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Halifax Regional Council
November 22, 2005

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: Mike Labrecque, Director Transportation and Public Works Services

DATE: November 3, 2005

SUBJECT: **Active Transportation Plan Update**

INFORMATION REPORT

ORIGIN

Staff

BACKGROUND

In April 2005, SGE Acres Limited was awarded the contract to undertake an Active Transportation Study for Halifax Regional Municipality as part of the Regional Planning process. As part of the 25 year plan, it was determined that the role of Active Transportation required further study. The goal of the study is to create a well-connected, safe and functional plan to encourage active modes of transportation, which includes, but is not limited to walking, cycling, in-line skating, and skateboarding. The plan will look beyond the individual modes of active transportation and related infrastructure to develop a cohesive, integrated and functional network. The creation of a plan that will support and encourage active transportation year round is an important goal of HRM.

The issues to be addressed and completed for this project include:

- defining an urban, suburban and rural active transportation network;
- integrating the active transportation network with the transit system to encourage multi-modal trips;
- recommendations for proposed policies and wording of regulations, standards and rules;

incorporating active transportation into development proposals; and by-laws and policies on ATV usage on multi-purpose trails;
- recommending potential funding mechanisms for active transportation infrastructure;
- identifying and addressing problems such as unsafe locations, lack of connectivity and environmental concerns; and
- developing an education and promotional campaign to promote active transportation.

The deliverables for this project are:

- a Background report which includes a summary of information and examples from other locations;
- an Active Transportation Network Plan that will consist of a map(s) outlining routes, for both on and off road facilities in the urban, suburban and rural areas and documentation that will provide explanations and descriptions of the chosen routes;
- a Phased Plan of Implementation which will provide cost estimates and a phasing plan for the active transportation network and how it will incorporate other plans, such as the Bicycle Plan and the Regional Trails network;
- Active transportation policies; and
- the Final Report which will be an implementable plan incorporating policies, regulations, and a standards manual as well as the deliverables above.

DISCUSSION

The Active Transportation Plan is into its 5th month and is on schedule. The consulting team, consisting of SGE Acres Limited, in association with Marshall Macklin, Monaghan and Go For Green have completed several tasks. Informal meetings with stakeholders and the public have been ongoing since June and continue as required. The consultation process has provided the consulting team with a considerable amount of information and local insight. Formal consultation will take place in the form of open houses in which participants will be able to comment directly upon the Active Transportation Network Plan. These sessions will take place in mid-November at the following locations:

- November 14, 2005 - Cole Harbour High School Cafeteria
- November 16, 2005 - Sackville High School Cafeteria
- November 17, 2005 - Halifax West High School Cafeteria.

These sessions will be advertised in the newspapers and through other methods.

As part of the Active Transportation Plan, a Background Working Paper was presented to the Steering Committee in August 2005. This report is the first deliverable required for this project. Within this report, examples from other areas were provided showing possible ideas for active transportation infrastructure, describing the benefits of an Active Transportation Network, proposed approach to developing an Active Transportation network and mapping showing existing conditions within HRM. A summary of the background report is attached as Attachment A.

The next phase of this project is the development of a draft network plan. This plan has been completed by the consulting team and is currently under review by staff. The plan will be presented to the public for their comments, suggestions, and general input at the open houses listed above.

A stakeholder meeting is also being planned for November to discuss the network plan. This will be a follow-up session to a workshop of Active Transportation proponents, held on March 31 of this year, at which time the participants talked about and mapped out existing and proposed Active Transportation corridors and where they would like to see new infrastructure and improvements to the continuity of the system. Their input, at this stage, is essential to the project.

BUDGET IMPLICATIONS

There are no budget implications at this time.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENTS

Attachment A - Executive Summary of the Background Working Paper.

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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ATTACHMENT A

Executive Summary - **HRM Active Transportation Plan**
Background Working Paper
SGE Acres Ltd., Marshall Macklin Monaghan and Go for Green
August 2005

Introduction

Active Transportation (AT), by definition is any form of self-propelled (i.e., non-motorized) mode of transportation that uses human energy such as walking, cycling, inline skating, jogging, skiing, skateboarding and snowshoeing. These modes can utilize on and off-road facilities (eg. sidewalks, bicycle lanes, multi-purpose trails) and may also be combined with public transit, especially for trips to and from work, shopping and entertainment areas, school and other community facilities like recreation centres and libraries.

