

6 Implementation

The BUMP is not intended to be a static document. The timing and details related to implementation, particularly the location of recommended routes and bikeway types, can and should evolve through community consultation and detailed technical studies when appropriate. At the same time, however, the extensive community effort that established the overall direction for this Plan should be respected.

The following implementation strategy is intended to provide the tools and mechanisms necessary to implement the BUMP, and is consistent with the community's cycling vision.

“The challenge and success of any master plan is measured in part by the ease with which it can be implemented.”

6.1 Implementation Strategy

The challenge and success of any master plan is measured in part by the ease with which it can be implemented. Ease of implementation is typically measured by five criteria:

1. *The quality and clarity of the plan* in terms of its vision, principles and goals that guide it, and the set of recommendations that provide the strategy to achieve the plan;
2. *A practical implementation strategy* that identifies and sets out a recommended approach to implement the Plan, and also addresses priorities and phasing;
3. *An administrative structure* or organization responsible for implementing all components of the Plan, as well as for co-ordinating multi-departmental resources, including funding commitments;
4. *Funding* by Council for the entire Plan within a specified timeframe (20 years); and
5. *Monitoring* of the Plan to assess implementation results and to serve as feedback to refine on-going implementation of the Plan.

Chapters 1 through 5 of the BUMP establish a concise Cycling Master Plan that is based on a clear vision, principles and goals, plus a set of supporting recommendations.

The following provides the implementing actions, administrative structure, funding and monitoring elements that are recommended to successfully implement the BUMP.

Implementing Actions

The implementation of the BUMP will be accomplished through both short and long term



actions. Short term action is for Council to adopt the BUMP, thereby committing the City of Windsor to the implementation of its recommendations.

Long term action is to commit annual funding to:

- 🚲 initiate the cycling awareness, cycling-transit and end-of-trip recommendations identified in Chapter 4; and
- 🚲 construct the cycling network generally in keeping with the phasing illustrated on **Maps 5** and **6**.

“People and leadership are the keys to setting the implementation of the BUMP in motion.”

Recommendations

- 🚲 That Council adopt the BUMP, thereby committing the City of Windsor to the implementation of its recommendations.
- 🚲 That the City of Windsor commit annual funding to:
 - a) initiate the cycling awareness, cycling-transit and end-of-trip recommendations as identified in Chapter 4; and
 - b) construct the cycling network generally in keeping with the phasing illustrated on Maps 5 and 6.

- 🚲 That the City, during road resurfacing or rehabilitation projects, consider the BUMP recommendations prior to proceeding.

6.2 Administrative Structure

People and leadership are the keys to setting the implementation of the BUMP in motion. The formal relationships between individuals and organizations and their operational practices are important factors in determining whether a BUMP initiative will proceed and be successful. Maximizing participation and removing obstacles to the flow of information between participants are two of the main objectives in managing implementation.

The current administrative structure for organizing and implementing cycling initiatives within the City of Windsor largely rests with four departments, Traffic Engineering, Parks and Recreation, Planning and Building Services and Public Works, plus one committee of Council, the Windsor Bicycling Committee. It is lead by the Traffic Engineering Department. However, there is no staff person solely responsible for co-ordinating all cycling activities as was envisioned in the BUDS. The BUMP confirms the earlier BUDS recommendation that the City establish a full time staff position to oversee cycling related issues in Windsor.



The BUMP recommends that this Cycling Coordinator position be created in the Traffic Engineering Department since this department is responsible for the implementation of this Plan. The responsibilities of this position will include:

- 🚲 coordinating and championing the implementation of the BUMP across various departments;
- 🚲 liaison with the Windsor Bicycling Committee;
- 🚲 providing cycling input on various municipal and development projects;
- 🚲 coordinating the bicycle parking program;
- 🚲 managing cycling related projects;
- 🚲 coordinating cycling related projects with other agencies and adjacent municipalities;
- 🚲 inspiring participation within the community for cycling; and
- 🚲 developing funding opportunities in both the public and private realm.

