

**Walker Road Corridor Improvements  
Riverside Drive to Provincial Road  
(City Limits)  
Grand Marais Road East Improvements  
Walker Road to Central Avenue**

***REPORT***

March 2001

*The Corporation of the City of Windsor*

99-6401

Submitted by

**Dillon Consulting  
Limited**

## **EXECUTIVE SUMMARY**

The Walker Road Corridor and Grand Marais Road East Class Environmental Assessment undertook a comprehensive review of the improvements required on Walker Road extending from Riverside Drive south to the City limit and on Grand Marais Road East from Walker Road to east of Central Avenue. This comprehensive review serves to ensure that improvements recommended at any location within the subject area are compatible with those recommended (if any) of adjacent locations. In this way, the safe movement of vehicles, cyclists and pedestrians is ensured through the entire corridor of both Walker Road and Grand Marais Road East.

The improvements identified in this Study Report were developed in consultation with local residents, affected business and property owners, interest groups such as the local cycling community and municipal and provincial review agencies. This document represents the culmination of the many discussions undertaken with each of these groups.

Owing to the considerable length of the two road corridors assessed, improvements have been summarized as “Near Term” (5 year program) and “Long Term” (to be reviewed annually beyond the 5 year program). Figure E.1 identifies the location of the improvements noted. Near Term improvements identified include:

- complete the reconstruction of Walker Road from Division Road to the City limits including completion of the Walker/Provincial intersection (\$8,700,000)
- construction of Foster Street extension to service the airport lands and Walker Industrial Park (\$2,700,000)
- continue discussions with DaimlerChrysler to determine the need for the reconstruction of the Walker/Grand Marais intersection (including possible grade separation) (\$13,900,000).
- continue discussions with DaimlerChrysler to determine the need for the reconstruction of Grand Marais Road East from Walker Road to east of Central Avenue (\$6,700,000).

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- construction of the Digby Street extension to Temple Drive (\$950,000).
- installation of traffic signals at Richmond Street (north leg), at Parkdale Place and at Airport Road.

Beyond the five year time frame, projects should be reviewed on an annual basis. Further reconstruction of Walker Road should proceed northerly from Division Road.

In addition to the road improvements identified, cycling, pedestrian and streetscape opportunities are also noted in the report and should be included as improvements are undertaken.

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## **1.0 INTRODUCTION AND BACKGROUND**

### **1.1 The Environmental Study Report**

The City of Windsor has completed an Environmental Study Report (ESR) for improvements to Walker Road between Riverside Drive East and Provincial Road (City Limits). The total length of the Walker Road Corridor under study is approximately 10 km. The study area also includes that section of Walker Road located between Division Road and Provincial Road (City Limits). This section of Walker Road was included in the Walker Road Corridor ESR completed by Dillon in 1995 and has been re-evaluated to confirm the recommendation and findings of that ESR. The findings of the re-evaluation should be considered as an Addendum to the original report. In addition, this Study will also address Grand Marais Road East from Walker Road to Central Avenue (Grand Marais Road East Corridor) as an integral part of this project. The total length of the Grand Marais Road East Corridor is approximately 3 km.

The Walker Road Corridor and Grand Marais Road Corridor have experienced significant growth in recent years, resulting in deteriorating traffic safety and operating conditions. In addition, the potential for future development along the Walker Road Corridor has given rise to the need to undertake this Study to identify and address these needs. The Walker Road Corridor and Grand Marais Road East Corridor Improvements are subject to the Class Environmental Assessment for Municipal Roads Projects process (June 1993).

The Windsor Area Long Range Transportation Study Master Plan (WALTS) has identified the Walker Road Corridor and Grand Marais Road East Corridor as being in need of capacity improvements. The WALTS has been completed in accordance with the Class Environmental Assessment Master Plan process, thereby satisfying Phase 1 and Phase 2 of the Class EA requirements for this current Study.