Why do we need an Active Transportation Plan?

There is a consensus of opinion by health care professionals, urban planners and other professions that regions like HRM need an action plan to accommodate a more active lifestyle by a larger segment of the population in an environmentally and financially sustainable manner. Developing an Active Transportation Plan is one of the building blocks being undertaken by HRM to meet these needs.

Vision

The purpose of the Active Transportation Plan is to build upon the existing system of on and off road pedestrian, trail and cycling facilities, link them together in an integrated network that also supports transit use and design and existing programs to promote, educate and encourage more people of all ages to choose Active Transportation modes more often.

"Develop a region-wide, visible and connected AT network of on and off road facilities that are convenient, accommodate the needs of existing and future users and promotes an increase in non-motor vehicle travel, particularly for short distances. This network will be supported by various programs, policies, and strategies that will help and encourage AT year round and improve quality of life for both residents and visitors to the region and make HRM one of the most desirable municipalities in which to live, work and visit in North America."

Objectives

1. **Develop a Connected Region-wide Active Transportation Network Plan.** This will be a continuous network that is seamless, clearly marked, accessible.
2. **Develop Active Transportation Routes and Facility Planning and Design Guidelines.** Need to address design issues that will work for HRM and meet accepted standards.
3. **Review Active Transportation Promotion, Education Programs and Supporting Facilities.** Look at what is existing (both from HRM and partners) and recommend

improvements to both content and delivery. Need to educate all road users.
4. **Develop a formal set of Active Transportation Policies**. Review all existing policies related to active transportation.
5. **Define the priorities and develop an implementation strategy to integrate long term road, bikeway, sidewalk and trail system planning in the region**. Priorities for implementation will be established. Will look at capital project forecasts to allow for effective implementation plan that will consider management structure, planned projects and where users want to be.
6. **Develop the financial costs of establishing a "tiered" Active Transportation system.** Realistic calculation of network development cost and costs of education programs, end of trip facilities and so on.

Background Information

A variety of information has been collected to prepare the Active Transportation Plan. This information includes active transportation related policies from the draft Regional Plan; relevant provincial statutes such as the Municipal Government Act, the Motor Vehicle; variety of data and information from HRM, other jurisdictions ;and a similarities and differences review of provincial policy and the Regional Plan.

Network Design

1. **Design Fundamentals** - This includes the need to take a balanced approach to the design fundamentals so that no one takes precedence over others. The design fundamentals have been grouped into two categories: facility design and operational design.

a) **Facility Design** influences design and ultimately the use of active transportation facilities. Several elements are required for good facility design.
Horizontal Dimensions - facility must be wide enough to accommodate intended users.
Vertical Dimensions - must have adequate vertical clearance for intended users.
Surface Materials - for off road trails in particular, the surface material varies depending upon the use and users.
Location - Location is important because it can affect safety and efficiency of trails in particular.
Grades - Grades that are too steep can create difficult conditions for users.
Geography - Taking advantage of natural geographic features creates pleasant environments.

b) **Operational Design** influences how active transportation facilities operate. Operational design is important because it can influence how well a facility may function.
Signs - should be located in conspicuous areas and be comprehensible. There should not be an over saturation of signs and need to meet acceptable national, provincial or municipal standards.
Pavement Markings - Need to use appropriate materials for the symbols, and should be of a size and colour that makes them clearly visible. They should be located where they are visible to motorists and AT users.

Traffic Signal Location - consideration should be given to using half signals where AT volumes are high and signals warranted.
Traffic Signal Phasing - Minimum pedestrian crossing times may not be sufficient for all users and may not reflect pedestrian volumes in some locations where congestion may result.
Lighting - the requirement for lighting along AT corridors depends upon the location and use of the facility. Some pathways should not have lighting along them.

Design Solutions from other Jurisdictions

A review of other areas has indicated the following:

a) need to establish design guidelines
b) innovate design solutions are sometimes required to achieve key connections when developing a comprehensive network
c) look at jurisdictions throughout Canada, North America and elsewhere for ideas

CPTED

CPTED stands for Crime Prevention Through Environmental Design and is a set of site design initiatives and principles to reduce the incidence and fear of crime and improve quality of life. The fear of crime can keep people from using Active Transportation modes and facilities because the automobile is deemed to be a safer mode of transportation.

CPTED offers a unique approach to design that creates "built-in" physical crime prevention elements that exist in and of themselves and are not dependent upon the continued vigilance by active organizations and residents.