The Windsor Bicycling Committee is a citizen advisory group appointed by City Council to represent cyclists. The role of the Committee is to provide input on the whole range of cycling programs and services offered by the City. The citizen volunteers have been an invaluable resource in developing new and innovative policies and programs to encourage cycling and improve safety, and have contributed to the development of the BUMP.

The Windsor Bicycling Committee should be a partner in implementing the BUMP and should continue to have a valuable role in representing the interests of all cyclists in the City. The experience and knowledge of the members of this committee are an asset that should be consulted for advice and input during the implementation of the BUMP. They will provide input and assist staff in confirming priorities for implementation.

Recommendations

- 🚲 That the City of Windsor establish the position of Cycling Coordinator in the Traffic Engineering Department to oversee cycling related issues and to coordinate implementation of the BUMP.
- 🚲 That the Windsor Bicycling Committee continue in its current role, and assist staff in confirming priorities for implementation of the BUMP.



It is recognized that the complete cycling network and priorities recommended in this Plan will evolve through the environmental assessment, planning and capital budget processes. Therefore, as a guide it is recommended that the City adopt the cycling network implementation process outlined in **Figure 6.1** to implement and refine the recommended cycling network.

The four phase cycling network implementation process provides a formal mechanism to confirm the validity of each route recommended in this report.

Phase 1: Define Need

When a project involves a proposed cycling route identified in BUMP, or the opportunity to establish a new route not identified in BUMP, the Traffic Engineering Department and Bicycle Coordinator should be notified. From a roadway planning and maintenance perspective, this is why criteria are recommended to be added to the City's Strategic Roadway Improvement Program (STRIP) and Roadway Improvement Management System (RIMS). Staff can then confirm that the route is still valid based on a review of the BUMP report and other relevant information.

If the route is still valid, staff should confirm whether or not a feasibility study is required to implement the route. It is recognized that certain routes, such as those through existing parks, may

not require a detailed feasibility analysis. Where a feasibility study is required, terms of reference for the study should be prepared and if necessary, adopted by Council.

Phase II: Determine Feasibility

When a feasibility study is required, it is intended that it be developed through a process similar to a Class Environmental Assessment. This entails the collection and analysis of relevant information, the identification and evaluation of alternative design solutions, public consultation and the selection of a preferred alternative.