The Class EA process, which has been approved by the Province of Ontario, describes the process which municipalities must follow to comply with the requirements of the Environmental Assessment Act. The process (refer to Figure 1.0), applies to municipal road projects which



occur frequently and have a predictable range of environmental impacts. Provided that the Class EA process is followed, projects are classified into three types:

- Schedule A Projects - usually have minor environmental impacts and may proceed without following the Class EA process;
- Schedule B Projects - have more significant impacts and are approved under the Class EA process provided that the potential environmental concerns of the public and affected agencies are “screened” and incorporated into the projects design;
- Schedule C Projects - are subject to the full Class EA process and require the preparation of a Environmental Study Report (ESR). The Walker Road Corridor and Grand Marais Road Corridor Improvements are a Schedule C project. The ESR follows the documentation of the Class EA process which includes:
  - Identification of the problems/issues and project purpose;
  - The problem solving decision making process;
  - Description of the existing social, economic and natural environment in the Study Area;
  - Identification of the Alternative Solutions that were considered to resolve the identified problems/issues;
  - Selection of the most desirable design alternative, including the identification of potential environmental impacts associated with the selected design, and mitigating measures and design requirements associated with the implementation of the project.

## **1.2 Purpose**

**The purpose of this project is to establish the preferred solution to resolving roadway operational deficiencies based on an anticipated level of traffic growth, with particular consideration to pedestrian and vehicular safety.**

As a result of continuing growth in traffic, including the impact of area developments, traffic safety and operating conditions along the Walker Road and Grand Marais Road corridors have deteriorated. The City of Windsor has established the need for roadway improvements within these corridors through the completion of the Windsor Area Long Range Transportation Study (WALTS). As noted, WALTS formed the basis for this undertaking, having satisfied Phases 1 and 2 of the Class Environmental Assessment (Class EA) for Municipal Road Projects. By completing the Class EA process, the City of Windsor will be in a position to begin implementing the preferred designs identified herein.

### **1.3 Background**

As a major north-south arterial roadway connecting the City of Windsor to the Town of Tecumseh, and to County and Provincial highway systems, Walker Road serves the following key functions:

- arterial roadway for commuting traffic;
- gateway to Windsor for both air and rail travelers;
- major roadway to service industrial and commercial land uses;
- a major service corridor for municipal infrastructure.

The importance of this link has increased with the growth in industrial and commercial development serviced from the Walker Road Corridor. Walker Road also carries commuter and commercial traffic to and from the King's Highway No. 401 via Provincial Road. Walker Road is also intersected by other major east-west routes in the City including Riverside Drive, Wyandotte Street, Tecumseh Road, E.C. Row Expressway, Division Road and Provincial Road.

From Riverside Drive to Ottawa Street, Walker Road operates as a two-lane roadway with some widening at intersections. The area is older in character with some redevelopment now occurring. For purposes of this study, we have defined this area as the North Precinct.

From Ottawa Street to Grand Marais Road, Walker Road has previously been improved to operate as a five-lane roadway with widening at some intersections to provide auxiliary turning lanes.

Access to abutting properties along this length of Walker Road is considered to be well defined and appropriately spaced.

Intersection spacing is acceptable. For purposes of this study, we have defined this area as the Central Precinct.

From Grand Marais Road to Division Road, Walker Road operates as a four-lane roadway with numerous unrestricted access points. Auxiliary turning lanes, except at the E.C. Row Expressway have not been constructed. The area is heavily developed with numerous commercial establishments fronting Walker Road. Several minor roadways intersect with Walker Road in this section. For purposes of this study, we have defined this area as the South Precinct.

This report also considers Walker Road from Division Road to Provincial Road (City Limits). This section of Walker Road was the subject of a Class Environmental Assessment completed in 1995. Since the completion of that Study, some improvement of the intersection at Provincial Road has been completed and the reconstruction of the Division Road intersection has commenced. Large scale commercial development has recently been constructed, with further development plans being proposed.

