

INTRODUCTION

The Active Transportation Plan has been developed to meet the needs of a diverse range of users, both present and future. Active transportation is defined as any form of self-propelled (non-motorized) mode of transportation such as walking, cycling, inline skating and jogging. These modes can utilize on-road and off-road facilities (sidewalks, bike lanes, multi-use trails) and may also be combined with public (land and water) transit, especially for trips to and from work, shopping and entertainment areas, school and recreation facilities.

Active transportation is not about restricting the use of the motor vehicle, but rather enhancing choice and opportunities for multi-modal travel and recreation that promotes physical activity and healthy lifestyles for all ages. It is part of a larger program of transportation demand management which looks to utilize the transportation network in a more efficient and effective way through the use of alternative modes of transportation (other than the single occupant vehicle trip).

Vision, Goals and Objectives

The vision for the Active Transportation Plan is the following:

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

Six (6) objectives were developed to the development of the Active Transportation. The six objectives are:

- Objective 1: Develop a connected region-wide active transportation network plan.
- Objective 2: Develop planning and design guidelines for active transportation (pedestrian and cycling) routes and facilities.
- Objective 3: Review active transportation promotion, education programs and supporting facilities.
- Objective 4: Develop a formal set of active transportation policies

- Objective 5: Define the priorities and develop an implementation strategy to integrate long-term road, bikeway, sidewalk and trail system planning in the Halifax Region
- Objective 6: Develop the financial costs of establishing a “tiered” active transportation system.

Connections to the Regional Plan and Other Initiatives

The new Regional Municipal Planning Strategy (MPS) speaks directly to Active Transportation, and demonstrates a clear intention to promote AT modes and to integrate the Active Transportation Plan into broader regional policy directives. The Regional MPS promotes the integration of transportation and land use planning, with a view of creating more compact and mixed use development, accompanied by an interconnected system of streets, pathways, sidewalks and bicycle lanes. Other policy areas including urban design, parks and open space development, transit, and growth management also directly address Active Transportation.

Integrating Active Transportation into each of these areas is described below:

1. Urban areas - are pedestrian oriented, contain mixed uses and are walkable. However, the streets are narrow and there is little room to expand to incorporate active transportation infrastructure.
2. Suburban areas - are more car-oriented (though some are pedestrian oriented), generally have segregated land uses and are not always walkable. However, integrating active transportation into suburban areas is more feasible with wider road right-of-ways, lower density development with more opportunities for linkages.
3. Rural areas - have unique challenges and opportunities. The small settlements were historically developed along the water or surface transportation routes. Older settlements have similar issues to the urban area as they have little room for expansion. The linear development along the highways results in safety issues that are not encountered in other areas of the region.

Barriers and Problem Areas

There are a number of physical barriers that can result in an active transportation network not being fully utilized by current and potential users. These barriers include:

- Lack of through streets
- Large lot or strip development
- Lack of crosswalks
- Long blocks
- Unappealing environments
- Flat or “dead” wall space
- Wide streets

- Shopping mall or “big box” developments
- Isolated schools and recreational areas
- Isolated shopping and employment areas
- Geography
- Lack of connectivity

Consultation Findings

A broad-based consultation process was undertaken as it was considered essential for the Active Transportation Plan to be successfully developed. To reach the greatest number of people, the consultation program included workshops, newsletters, email address, stakeholder interviews and a website.

Summary

1. The following topics were discussed throughout the consultation process:
 - a. Network ideas including rural and urban routes, difficult connections, regional trail connections.
 - b. The lack of alignment with the HRSB policy regarding the requirement for children to walk to school if they live within 2.4 km radius around schools and the plan indicates that there is a requirement for neighbourhood active transportation networks to be built at a minimum radius of 550 metres from schools, transit terminals, community facilities etc. In the case of sidewalks, facilities could be expanded to eventually surpass the 550 metre measurement with priority being given to special destinations such as schools. Where local need exists, additional AT linear connections could be implemented around schools in order to establish safer and more visible connections with the 2.4 kilometre zone.
 - c. HRM could investigate the option of providing development incentive bonuses for new commercial and mixed use projects that include AT facilities.

2. The following themes were brought forward:
 - a. HRM must establish trail standards for all the Halifax Region and secure the right-of-way for new facilities that are developed by community groups.
 - b. HRM must work with the Province of Nova Scotia and the Federal Government to have consistent guidelines, standards and regulations for the funding, design and maintenance of off-road trails.
 - c. HRM should take over the maintenance (including winter maintenance) and liability insurance for off-road trails after community groups build the facility.
 - d. All new subdivisions should have sidewalks that are installed to the “Red Book” standards.