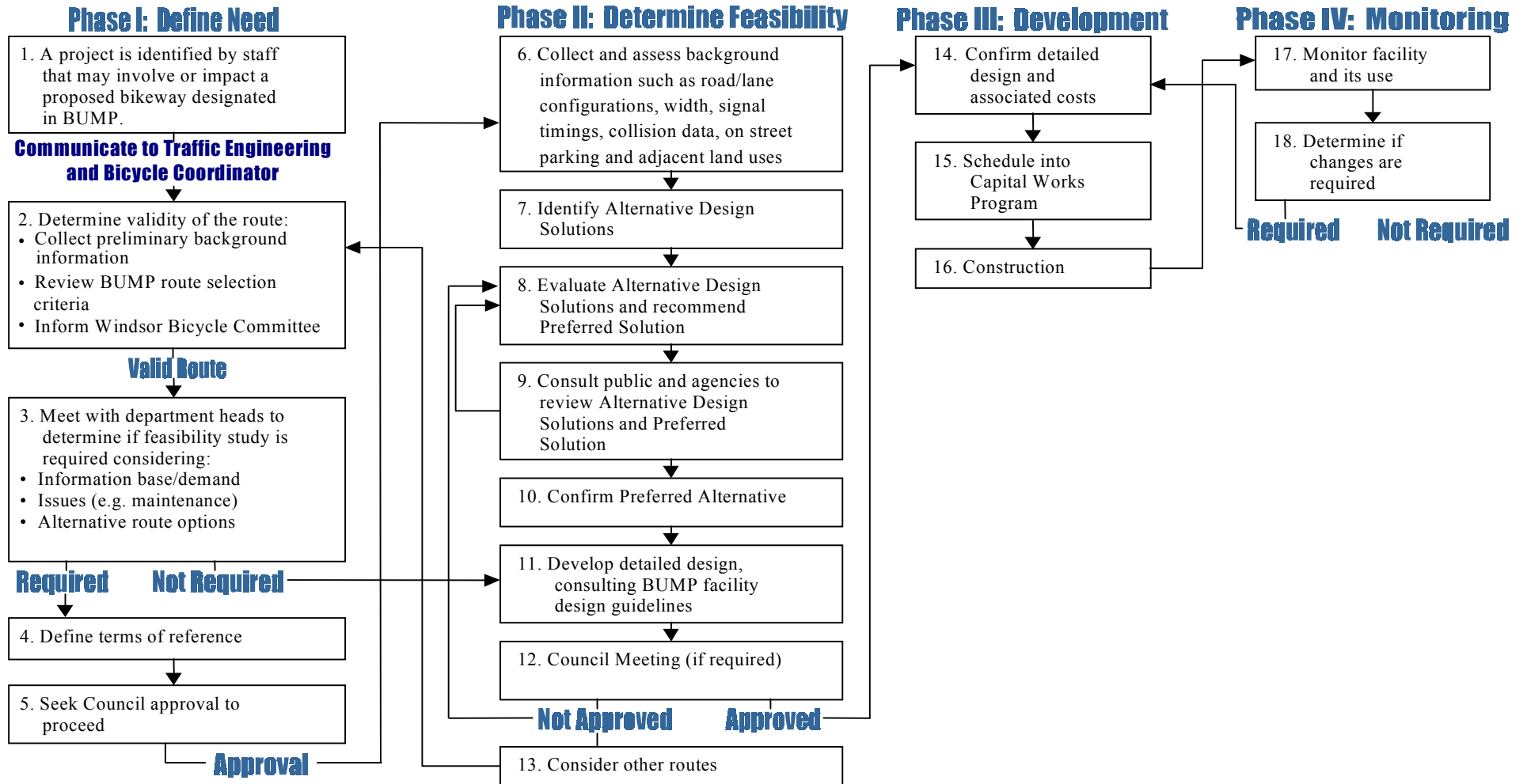
Whenever alternative design solutions or detailed designs are prepared, they should be developed in accordance with recognized and accepted design guidelines as referenced in Section 5.1 of this report.

Where necessary, Council should be asked to confirm the preferred design solution or the detailed design by resolution.

It should also be noted that in situations where there is a clear community demand for a cycling facility, but site specific circumstances prevent it from being constructed, other nearby parallel routes should also be closely examined for their suitability.



**Figure 6.1
Cycling Network Implementation Process**



Phase III: Development

The development of cycling facilities involves:

- 🚲 confirming the detailed design and associated costs for the facility;
- 🚲 Council's commitment of the funding; and
- 🚲 construction.

Phase IV: Monitoring

Once cycling facilities are constructed, their use and design should be monitored to ensure that they function as intended. When necessary, the facility should also be upgraded and maintained to ensure continued safe use by cyclists.

Recommendation

- 🚲 That the City adopt a cycling network implementation process similar to that outlined in Figure 6.1.

6.3 Funding

The BUMP is both an infrastructure plan and an operations plan. Therefore it requires both capital investment and operations funding to ensure its successful implementation.

The BUMP is a comprehensive Plan that will require an integrated approach to implement it.

Implementation will require the co-ordination of resources and budgets of a number of City Departments, including Traffic Engineering, Public Works, Parks and Recreation and Planning.

BUMP Capital Investment

The recommended BUMP cycling network requires a 20-year capital investment in the City's transportation and recreation system. As described in Chapters 2 and 3, such an investment has significant individual, societal, environmental and economic benefits, and is consistent with existing City of Windsor policies.