This report also addresses Grand Marais Road East from Walker Road to east of Central Avenue. In this section, Grand Marais Road operates as a two-lane roadway with auxiliary turning lanes provided at Walker Road, Chrysler Centre and Central Avenue. Both urban and rural cross-sections characterize the roadway. Many of the access points are uncontrolled and through much of its length the roadway is deficient both structurally and with respect to its alignment.

## **1.4 Study Area Boundary and Precincts**

For the purpose of the Report, the Study Area associated with this project has been divided into the following categories;

- Primary Study Area (Walker Road and Grand Marais Road Corridors)
- Secondary Study Area (Peripheral lands surrounding the corridors)

Refer to Figure 2.0.

### **1.4.1 Primary Study Areas**

#### **1.4.1.1 Walker Road Corridor - Riverside Drive East to Division Road**

In order to effectively investigate, disseminate and report the various aspects associated with the Class EA process it was determined that the Walker Road Corridor be divided into four distinct sections called “Precincts”. The advantages of establishing the precincts are as follows:

- divides a very long study area into manageable sections;
- site specific information and recommendations can be effectively presented within the context of the entire project. This will discourage potential concerns regarding piecemealing the project;
- information can be documented and presented at a scale which is in keeping with the character and needs of affected businesses, industries and residents of each area. This may encourage a greater sense of “ownership” and “participation” by the stakeholders;
- public information centres can be “customized” to reflect the needs and issues specific to the precinct. This will assist in reducing the potential for “information overload”; and
- provides clear separation of the study area which forms part of the 1995 Walker Road Improvements ESR.

The Precinct boundaries were selected on the basis of the roadway and land use characteristics

and issues that are common to each area. Between Riverside Drive East and Division Road, three “Precincts” were developed. They are described as follows:

- North Precinct - Riverside Drive East to Ottawa Street;
- Central Precinct - Ottawa Street to Grand Marais Road; and
- South Precinct - Grand Marais Road East to Division Road.

Refer to Figure 3.0.

#### **1.4.1.2 Walker Road Corridor - Walker Road Improvements 1995 ESR Addendum - Division Road to Provincial Road (City Limits)**

As previously noted, the City of Windsor undertook the Walker Road Improvements ESR (Division Road to Provincial Road (City Limits) in 1995. The recommendations in the 1995 ESR were re-evaluated to determine whether any additional improvements were needed to address further changes within this section of the Walker Road Corridor. Refer to Figure 3.0.

#### **1.4.1.3 Grand Marais Road East Corridor - Walker Road to Central Avenue**

Based on discussions with affected agencies, administration from the City of Windsor and major corporations operating in the vicinity, it was determined that the Primary Study Area should be enlarged to also include Grand Marais Road East from Walker Road to Central Avenue. Based on proposed expansions to existing manufacturing facilities in the area, increased traffic, increased railway demands and potential improvements required to the Walker Road / Grand Marais Road East intersection, it was agreed to include this corridor in the Class EA process. Refer to Figure 3.0.

### **1.4.2 Secondary Study Area**

In order to access the potential environmental impacts associated with the range of solutions to the problem, it is necessary to consider a broader secondary study area beyond the Walker Road

and Grand Marais Road East Corridors. The Secondary Study Area boundaries are as follows (refer to Figure 2.0):

- North: Detroit River;
- East: Central Avenue (City of Windsor);  
Windsor Airport property (Town of Tecumseh);
- South: Oldcastle Industrial Park (Town of Tecumseh) and
- West: Howard Avenue (City of Windsor)

## **1.5 Related Studies**

A number of related studies were reviewed to provide additional background information on the Walker Road and Grand Marais Road East Corridors. Those studies included:

- City of Windsor Official Plan Volume I and II (2000);
- Township of Sandwich South (now Town of Tecumseh) Official Plan 1997;
- Walker Road Improvements ESR, Dillon Consulting, 1995;
- Grand Marais Road - Howard Avenue to Walker Road ESR, City of Windsor, (2000);
- Bicycle Use Development Study (BUDS), Victor Ford & Associates (1990);
- Bicycle Use Master Plan (BUMP), Marshall Macklan Monahan (Draft) (2000);
- Electrical Supply to General Motors & Ford - Walker Road, Ontario Hydro (1997);
- Report on Storm Drainage, Part 3, Ward 7 & 8, M.M. Dillon Ltd. (1970);
- Transportation Planning Model, City of Windsor - Model Documentation and User's Guide, Paradigm Transportation Solutions Limited (1998);
- Devonshire Estate Traffic Assessment, RGP Transtech Inc. (1995);
- Walker Road/Provincial Road Commercial Centre Traffic Study, iTRANS Consulting Inc. (1999);
- Windsor Area Long Range Transportation Study and Master Plan, Stantec Consulting Ltd. (1999);
- Windsor Area Long Range Transportation Study, Final Report, Stantec (1999)

- Woodlawn/Ypres/Memorial Storm Relief Study, CH2M Gore & Storrie Limited and Hanna, Ghobrial & Spencer Ltd. (2000);
- Storm Drainage Study, Bliss/Riberdy/E.C. Row/Division, City of Windsor, A.A. Boscarriol & Associates (2000); and
- Walker Road Corridor Improvements Transportation Needs Study, Dillon Consulting Limited (1994).

## **2.0 PROJECT APPROACH**

### **2.1 Class Environmental Assessment Process & Windsor Area Long Range Transportation Study (WALTS)**

#### **2.1.1 Class Environmental Assessment Process**

The Walker Road and Grand Marais Road East Corridor project follows the planning requirements of the Class EA for Municipal Roads Projects, dated June 1993.

The Class EA approach incorporates five key principles under the EA Act. They are:

- Consultation with affected parties early in the planning process to ensure the process is cooperative;
- Consideration of a wide range of alternatives;
- Identification and consideration of the effects of each alternative on all aspects of the environment;
- Systematic evaluation of alternatives in terms of their advantages and disadvantages, including their net environmental effects; and
- Provision of a clear and complete documentation of the planning process to allow for “traceability” in the decision making process.

As previously noted, this project proceeded as a Schedule C activity. Schedule C projects have a potential for significant environmental effects and must proceed under full planning and documentation procedures specified in the Class EA document. The Class EA Planning and Design Process Chart is included for reference (refer to Figure 1.0).

It should be noted that during the course of this project, the Class EA process in the Province of Ontario was updated. The new Class EA for Municipal Roads and Waste Water Projects dated June 2000 received Ministerial Approval on October 4, 2000. However, because this project was initiated under the former process, this project was completed under the requirements of the Class EA for Municipal Roads Projects, June 1993.

### **2.1.2 Windsor Area Long Range Transportation Study (WALTS)**

As previously noted, the Class EA process prescribes that public and agency consultation take place through each phase of the process to ensure that concerns, comments and input are factored into the design of alternative solutions to the problem. In some instances, the preparation of parallel studies can meet the initial requirements of the Class EA process for associated studies.

The preparation of WALTS, a Transportation Master Plan for the City of Windsor, was completed to satisfy Phases 1 and 2 of the Class EA process.

As part of Phase 1 of the Class EA process, WALTS identified the problems and deficiencies found in the Windsor transportation system, established the “need and justification” for system improvements (including the Walker Road and Grand Marais Road East Corridors) and began the public participation process. With the completion of Phase 2 of the Class EA process, alternative planning solutions were identified in consideration of the economic, socio-cultural and natural environment, as well as public and agency input.

### **2.1.3 Starting Point for this Project**

As a result of completing WALTS, the Class EA process for this project may begin at Phase 3 with the identification of alternative design concepts. It should be noted that during the course of this Study, it became evident that several site-specific issues were not directly considered in WALTS. As such, additional research, comment, input and evaluation was completed as required to ensure that there was a complete understanding of the problems which needed to be addressed.

