility to review the service cut backs that occurred in 2003, and look at ways to try and encourage more transit use within the city. While this Task Force looked at routing and scheduling concerns, under this Transportation Showcase Project, 4 bus shelters were strategically located following consultation with the Task Force.

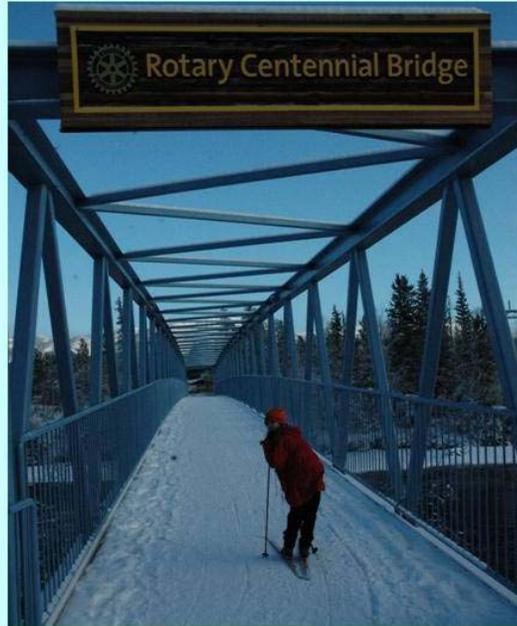
The Task Force also helped design new bus-stop identification signage to replace all signage at existing downtown stops. The new signs are tubular to ensure that bus-stops can be seen by pedestrians coming from all directions and have colour coded markings to identify which transit route stops at that stop. The colour coding is consistent with the colour printed route maps.



Making Transit stops easier to find. All downtown transit stops were re-fitted with a tubular bus stop sign. Colour coded bands with route names and route numbers let transit riders know which buses stop at each sign.



Roundabout—calms traffic and provides a gateway feature to the south entrance to downtown. Pedestrian crossings are safer. Traffic in the roundabout is slow enough to accommodate cyclists.



Rotary Centennial Bridge— completes the millennium trail, and provides a green corridor to access downtown from Riverdale. Used year round for cycling, walking, jogging and skiing. The paved trail is a popular leisure walk for Whitehorse residents and visitors.



Robert Service Way Roundabout

The Robert Service Way Roundabout was designed and constructed in 2004. The majority of the roundabout construction was completed by mid October. Landscaping and painting of the road and curbs was completed in the summer of 2005. Since the initial installations, signage has undergone changes to better educate the public on roundabout use. Two yield signs, one on either side of the road that enters the roundabout has been installed, with a tab on the inside roundabout advising motorists of the need to only “yield to vehicles in roundabout”.

Like dual left turning lanes, Whitehorse motorists were unfamiliar with how roundabouts worked, having had no previous examples in Whitehorse. Education along with opportunities to try driving a mock up of a roundabout in a large parking lot was an important component to many of these new infrastructure facilities.

Rotary Centennial Pedestrian Bridge

Rotary Centennial Pedestrian Bridge connects the community of Riverdale to the new Robert Service Way roundabout and bike lanes installed on 4th Avenue. The bridge and the trails on both sides of the river, provide an alternative to the busy narrow vehicle bridge that accessed Riverdale.

Geotechnical and environmental assessments, and new water licence were completed by July 2004. However, the project was delayed as the lowest tender for the bridge construction came in \$180,000 over budget. Whitehorse City Council continued to be a strong supporter for the Project, and additional funding was approved.

Construction began in September 2004 and the bridge opened the end of June 2005.

Fundraising by our Showcase Partner - the Rotary Club raised over \$80,000 for the bridge construction through a ***Purchase a Plank*** campaign. The project included the participation and partnership of Riverdale Community Association, Yukon Canoe and Kayak Club, Skookum Asphalt, the Council on Yukon Disabilities, and the general public. In addition to providing access to their property to allow its installation and use, Yukon Energy participated during the design work and dedicated funding for its construction.

The bridge has now become a major tourist attraction, and the City of Whitehorse Parks and Recreation department produced a brochure for a self-guided walk that centres around this bridge, and use of the connecting trails located on both sides of the Yukon River.

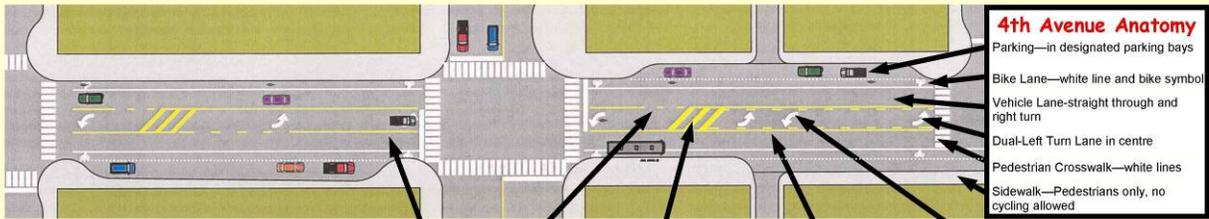
Right Turns

Turning right from 4th Avenue onto a side street or driveway: Your vehicle will be crossing the bike lane and you must yield to cyclists. Remember to check your blind spot before starting the turn, and do not block the bike lane.

Turning right from side streets or driveways onto 4th Avenue: Vehicles and cyclists must yield to cyclists, pedestrians and vehicles traveling along 4th Avenue. Vehicles should turn into the vehicle lane and not the bike lane.

Left Turns

Enter the dual-left turn lane as close as possible to the anticipated turn, and only if the line marking indicates that you may enter the lane. All cyclists and vehicles should signal and enter the dual-left turn lane only when the way is clear. Cyclists remember to check over your left shoulder before leaving the bike lane. All left turning cyclists and vehicles must yield to oncoming traffic and pedestrians using cross walks.



4th Avenue Anatomy

- Parking—in designated parking bays
- Bike Lane—white line and bike symbol
- Vehicle Lane—straight through and right turn
- Dual-Left Turn Lane in centre
- Pedestrian Crosswalk—white lines
- Sidewalk—Pedestrians only, no cycling allowed

Parking

Parking your vehicle
When entering or exiting a parking spot, you will be crossing through the bike lane. Check your blind spots carefully! You must yield to cyclists in the bike lane. Please park as close to the curb as possible to avoid obstructing bike and vehicle lanes.

Opening your car door
Caution—Before opening a door, check for cyclists and other vehicles. Failure to do so is against the law and could cause a fatal accident. Cyclists be alert when passing parked cars—the doors may open unexpectedly.

A dashed yellow line indicates that you are allowed to enter the dual-left turn lane, provided the way is clear.

A solid yellow line indicates that you are **not** allowed to enter the dual-left turn lane.

Solid yellow stripes across the lane indicate that no vehicles should be in the lane at this point—this is a reminder that the lane is not a through or passing lane, but only intended for making left turns.

A solid-dashed yellow line indicates that you can expect vehicles to be entering the dual-left turn lane from either direction.

White arrows indicate left turns permitted.

understanding the lines and markings

Sept 3, 2004

Brochure published in 2005 to educate Whitehorse residents on what the new road diet markings on 4th Avenue mean and how to use the dual left turning lanes.

Public Education and Outreach

The public education and outreach component of Whitehorse Moves was intended to build upon the existing community awareness of the linkage between transportation and green house gas emission reductions. Work leading up the Showcase included the Transportation Study open houses (including the original Whitehorse Moves Charrette held in 2002), Official Community Plan open houses and the Showcase Proposal development itself.

Infrastructure Project Education

Education was provided along with every major infrastructure upgrade completed during the first two years of Whitehorse Moves. In May 2004, prior to any infrastructure changes, the complete suite of changes were showcased at the Lion's Trade Show. Road and path design concepts, a new bus shelter, and a computer simulation of vehicles using a roundabout were used to inform the public of the upcoming changes, the community benefits and how the upgrades were linked to green house gas reductions. A brochure highlighting all the changes was designed and produced for the trade show. For the May 2005 Trade Show, photographs of the completed infrastructure changes were showcased.

A commuter Cycling Map was produced, outlining the major cycling routes to downtown and across the City, the type of infrastructure available (on-road



dedicated bike lane versus off-road trails), locations of steep roadways, and level of traffic that one could expect. The map included a summary of the Showcase and One Tonne Challenge Programs, rules of the road, cycling safety, and information about bikes on buses.

City Bylaw and Parks and Recreation, the RCMP, the Cycling Community, and Yukon Governments Motor Vehicle Branch participated in its production. The Map has been made available at all City facilities, tourist outlets, many businesses, and is available on the web site.

Public open houses were held for every major project, and affected property owners/tenants were personally invited to attend. Project specific brochures were designed, produced and distributed at meetings, reproduced in the newspaper and available at all City buildings and on the City transit buses.

Education on the proposed roundabout was delivered in a number of ways. A mock roundabout in a large parking lot was laid out July 2004 to provide City staff, drivers of large vehicles and the general public an opportunity to “test” the proposed roundabout for maneuverability.



In the Yukon, the Territorial Government is the major land developer for residential and industrial properties. As part of the City and Yukon development agreement upgrading Hamilton Boulevard - an arterial roadway which is an extension of 2 Mile Hill and services the westerly residential neighbourhoods in the upper escarpment area was necessary. Following consultations with City Engineering, a new roundabout was also designed and constructed by the Yukon Government. They created a roundabout brochure, and hired a consultant to develop a computer simulation video for using the roundabout that was shown at their public meetings and at the City’s Trade Show in May 2004. As the roundabout was an intersection design that was new to Whitehorse, educational brochures, and newspaper and radio ads were developed to educate drivers. The R.C.M.P. and City Bylaw officers handed out information packages during a check - stop campaign in 2005.

Meetings with Yukon Government’s Motor Vehicles Branch representatives were also held to ensure that the roundabout, along with the City’s new road diet with dual left turn lane configurations and signage were incorporated into future new driver training manuals and testing procedures.

Although the City provided public education on infrastructure changes well in advance of the actual construction, the majority of the people likely became aware of the projects and the changes the first time they traveled the road. Concerns and apprehension on using this new infrastructure impacted some users for a while, but generally are now being used properly.

Public education on sharing the road with multiple users and obey the rules of the road continue to be incorporated in public education through print media and the City web site.



General Education and Awareness

As well as project specific education, general education and awareness activities were proposed over the Showcase period to encourage green house gas emissions reduction by decreasing vehicle usage. Many of the programs were existing programs, and provided partnership opportunities to advertise the new active transportation infrastructure.

The ongoing events included the Commuter Challenge, a national competition held annually the first week of June. The Commuter Challenge encourages citizens to get to work by some means other than by single occupancy vehicle. Whitehorse Moves advertised the event at the May Trade Shows, on the Web site and through print media, provided free transit on Clean Air Day, and hosted a display at the Sneaker Day Pancake Breakfast during the Commuter Challenge or in the week leading up to the Challenge.

On an ongoing basis, the City website contains information on Whitehorse Moves infrastructure changes, the commuter map, transit maps, the City's Local Action plan for green house gas reduction that was adopted in 2004, and general information about green house gas and reduction.

Anti-idling Campaign

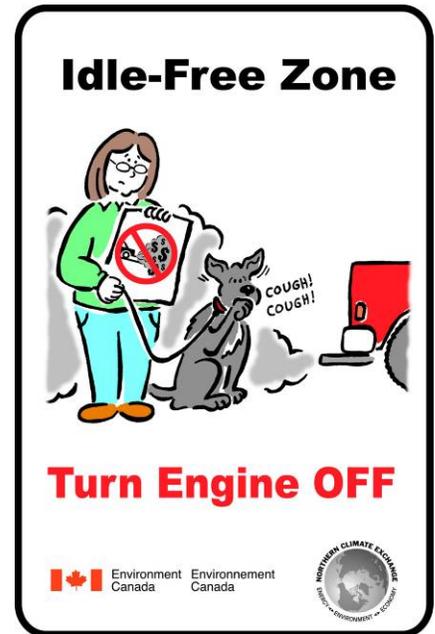
Whitehorse Moves proposed to phase in an anti-idling campaign by creating a corporate City Policy restricting idling of city owned vehicles, challenging city employees to reduce idling in their own vehicles through an anti-idling campaign, and expanding the idling campaign to public buildings including schools, daycares and other government buildings.

The City developed an anti-idling policy for City owned and operated vehicles in 2005. Presentations were made by the Environmental Coordinator and the Supervisor responsible for vehicle maintenance to every city department. As the policy was adopted through a public process by Council, the informed public started to report examples of excessive idling of City vehicles shortly after policy

implementation. The Supervisor of Vehicles believes that the policy was introduced well, based on sound mechanical objectives and has overall, been well received by the staff. City employees that continue to idle their vehicles are approached by the supervisor and reminded of the policy. A new initiative to install cab heaters (allowing the vehicle to be shut down while keeping the cab temperature comfortable) will be piloted in 2007-2008 in two vehicles, and the fuel consumption closely monitored.

No formal program was developed expressly as part of Whitehorse Moves to educate the public on the benefits of not idling. After the Urban Transportation Showcase Program was initiated, Whitehorse was chosen as one of a number of Canadian cities to launch the One Tonne Challenge educational campaign (October 2004-March 2006). The City's One Tonne Challenge program incorporated anti-idling as a measure that citizens could take to reduce green house gases. Likewise, the Girl Guide Climate Change Challenge listed anti-idling as a project that Girl Guides could complete as part of their transportation badge.

Anti-idling information and linkages to national anti-idling campaigns were included on the City website. Small gains have been made by the installation of no-idling signs at selected public buildings and daycares with additional signs being installed in the vicinity of fresh air intake for public buildings, advising patrons to shut their engine off. A local elementary school has approached the City to work collaboratively on a no-idling campaign as part of its new student drop-off zone. This will provide the City with a pilot anti-idling program at the school in 2007-2008.