The capital cost estimates to construct the recommended cycling network are based on the field evaluation of existing conditions at a master plan level of detail. As such, these estimates cover the basic cost of installing the facility and do not include costs associated with site-specific major improvements and/or additional site amenities.


The cost estimates are based on the following unit prices:

- 🚲 **Signed route** - \$2.00/m of roadway, which reflects the cost of installing route signs and directional signs at intersections (on average every 100 m), on both sides of the road.
- 🚲 **Bike Lane (restriping/signage)** - \$20.00/m of roadway, which reflects the cost of line







painting (up to 4 traffic lanes) and installing bike lane signage on both sides of the road. It is recognized that site specific improvements may be necessary to ensure the continuity of a bike lane. For example, this may include minor road widening and intersection improvements at specific locations. These additional costs are not factored into the unit price of \$20.00/m.

 **Bike Lane (reconstruction)** - \$180.00/m of roadway, which reflects the cost of providing the additional pavement width to accommodate bike lanes and bike lane signage on both sides of the road. In this case, it is assumed that bike lanes are added during other roadway reconstruction (and not as a stand alone project), therefore the cost of other items such as new curbs are accounted for in the cost of roadway reconstruction.

 **Multi-use Trail** - \$100.00/m of trail, which reflects the cost of installing a new 3.5 m wide asphalt surfaced trail under normal site conditions. Alternative surface treatments may also be considered, such as concrete, however we have assumed asphalt trails for our cost estimates. It is recognized that the cost to add an asphalt surface to an existing granular trail of sufficient width and adequate base will be significantly less than the unit price of \$100.00/m. These

determinations will be made on a site-by-site basis.

In preparing this estimate, the following general assumptions were made:

-  construction costs are in 2001 dollars and do not include taxes;
-  costs associated with property acquisitions are not included in unit prices;
-  costs associated with utility relocations are not included in unit prices; and
-  costs associated with major site-specific projects, such as bridges, railway crossings, retaining walls and stairways, are not included in the estimate.



A comprehensive network implementation schedule is provided in **Appendix B**. This implementation schedule contains a detailed breakdown of “order-of magnitude” costs for each individual route that forms part of the network in accordance with the phasing plan identified through Maps 5 and 6.

The prioritizing of individual projects in each phase will be dependent on a number of factors. These include the schedule of projects in the City’s existing RIMS and STRIP programs, other



planning, design and environmental assessment studies, as well as funding availability.

Recommendations

-  That the Traffic Engineering Department and the Cycling Coordinator prioritize individual bikeway projects on an annual basis. The results of this exercise should be documented in a report to Council outlining the progress in implementing the BUMP, and the plan for both network development and programming for the upcoming year.
-  That staff review the costing of each route at the appropriate time through a more detailed planning and design exercise in keeping with the process identified in Figure 6.1.

To assist staff in refining route construction costs, included in **Appendix C** is a detailed Unit Price Schedule for site-specific design treatments and individual elements/amenities that may be part of a bikeway or trail system. These unit prices are based on averages from a number of related projects across Ontario, and can be used as a guide when developing detailed designs for individual routes throughout the network.

BUMP Operations Funding

The BUMP is more than a 20-year plan to develop an on and off-road integrated cycling network in

the City of Windsor. It is also a Plan intended to make the City one of the premier cycling communities in North America, and a destination for those interested in cycling tourism.

The success of the BUMP will not only be measured by how many kilometres of bikeway the City implements, but how the City of Windsor takes a leadership role in informing residents about the network and its appropriate use. This leadership begins with the Mayor and Members of Council adopting and promoting the BUMP, and continues with a strong City Staff commitment to keep Windsor residents informed. The BUMP therefore includes recommendations directed toward managing the implementation of this Plan, increasing cycling awareness, improving the cycling-transit link and providing end-of-trip facilities.