- e. There are over 20 community groups engaged in AT in the Halifax Region. HRM should facilitate the integration of these groups into a standardized (region-wide) management structure.
- f. Funding through the Department of Health Promotion and Protection, the Halifax Regional Development Agency (with support from ACOA) and HRM has been very valuable in community engagement and current network development. The efforts of these public sponsors should be reorganized to provide HRM with an ongoing budget for AT planners, designers, engineers and community health facilitators.

RECOMMENDED NETWORK

One of the goals of the Active Transportation Plan is to build upon existing and previously proposed initiatives to establish a complete, integrated and readily accessible region-wide AT network of rural, suburban and urban areas.

The current lack of a connected and easily navigable network is a major barrier to past efforts to increase the number of AT person-trips as well as the percentage of people who choose to use these modes as part of a trip that also includes public transit.

To build upon past actions and achieve the overall intent of the Active Transportation Plan, a comprehensive region-wide AT network is recommended that achieves the following key objectives:

- o Make active transportation modes more convenient and less risky by removing barriers to walking, cycling (including youth-oriented travel) and improving connections to public transit in the Region;
- o Provide a connected off-road and on-road AT network to visitors as a premier tourism asset;
- o Encourage more people to walk, cycle, inline skate, etc more often by providing them with connections to where they want to go; and
- o Support efforts to achieve a greener and healthier Halifax Region by encouraging residents and visitors to choose Active Transportation modes and to reduce greenhouse gas emissions through decreasing dependency upon the private automobile for travel, especially for short distance trips.

To achieve the above objectives, a continuous and connected network of pedestrian and cycling facilities is needed to overcome barriers and create links. Creating a seamless, clearly marked and signed network, featuring linkages to both on-road and off-road systems, is a pre-requisite to increasing the Active Transportation modal share (the goal is to double the number of people

using AT for a portion of their utilitarian trip). To achieve this, a hierarchy of routes and facility types is recommended to appeal to a wide range of skill levels and includes:

- Off-road multi-use trails
- Sidewalks
- Signed-only cycling routes
- Bicycle lanes
- Paved shoulders on arterial and higher volume collector rural roads

A network concept is recommended that includes a hierarchy of routes and facility types. These include:

- A primary “spine” system
- A secondary “community” system

These are each further broken down into two segments, a pedestrian system and a cycling system (which includes all users).

Network Development Approach and Objectives

The process includes the following:

1. Developing a route selection process (set of principles that derive qualitative and quantitative criteria)
2. Completing an inventory and assessment (using the principles and criteria developed for this study) of existing conditions (digital mapping)
3. Identifying and assessing candidate routes (selecting and investigating potential AT routes and determining feasibility for inclusion)
4. Suggest route networks and zone systems
5. Determining facility types for selected routes (choosing appropriate facility type for each route or system)
6. Selecting the network plan

The following objectives were established for the pedestrian and cycling network components of the AT plan:

- Complete the proposed network within 20 years and incorporate AT into all new developments.
- Develop the on-road and off-road network based on either the HRM “Red Book” or the facility design guidelines (companion document).
- Better integrate on and off road network facilities.
- Connect to pedestrian, trail and cycling facilities in other municipalities.
- Serve a broad range of users and interests.
- Respect and support the natural environment, cultural and heritage resources, urban

- design and longer range planning objectives.
- Link residents and visitors to desirable or important destinations and attractions.
- Provide connections to transit.

Route Selection Principles and Evaluation Criteria

The following is the list of principles that were used to evaluate the existing network and recommend new routes:

- Attractive
- Diverse
- Visible
- Connected
- Accessible
- Reduce risk of use
- Accommodating
- Integrated
- Supported
- Distributed
- Pedestrian and Bicycle Friendly

Facilities Description

The design fundamentals are grouped into two categories – Facility Design and Operation Design

Facility Design

Effective facilities must consider the following elements of good design:

- Horizontal Dimensions
- Vertical Dimensions
- Surface materials
- Location
- Grades
- Geography

Operational Design

The following fundamentals influence how AT facilities operate:

- Signs.
- Pavement Markings
- Traffic Signal location
- Traffic Signal phasing
- Lighting

Crime Prevention Through Environmental Design (CPTED)

CPTED is the application of a range of design initiatives and principles to an area or site in order to reduce the incidence and fear of crime and thereby improve quality of life. This can be done by reducing or eliminating aspects of the physical environment that lend themselves to supporting criminal behaviour.