There are four (4) CPTED principles. These are natural surveillance, territorial reinforcement, natural access control and maintenance.

It may be difficult to implement the CPTED principles because off-road pathways are removed from the public eye and therefore the natural surveillance element is missing (also referred to as "eyes on the street"). CPTED principles are also often at conflict with site development. The safety measures required to improve surveillance often conflict with the desire to preserve the natural settings.

However, there are benefits to applying CPTED to Active Transportation networks and infrastructure. If AT facilities are perceived to be more secure and safe, then it will lead to increased levels of usage.

Benefits of an Active Transportation Network

There are many benefits to developing a comprehensive active transportation network. Cycling

and walking, for example, are cost effective, environmentally sensitive and healthy modes of transportation. It has been determined that to increase the amount of residents using active modes of transportation, investment in infrastructure and a network plan are necessary.

Benefits to HRM

The professional and academic literature contains significant amounts of data on community health and physical activity that confirm the need for an active transportation plan. Changes to our lifestyle have led to a significant increase in obesity. Lack of physical activity, changes in our diet and increasing income levels are all factors. Physical activity provides proven health benefits; protects against a number of diseases; and decreases health care costs. Evidence=based research indicates that the Active Transportation Plan should strive to meet that needs for active lifestyles for all residents.

Transportation Benefits

There are several benefits of active transportation for the transportation network. Active modes of transportation are efficient. For example, the transportation network can carry 12 times more people by bicycle then by car per hour and twenty times more people per hour by walking than the car. Studies have shown that many people would like to use active modes of transportation for commuting. Therefore, there is potential to increases the number of trips by active modes. Other benefits include decreased congestion, decreased roadway costs, improved road safety and a decrease in the amount of parking spaces required.

a) Congestion - increases in traffic congestion lead to increased travel time, operating costs, stress and air pollution.
b) Roadway Costs - shifting to active transportation can contribute to lower road costs because less maintenance costs. A small percentage of the overall transportation budget can lead to high levels of bicycle use.
c) Road Safety - there is evidence to suggest that increases in the number of cyclists on the leads to decrease in risk of cycling.
d) Parking Space Reduction - parking has significant costs associated with it, such as land costs, construction costs and operating expenses. On the other hand, parking costs for bicycles for example are significantly lower and there are no parking requirements for pedestrians, inline skaters and so on.

Environmental Benefits

Managing airborne pollutants will be a challenge for municipalities, particularly from transportation. At the moment, about 70% of greenhouse gas emissions come from the transportation sector, with 45% coming from cars and light trucks. Short distance trips by cars generate the most pollution per kilometre and it is these trips that can be easily replaced by active modes. Air pollution, noise, water quality and land use cause damage to the environment and people's health.

a) Air pollution reduction - motor vehicle emit nitrogen oxides, carbon monoxide, sulphur dioxide and particulate matter - all of which have a significant impact upon the environment and health. By switching to active modes of transportation, which do not emit any pollutants into the air, a reduction of .64 tonnes per active commuter will be achieved annually.

b) Noise reduction - motor vehicles cause various types of noise pollution and in turn results in disturbances, discomfort and possible health risk. Active transportation tends to reduce the volume and speed of vehicle traffic and therefore noise levels.

c) Water Quality - motor vehicles and infrastructure source of water pollution and hydrologic disturbance (mainly due to fluid leakage from vehicles, road salt, construction and loss of wetlands, herbicides, air pollution settlement and flooding due to increased run off. Active transportation will have limited impact.

d) Land use - Type of community - auto-oriented versus pedestrian-oriented results in amount of land used for transportation related infrastructure. Car-oriented land use patterns use a considerable amount of land for transportation related infrastructure compared to pedestrian-oriented communities. Reducing motor vehicle dependence by providing improved active transportation infrastructure can both reduce the amount of land in urban areas required for roads and parking and can also reduce the requirements for the construction of new subdivisions, making the entire system easier to manage from a transportation perspective.

Economic Benefits

In 2004, Go for Green and Better Environmentally Sound Transportation (BEST from BC), released a business case for AT entitled: "The Economic Benefits of Walking and Cycling". The benefits included reduced road construction, repair and maintenance costs; reduced costs due to greenhouse gas emissions; reduced health care costs; reduced fuel, repair and maintenance costs to user; reduced costs due to traffic congestion; increased bicycle tourism; increased bicycle sales and increased property values along greenways and trail, to name a few.