Tire Pressure Clinic

Fuel consumption is linked with properly inflated tires and during the 2005 and 2006 summer months, City hired students to hold numerous tire inflation clinics at local gas stations. Participants were provided with information about properly inflated tires, and were given a free tire gauge.

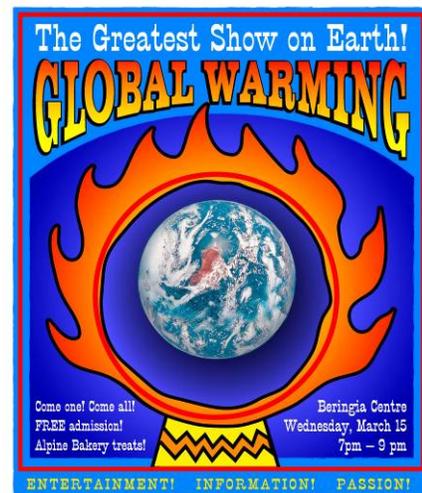


Additional Public Education

The Whitehorse One Tonne Challenge also focused on home energy retrofits through intensive workshops, energy fairs and displays. Participants registered for the One Tonne Challenge, indicated which green house gas reduction initiatives they were already doing, and made a commitment to accomplish three new initiatives in the next year.

The decision was made to not have transportation as a primary focus of the One Tonne Challenge, as this was being addressed through the Urban Transportation Showcase Program. However, the One Tonne Challenge provided an increase in general green house gas reduction education, and at every house renovation workshop, all Whitehorse Moves materials were made available. Two Auto Smart courses were held, and government employee workshops included information on the carpooling program. A telephone survey completed in February 2006 assessed the effectiveness of the One Tonne Program, participants' ability to follow through with green house gas reduction initiatives and recommendations for future education endeavours. Forty four people were surveyed.

In March 2006, the Yukon Conservation Society held workshops for Whitehorse teachers involved in classroom climate change education. A public lecture with by Climate Change activist, Guy Dauncey attracted over 150 people, challenging them to reduce their green house gas emissions and to explore options for future energy sources. Materials from Whitehorse Moves were available to the teachers at both workshops, and City employees led some of the breakout sessions.



The Greatest Show on Earth!
GLOBAL WARMING

Come one! Come all!
FREE admission!
Alpine Bakery treats!

Beringia Centre
Wednesday, March 15
7pm - 9 pm

ENTERTAINMENT! INFORMATION! PASSION!

Global climate change is an enormous peril or an enormous opportunity, depending on how you look at it. California has pledged to reduce its greenhouse gas emissions by 20% by 2010. Sweden has pledged to end its dependence on fossil fuels by 2020. What should the Yukon do? What should you do?

Guy Dauncey is an impassioned speaker, author, and sustainable communities consultant working to develop a positive future for a sustainable future, and marketing that vision into action. He is author of the award-winning book *Starry Starbuck: 101 Solutions to Global Climate Change*, and President of the BC Sustainable Energy Association.

Rony Zedden (singer/songwriter/performer) will be there to sing his latest tune about Climate Change.

Roberta Cassford (Communications Officer) will be talking on the state of climate change in the Yukon.



The Riverdale Community Association produces a neighbourhood newsletter two or three times a year. The Association has supported Whitehorse Moves by publishing articles and public awareness pieces to encourage Riverdale residents to use the new infrastructure and walk, cycle, carpool or take transit to downtown.

Sharing with other jurisdictions occurred throughout the Showcase, including the annual meetings and workshops held by Transport Canada, a presentation at the National Federation of Canadian Municipalities sustainability conference in Ottawa February 2006, and the Pro-Bike Pro-Walk conference in Madison Wisconsin September 2006. In November 2006, the Madison presentation was delivered to United States Federal Program equivalent to the Urban

Transportation Showcase Program via telephone and CD copy of the presentation. Additional meetings and presentations are expected in 2007, and possibly in future years.



City of Whitehorse Bus at one of the new bus stop signs

Transportation Demand Management

Whitehorse Moves proposed to decrease the level of drive alone commuting by designing and promoting programs that encouraged transit, carpooling, bicycle use and a TDM trip planning portfolio to personalize commuting options. It was intended that the infrastructure upgrades would be in place after the first year of Whitehorse Moves, followed by two years of Transportation Demand Management programs and activities. As the infrastructure upgrades were not completed until the second year of the three year program, the design and implementation of TDM programs was reduced to one year. The scale of the projects was also scaled back, reflecting the small budget that was allocated to this portion of Whitehorse Moves.

Alternatives to commuting in Whitehorse other than as a single driver is challenging – the population is generally low density and spread out from the downtown core; driving to downtown is efficient and there is ample, free parking; the commute times are relatively short and gasoline prices are still affordable. Without high transit ridership, the level of service that can be provided is kept to a minimum.

Transit encouragement

Whitehorse Moves had proposed to increase transit ridership by forging improved partnerships and establishing transit pass incentives with community groups, Yukon College and downtown employer/employees, improving the comfort for transit passengers at high volume locations, and improving the access and use of scheduling on the city web site.

The duration of Whitehorse Moves was an interesting time for Whitehorse Transit. Rather than market a service that may not meet the needs of the commuting public, the Manager of Transit looked for opportunities to access and improve the service prior to launching an aggressive ridership campaign. The Transit Task Force that was struck in 2004 by City Council set out to evaluate the current system and propose changes that would lead to increased ridership. The main themes emanating from the conducted surveys reflected the desire for service every half hour (rather than the current 35 minute service, which significantly reduces the ability to memorize a schedule), increased frequency during peak time, and longer evening hours. It was also apparent that many commuters accessing downtown (Main Street) would be required to transfer buses. Routes that minimized transfers were desirable. A list of recommendations from the Task Force was presented to Council, requiring an increased Transit budget.

The four new bus shelters that were installed in the downtown core helped to increase the wait comfort for patrons in higher density areas. The bus stop signs that were replaced in the downtown core, replaced the old style flat single-sided signs with bright tubular ones with colour coded bands indicate which buses stop at the sign. Customized schedules were designed for downtown stops and high traffic stops, but not installed due to the continuous uncertainty of route configuration and schedules.

The benefits of having stop-specific schedules posted at bus stops is still recognized as an effective way to educate the public on route schedules, but with transit still in the process of reviewing and testing out new schedules, including a new downtown loop to be tested in 2008, is proposed as an implementation project for a future year.

The Canada Winter Games (February/March 2007) provided an opportunity to design and test a new transit system, incorporating as many recommendations as possible from the Transit Task Force. Transit drivers and management spent considerable time designing three new routes, focusing on providing ½ services, eliminating the need for most transfers and extending the service to the evening and the weekends. The expanded service was tested prior to Christmas 2006, fine tuned and implemented in 2007 during the Canada Winter Games. An on-board survey was conducted during the games to evaluate ridership satisfaction with the expanded service. Transit will return to pre-games service levels, and improvements to the system will be integrated into the City's new Integrated Sustainability Plan that is being prepared as part of the new Federal Government Gas Tax transfer program.



**2007 Games
Express Service**
FEBRUARY 19 - MARCH 10



City Transit has been able to purchase new low floor kneeling buses as part of the Municipal Rural Infrastructure Fund, improving the accessibility of transit to those with mobility challenges. This has reduced the demand on the Handy Bus and increases independence for those that can use Transit unassisted.



Carpooling

Whitehorse Moves proposed to establish a web based carpooling software program and organize carpooling opportunities for downtown commuters and youth recreational activities.

Carpool.ca was contracted to host the City of Whitehorse ride matching program - it had a proven track record with carpooling programs in large Canadian cities, and had spent considerable effort in developing educational and promotional materials. The program was launched in October 2005, with a ride-share Week campaign held January 2006. While Carpool.ca had radio, print and television advertisements, the main themes of traffic congestion, high parking fees and the ability to utilize high occupancy vehicle lanes would not have resonated with Whitehorse commuters. New educational materials were developed in October 2005 focusing on reducing costs and having to warm up only one car. Whitehorse residents received specific carpooling information in the October Utility bill and the winter 2006 Leisure Guide. Carpooling was included as a commuting option in the spring 2006 Utility Bill insert, the Trade Show display and Commuter Challenge. Employer emails were developed for Yukon College (and sent to all staff and students every 3 months), the Hospital, Yukon Territorial Government, Marsh Lake residents and City employees. Carpooling was advertised in the newspaper and on the radio, predominately during the Ride Share week and each fall.

The uptake of the carpooling program was not significant, with only one registered person (out of 85) reporting a possible match. Based on the 2007 survey results, the services of Carpool.ca were discontinued in September 2007.



DO YOU

Drive to work, college or school?
Fume over the rising cost of fuel?
Dread the drive to work alone?

You are a prime candidate for the...



Urban Transportation Showcase Program

Bicycle Fleet

Cycling is a viable mode of transportation for many downtown employees attending meetings or running errands in the downtown core. Whitehorse Moves proposed to encourage the development of a bicycle fleet for employees to attend meetings and run errands, thereby removing the need to have a vehicle at work at least some of the time. Coupled with providing bicycles for errands is the need to install bicycle racks throughout the downtown, making door-to-door cycling more feasible.

The City purchased four bicycles in 2004, that can be used for work related meetings and errands. The bicycles have helmets (to conform to the City Bylaw requiring the use of a bicycle helmet) a lock (all with identical lock combinations) and saddle bags to make carrying items easier.

The bicycles are all single speed, heavy frame bicycles painted blue and rebuilt by a local bike mechanic. The blue bike program advertisements were emailed to City employees at least twice a year during the Showcase Program, and now reside in a prominent place inside the entrance to the Municipal Service Building. The bicycles are maintained once per year to ensure that the major components are in good working order, as well as throughout the year when specific concerns are brought to the attention of the Environmental Coordinator. The number of office bicycles was increased by two in 2007, when Bringing Youth Towards Equality (BYTE), a downtown Whitehorse youth group, secured funding from the City Environmental Fund to purchase two office bicycles for their employees.



To be successful, the program requires more diligent emails and reminders that the bikes are available. Barriers to using the bikes include the bikes being single speed (limits the use to downtown Whitehorse), and not completely adjustable for all body heights.

Personalized trip planning Portfolio

In the original proposal, it was anticipated that the educational component would have a two year roll-out, and include a personalized trip planning portfolio – residents would request information based on where they live and what options

are available to them, and then a personalized package would be sent out with site specific details and routes. With the delay in infrastructure completion, and underestimating personalized trip planning program costs, this portion of Whitehorse Moves was redesigned to provide more generic travel options and route maps, and a community based social marketing bicycle program. The theme throughout all the advertising focused on changing how you get to work one day a week. Depending on the modal shift, this could be equivalent to a 20% reduction in green house gases associated with commuting 5 days a week.

Ready to shift gears?

- 1 Dust off your bike and make sure it's road worthy.
- 2 Check your helmet (*helmets are mandatory in Whitehorse*).
- 3 Determine your route.
- 4 Make sure you are a safe rider – wear reflective clothing, ensure your bike has a white head-light and red tail-light.
- 5 Start by riding one day a week.

Does your commute seem too much?

Start slowly and build up gently by combining walking and cycling with taking the bus. Whitehorse buses have bike racks. Now that spring is here, there is no need to worry about getting cold waiting for the bus.

Transit schedules are available online, at City Hall, or by calling 668-RIDE.

Not sure what route to take?

Check out the City of Whitehorse Commuter Cycling Map for the best cycling routes. It also provides information on cycling safety and regulations. This map is available online or at City Hall.

Whitehorse moves

The City of Whitehorse has been hard at work to improve your commuting experience. No matter what corner of the city you live in, you'll now find it more pleasant to bike into the downtown core. Infrastructure changes include:

- paved off-road trails beside Hamilton Boulevard, Two Mile Hill and around the airport
- on-road dedicated bike lanes on Copper Road, Quartz Road, and 4th Avenue
- bike-friendly Puckett's Gulch staircase
- Rotary Centennial bridge for pedestrians and cyclists coming in and out of Riverdale

Did you know that even taking public transit helps your health?

Studies show that commuters who take the bus are healthier than those who drive to work. Why? Because they walk at the start and the end of each bus trip. Every little bit really does make a difference.

City of Whitehorse TRANSIT

The commuter cycling map provided information on the best routes to and within downtown for cycling, and linked bussing and cycling through the use of the bus-bike racks. Transit maps contained information on routes, stops, schedules and prices, and were redesigned in 2005 to be colour coded consistent with the new downtown bus-stop signs. Recreation and Parks Association of the Yukon produced a downtown walking map in 2005. These maps were available at the Trade Show in May 2005 and 2006, downloadable on the internet, for pick-up at City buildings, mailed when requested and are inserted in the City Welcome Package – an envelope of information for new residents to Whitehorse.

All the infrastructure upgrades were completed by the fall of 2005, and the Trade Show in May 2006 challenged the Whitehorse population to mix and match their commuting options. Average commute times for the different modes were calculated for all neighbourhoods within 7 kilometres of downtown.

A bus-bike rack and blue City bike were on hand to provide participants with the opportunity to load and unload a bike from the front of a bus – most were pleasantly surprised how easy the rack was to operate. The same display was set up during the Sneaker Day Pancake Breakfast in 2006.

Transit re-examined its policy regarding bikes on the bus, and agreed to allow bicycles to be brought onto the bus if the front rack was full and the driver evaluated that the bicycles on the bus would not compromise passenger safety. This policy change has increased the options for Whitehorse residents to bike and bus with greater certainty that they will be able to ride the bus during non-peak hours.



Photo taken at the Lions Trade Show May 2006 – visitors could practice loading the bikes on the bike rack, and obtain information about roundabouts, road diets, travel times for cyclists from various locations within the city, and information on reducing green house gases.

Community Based Social Marketing was used to design brochures aimed at encouraging citizens to leave the car at home one day a week and bike, walk, cycle, carpool or take the bus. The Utility bill mail-out (to 5,300 Whitehorse households 4 times a year), was used to send out these CBSM brochures throughout the project, with seasonally specific themes – walking and cycling in the spring and summer; carpooling and transit in the fall and winter.