These activities require appropriate levels of operational funding to be successful. The following provides order of magnitude cost estimates for these operational commitments.


Management and Cycling Awareness

Through constructing the cycling network there is an inherent obligation on the City to inform and educate Windsor residents, both cyclists and non-cyclists, about the network and the benefits of cycling, as well as safe and appropriate cycling techniques.



Management and cycling awareness costs associated with activities, such as the proposed Cycling Coordinator position, CAN-BIKE and Bike-to-Work Week initiatives, are difficult to determine at the outset. These will need to be costed as they are developed. The City has a number of on-going cycling initiatives, and the level of educational and awareness programming may vary from year to year. Further, several of the BUMP initiatives have been designed to complement existing City initiatives.

Recommendation

-  That the City commit, as a minimum, annual funding in the order of \$200,000 for BUMP management and cycling awareness initiatives. This would include the annual salary of the Cycling Coordinator, seasonal contract staff, network promotion, special event costs, and partial costs associated with the preparation of safety and education materials.

Maintenance

As the cycling network is expanded, maintenance costs associated with ensuring a safe cycling system will be incurred.

The responsibility for pavement surface maintenance for on-road cycling network facilities should be assigned to the City's Road Operations

Division of the Public Works Department. Costs associated with snow and debris removal are expected to be minimal and should be identified in the City's annual Road Improvement Maintenance System (RIMS) program. Additional maintenance costs associated with BUMP may be partially offset by simply reprioritizing the clearing/sweeping schedule to ensure that streets with bike lanes are among those streets assigned a high priority.

The responsibility for off-road bikeway facilities outside the road rights-of-way should be assigned to the City's Parks and Recreation Department. This would include surface maintenance and snow/debris removal.

Continuity of pavement markings and signage between on-road and off-road facilities is essential for the success of any cycling network. Maintenance of on-road and off-road bikeway pavement markings and signage will be the responsibility of the Traffic Engineering Department.

Based on the experience of the project team, overall trail maintenance costs per kilometre vary widely from \$25.00/km per year for trails in a suburban or rural setting to \$340.00/km per year for a highly maintained trail system in an urban setting. The operations budgets for both the Public Works and Parks and Recreation



Departments should be reviewed by staff to included these additional costs.

Recommendations

- 🚲 That the responsibility for pavement surface maintenance for on-road cycling network facilities be assigned to the City's Road Operations Division of the Public Works Department.
- 🚲 That the responsibility for off-road bikeway facilities outside the road rights-of-way be assigned to the City's Parks and Recreation Department and include surface maintenance and snow/debris removal.
- 🚲 That maintenance of on-road and off-road bikeway pavement markings and signage be the responsibility of the Traffic Engineering Department.

Cycling-Transit Link

The improvement of the cycling-transit link will require an additional investment in the bike racks on City buses program. These costs will be incurred by Transit Windsor, subject to the success of the current program, and have not been identified in the BUMP.

End-of-Trip Facilities

The provision of end-of-trip facilities is an important component of the Plan. It is inherently connected to the provision of new routes and the objective of increasing the number of people who cycle. Simply put, the City can build the proposed cycling network, but without appropriate end-of-trip facilities, and in particular secure and convenient bicycle parking, few cyclists will use it.

Bicycles are somewhat like automobiles in this respect. A city builds new roads or widens existing ones in response to increasing demand and to stimulate economic growth. As part of this activity, a city also provides parking on public rights-of-way and on public land to serve the additional motorists who use these new roads. In addition, a city, through its Official Plan and zoning by-laws, encourages and/or requires the private sector to provide parking on private property. Failure to provide the necessary parking facilities will result in illegally parked vehicles. This affects traffic circulation and the movement of emergency services in the city.

Although not at the same scale, cycling is very similar. Evidence from other cities regarding bikeways and cyclists clearly shows that “if you build it they will come”. Therefore increasing the number of cyclists travelling in the City of Windsor for both recreational and utilitarian



purposes will require expanded end-of-trip facilities, especially secure bicycle parking.