## **2.2 Problem Statement**



Throughout the study, staff from both the City of Windsor and the consultant met with the public and affected agencies to discuss comments and/or concerns with regards to the study.

The problem statement from which this project is being developed has been identified as follows:

**Walker Road is one of the major north/south arterial roadways in the City of Windsor's transportation network, providing direct access to rail facilities (Via Rail), airline facilities (Windsor Airport), and Provincial Highways (Highway 401/Highway 3). Continued growth and development in the City of Windsor requires the review, analysis and evaluation of the capacity and operational characteristics of the Walker Road Corridor from Riverside Drive East to Provincial Road (City Limits) and Grand Marais Road East from Walker Road to Central Avenue. By building on the previous work completed as part of the Windsor Area Long Range Transportation Study (WALTS) (1999) and the Walker Road Improvements Environmental Assessment (Division Road to Provincial Road (City Limits) (1995), specific operational and capacity issues will now be addressed and/or updated in this Environmental Study Report.**

The problem statement addresses the entire length of Walker Road within the City, as well as a section of Grand Marais Road, east of Walker Road as forming the single project under consideration. Due to the length of this corridor and the varying conditions which exist, this project has been separated into precincts, as described previously in this report.

### **2.3 Study Team Organization**

A Study Team was organized by the City of Windsor prior to the initiation of the Class EA process. The Study Team consisted of senior administration from a number of City Departments and the consultant. The role of the Study Team was to provide guidance and assistance to the consultant, as required to ensure that lines of communication remained open and reporting mechanisms were maintained throughout the process.

Study Team meetings were scheduled at important decision making points in the planning and design process. In addition, the consultant communicated directly with a number of the Study Team members when further specific information was required. The Study Team members are

listed below:

<b>TABLE 1.0 STUDY TEAM MEMBERS</b>	
Public Works	T.W. Szalay, P. Eng. M. Winterton, P. Eng.
Planning	D. Caruso, MCIP, RPP
Parks & Recreation	F. Langmaid, MCIP, RPP
Traffic Engineering	J. Tofflemire, P. Eng.
Legal & Human Resources	M. Stamp

Additional staff from various departments were contacted throughout the study and provided invaluable assistance to the project.

## **2.4 Public Consultation Program**

A proactive and flexible approach to public consultation was adopted in keeping with the needs and interests of the public and affected agencies. The public consultation program included the following:

- Two Public Information and Consultation Centres;
- Public Notices placed in the Windsor Star;
- Correspondence to potentially affected property owners, tenants, government agencies and interest groups;
- On-site meetings and telephone discussions with owners, tenants, government agencies and interest groups; and
- Internet web site.

At the initiation of the project, an invitation for public comment was placed in the Windsor Star (November 6, 1999). As part of the Notice, the public were also invited to visit the project web site to view information about the project. Letters were also mailed to agencies, interest groups and property owners in the Walker Road Corridor on November 8, 1999. Copies of the Notice, letter and mailing list are included in Appendix C. The letter also described:

- Purpose of the Study;
- Additional opportunities for public input;
- Contact people from the City of Windsor and the consultant;
- The Study Area;
- Project Web Site; and
- Ability to be added to the project mailing list.

Two Public Information and Consultation Sessions (PICS) were held during the course of the study. The first PICS was held on January 26, 2000 at the Fogular Furlan Club. The second PICS was held on May 24, 2000 at the Fogular Furlan Club. The mailing list associated with this project was also updated as requests were made for additional information (refer to Appendix C).

By March 2001, the project web site had attracted 1077 visitors. Of the 1077 visitors, approximately 73% visited the site more than once during the course of the project and obtained information which included general information, project notices and detailed drawings of the Walker Road and Grand Marais Road East Corridors.