Public service announcements and paid advertising on the radio were used to advertise public events and initiatives such as the Commuter Challenge, Wheel 2 Work Whitehorse, and Carpooling. Press releases sent to the Radio stations almost always resulted in an interview. The City page in the local Newspapers was a primary method of communication, evolving from upgrade announcements

and construction details early in the Showcase, to education about new infrastructure and road signs, to community based social marketing approaches once the infrastructure was completed. The City Active Living Guide and the Utility bills were used in a similar way.

A theatre slide was developed in partnership with the One Tonne Challenge, and shown at the two local theatres for 3 months in 2005/2006. This slide was used to educate the public on the infrastructure upgrades that had been built to support active transportation, and encourage them to use this new infrastructure.

Get Off Your Rear And Get in Gear!

There are new paths and bike lanes all over town just waiting for you!

Try biking or walking to work once a week and you'll get fit, save cash and reduce your yearly greenhouse gas emissions by almost half a tonne!

Pick up a free City of Whitehorse Commuter Cycling Map at any city building or call 668-8312.

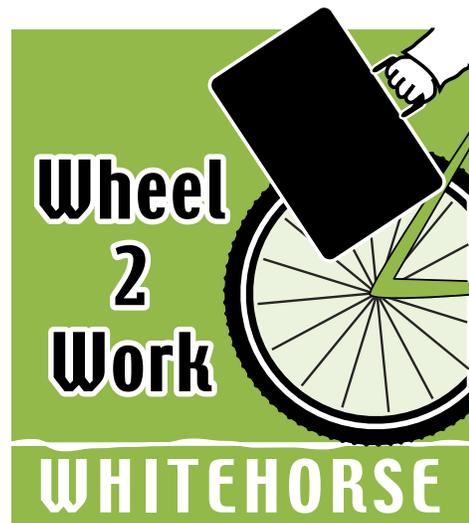
Whitehorse **One-Tonne CHALLENGE** Canada

The poster features a central illustration of a person in a blue shirt and red helmet riding a bicycle past a car. Logos for 'Whitehorse moves', 'Whitehorse One-Tonne CHALLENGE', and 'Canada' are at the bottom.

Over the course of Whitehorse Moves, the City website was updated and expanded to include all of the print media and information generated through the showcase. Major organizational and content changes to the transportation portion of the website were completed over the course in 2006. As it currently exists, the City of Whitehorse website continues to be difficult to navigate, and the searching for information is not necessarily intuitive. Opportunities to improve the navigation and access to material are an ongoing goal for the website, with the possibility of having a separate Whitehorse moves url being explored.

Wheel 2 Work Whitehorse

Cycling in Whitehorse is perhaps the most reasonable form of active transportation – most of the infrastructure improvements have favoured bicycle travel, and the distances to most of the outlying neighbourhoods make walking less efficient and probable. With cycling in mind, a new initiative in 2006 was designed to encourage commuting for work at least one day a week by bike. Working with Recreation and Parks Association of Yukon this community based social marketing program included a pledge form, incentives, and opportunities for feedback and recognition. The locally famous Haines to Haines bike relay race run every year in June is well known with Whitehorse and Alaska residents. This 238 km race course passes through 7 checkpoints, starting at Haines Junction, Yukon and ending in Haines Alaska. Wheel 2 Work Whitehorse used the same race course distances – participants registered for the program, and by cycling and recording



their kilometres cycled for work, progressed along the race course, passing through the checkpoints and accumulating incentive prizes along the way. To be eligible for the incentive prizes and the draw prizes at the end, participants had to submit log sheets with their kilometres recorded. They also recorded their primary mode (s) of transportation in previous years. Participants could register for the program in person, over the phone or by mail.

In 2006, the Commuter Challenge website hosted by Go-for-Green was also used a method for logging kilometres. In 2007, the City Web site was expanded to include a registration system, downloadable log sheets, and information requests for maps, bus routes and schedules and information on loading the bike on the bus rack. Participants filled in their log sheet and emailed the form back to the Environmental Coordinator. The registration process also requested information on the number of times participants cycled, walked, drove alone, carpooled, took transit, and worked from home May to September 2006. The log sheets allow the data to be analyzed for average daily distance traveled and frequency of cycling. A new draw prize encourages participants to continue reporting km after having finished the race.



Anticipated barriers to participating in the program included fixing flat tires and measuring the distance cycled. Free basic bike maintenances courses were offered in 2006, and cycling computers could be borrowed or purchased from the City. Participants could also submit their exact route, and the City GIS system was used to provide an accurate measure of their distance cycled.

Advertising for the program was on-going throughout the summer and included a "look's who cycling now" feature in the newspaper.

The Wheel 2 Work Whitehorse program has been included as best practices for active transportation on the Transport Canada website and follow-up enquires have been received from the United States and Canada.

Overall, the transportation demand management programs started through Whitehorse Moves have been beneficial in promoting the commuting options available to Whitehorse residents. There is more integration and overlap between transit, cycling, walking and carpooling education, and they mutually support each other. There has been confusion by the public over which programs are being run by which authorities – sometimes the advertising has been too common and not unique to the program.

In 2006, the redesign of Whitehorse Moves was contracted to an advertising firm. A new logo and graphics style was proposed, along with a number of program ideas to work towards providing a more personalized service to alternative transportation. Completed early in 2007, the final advertising report recommends that Whitehorse Moves become the over arching umbrella unifying all of the individual alternative transportation campaigns designed by the City – residents need to see that the campaigns and programs all belong to an identifiable larger goal. Discussions on creating a new Whitehorse Moves website is underway, allowing easier access and more artistic control over the feel of the website. This will help to carry Whitehorse Moves to the next level of sophistication necessary to ensure alternative transportation continues to grow in Whitehorse and increasingly becomes the social norm.



FINANCIALS

The original budget for the Whitehorse Moves Showcase Project was originally forecast to cost \$2,362,000 in 2003. Most of the funding was allocated by Council, under authority of Resolution 2003 – 09 -12 passed on May 12, 2003, and then confirmed with the 2004, 2005 and 2006 Annual Budgets. Transport Canada, through the Urban Transportation Showcase Program, agreed to contribute \$700,000 in funding, with the additional funding and in-kind services estimated at \$200,000 being provided by the City partners, with the most financial contributions coming from Yukon Energy, Yukon Electrical Co., and the Rotary Clubs of Whitehorse through their “Purchase a plank” fundraising campaign.

The final costs for the work from 2004 to 2006 came in at \$2,722,000. Funding and in-kind services from City partnerships, not including Transport Canada’s contribution, amounted to \$230,000.

In addition to those project costs, City Council allocated funding in 2007 and 2008 budgets to widen the section of 4th Avenue that was changed back to 4 lanes from the proposed road diet concept to allow for new separate bike lanes and improve street lighting. The City’s partner, Yukon Electrical Company, contributed substantially to burying overhead power lines and removal of old wooden power poles to allow the road widening to be completed.

See Appendix 1 for the complete financial summary.

Monitoring and Benefits

Monitoring techniques and surveys for Whitehorse Moves evolved and advanced throughout the project and proved to be a significant challenge. Initially, all infrastructure changes were planned to be completed in 2004. This would have provided two years of post-infrastructure changes to monitoring commuting pattern changes, and to design, implement and monitor educational programs encouraging residents to switch their commuting modes. With delays in funding agreements and construction timelines, the infrastructure changes were completed in 2005. This left only one year for education and monitoring.

Given that the anticipated changes involved a behaviour change, one year of monitoring is insufficient to expect overall changes in commuting patterns that have been ingrained in people's habits for many years. It is anticipated that the changes will continue to manifest themselves over the next years. It has been estimated that more Whitehorse residents are commuting to work by bicycle, on foot and using transit.

Surveys designed and conducted over the course of the Whitehorse Moves became more focused on the users of the new infrastructure and specific programs. Appendix 2 summarizes the surveys and counts that were used to collect data.

Green House Gas Reductions

Two major accomplishments were achieved with green house gas reductions through Whitehorse Moves – those associated with transit ridership increases and those from commuting cyclists that used to drive alone to work. Residents also reported on personal initiatives they have taken to reduce green house gas emissions through the citizen survey and the One Tonne Challenge.

Transit drivers record daily passenger counts to obtain annual ridership per route. The number of additional riders per year above base line ridership in 2004 is of interest in greenhouse gas reduction calculations. For each route in the City, an average one-way distance was estimated from the centre of the outlying subdivision serviced by that route and downtown Whitehorse (4th and Main). The

Monitoring Goals

Using all data sources:

- *Estimate **green house gas reductions** in the transportation sector;*
- *Evaluate the **level of satisfaction** with the transportation infrastructure changes;*
- *Examine **commuting pattern changes** of Whitehorse residents as a result of the infrastructure changes and public education and outreach;*
- *Analyze **motivation for modal shift**;*
- *Evaluate **other surveys and initiatives** that align with the Urban Transportation Showcase Program initiative.*
- *Recommend **future directions** to increase alternative transportation in Whitehorse.*

shortest driving distance was used, to simulate the probable distance that a driver of a private vehicle would most likely take to make the trip. This route specific distance was then multiplied by the number of passengers in 2006 exceeding the annual ridership in 2004 to calculate an estimated reduction in personal vehicle kilometers driven (as the person now took the public transit to make the journey). This total kilometer distance was used to calculate the maximum greenhouse gas reductions that could be expected from the increased ridership, assuming that all of the new riders would have previously made the trip by single occupancy, mid-sized vehicle.

GHG Reduction in Transit

Target: 18 Tonnes
Estimated: 78.7 Tonnes
Data Source: Daily Ridership Counts
Assumption: Ridership replaced single occupancy vehicle

The increase in ridership between the baseline year of 2004 and the monitoring year 2006 was 48,952 passengers, resulting in an estimated, maximum greenhouse gas reduction of 78.7 Tonnes for all transit

routes. This exceeds the target of 18 Tonnes.

Participants in Wheel 2 Work Whitehorse (W2WW) recorded the actual distances commuted to work or for work related travel (errands and meetings) May 1 to September 15, 2006. A total of 108 participants cycled and reported 39,879 work related kilometres. Assuming these kilometers cycled replaced drive-alone travel, this would be equivalent to a CO² reduction of 12 Tonnes. Forty percent of the participants indicated that their primary mode of commuting to work in 2005 was by driving alone; these 43 individuals cycled 13,274 work related kilometres in 2006. This is equivalent to a CO² reduction of 4 Tonnes over a 4.5 month period. A follow-up survey with participants would be insightful to determine if this program has resulted in commuting pattern changes spanning multiple years.

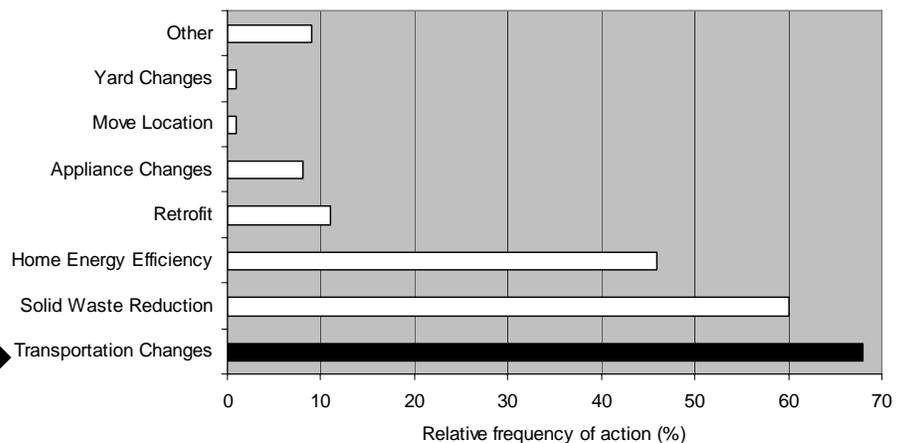
We were not able to demonstrate a green house gas reduction through the carpooling program. A Zoomerang survey was emailed to all 85 participants in November 2006 to evaluate the carpool program. Seventeen people returned the survey (20% return rate). While the respondents were clearly interested and motivated to carpool (they registered for the program), they were not able to find a suitable match (76%) or did not even try to find a match through the website (18%). Only one person actually found a match through the carpool website, but did not establish a routine and pattern with that carpool partner, and therefore stopped trying. If participants carpooled, it was most likely with a family member (38%) or a co-worker (12%), and was arranged outside of the carpool website. 31% of those registered did not even carpool in the last year. Concern for the environment was the highest factor in wanting to carpool (75%), with saving money second (19%). When asked what would make it easier to carpool, having a larger number of possible carpool partners to choose from was ranked as being very important by the most number of respondents (82%), followed by increase in fuel costs (57%) and flexible work schedule (47%). It is clear that a carpool program needs more participation to be successful.

Active transportation initiatives were popular pledges for One Tonne Challenge participants to reduce their green house gas emissions. (One Tonne Challenge Survey 2006). An increase in cycling and walking were the major accomplishments, but the degree of modal switch was not determined from this survey. It is interesting to also note that many participants correctly associated a linkage between idling, better vehicle maintenance and efficient vehicle purchase with green house gas reduction. The perception of increasing public transit as the most effective measure for reducing green house gases in the future is consistent with other surveys conducted over the past three years.

Close to seventy percent of the actions reported by citizens could result in greenhouse gas reductions in the transportation sector (Figure 2). This wide range of activities in the transportation sector that contributes to green house gas reductions indicates that Whitehorse residents are well versed in how they can make behavioural, maintenance and purchasing changes to reduce green house gases. The extent of the reduction was not quantified.