The development and implementation of a bicycle parking program includes two components: a municipally funded program of installing bicycle parking on public rights-of-way and on public land and by-law requirements for the private sector to provide bicycle parking for all new developments. The City has already implemented by-law requirements as described in Chapter 4.

The costs associated with implementing bicycle parking facilities can vary depending on the type of facility and the number of units installed each year. The recommended approach is to provide simple short-term post-and-ring parking stands, similar to those developed by other municipalities.

The cost of installing post-and-ring style bicycle parking can be as little as \$50 per unit. For comparison purposes, multi-unit bike racks that can accommodate six bikes at a time cost approximately \$600, and bicycle lockers, typically used for long-term parking and subject to a rental fee, can range in price from \$1,000 to \$2,000.

It is recommended that the City of Windsor budget \$10,000 a year for the next 20 years to develop and implement a bicycle parking program. The responsibility for developing and managing this program should be assigned to the City's new Cycling Coordinator in the Traffic

Engineering Department. It is also proposed that the City of Windsor investigate costs and suppliers for post-and-ring stands. Windsor should commence a post-and-ring program starting in year two of the BUMP. It is further proposed that an annual target of 200 post-and-ring (or similar type of device) installations be set.

Recommendations

- 🚲 That the City of Windsor budget \$10,000 a year for the next 20 years to develop and implement a bicycle parking program.
- 🚲 That the responsibility for developing and managing this program be assigned to the City's new Cycling Coordinator.
- 🚲 That the City investigate costs and suppliers for post-and-ring stands.

BUMP Implementation Costs

Figure 6.2 sets out the costs associated with the BUMP recommendations. Network development costs are estimated at \$19,400,000 over 20 years. Bicycle parking program costs are estimated at \$10,000 per year. Operations costs are estimated at \$300,000 per year over the 20-year horizon of BUMP. The total cost for BUMP over the 20-year horizon of the Plan is estimated at \$25,600,000.

The total cost for BUMP over the 20-year horizon of the Plan is estimated at \$25,600,000.



Figure 6.2
BUMP Implementation Costs

Component Type of Improvement	Lead Department	Short Term (0-5 years)		Long Term (5-20 years)		Total (20 years)
		Total Cost	Average Per Year	Total Cost	Average Per Year	Total Cost
1. Network Development						
Pavement Markings and Signage	Traffic Engineering	\$1,468,400	\$293,680	\$55,710	\$3,714	\$1,524,110
Off-road Facilities	Parks & Recreation	\$618,300	\$123,660	\$2,665,800	\$177,720	\$3,284,100
Road Reconstruction	Public Works	\$2,454,600	\$490,920	\$12,124,620	\$808,308	\$14,579,220
	Total All Departments	\$4,541,300	\$908,260	\$14,846,130	\$989,742	\$19,387,430
2. Bicycle Parking	Traffic Engineering	\$50,000	\$10,000	\$150,000	\$10,000	\$200,000
3. Operations	Traffic Engineering	\$1,000,000	\$200,000	\$3,000,000	\$200,000	\$4,000,000
	Parks & Recreation	\$250,000	\$50,000	\$750,000	\$50,000	\$1,000,000
	Public Works	\$250,000	\$50,000	\$750,000	\$50,000	\$1,000,000
TOTAL	Traffic Engineering	\$2,518,400	\$503,680	\$3,205,710	\$213,714	\$5,724,110
	Parks & Recreation	\$868,300	\$173,660	\$3,415,800	\$227,720	\$4,284,100
	Public Works ¹	\$2,704,600	\$540,920	\$12,874,620	\$858,308	\$15,579,220
	Total All Departments	\$6,091,300	\$1,218,260	\$19,496,130	\$1,299,742	\$25,587,430

¹ Public Works costs are assumed to be included in road resurfacing or reconstruction projects.