Four main CPTED principles were reviewed while selecting the AT network:

1. Natural Surveillance
2. Territorial Reinforcement
3. Natural Access Control
4. Maintenance

CPTED should be incorporated into the AT network planning, but creating sterile and uninteresting routes should be avoided. Urban areas should have CPTED principles included as part of a larger urban design strategy to help reduce potential criminal behaviour.

The Regional and Community Network

The overall AT system is based upon the principle of providing neighbourhood connectivity within a framework of on-road and off-road routes that connect communities and neighbouring municipalities. The Active Transportation Plan is designed for integration with the Regional MPS, particularly in respect to transit systems and residential growth. Key features of the proposed network include:

- A defined system of on-road cycling routes.
- The linking of the regional trail system into Peninsular Halifax and major employment/destination areas.
- The development of a new off-road multi-use trail that circles Peninsular Halifax and connects the Seaview Park/Fairview Cove area with Downtown Halifax, Point Pleasant Park and the Armdale Rotary.
- A new multi-use trail that links the Dartmouth/Shubenacadie Canal system to the Halifax International Airport.
- Linking of the Trans Canada Trail into the urban core and points beyond.
- Linking of existing and major new residential areas (Bedford South, Bedford West, Russell Lake) into existing bus terminals and proposed transit hubs.

The Primary System

The spine system consists of AT facilities designed to provide direct links between major nodes throughout the Halifax Region and serves as the backbone of the network. The spine network is broken down into cycling routes and pedestrian zones.

The Community System

The secondary community system consists of routes that feed into the spine system. These routes are intended to serve both utilitarian and recreational AT users. The community system is also broken down in a network of cycling routes and a system of pedestrian zones.

Neighbourhood and Community Connectivity

The network recognizes that it is essential for neighbourhoods to be connected internally. For there to be increased AT use, there must be safe, connected routes from where people live to where they wish to go. In order to assist with travel distances, access to transit facilities and proposed transit hubs is provided; all transit stops should be connected to walkways and sidewalks.

Off-road Facilities

Off-road facilities provide safe options for AT use that help improve the attractiveness of walking/biking to new users. These off-road routes will also:

- Connect off-road trails through the urban core.
- Complete the Trans-Canada Trails through the Halifax Region.
- Permit bicycle tourist access for major neighbouring regions.
- Provide recreational destination for neighbourhood pedestrian/bicycle trail systems.
- Provide destinations such as parks and specialized trail networks.

Benefits of the Recommended Active Transportation Network

The recommended network contains many benefits, including the following:

- Integrating the AT network into the Regional MPS.
- Providing an on-road and off-road route through the urban core.
- Providing for connecting current and planned routes into a system of interconnected on-road and off-road walking and bicycling trails.
- Integrating AT with the public transit system.
- Enabling access to more destination, making AT a more practical alternative.
- Place walking and wheeling on the planning agenda with all future land development.
- Providing trails with status on the planning agenda.
- Recognizing the benefits of AT usage to health and tourism.
- Creating a safer setting for AT engagement by the application of CPTED principles.
- Helping to make the Halifax Region one of the leading communities in Canada for linking on-road and off-road transportation options.
- Protecting public right-of-way from loss through piecemeal abandonment.
- Highways with paved shoulders are easier to maintain.

RECOMMENDED IMPLEMENTATION TASKS AND SCHEDULE

The AT Plan will need to be implemented through an incremental process over a 20-year period. The AT Plan is designed to be flexible so that it can be adapted to changes, constraints and opportunities as they arise.

Implementing the Plan

Ease of implementation can be defined by six criteria:

1. A practical strategy that identifies a recommended approach and addresses priorities and phasing.
2. The quality and clarity of the Plan in terms of its vision, goals, objectives and principles that guide it, and the set of recommendations that provide the strategy to achieve the Plan.
3. A source of ongoing funding that is defined by HRM.
4. An administrative structure responsible for implementing the Plan.
5. Funding by the Regional Council and HRM's partners.
6. Monitoring of the Plan to assess implementation results.

The estimated implementation cost is around \$100 million over 20 years. In addition, maintenance costs are estimated at around \$200,000 by Year 6 and \$2.4 million by Year 20. On an average annual basis, the cost is around \$5 million.

Phasing

Implementation should occur in two phases:

- Phase 1: Years 1 to 5.
- Phase 2: Years 6 to 20.

Network Priorities

Phase 1 priorities include the following:

- Commence developing the spine network connecting major nodes in urban and suburban areas.
- Commence developing links within and between the rural group centres specified in the Regional MPS.
- Connecting existing on-road facilities to transit terminals and proposed transit hubs under the Regional MPS.
- Improving walking and cycling access within neighbourhoods.
- Designating AT corridors for those parts of the network that will be installed in undeveloped or alternative use areas in Phase 2.