- GHG Reductions through transportation related actions:**
- Drive less
 - Walk/cycle/transit/ carpool more
 - Link trips
 - Reduce idling
 - Sell second vehicle
 - Purchase fuel efficient vehicle
 - Maintain vehicle, inflate tires
 - Remove roof racks
 - Use ethanol blended fuel

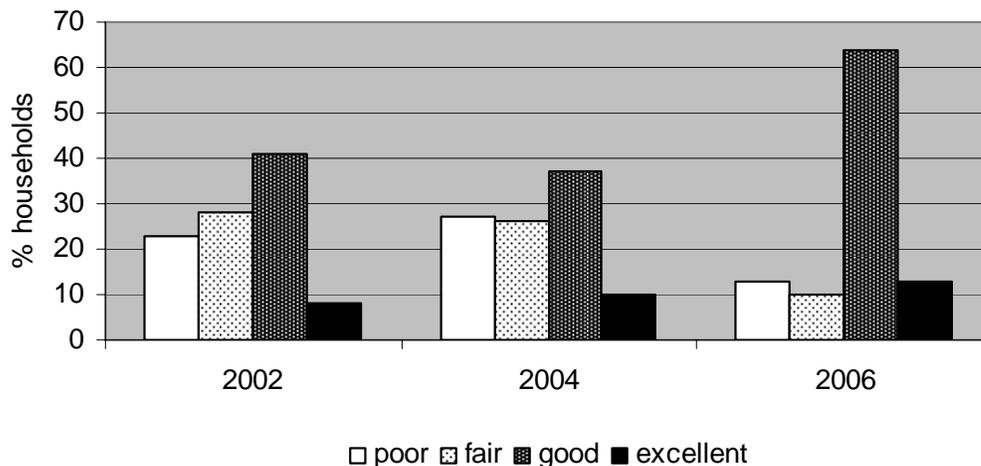
Figure 2: Percentage of actions in the past year to reduce greenhouse gas emissions (multiple answers allowed) (Citizen Survey 2006).



Level of Satisfaction

Overall, Whitehorse residents report that the trails and paths leading to downtown have significantly improved since 2002 and 2004 (Figure 3). The infrastructure changes were initiated and completed between 2004 and 2006.

Figure 3: Percentage of households that rate the trails leading to downtown Whitehorse as poor, fair, good or excellent (Citizen Survey 2006).



Roundabouts were controversial when proposed for Whitehorse following our 2002 Whitehorse Moves design charette. Some drivers felt that this was a step back in time, while others had no experience driving roundabouts. While driving roundabouts require changes in driving skills, sixty-seven percent of Whitehorse households think that the roundabouts installed at Robert Service Way and Hamilton Boulevard are effective (Citizen Survey 2006).

Roundabouts in Whitehorse	
Prior to 2004	0
Installed by end of 2005	2
Proposed after 2007	3+

At City hosted neighbourhood planning workshops, roundabouts are now frequently proposed by residents as a method for improving traffic flow and calming traffic. Additional roundabouts are proposed for new Whitehorse roadways.

Satisfaction with the new road diet configurations on 4th Avenue and Quartz Road received mixed results. Only 6% of households thought the 2 lanes with a central dual left turning lane and separate bike lanes were excellent, while 52% thought they were good, 18% fair and 24% thought the changes were poor (Citizen Survey 2006). Criticism about the new 4th Avenue alignment included increased congestion during peak afternoon times, confusion by drivers feeling that the lanes were painted incorrectly, drivers unsure how to use the dual left

turn lanes or if they should use them, and having to share the road with cyclists. In the initial year, the new centre-dual left turn lane did seem to cause some confusion for some drivers – it is now apparent that the majority of the residents do know how to enter the lane for turning left. Criticisms for Quartz Road are due to the lack of traffic signals at a 4-way stop intersection, a situation that was not fixed with the Road Diet.

In the 2005 trail surveys, 4th Avenue changes/reversions by Council received heavy criticism from the cycling community, with the on-street bike lanes between the 2 Mile Hill and 4th Avenue intersection and Ogilvie Street being converted to a Share-the Road section. It is anticipated that this situation will be changed in 2007/2008, with the widening of 4th Avenue to allow for the installation of continuous separate bike lanes connecting 2 Mile Hill and 4th Avenue at Ogilvie Street.

Although most residents rate the trails and paths as good to excellent in 2006 (Figure 3), their perception of safety was influenced by their mode of commuting to downtown (Figure 4). In the citizen survey 2006, residents were asked if they had commuted to work by bicycle or by walking in the past year. The responses to this question were cross-tabulated with perceptions on safety – those that cycled or walked to work in the past year noted an overall improvement in safety for cycling and walking, while those that never cycled or walked to work, perceived that cycling and walking safety had declined. Cycling infrastructure on 4th Avenue has been the major improvement in downtown, and cycling safety is perceived to have changed the most over the past year, both for motorists affected by the changes and the users of the new infrastructure. Despite motorists perceiving that cycling safely has deteriorated more than it has improved over the past year, cycling accidents have been negligible and/or unreported. Walking safety was perceived to have changed the least.

Both groups felt that driving safety had declined more than it had improved. This may reflect the confusion and congestion issues raised in the satisfaction levels of the 4th Avenue RoadDiet mentioned above. Speeding downtown is still a major safety concern (Citizen Survey 2006).

Comments from the Trail Users Survey

“Good job on making Whitehorse more bike active-commuter friendly!”

“Good work! Continue with progressive work and give people time to get used to changes.”

“I think we have the best trails for a city this size.”

“I admit I didn't like the slowing down of car traffic on 4th due to the road diets”

Figure 4 a): Perceived changes in downtown **cycling safety** based on whether the respondent had commuted by bicycle or on foot in the past year (Citizen Survey, 2006)

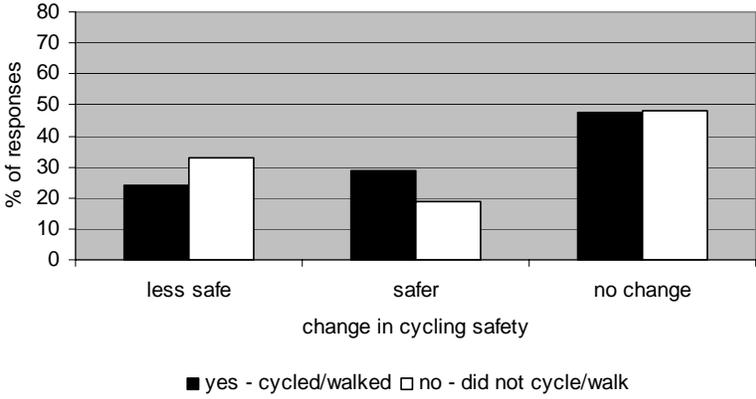


Figure 4 b): Perceived changes in downtown **walking safety** based on whether the respondent had commuted by bicycle or on foot in the past year (Citizen Survey, 2006)

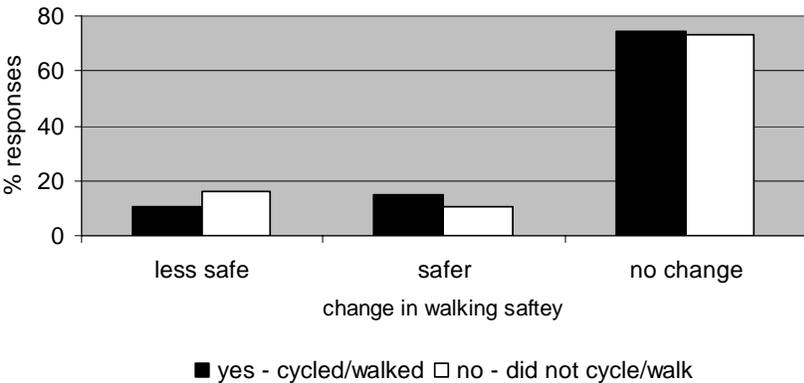
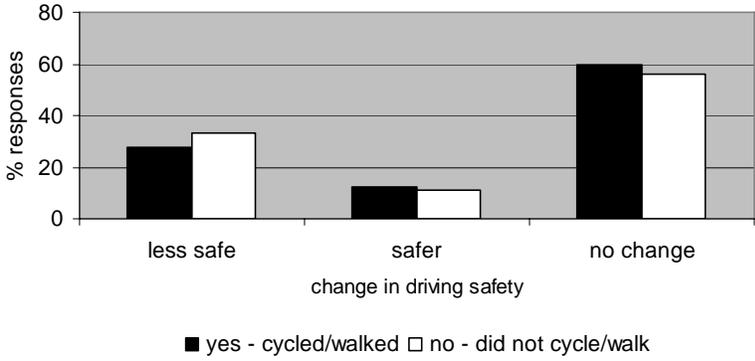


Figure 4 c): Perceived changes in downtown **driving safety** based on whether the respondent had commuted by bicycle or on foot in the past year (Citizen Survey, 2006)



A feeling of declining driving safety may be due to the survey being conducted temporarily close to the time of the road changes, with many people not having adjusted to the new configuration. It is also likely due to the fact that accident rates at the 2 Mile Hill and 4th Avenue Intersection increased significantly in 2005 due to the implementation of 2 left turning lanes. Anticipating that the 4th Avenue road diet would deflect more traffic onto 2nd Avenue, the intersection configuration was changed to provide for 2 left turning lanes. A traffic safety specialist contracted by the City recommended that the intersection be reverted back to the original configuration noting that accidents are significantly higher than normal and that traffic flow continues to be predominantly onto 4th Avenue. Changes were made in fall of 2006, and the accident rate has since declined with no negative impact on traffic flow. The majority of the traffic continues straight through on 4th Avenue, and was already accustomed to merging into a single through lane at Ogilvie Street.

Traffic flow along 4th Avenue appears to be well maintained through the majority of the day. Congestion continues to be apparent overall in downtown in the afternoon commute, between 4:30 p.m. and 5:30 p.m., and side streets onto the main arterials (4th and 2nd) are often full.

A new road surface treatment was installed along 4th Avenue in the summer of 2007 between the parking bays and the bike lanes. This rough surface provides a tactical and noise reminder to motorists that they are crossing into a cycling lane. Driver and cyclist education needs to be continued to reinforce the rules of the road and road etiquette to both users.

Changes in Commuting Patterns

The Canadian 2001 census provides the best baseline data for determining modal split, and comparing that value both between Canadian communities and years. The mode of transportation to work data represents all non-institutional residents 15 years of age and over who worked at some time since January 1, 2000. Persons who indicated in the census that they worked (either at no fixed workplace address or a usual workplace address), were asked to identify the mode of transportation they most frequently used to commute from home to work. Despite this question being limited to a single response, 13% of Whitehorse residents indicate that their primary mode of transportation is walking or cycling; 4% use public transit, while the majority drive (73%) or are a passenger (8%). There are some differences between males and females (Figure 5) – males are more likely than females to be the driver, as well as more likely to walk or cycle, while females are more likely than males to take transit or be a passenger in a vehicle. The overall predominance of getting to work as the driver of a vehicle is corroborated by casual observations (high percentage of single occupancy vehicles). The 2006 census data on the topic of getting to work is scheduled to be released **Tuesday March 4, 2008**, and will provide a good follow-up to the 2001 data.

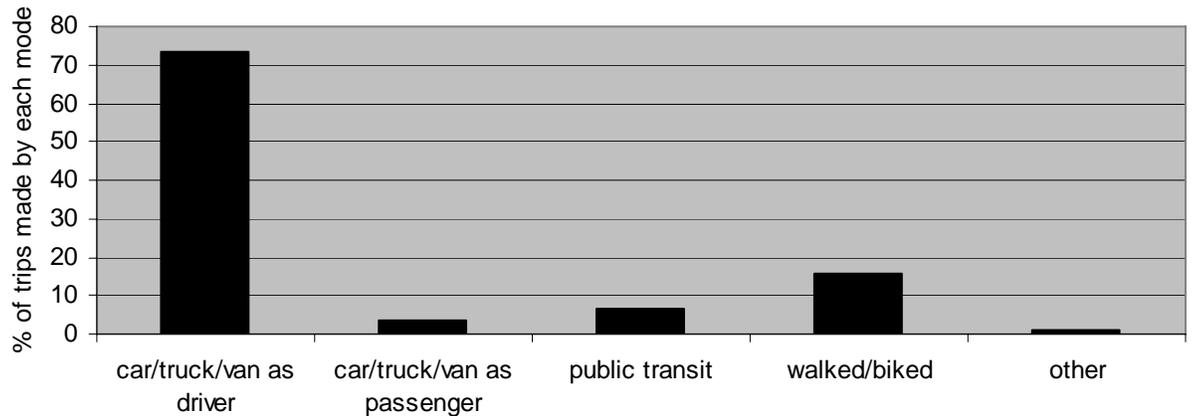
Figure 5: Statistics Canada Census Data 2002: Primary mode of transportation from home to work for Whitehorse residents, separated by sex.



(Adapted from Statistics Canada, <http://www12.statcan.ca/english/profil01/CP01/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=6001009&Geo2=PR&Code2=60&Data=Count&SearchText=whitehorse&SearchType=Begins&SearchPR=60&B1=All&Custom=>, June 26, 2007)
 (Statistics Canada information is used with the permission of Statistics Canada. Users are forbidden to copy the data and disseminate them, in an original or modified form, for commercial purposes, without permission from Statistics Canada. Information on the availability of the wide range of data from Statistics Canada can be obtained from Statistics Canada's Regional Offices, its World Wide Web site at www.statcan.ca, and its toll-free access number 1-800-263-1136.)