### **3.0 THE ENVIRONMENT**

#### **3.1 Introduction**

The Walker Road and Grand Marais Road East Corridors can be described as being a highly urbanized, well established and developed environment. According to the City of Windsor Official Plan, the Walker Road and Grand Marais Road East Corridors form part of eight Planning Districts and one Special Policy Area. They are (refer to Figure 4.0):

##### **Walker Road Corridor**

- East Windsor Planning Area;
- Walkerville Planning Area;
- South Walkerville Planning Area;
- Remington Park Planning Area;
- Walker Farm Planning Area;

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- Devonshire Planning Area;
- Roseland Planning Area and
- Hiram Walker Facilities (Special Policy Area)

### **Grand Marais Road East Corridor**

- South Walkerville Planning Area and
- Fontainebleau Planning Area.

These Planning Districts facilitate the development of more detailed planning policies within the context of the City of Windsor's Official Plan and allow for the preparation of Secondary Plans where appropriate, to guide development and re-development of existing neighbourhoods. The Hiram Walker Facilities Special Policy Area acknowledges that the existing development has contributed to the identity and experience of the Windsor Waterfront. Therefore, any redevelopment of these lands should take into account the policies associated with the Waterfront Port Section of the Official Plan.

The Walker Road and Grand Marais Road East Corridors are characterised by a mix of land uses and activities which include:

- Residential;
- Commercial;
- Industrial;
- Utilities;
- Open Space and
- Transportation.

The following sections provide a general description of the existing natural, social and economic environment.

### **3.2 Natural Environment**

As previously noted, the Walker Road and Grand Marais Road East Corridors are highly urbanized and virtually fully developed. Presently, there is only one remaining natural area located along the Walker Road Corridor. Located to the east of the Digby / Walker Road intersection, former Candidate Natural Heritage Site (CNHS) 18 is approximately 4.4 ha in size and is in good condition (Refer to Appendix D). It should be noted that the lands are privately owned and planned for industrial development. The site has been deleted from the list as a CNHS, or Environmental Protection Area.

There are no natural areas located within the Grand Marais Road East Corridor.

### **3.3 Residential Land Uses**

Residential land uses are subordinate to commercial and industrial land uses in the Walker Road and Grand Marais Road East Corridors. As a result, in the Walker Road Corridor there are pockets of remnant, primarily single detached dwellings developed in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. The majority of dwellings can be found in the North Precinct between Wyandotte Street East and Ontario Street (refer to Figure 5a). Additional existing residential land use can be found in the Central and South Precincts (refer to Figure 5b and 5c respectively). The majority of dwellings have been redeveloped into commercial or industrial land uses.

The lands included in the Secondary Study Area adjacent to the above noted corridors are primarily well established, residential neighbourhoods. The Walkerville, South Walkerville, Remington Park, Devonshire and Roseland Planning Areas form a significant portion of the City of Windsor's low density residential development. These neighbourhoods have developed over the past 150 years, primarily relying on the Walker Road Corridor as the main north-south arterial roadway.

### **3.4 Industrial Land Uses**

The majority of the lands in the Walker Road and Grand Marais Road East Corridors are either developed, or designated for industrial development. The following is a list of industrial uses in the area by Precinct (refer to Figure 5a, 5b, 5c, 5d and 5e):

#### **North Precinct**

- Hiram Walker Distillery;
- McDonald & White Paints and
- Variety of smaller light industrial uses.

#### **Central Precinct**

- Hearn Warehousing;
- General Motors Windsor Transmission Plant and
- DaimlerChrysler Windsor Assembly Plant.

#### **South Precinct**

- HD Ryder Machinery;
- Parkwood / Temple Industrial Park;
- Gateway Intermodal Freightlines (Valihora);
- Walker Industrial Park (including Windsor Airport lands);
- Narmco; and
- Variety of smaller light industrial uses.

#### **Addendum to Walker Road Corridor 1995 ESR**

- Variety of small light industrial uses.