- Commencing formal discussions with NC Rail and other major property owners to facilitate the feasibility assessment of AT links across their lands.
- All on-road routes that are designated as part of the spine network should be marked and signed in Phase 1.
- Scheduling network implementation with already planned capital road and servicing projects.
- Commencing formal discussions with Service Nova Scotia and Municipal Relations regarding amendment to Section 274 of the *Municipal Government Act* to allow capital cost contribution charges to be applied at both the building permit and subdivision by-law approval stage with AT charge areas defined as urban, suburban and rural in accordance with the Regional MPS.
- For all roads and rural highways that will be resurfaced or reconstructed, consideration should be given to improving cycling facilities.
- All on-road routes that are designated as signed-only routes should have signs posted in Phase 1.
- A formal process should commence for the possible transfer of assets (off-road trails) from community groups in rural areas if these trails form part of the off-road multi-use trail network.

Environmental and Related Impacts

The AT Plan represents a significant investment over 20 years. The justification of these investments becomes clear when the benefits are considered:

Environmental Benefits

- Reduction in air pollution
- Noise reduction
- Land use reduction

Resident and Tourist Benefits

- Increased mobility
- Improved liveability

Transportation Benefits

- Reduction in traffic congestion
- Increased physical activity

Economic Benefits

- Roadway Cost Savings

Monitoring

Collecting data to monitor the different and changing aspects of user behaviour will assist in evaluating the effectiveness, performance and overall contribution of various activities to achieve

the stated vision, goals and objective of the AT Plan. This data collection should begin in 2007, and on-going public consultation should also continue following the adoption of the AT Plan. Assessing the impact and costs of the AT network and programs should be based on information such as:

- Origin/destination counts
- Tourist attitudinal surveys
- Screenline counts on a finer scale that are appropriate to wheeling travel patterns
- Intersection counts to coincide with routes on which improvements are proposed, and also on parallel routes.

This information should be collected at least every five years and during the late spring to mid fall season.

Policy Recommendations

The success of the Active Transportation Plan will be measured in part by the ease with which it can be implemented. To implement the AT Plan, the following recommendations are put forward:

1. The vision, goals and objectives and network development approach contained in this report and the companion document (planning and design guidelines, draft trail by-law) should be formally reviewed on an annual basis during implementation. To facilitate implementation, the Route Selection Evaluation Criteria (Exhibit 4.2) should be formally adopted by HRM as an internal policy.
2. The capital works activities of HRM, the province of Nova Scotia and other major land owners/developers should make Active Transportation modes more convenient and less risky by removing barriers to walking, cycling (including youth oriented travel) and improving connections to public transit. Improvement should include connections between communities and within new residential and commercial areas.
3. HRM, the Province of Nova Scotia and partners should support efforts to achieve a greener and healthier Region by encouraging residents and visitors to choose Active Transportation modes as part of a fitness regime and to reduce greenhouse gas emissions through reducing their dependence on the private automobile for travel, especially for short distance trips.
4. HRM, the Province of Nova Scotia and partners should continuously monitor the AT Plan with a focus on the central goal of doubling the number of people who use AT modes for a portion of their entire trip (particularly commuting).

The proposed off-road trail system is an important component of the AT Plan. A Draft Trail By-Law is included in the AT Plan, to regulate activities on these off-road trails. To enact the Trail By-Law, it is recommended that:

5. HRM proceed with drafting a formal by-law that adheres to the intent of the Draft Trail By-law.

Technical recommendations and standards for all elements of the Active Transportation system are outlined in detail in the Technical Appendix, and summarized in Appendix E. To ensure consistent standards for the development, operation and maintenance of the AT network, it is recommended that:

6. HRM and partners use the technical recommendations in Appendix E and detailed in the Technical Appendix: Facility Planning, Design Guidelines and Draft Trail By-law to implement the Active Transportation Plan.
7. The priorities in Exhibits 5.1 and 5.2 should guide implementation.

From a human resources perspective, the effective implementation of the Active Transportation Plan will require dedicated staff positions. It is recommended that:

8. HRM allocated three new full-time equivalent positions to implement the AT Plan (capital project integration, community liaison and trail by-law enforcement). Payroll and expenses is estimated at \$200,000 per annum. The community liaison staff person will be responsible for the Healthy and Active Rural Communities Program (see Section 4.6.2) and upgrades to sidewalks at the neighbourhood level in urban and suburban areas.