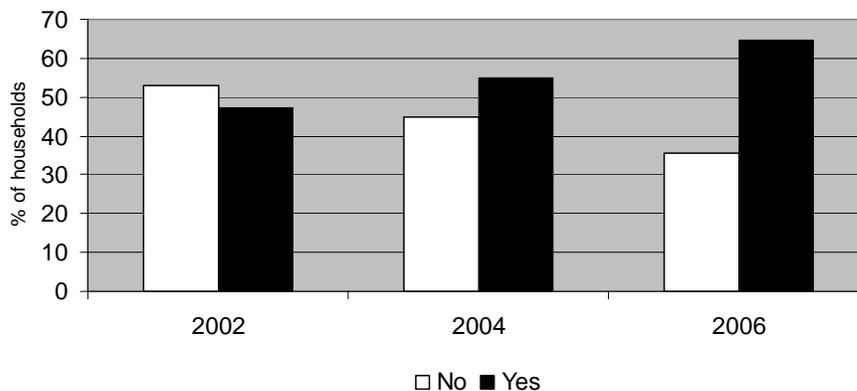
Another snap shot of modal split is obtained from the 2005 carpool survey. Not surprisingly, the majority of the participants registered for the carpool program live a considerable distance from work – on average 26 km return. They also report mostly driving to/from work, either in a car or SUV or carpooling as the driver, and many use a single mode of transportation (Figure 6). Although the sample size is small, the results are very similar to the Statistics Canada Data, being only slightly higher in the predominance of walking/cycling (16% of trips versus 13% using this as their primary form of transportation), and lower in driving as a passenger (4% versus 8%). This could be an artifact of the different question being asked, the small sample size and/or an indication that modal split has changed slightly between 2001 and 2006.

Figure 6: Average percentage of trips made by participants of the carpool.ca program for each mode (Carpool Survey (n= 17)).



There is an overall increase of 10% in the number of households that have had at least one member of the household walk and or cycle to downtown in 2006 compared with 2004 (Figure 7). These data cannot be used to determine the modal split, but do provide an indication of the willingness of Whitehorse residents to travel to downtown on foot or by bike. In 2002 and 2004, households were asked if they had walked or cycled to downtown in the past year. In 2006, the question was expanded to differentiate between walking/cycling for work versus for leisure. A surprising 40% of the population commuted by bicycle or on foot to work downtown sometime over the past year, while over 60% completed the trip for leisure. Distance is the main reason for not having walked/cycled to downtown in the past year (42%), followed by being elderly or having medical limitations (14%), owing a car and not wanting to cycle or walk (14%), and needing the vehicle for work (10%).

Figure 7: Percentage of households where at least one household member walked or cycled from the residence to downtown for work and/or for pleasure (Citizen Survey 2006).



As anticipated, mode choice is seasonal (Figure 8). Commuters traveling to/from downtown on bicycle and on foot during morning and evening commuting hours were asked to estimate the percentage of work related trips made over the past year in each of the Yukon seasons – spring (April/May), summer (June, July and August), fall (September/October) and winter (November to March). In 2006, over 400 trail users completed surveys. Cycling was reported to account for 43% of work related trips in the summer months, around 30% in the spring and fall and 7% in the winter months. Walking was consistent through the seasons at approximately 24%, while transit was less than 5% in the spring, summer and fall, and 10% in the winter. Drive alone was lowest in the summer at 17%, and 29% of trips in the winter. The average number of modes used per person was calculated for each season. On average Trail Users use more than one mode of transportation in any one season, combining the most different modes in the shoulder seasons and relying more on a single mode during the winter (Figure 9). Knowing what modes are most often combined and at during which season when mode switching occurs will be useful information for future promotions.

Whitehorse Trail Users:

1. Are multi-modal
2. Shift modes with the seasons
3. Use predominately non-motorized modes in the spring, summer and fall and switch to motorized (drive alone, carpool and transit) in the winter.

Figure 8: Percentage of work related commutes reported by trail users for each mode of travel in each Yukon season (Trail Users Survey 2006).

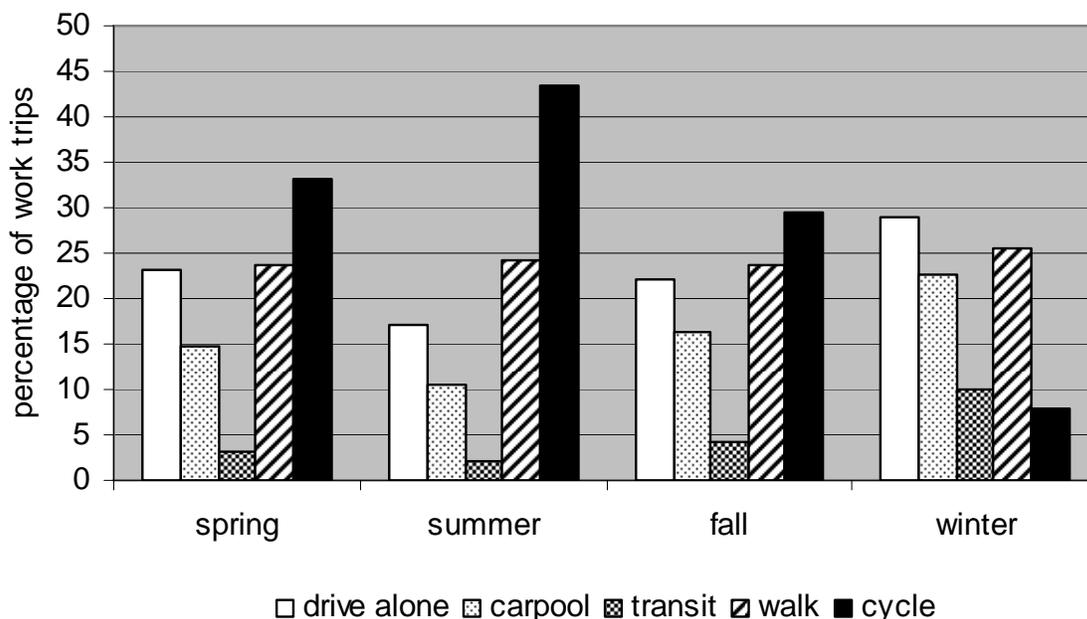
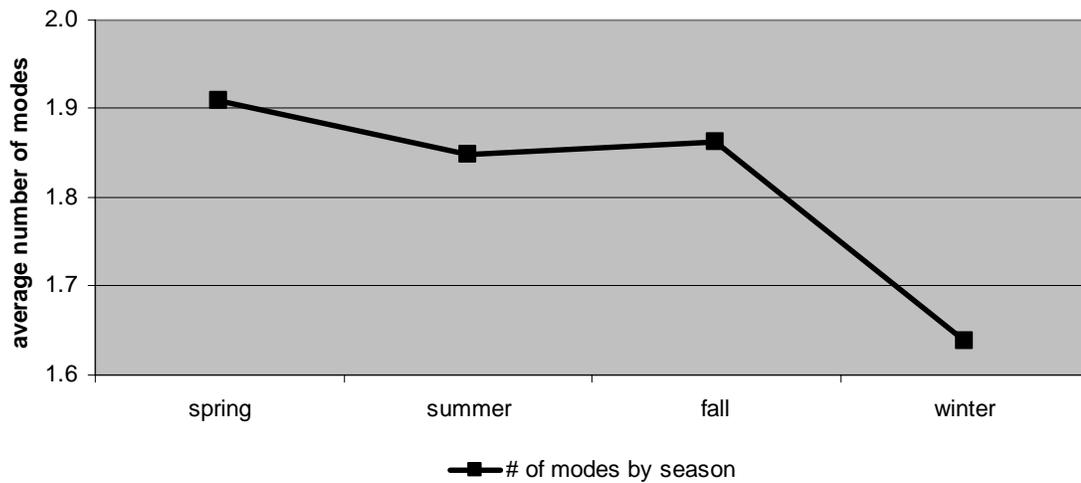
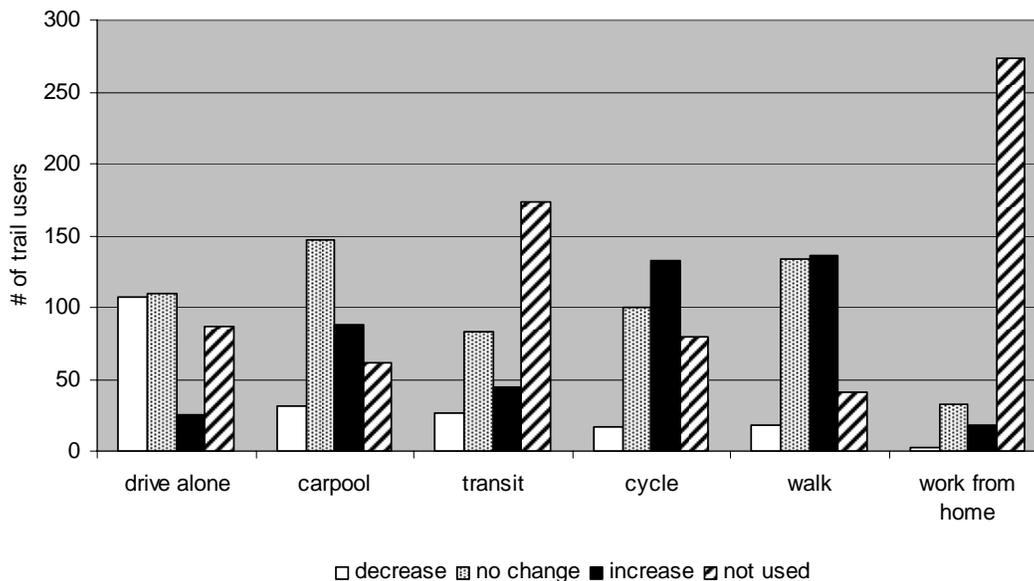


Figure 9: Number of modes used to get to work (Trail Users Survey 2006)



Trail Users commuting to downtown Whitehorse between April and October, have increased their frequency of cycling and walking compared to two years ago. There is an overall decrease in drive alone, and small increase in transit, a modest increase in carpooling and significant increases in walking and cycling (Figure 10). Transit and working from home are the least used commuting options by people who currently use the trails.

Figure 11: Self reported, estimated change in the frequency of mode used to get to work in 2006 compared to 2004 (Trail Users Survey 2006)



There has been a decline in the number of households that report having a household member using transit in the past year (Figure 11), but those individuals that use transit, do so more frequently (Figure 12). The percentage of people that only use transit occasionally has dropped significantly in the past 4 years.

Figure 12: Percentage of households that had at least one household member that used transit in the past year (Citizen Survey 2006)

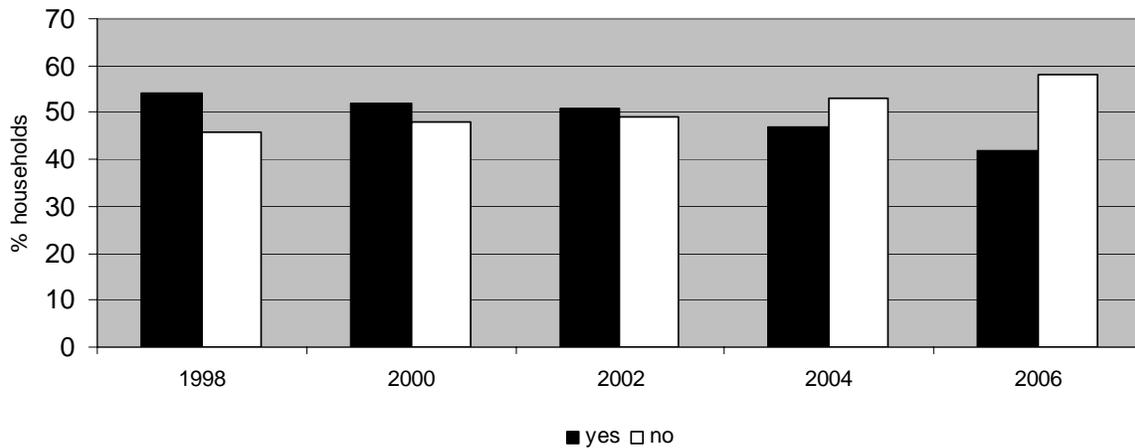
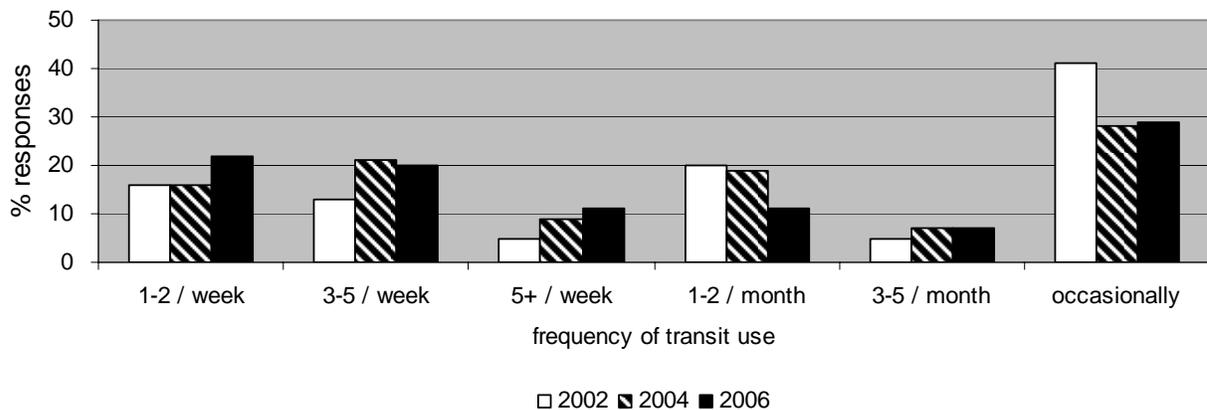
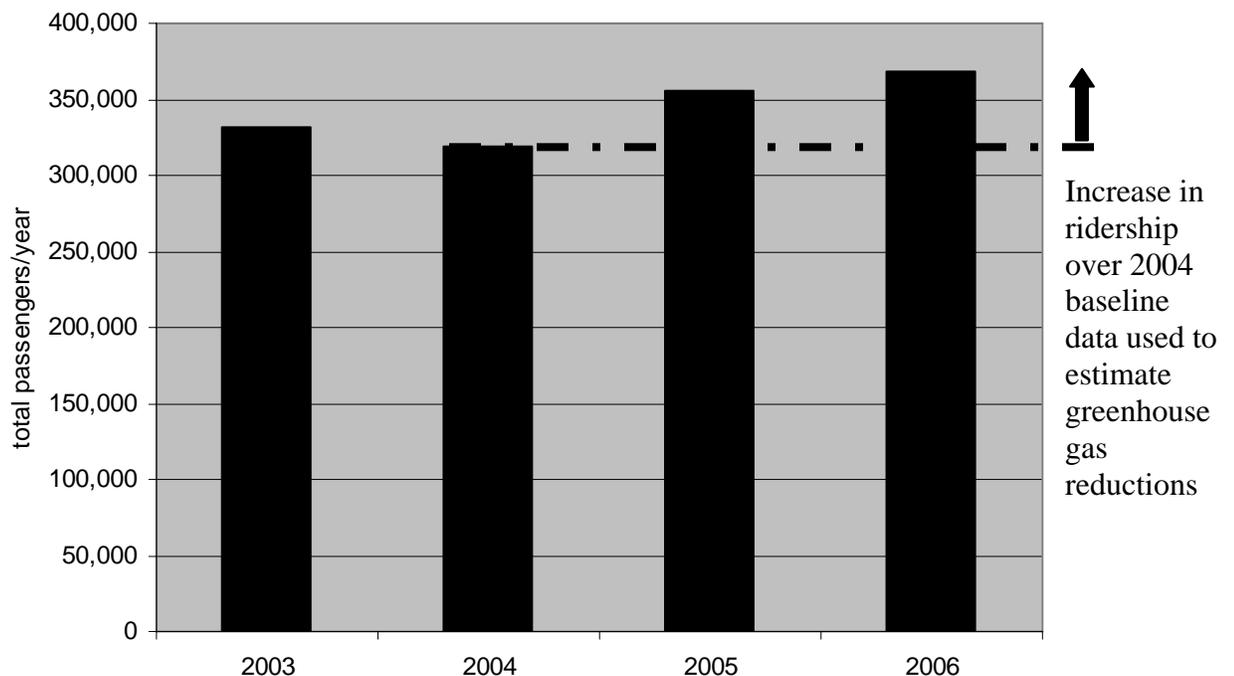