A small proportion of a community's transportation budget can lead to high levels of active transportation use. The infrastructure for active transportation can be lower than for motor vehicle transportation. AS well, active modes are lightweight and take up less space and cause less wear and tear on the road surface.

As well, the following can occur: a) increasing the usage of active transportation can lead to reduced demand for parking and therefore lower costs; b) trails can provide economic benefits to adjacent landowners and businesses; c) potential for increased benefits from cycling tours.

In summary, experiences from other jurisdictions as well as data collected at the provincial and federal levels in Canada confirm the positive benefits of supporting Active Transportation and trail development. Active transportation can provide a number of transportation, economic, environmental and social benefits to the Halifax Region. According to the aforementioned Go for Green study, "The current economic benefits are enough to justify increased government expenditures on active transportation in Canada. The projected benefits of doubling the modal

share of Active Transportation made the case even more compelling".

Developing an Active Transportation Network

Why a Network?

HRM has taken a number of key steps in recent years to plan for pedestrian and cycling improvements. Need to see how various modes interrelate so that they can complement each other. These modes include active modes of transportation, public transit (including the ferries). The aim of the AT plan is to build upon the existing and previously proposed initiatives to create a complete, integrated and readily accessible region-wide network. To do this, a network of facilities that includes sidewalks, cycling facilities and trails need to be integrated and connected to each other and public transit facilities, since this has been a barrier to increasing AT person-trips.

The AT network will achieve the following key objectives:

a) make AT modes more convenient and safer by removing barriers to walking, cycling and public transit;
b) encourage more people to walk, cycle, inline skate, etc., more often by providing them with the connections to where they want to go; and
c) support efforts to achieve a greener and healthier HRM by encouraging residents and visitors to choose AT modes as part of a fitness regime and to reduce greenhouse gas emissions by reducing reliance upon the motor vehicle.

A continuous and connected network of pedestrian and cycling facilities is needed in HRM to overcome barriers and create links among urban, suburban and rural communities and other key destinations within the Region, while at the same time promoting connections to surrounding communities outside of HRM.

The Network Concept

Increasing the number of people using AT for trips, particularly utilitarian trips, is a goal of this plan. A hierarchy of routes needs to be established to accomplish this, accompanied by an educational and promotional campaign. It will be developed to encourage a variety of users, from the most experienced to the beginner.

The network will include a hierarchy of routes and facility types. These include:

a) A primary "spine" system; and
b) A secondary "community" system

Primary "Spine" System

This will provide direct links between major nodes throughout the region, such as commercial, employment, institutional, residential and tourist destinations. This will be the backbone of the network. This will consist mainly of sidewalks and on-road bicycle routes and some linear off-road multi-purpose trails.

Secondary "Community" System
These are routes that will feed into the primary system. These may not be as direct and will serve local destinations as well as feeding into the primary system. These will be mainly sidewalks, signed-only bicycle routes and off road multi-use pathways and trails.

Proposed Network Development Approach

The following steps are proposed for the development of the network:

a) Developing a route selection process - principles which derive qualitative and quantitative criteria to assist in selecting a preferred route and facility type;
b) completing an inventory and assessment of existing conditions;
c) identifying and assessing candidate routes - selecting and investigating potential AT routes and evaluating each to determine its feasability; and
d) recommending a draft network plan.

Network Objectives:

- complete the propped AT network within 20 years;
- develop on and off road network;
- better integrate on and off road network facilities;
- connect to pedestrian, trail and cycling facilities in adjacent municipalities where possible;
- serve a broad range of users and interests;
- respect and support the natural environment, cultural heritage, urban design and long rang planning objectives of HRM;
- link all residents to desirable or important destinations.

Route Selection Principles and Evaluation Criteria

- Attractive - take advantage of attractive and scenic areas and vistas;
- Diverse - provide a diverse range of route options and experiences;
- Visible - should be a visible component of transportation network;
- Connected - all facilities should be connected to form a network;
- Accessible - easily accessible within and from local community and to major destinations;
- Reduce Risk of use - planned and design to reduce risk to users and balance location etc. to meet needs;
- Accommodating - accommodate all modes
- Integrated - integrated with other modes of transportation;
- supported - support services such as bicycle parking should be available;
- Distributed -
- Pedestrian and bicycle friendly -