Changes are also recommended to the Advisory Committees that deal with aspects of Active Transportation. It is recommended that:

9. The mandate of the HRM Bikeways Advisory Committee be expanded to include Active Transportation. The new Advisory Committee and the Advisory Committee for Persons with Disabilities should be given a \$10,000 annual budget for AT-related activities (including surveys).

Some portions of the current spine network are managed by community groups, while parts of the recommended network will be located on non-HRM lands. To address the role of partners and asset management, it is recommended that:

10. HRM commence a formal process for the transfer of multi-use off-road trail facilities from community organizations where these assets form part of the AT spine network.
11. Formal discussions commence with private land owners to secure easements, options or agreements of purchase and sale. These discussions should include CN Rail, the Halifax Port Authority, the Halifax Dartmouth Bridge Commission, the Halifax Regional Water Commission, NSP Inc., Maritimes and Northeast Pipeline, the Department of Transportation and Public Works, DND and Canada Lands Company Ltd. The private holdings that are crossed by the AT network are shown in Exhibit 5.3. While the costs of easements or land purchases are subject to negotiations, an annual budget of \$100,000 is allocated for unspecified actions.

The implementation of the Active Transportation Plan will require a continuous source of new cash flow. The preferred reliable funding strategy is to apply a capital cost contribution charge (also called a development cost charge or development levy) to new developments. In order to expand the current capital cost contribution policy of the HRM, approved under Section 274 of the *Municipal Government Act*, the following recommendation is put forward:

12. To implement this own-source funding framework under amendment to Section 274, Infrastructure Charges of Part IX - Subdivision of the *Municipal Government Act*, it is recommended that a formal process be started with Service Nova Scotia and Municipal Relations.

Funding from senior levels of government and corporate partners are required to implement the Active Transportation Plan. To pursue a coordinated approach to partner commitments, it is recommended that:

13. HRM facilitate an annual Funding Partners Workshop to determine five year increments. The commitments should be reviewed on an annual basis and integrated with HRM's capital costs and maintenance budget.

An educational and promotional campaign is critical to the success of the Active Transportation Plan. To implement this campaign, it is recommended that:

14. The new community liaison staff person be responsible for working with partners to design and implement the program outlined in this section. An annual program should be prepared with regular monitoring of outcomes or outputs. The proposed annual budget is \$75,000.

The Active Transportation Plan will lead to numerous environmental, transportation, economic, resident, and tourist benefits. In order to guide all AT actions in the Halifax Region, the following recommendations is made:

15. The vision, goals and objectives for AT should be the foundation for all actions and frame HRM decisions that also consider environmental, visitor and economic benefit.

The technical and operational recommendations in the Active Transportation Plan and Technical Appendix seek to reduce risk. The following recommendations provide a policy framework that is risk management focused:

16. HRM should endeavour to ensure the safe and comfortable year round operation of the AT spine network through the adoption, implementation and monitoring of maintenance practices and standards for both on-road and off-road routes.
17. HRM and the Department of Transportation and Public Works should recognize AT modes as important elements towards maximizing efficient operations of the transportation and land use system, by helping to reduce the space needed for mobility requirements such as parking, and being supportive of more intensive land use practices.
18. On a project by project basis, HRM should seek to assign a preferential status to AT modes as a means to achieve a more sustainable transportation system, by giving priority to supportive and AT friendly considerations as part of the transportation and land use planning and implementation process.
19. HRM and partners should recognize and promote the many benefits of AT which underline why this mode of transportation must be supported and given a preferential implementation status. Active Transportation provide benefits that include community health from exercise, economic returns from retail sales and tourism, positive

environmental impacts from less air pollution, energy consumption and mobility space requirements, and increased social interactions.

20. HRM and partners should provide appropriate funding and resource support to AT programs and initiatives, in recognition of the priority placed on this efficient and enjoyable mode of transportation, and its important role in supporting the achievement of the Regional MPS growth management objectives to create a healthy and environmentally sensitive community.

Implementation of the Active Transportation Plan is expected to begin in 2006. A monitoring program, including data collection and on-going public consultations, will assist in evaluating the effectiveness, performance and overall contribution of various activities to achieve the stated vision, goals and objectives of the AT Plan. In order to ensure proper monitoring, it is recommended that:

21. HRM and partners should monitor the implementation and effectiveness of the Active Transportation Plan through measurements of liability exposure, priority achievements, counting programs, surveys and target modal splits.
22. HRM (including Metro Transit) continue collecting data on AT modes.
23. Designated HRM staff, with assistance from the proposed Active Transportation Advisory Committee, conduct AT User surveys every two years and a statistically valid Public and Visitor Attitude Survey at least every five years.