Figure 12: Frequency of transit use for those households using transit in the past year (Citizen Survey 2006).



Fewer households using transit more frequently has translated into an over increase in transit ridership 2003-2006 (Figure 13). The decline in ridership in 2004 reflects the 35% decrease in service level initiated July 1, 2003.

Figure 13: City of Whitehorse annual transit ridership 2003-2006 (Transit Boarding Counts).

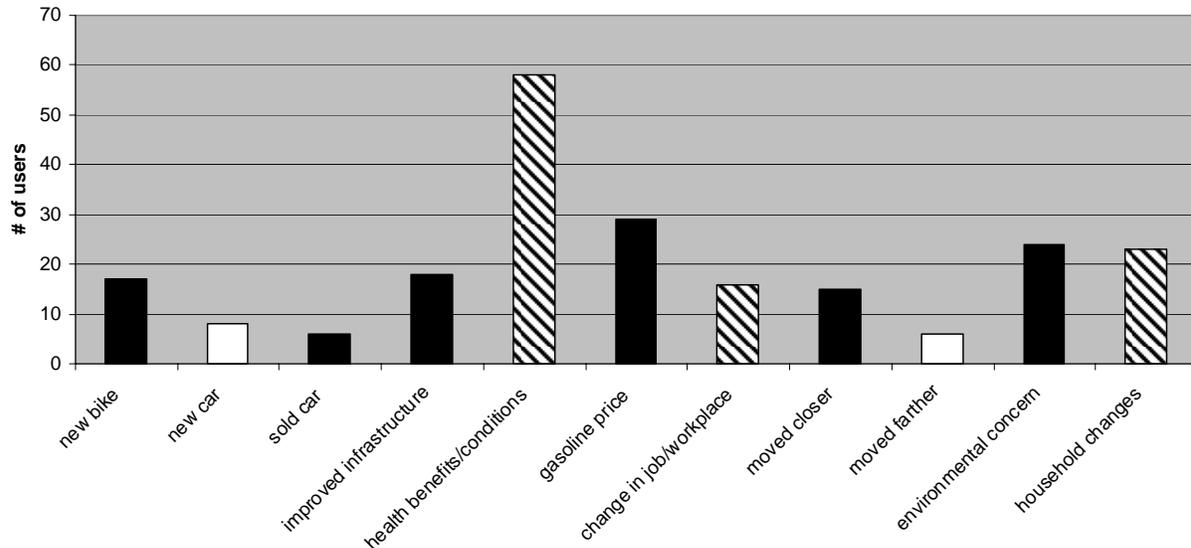


Motivation for Modal Shift

Trail Users reported many factors influencing the mode frequency over the past 2 years (Figure 15). Buying a new bike, selling a vehicle, infrastructure improvements, higher gasoline prices, moving closer to work and concern for the environment all contributed to increases in walking and cycling. Purchasing a new vehicle, and moving farther from work tended to decrease the amount of walking and cycling and increase drive alone. For some people, health limited their ability to walk and cycle (decreased mobility), while for others, concern for their health was the motivating factor to make them drive less. It is important to also note that improved infrastructure was mentioned as a motivating factor for 18 respondents. Some walked/cycled more or less because of a change in workplace or job (changed location, changed hours of work), while others had changes in the household – a new baby or recently retired.

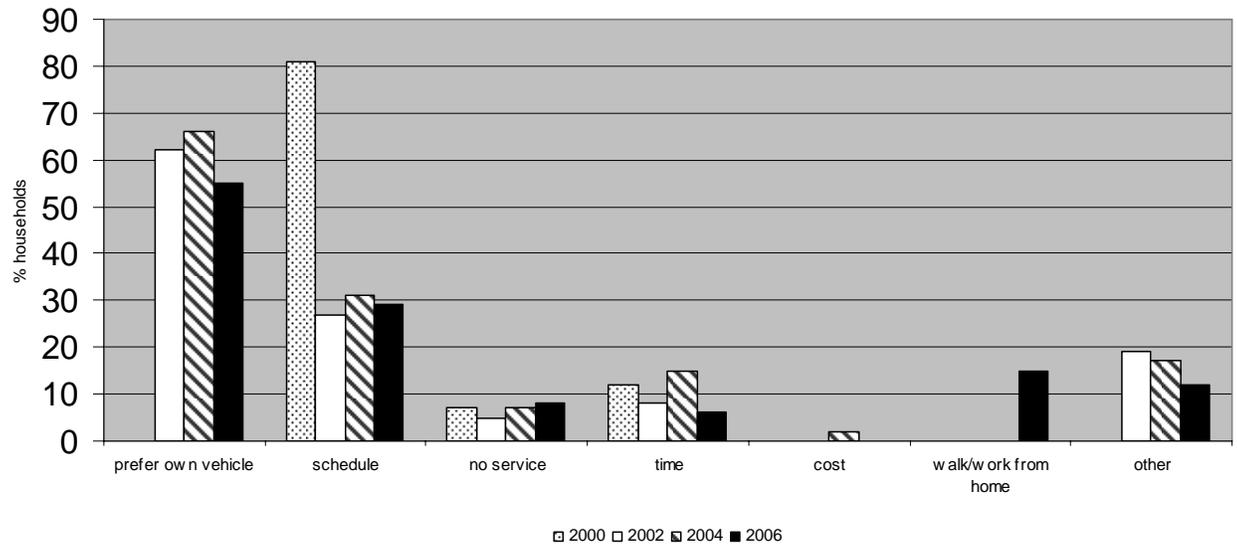
These motivating factors can be used to develop public education in the future – making people aware of the possibilities of living close to work, purchasing a new bicycle (or getting the one in the garage road worthy).

Figure 14: Reasons reported by trail users for travel mode changes 2004-2006 (number of trail users reporting the change). Solid white bars indicates a change that resulted in more driving; solid black bars indicate a change that resulted in less driving, and black and white striped bars indicate changes that increased or decreased the amount of driving, depending on the situation. (Trail Users Survey 2006)



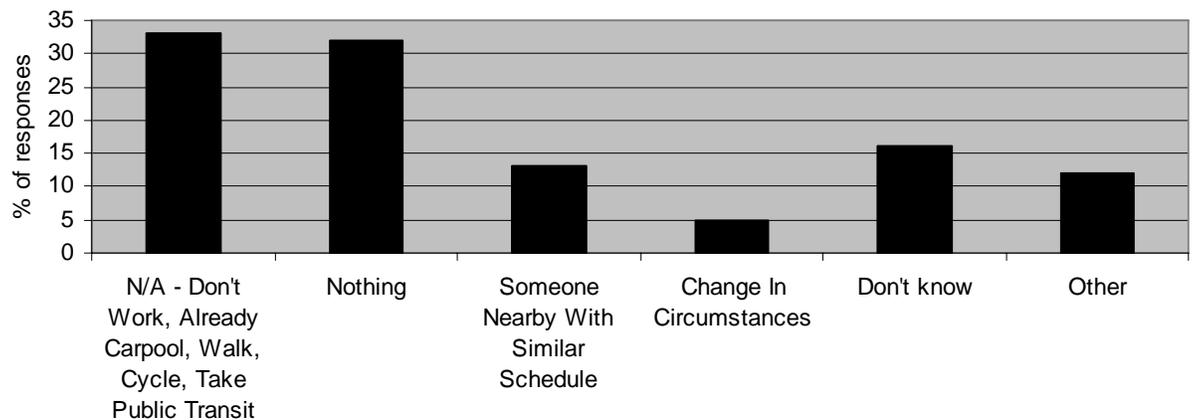
Consistently, people report not taking Transit because they prefer their own vehicle (Figure 15). In future surveys, it is important to drill down as to why residents prefer their own vehicle in order to identify barriers that can be addressed. Cost has been a negligible factor, while schedule not meeting the needs of the resident has declined and remained around 30%. Less than 10% of the residents do not have transit in their neighbourhood. In 2006, a new reason for not taking transit was that the resident was able to walk to the desired destination or worked from home. This may indicate a growth in commuting options over the years, and awareness that walking and working from home are viable commuting options.

Figure 15: Reasons why transit is not taken (Citizen Survey 2006)



Carpooling is used by Whitehorse households as a transportation method, but 41% reported never having carpoolled to get to work, school or recreational activities in the past year (Citizen Survey 2006). At this point in time, the majority of people would not increase their level of carpooling because they either already use alternative forms of transportation or are not interested in carpooling (Figure 16). The price of fuel was not mentioned as a factor.

Figure 16: Factors that would encourage people to carpool more often (Citizen Survey 2006).



Current trail users are motivated to walk and cycle for health and fitness reasons, to save money and the environment and because cycling and walking are fun (Figure 17). They are also very clear and sure about the benefits they receive. Interestingly, when asked what would encourage more people to commute using alternative transportation, many trail users were not able to provide a solution, and those that did cited a continued focus on trail development along with improvements in transit frequency and schedule as the most common solutions.

Continued public education, an increase in transportation costs (fuel price increases) and an increase in trail maintenance were cited as being important motivating factors. The current users still perceive infrastructure and access as barriers to encouraging more people to use active transportation yet are motivated by the personal benefits they gain from active commuting. This combination of barrier removal and personal benefits will need to be continued to be explored in future transportation design work and public education.

Figure 17a: Perceptions on what motivates current trail users to cycle and walk (Trail Users Survey 2006)

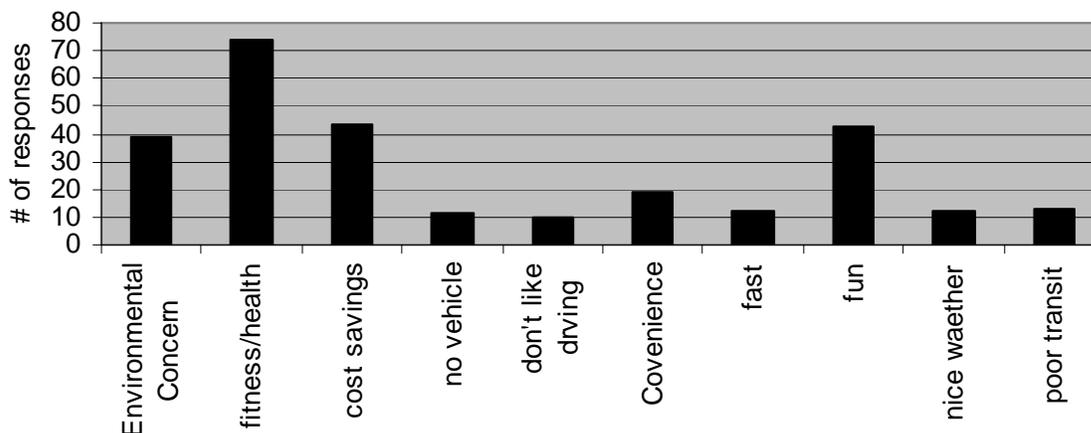
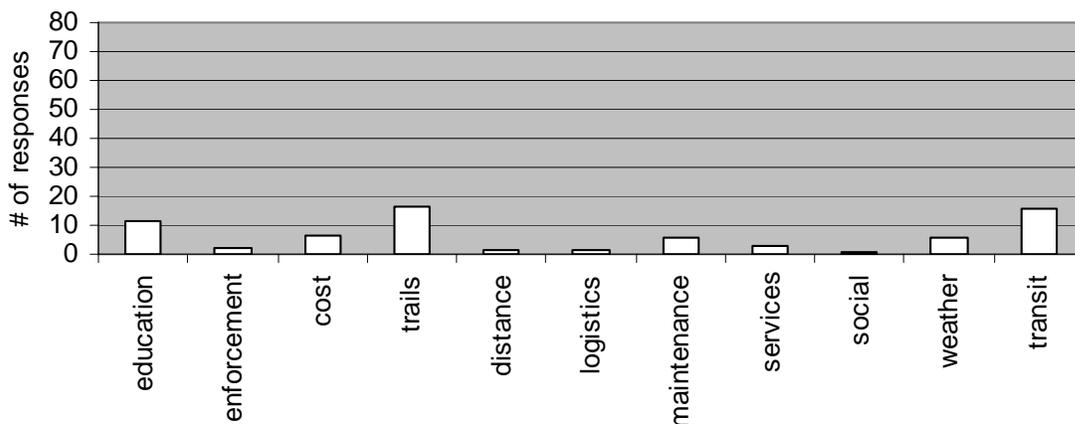


Figure 17b: Trail users perceptions on what would help motivate other people to commute using alternative transportation (Trail Users Survey 2006)



Clearly, estimating modal split is important in monitoring the commuting changes and the motivating factors. It became apparent that Whitehorse Moves was inadequately resourced when it came to monitoring change. It is clear from many indicators that Whitehorse citizens currently use multiple modes of transportation, and that seasonal variation plays a major factor in how significant the mode share is. As Whitehorse Moves officially ended one year after the

infrastructure components were completed, it is premature to conclude the extent of change that has occurred. Behaviour change will likely take several years, with an increase in cycling and walking rates anticipated having a continually positive influence on recruiting more citizens to view active transportation as a viable, socially accepted form of transportation.