Implementation of the BUMP can be achieved by Council allocating approximately \$1,000,000 annually for capital expenditures (network development) and \$250,000 annually for operating costs. It is expected that the majority of BUMP capital costs related to proposed on-road facilities be identified and included as component costs within planned roadway reconstruction or resurfacing projects (STRIP). There should also be a continued emphasis on improving the off-road trail network.

To assist in reducing municipal taxpayer costs, the City of Windsor should also pursue outside funding opportunities. It is the experience of the consulting team that funding sources available over the last few years for cycling and trail related projects is at or near an all time high, likely due to the enormous popularity of trails today. It is expected that this trend will continue

Examples of past funding sources include:

- 🚲 *The Province of Ontario's "Superbuild" fund;*
- 🚲 *Ontario Trillium Foundation* that was recently expanded in response to the money collected throughout the Province by casinos;
- 🚲 *Human Resources Development Canada* program that enables personnel positions to be made available to various groups and

organizations. For example, the Ontario Trails Council has been able to hire two people under this program;

- 🚲 *Corporate Environmental Funds* such as Shell, Mountain Equipment Co-op and Canada Trust tend to fund small, labour-intensive projects where materials or logistical support is required;
- 🚲 *Corporate Donations* may consist of money or services in-kind, and have been contributed by a number of large and small corporations over the years. A successful local example is Chrysler Canada's support of ERCA's Greenway project; and
- 🚲 *Service Clubs* such as the Lions, Rotary and Optimists have assisted with a number of high visibility projects at the community level.

The City of Windsor should investigate annual public and private sector funding programs to assist in implementing the BUMP.

Recommendations

- 🚲 That the City commit annual funding to implement BUMP over 20 years.



- 🚲 That the City investigate public and private sector funding programs to assist in implementing the BUMP.

6.4 Monitoring

Implementation of the BUMP is expected to begin in 2001. Implementation of the City-wide cycling network infrastructure will be phased on an annual basis in accordance with capital funding. In addition, other road improvements will be completed in keeping with the design guidelines and standards set out in this Plan.

Collecting data to monitor the different aspects of cycling behaviour will assist in evaluating the effectiveness and overall contribution of various activities to achieve the stated vision and goals.

This data collection should begin in 2001 and build off of the various BUMP initiatives, such as the User Survey and Public Attitude Survey. The data will establish a benchmark with which to compare later data as the BUMP is implemented.

The data collection will be used to:

- 🚲 confirm the overall direction and implementation of the BUMP;
- 🚲 confirm statistics on the number and type of cyclists;

- 🚲 verify the route selection process; and
- 🚲 identify the supply and demand for bicycle parking.

Over time, the monitoring system should identify changes in route preference to assist in determining where to implement changes to “hard and soft” cycling infrastructure.

The results of this assessment may be used to determine the success of implementing various types of cycling facilities. However, caution must be used in relying on an immediate response to a given improvement. An extended timeframe should be established to ensure that cycling awareness initiatives are in place to assist in changing travel patterns and habits.

Assessing the impact and costs of a cycling program should be based on information such as:

- 🚲 origin/destination counts;
- 🚲 screenline counts on a finer scale that are appropriate to cycling travel patterns; and
- 🚲 intersection counts to coincide with routes on which improvements are proposed, and also on parallel routes.

This information should be collected in each of the next five years and in alternating years after



that. The information must be collected during the cycling season.

The Traffic Engineering department, through the Bicycle Coordinator, should also prepare an Annual Progress Report to Council and the Windsor Bicycling Committee. This report will outline the progress made towards achieving the primary goals of the plan, identify changes in direction or priorities for the upcoming year, and confirm budget requirements.

Recommendations

- 🚲 That the City, through the Traffic Engineering Department, establish a cycling data collection program.
- 🚲 That Traffic Engineering, through the Bicycle Coordinator, report annually to Council and the Windsor Bicycling Committee on the BUMP implementation progress and priorities for the upcoming year.