Travel times to downtown on bicycle have significantly been reduced with the construction of the multi-use trail down Two Mile Hill. On average, prior to the trail construction, a cyclist took 6 minutes to travel from the intersection of Range Road and Two Mile Hill to Second and 4th. After the multi-use trail was finished, a cyclist could reach the same destination in 3 minutes, and would not have to cross several uncontrolled intersections. This trail has increased the speed and fun factor for commuter cyclists.

Other Initiatives

While Whitehorse Moves did not specifically propose to include municipal planning initiatives, the development of the community has not been in a vacuum during the roll-out of Whitehorse Moves. The Planning Department has been working in parallel to Whitehorse Moves, and provided support and potential momentum to and because of Whitehorse Moves.

It is well recognized that zoning can have long term impacts on the structural fabric of a community. While it is not possible to allocate a portion of the UTSP to changes in planning process and outcomes, it is valid to highlight the changes in the community that have been happening during the UTSP that act synergistically with the goals of Whitehorse Moves.

There has been a consistent increase in acceptance linking housing densification and sustainability. The market is providing better housing options, and people are choosing to live downtown for lifestyle choices. The new condo developments downtown offer a different vision of multi-family housing than has previously existed in Whitehorse, addressing energy efficiency, ease of location, the changing Whitehorse demographics to more retirement age people and the desire to spend less time on home maintenance. The Planning Department has repeatedly heard that residents want a walkable, liveable downtown core. The City Departments have been active in looking for creative ways to:

- Encourage bikes on the buses during non-peak periods;
- Partner with business to install bike parking in front of business;
- Reduce parking requirements (e.g., park sharing);
- Pay attention to details such as pedestrian movement through parking lots and the necessity to have green refuge areas;
- Dictate minimum greenery planting in new developments based on a frontage formula and providing a list of acceptable species, along with a maintenance deposit of 50%;
- Develop a street-scape improvement policy and construction design standards to make sure building fit into the neighbourhood;
- Provide densification opportunities by allowing granny suites; and
- Require bicycle parking facilities in new developments.

Several new, large scale developments/redevelopments have been taking place since Whitehorse Moves was started. A new Takhini subdivision and expansion of Porter Creek are developments for which the public has had the opportunity to provide sustainability principles and visions. Discussion has centred on energy efficiency including compact, complete neighbourhoods with attention to street width, traffic calming, multi-modal transportation in green spaces corridors (including provisions for horse riding and skiing) and minimizing travel distances between transit stops, residences and destinations.

Future Directions

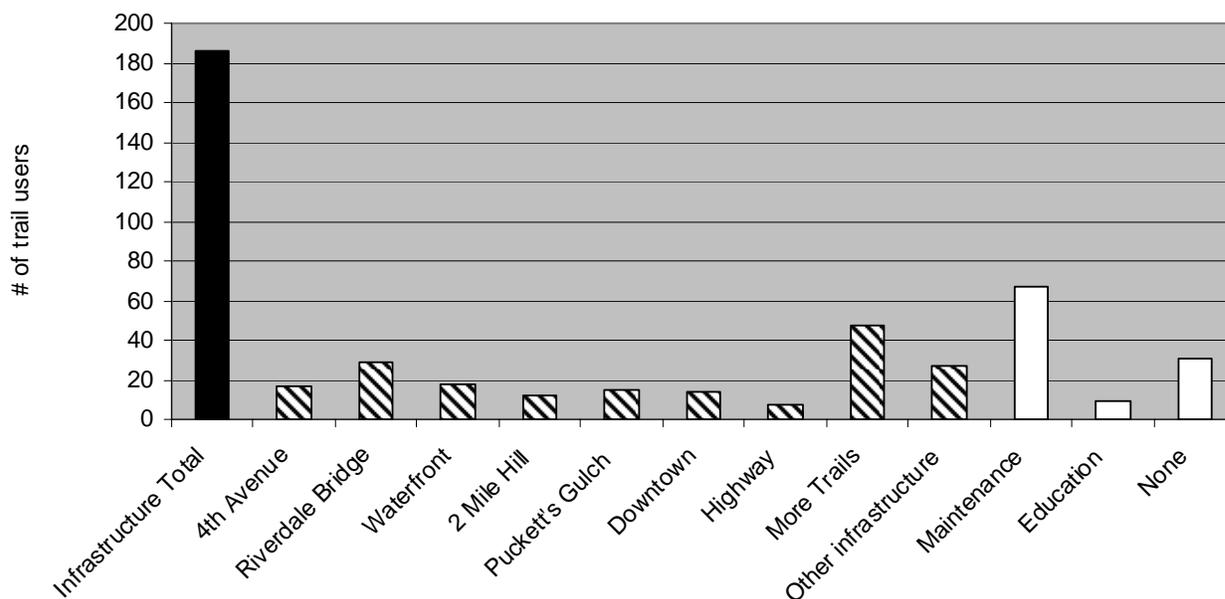
The people currently using the trails were generally very positive with the changes made to date, and suggest a continued focus on infrastructure changes as the way of increasing mode share of cycling and walking (Figure 19). Recommendations ranged from specific road infrastructure improvements on specific routes, to trails in general in order to keep the momentum going on active and alternative transportation.

The results also indicate that trail maintenance is becoming more prominent – that if we are to be a winter city with active transportation, we will need to address winter trail safety for a multiple of uses. Other than 2 Mile Hill, snow plowing is not considered the most appropriate form of trail maintenance as it can lead to black ice. A layer of snow for grip is considered the better alternative. However, many cyclists feel that this is not an acceptable winter policy. The bike paths in downtown become uncyclable, forcing cyclists onto the main vehicle portion of the street. Inadequate snow removal and unsafe cycling conditions will make increases in winter cycling un-likely. Yet without an increase in winter cycling rates, the public support to finance snow removal is equally unlikely. Spring cleaning of gravel and sand, particularly on the bike lanes, was also cited as a specific concern.

Maintaining trails for skiing has also been raised many times. The waterfront and Millennium trails are packed and set with ski tracks through a cooperative agreement with the Klondike Snowmobile Association. The airport trail is not cleared in the winter, and remains snow covered. Ski commuting routes into the downtown core are more problematic, as intersections and sidewalks are plowed and sanded, making them less compatible with skiing.

The most common barrier to carpooling was the need to run errands after work, and the organization that would be needed to coordinate fluctuating needs. The low density of houses in Whitehorse potentially increases the travel distances needed to accommodate carpooling, and decreases the probability that a suitable match will be found. The program that is used for matching is also not specific enough, providing list of possible matches that are geographically isolated and not practical matches. In the future, it is recommended that Whitehorse promote carpooling as an option that is easy for employees and neighbours to arrange on their own.

Figure 19: Recommendations for future improvements to encourage more people to cycle and walk to work (Trail Users Survey 2006)



Improvements in transit (frequency of buses and buses running on a ½ hr schedule) are often cited as a requirement to get more people to use alternative transportation. In 2005, the Transit Task Force sent an email survey directly to employees of major Whitehorse employers, the majority being government employees and large corporations such as NorthwesTel. A total of 565 surveys were returned. The survey results support the findings from previous surveys – the majority of the people work in the downtown core, clustered around Main Street, and come from the three largest neighbourhoods – Riverdale, Hamilton Boulevard subdivisions and Porter Creek. Most people have regular working hours between 8 and 5. People use their vehicles at noon time and right after work to run errands and attend meetings. Transit is not a common form of commuting to work – 10% said they use transit, 30% use it sometimes while most do not use transit at all (59%) to get to/from work. Service improvements that would make more people likely to commute to work by bus – increased frequency of service that is on a ¼ or ½ hr frequency.

Hosting the Canada Winter Games in Whitehorse in February-March 2007 provided the Transit Task Force with a unique opportunity to design and test a new transit service. The Games necessitated an increased and extended service to move spectators and officials between the various Games Venues. The City was serviced by three new combined routes, designed to minimize the number of transfers required to reach the most popular destinations, and to maintain a 30 minute schedule throughout the day and into the evening. An on board survey was conducted during the Games to evaluate the enhanced service.

A total of 439 people participated in the survey, with 68% being current Whitehorse Transit users, 10.5% being new Whitehorse users and the rest being visitors to Whitehorse. Reasons for using the transit service were split between getting to work (32%) getting to the games (35%) shopping/leisure (21%) and other 17%. Factors that may have influenced the ridership were limited parking opportunities at the venues and volunteers were provided with free transit passes. The increase in service received mixed results – for two routes the respondents felt that the old routes were better in terms of travel time and transfers. The 30 minute service and the extended evening hours were considered excellent initiatives. *“Many riders realize that the enhanced services during the Games may be financially out of reach for the City Transit System at the moment. However, a creative approach could resolve this, such as phasing in changes to build ridership to support future change.”*(Whitehorse Transit Canada Winter Games 2007 Transit Survey Report page 17) In addition, support for transit in the form of driver training, improved signage and bus shelters and communications and marketing would enhance the transit service and increase ridership.

The One Tonne Survey participants suggested improved transit as the single most influential way of reducing green house gases.

Transportation options need to continue to be viewed complementary, synergistically and as a system. Whitehorse has embarked on a proactive approach to integrating transportation options into the built environment – these preliminary data indicate that more people are commuting by bus, bike or on foot than 4 years ago.

Commuting methods that add time or inconvenience to the overall commute cannot easily compete with the short and fast travel times enjoyed by Whitehorse residents traveling by private vehicle. Rising fuel costs will likely be the necessary trigger to make alternative transportation more main stream. Regardless of how small the shift has been, it is important to continue the momentum and build on the success of Whitehorse Moves through continual infrastructure upgrades and public awareness and education. Whitehorse will continue to utilize opportunities to enrich the walking and cycling community fabric, through new initiatives such as Walk 21. The four year capital construction budgets approved by Council include funding to add bike lanes to the Robert Campbell Bridge (the only motorized connection from downtown to the closest residential neighbourhood, Riverdale) and to extend the paved multi-use trail network to and between other neighbourhoods. It is anticipated that these trails will continue to make cycling and walking more accessible.

Future Sustainable Transportation Initiatives in Whitehorse

Sustainability Plan

Whitehorse is currently working on a sustainability plan to reduce green house gases, and will have a large focus on alternative transportation. As a requirement to obtain federal gas tax funding, this plan will map out how the city should grow and develop over the next 50 years. There is a growing acceptance in Whitehorse that:

- designing and constructing compact, complete and interconnected neighbourhoods impacts transportation options
- higher density and diversity of uses makes transit more effective
- designing linkages that are accessible for all, direct, off-road and within reasonable walking distances are important to increasing active transportation palatability
- increasing the number of destinations within a neighbourhood increases the probability that more trips will be short, increasing the probability that these trips can be made by bike or on foot.

Black Street Reconstruction

It has been recognized that connections between existing and planned trails need to be designed whenever the opportunity presents itself. The staircase and airport trail will be connected to 4th Avenue and the waterfront trail using Black Street. This East-West connection is anticipated to be upgraded in 2009-2010.

Cycling Lanes and Multi-use Reconstruction

Active transportation alternatives are one of the key components of the federal gas tax transfer program that are eligible for that funding. City Council has budgeted funding in future years to widen the vehicle bridge into Riverdale to accommodate more effectively cyclists, and develop new paved multi-use trails that are within and connect to existing neighbourhoods and the downtown.

Transportation Demand Management

Work will continue on promoting anti-idling campaigns where appropriate. An elementary school will pilot an on-site program in 2007-2008.

It is recognized that the posting of schedules at the bus stops is an excellent way to promote and advertise the bus system, and to provide riders with assurance of

when a bus is coming past that stop. Posting schedules will be planned for 2009. Council has approved a new bus loop, running throughout downtown. This service removes the barrier of running errands and attending meeting in the downtown core for employees that choose to use alternative transportation to get to work.

Public education and awareness must be increased and enhanced. A new web site is proposed for Whitehorse Moves, making it easier for residents to find the information that they need, and to provide input on infrastructure and maintenance needs. As Whitehorse has specific needs by neighbourhood, it is proposed that the website have a transportation matrix of options with neighbourhood relevant information. A draft marketing strategy has been developed, along with a new logo and template designs for each mode. An example of how information on the travel options in the community can be accomplished is to integrating bus stop locations and schedules on the commuter cycling map, along with average travel times between points. Directional signs on the trails should include permitted trail uses, along with destinations, distance and average walking/cycling times.

Lessons Learned

Infrastructure

Whitehorse Moves was in a great position to contemplate the infrastructure changes – sufficient public input and awareness provided the baseline for designing and implanting the changes. The comprehensive city wide Transportation Study provided the necessary framework and policy needed to support the financial decisions to improve transportation choices for all modes, and not to the exclusion of the vehicle. Without this policy framework, Whitehorse would not have been in as good a position to advocate for infrastructure spending for transportation choices that are not apparently main steam.

While the intention was to complete all the infrastructure changes in a single year, spreading the work over several years proved to be beneficial. In a city the size of Whitehorse, contractors are limited and the construction season is short. It would have been challenging to complete the projects in one year. Staggering the road diets over two years also had the additional benefit of allowing motorists to become accustomed to one road diet at a time. Regardless of how much advertising you think you have provided the public, most will only learn of the change the first time they try to drive their usual route. Ensuring that the road diet is completed in the spring, with the line painting in place as quickly as possible, allows motorists to gain familiarity with the new markings prior to the snow season. And be prepared to be flexible – some changes may seem like a good idea in proposal format, but may not work with your particular situation. Whitehorse had to alter both Road Diets to accommodate traffic volumes (4th Avenue) and business needs (Copper Road).

Involving those that will be most impacted by the design is an efficient way to gauge their acceptance with the projects, and to iron out any problems prior to construction. Involving truck and bus drivers, as well as the maintenance crews in roundabout design allows you to address radius, visibility, and anticipated snow removal issues. Involving elderly and mobility challenges individuals in access situations alleviates possible slope and visibility concerns. Business owners need to be involved as they may be impacted by parking changes, and speed and visual impacts adjacent to their business.

While the short term infrastructure needs are clear, it is important to work in parallel on long term policy that can affect future infrastructure requirements – looking at zoning policy, road width requirements, bicycle parking, greenery, land use planning, connecting green space corridors and new subdivision design will decrease the need for retrofitting in the future, and will ensure that the community builds with a common vision and continuity.

While infrastructure improvements were by far the most costly portion of Whitehorse Moves, having safe infrastructure is the tipping point to opening the conduit for cycling and walking. It would have been challenging to promote a program that relied on inadequate cycling and walking routes. In Whitehorse, active commuting competes with the rush five minutes, the available and inexpensive (largely free) parking, short travel times and distances and years of driving habits. It is a reality that most people feel that they need a car in Whitehorse due to the way in which the city has been built and transit not being a 24/7 service. Active commuting needs to be convenient, safe and provide a positive experience from the onset. In Whitehorse this required infrastructure changes.

Connectivity and continuity of trails proved to be very important in Whitehorse. We designed the trail network to radiate out from the downtown core. This proved to be a good decision. Future expansions can be added to the outer edges of the existing trails.

A diversity of funding (both cash and in-kind) not only help to broaden the project potential, but these partners will be valuable in enhancing the overall profile and legitimacy of your project. The integration and strengthening of Community, Funding and Policy were the three cornerstones to making Whitehorse Moves successful.



Public Education and Outreach

Whitehorse Moves started with a general awareness campaign, and evolved into a more targeted social marketing program aimed at cyclists. This approach was beneficial, as it allowed Whitehorse Moves to focus on a specific segment of the population, and promote a transportation mode that was most suited to the

infrastructure changes that had occurred. Whitehorse Moves could have been more effective if more attention had been paid to branding and marketing from the onset. A consolidated, comprehensive marketing strategy should have been ready to launch at the completion of the infrastructure changes. Whitehorse Moves was too piecemeal and scattered, with no tangible customer support incorporated into a web site or personalized assistance.

The local media should be used as much as possible to promote your programs, develop a media relations program to optimize the exposure and to plan seasonal stories. In Whitehorse the local media are very supportive by providing interview opportunities involving new programs or exciting changes. Whitehorse Moves did not utilize this opportunity to full-advantage, relying on ad-hoc interviews and stories, rather than controlling the flow of information by providing the media with relevant incentives to carry the story. Media relations could have been better cultivated. Media are also greatly interested in the human story attached to behaviour change. It is worthwhile to find your change champions, and ask them to be spokespeople in the media.

Providing opportunities for hands-on experimentation was positive. Being able to experiment with loading and unloading a bike from a bus rack at the trade show was a good opportunity for people to try it in a non-critical environment (without people on the bus watching) and provided an opportunity to engage the person in additional conversations about active/alternative transportation. Hands-on provides a hook for engagement, and personalizes the experience for the client.

While partnerships are highly beneficial, there is a need to balance between being a partner with everyone just so that they can carry your message and having your own distinct message. Whitehorse Moves was watered down and at times indistinguishable for the myriad of other active living activities happening in Whitehorse. Planning partnerships and ensuring that ancillary projects or components meet your program goals and vision is critical to remaining distinct enough to be recognizable. That being said, many Whitehorse residents engage in active transportation for fitness and health – a critical partnership that was not well developed in Whitehorse Moves was with the health sector. Whitehorse has many organizations and activities that have potential overlap with Whitehorse Moves – creating a map of all activities and partnerships would help to consolidate the efforts and synergy between projects.

That being said, Whitehorse Moves did benefit significantly from opportunities that presented themselves during the program. The One Tonne Challenge provided another opportunity to engage people in transportation option information while they were attending a "winterize your home" seminar. Likewise, the Girl Guide program resulted in the first Canadian climate change badge, of which transportation initiatives figure predominantly. Whitehorse Moves target audience was commuting, adults. Through the infrastructure changes, use of trails and facilities for recreation increased. This exposure to leisure activities may well help build the motivation, interest and

fitness to enable a transition to active commuting. Ways to target this group of leisure users would be beneficial and should involve Health and interest groups to participate in programs to get users to change their daily work habits.

Education was initially planned to be part of the three year program developed for Whitehorse Moves, but realistically, it could only kick started late in the second year, after the physical barriers preventing active transportation were eliminated. More time is needed to develop and implement education. For active transportation initiatives, the long established habits of motorists cannot be expected to be changed dramatically in such a short period of time. Anecdotal feedback was very positive on the concept of obtaining changes to one's driving habit at least "one day a week by leaving the car at home" approach to alternative transportation. This small step is a realistic change for a large number of people, at least seasonally. Alternative transportation has to be fun and rewarding at some level. Wheel 2 Work Whitehorse offered inexpensive incentives and a positive marketing tactic that helped attract people to the program. They were encouraged to change habits slowly, and were rewarded for long term change. Programs that encourage change systematically over a longer period of time (rather than a one week competition) are more likely to result in sustained change – the participants develop a new behaviour and start to feel the tangible benefits of active transportation.

Change in behaviour will be slow. Evidence continues to show in Whitehorse and universally, that the motoring public continues to love their vehicles. Motorists have decades of ingrained habits and it will take several years before market and environmental changes will lead to people engaging in active transportation. It will continue to take educational programs, some of which should be directed to the younger generation.

Transportation Demand Management

To keep the momentum going with active transportation, you have to plan for success. As our infrastructure was built and there were more transportation options, new signage was required to educate the public on sharing the road, driving roundabouts, way finding through roundabouts, etc. As the modal shift began to happen, there was an increase for safe and secure bike parking facilities, and the demands for trail maintenance started to increase. Winter cyclists have asked the City to re-examine snow clearing policies, and sweeping of gravel in the spring is a high priority. Cyclists are more affected by broken glass and loose gravel than motorists. It is also important to consider the impact on users when one mode increases. This is true for multi-modal paths, where cyclists and pedestrians are likely to have little conflict when usage is low, but may experience trail-use conflicts when usage increases. This is particularly true on trails with high speeds and/or blind corners.

subsequent years, we relied largely on residents that showed some motivation towards alternative transportation – they were either already using Transit, or cycling/walking to from work, or had registered with the carpool program. It is worthwhile surveying these users to monitor how and why their transportation modes have changed over the past years. It must be recognized that these early adopters may not represent the general public, and while their opinions may be useful in developing programs and educational materials, they need to be tested with the residents that currently do not use alternative transportation.

Survey techniques require staff to develop knowledge, expertise, and enough budgets to develop effective surveys, and avoid repeating the numerous iterations required to get relevant data.

Many of the monitoring techniques that we used are indicators of activity, and difficult to translate into GHG reductions without knowing origin/destination and frequency. Respondents had problems with estimating modal split in previous years and seasons, as transportation choices and modes seemed to be fluid and seasonal. Survey categories can lead to ambiguity - for instance, in one questionnaire, it was asked how people heard about the program – and the categories were word of mouth, media, event, and advertising. It was unclear what the difference was between media and advertising, as there is significant overlap. The survey responses do not help clarify how people are hearing about the program and do not allow for adjustments to be made for future programs.

Translating travel into GHG reduction can only be accomplished when the kilometres traveled and the mode replaced is known. Counting cyclists on trails provides an indication of activity, but cannot be translated into km and GHG – it is not known if the cyclist previously took transit or carpooled (in which case there was no net GHG reduction), or if a vehicle is now left at home (in which case there is a GHG reduction). Incorporating data collection into a program such as Wheel 2 Work Whitehorse provides a valuable source of data that can be translated directly into GHG reductions. While this is only a small number of people, working with a focused group can provide better results than trying to be too broad and uncertain of the variability.

It was highly beneficial to integrate data collection with existing programs, most notably the Citizen Survey. This data is collected from a large enough, random sample that one can have confidence in the results.

Whitehorse had difficulty with automatic trail counters. The ones used could not distinguish cyclists from walkers, nor could they distinguish direction of travel. Furthermore, the units were frequently stolen, leaving holes in the data.

Conclusions

The Urban Transportation Showcase Program (UTSP) provided the opportunity that enabled the City to obtain funding and technical expertise that focused on making important changes in transportation planning and opportunities to expand active transportation initiatives. The commuter multi-use trail and cycling network has been greatly enhanced, and its use and public awareness has improved, and continue to evolve with the development and implementation of the City's Transportation Plan and the Trail Plan. The City's new Sustainability Plan which is now being developed for Whitehorse has alternative transportation in the form of improved Transit and multi-use trails and cycling lanes as a major focus.

New Programs such as Wheel 2 Work Whitehorse will continue to be developed and implemented.

Transit improvements are strongly supported by Council and the public, and changes to make our system more effective are being piloted.

While the UTSP was only a three year program, the effects and momentum of the Whitehorse Moves Project have been proposed to continue to be carried through on future transportation decisions. Without the funding that was provided through UTSP, on facilitating the changes in Whitehorse and the existing infrastructure with its numerous physical barriers would undoubtedly not have been possible, except over several years, if ever.

Appendix 1

Table C.6 Final Financial Report Template

ACTIVITIES	TOTAL ORIGINAL BUDGET			TOTAL ACTUAL EXPENDITURES		
	UTSP	OTHER SOURCES CASH	OTHER SOURCES IN-KIND	UTSP	OTHER SOURCES CASH	OTHER SOURCES IN-KIND
Infrastructure: Continuous Cycling Lanes (4 th Avenue, Quartz Road, Two Mile Hill)	\$ 266,241	\$ 641,259		\$ 266,241	\$ 515,062	\$ 84,379
4 th Avenue Improvements	\$ 73,344	\$ 176,656		\$ 73,344	\$ 122,502	
Rotary Centennial Bridge	\$ 205,364	\$ 494,636		\$ 205,364	\$ 686,143	
Construction Tender Increase due to Steel		\$ 0		\$ 0	\$ 180,800	\$ 18,821
Puckett's Gulch Stairway	\$ 95,788	\$ 230,712		\$ 95,788	\$ 231,704	\$ 3,829
Roundabout	\$ 32,272	\$ 77,728		\$ 32,272	\$ 94,812	
TOTAL	\$ 673,009	\$ 1,620,991		\$ 673,009	\$ 1,831,023	
Public Education & Outreach	\$ 10,269	\$ 24,731		\$ 10,269	\$ 36,771	
Transportation Demand Management	\$ 9,681	\$ 23,319		\$ 9,681	\$ 19,108	\$ 3,280
Monitoring & Reporting	\$ 7,041	\$ 16,959		\$ 7,041	\$ 24,709	
Total Expenditures	\$ 700,000	\$ 1,686,000		\$ 700,000	\$ 1,911,611	\$ 110,309
Total Combined		\$ 2,386,000			\$ 2,721,920	

Note: Other sources of cash include: contributions of \$230,074 from Yukon Electrical, Yukon Energy; the Rotary Clubs of Whitehorse; and 2 local businesses. In-kind sources are from Yukon Energy, Aasman Design and RPAY.

Appendix 2

Survey Methodology

Surveys were designed in the 2004 to provide baseline data on commuting patterns, attitudes and perceptions on transportation in Whitehorse. As this was the first evaluation of this kind in Whitehorse, the surveys were iteratively changed in an effort to ask questions in a way that would provide meaningful data. Although by the end of the third year, the data collected through the trail users' survey more accurately reflected the modal share and changes in commuting patterns, the data is difficult to compare between years, as the questions between years were significantly different. The lack of sufficient resources, both time and financial, coupled with the learning curve on survey design, contributed to there being data gaps.

The City Survey is a random sample survey conducted bi-annually to evaluate trends in City services and customer satisfaction. Approximately 500 households are surveyed, and the results are considered accurate, at the 95th percentile. Questions concerning traffic patterns, transit use and active transportation have been consistently asked over the past 6 years, providing excellent pre and post Whitehorse Moves data. In 2006 additional questions concerning the infrastructure changes and commuter options were included in the citizen survey.

Additional surveys were designed for specific target groups – a trail users survey was conducted in the spring of 2004, 2005 and 2006, tracking the perceptions and mode share of people choosing to walk and or cycle to downtown during the normal commuting time periods. Likewise, a carpooling survey was sent to individuals registered in the carpooling program, and transit users were surveyed on the bus. These surveys are not random samples, and cannot be extrapolated to the general population, but do provide valuable indicators from the specific users.

Ridership counts per route were successfully collected on the Transit system, and provide an analysis of ridership levels over the years. The data do not provide a sufficient level of detail to accurately demonstrate modal shift as a result in ridership changes. Log books were used in the Wheel 2 Work Whitehorse initiative, providing accurate frequency and distances cycled for work. Vehicle Counts at intersections are collected annually, but were not used in this report due to the high daily variation.