#### **Grand Marais Road East Corridor**

- DaimlerChrysler Windsor Assembly Plant;
- Red-D-Mix Cement;
- DaimlerChrysler Pillette Road Truck Assembly Plant (east of Central Avenue); and
- Variety of smaller light industrial uses.

### **3.5 Commercial Land Uses**

Commercial establishments in the Walker Road Corridor consist of mostly retail land uses. In all Precincts, there are numerous commercial operations which primarily service the travelling public as well as employees and residents of the general area. Each of the Precincts have well established commercial areas, however, the South Precinct from E.C. Row Expressway to Division Road has the greatest concentration of commercial land uses (refer to Figure 5c).

The existing roadway cross-section in this segment of the corridor has facilitated the development of highway commercial uses on relatively small parcels of land. In many instances, these commercial uses have encroached into the public right-of-way (gravel boulevard) as parking areas. These establishments are highly dependent upon vehicular traffic and any improvements in this section of the South Precinct must take into account needs for parking and access to existing operations.

The section of Walker Road from Division Road to Provincial Road has experienced a great deal of commercial development activity in the past decade. The Legacy Park Power Centre and Costco developments have acted as the impetus for the expansion of commercial land uses in the area. At this time there are plans to develop two new large commercial developments in this section of Walker Road. It is our understanding that these two developments are scheduled to begin construction in 2001.

### **3.6 Utility Land Uses**

There are several major utility facilities located in the Walker Road Corridor. The first is the Hydro One (formerly Ontario Hydro) underground hydro plant to service DaimlerChrysler, General Motors and Ford plants in the area. These hydro facilities are located under Walker Road from approximately Ypres Boulevard to Seminole Street. ENWIN also have a major hydro sub-station located south of the St. Lawrence & Hudson Railway east, of Walker Road. Union gas also have several properties for natural gas distribution located west of Walker Road at Grand Marais Road East, and east of Walker Road on Provincial Road (refer to Figure 5a, 5b, 5c, 5d and 5e).

### **3.7 Open Space Land Uses**

There are two bikeways which cross Walker Road. They are:

- Walker Road from Seminole Street northerly on Walker Road to Ottawa Street and
- Memorial Avenue Bikeway located at the Walker Road and Grand Marais Road East intersection.

There are no other public parks or open space which abut the Walker Road or Grand Marais Road East Corridors.

### **3.8 Transportation**

There are several railways which intersect with Walker Road. They are:

#### **North Precinct**

- Via Rail (Windsor Train Station)
- CN Rail

#### **Central Precinct**

- Essex Terminal Railway

#### **South Precinct**

- St. Lawrence & Hudson Railway

#### **Addendum to Walker Road Corridor 1995 ESR**

- CN Rail

Any connection to Temple Drive and Walker Industrial Parks will also require the crossing of the Chesapeake & Ohio (C & O) Railway which is located to the east of, and parallel to Walker Road.

### **3.9 Heritage Resources**

The City of Windsor's Windsor Heritage Properties Inventory (WHPI) lists 19 properties which are within the Walker Road Corridor. Six of these properties are designated as heritage



properties under the Ontario Heritage Act. A complete list of all properties is located in Appendix E.

According to the City of Windsor Official Plan a significant portion of the west side of the North Precinct is designated as Heritage Area 3 - Walkerville (refer to Figure 6.0). As a policy, the City of Windsor will ensure that any redevelopment or improvements to infrastructure where possible enhance the historic character of the area. Opportunities exist in Heritage Area 3 to develop appropriate gateway features and/or streetscape improvements to recognize the importance of the former Town of Walkerville to Windsor's growth and history.

### **3.10 Potential Archaeological Impacts**

In its passage from the Detroit River south to Highway 401, the Walker Road corridor passes through a variety of environmental and cultural zones which reflect varying degrees of archaeological potential. Development activities in areas of high archaeological potential such as the Detroit shoreline, historic Walkerville and the Grand Marais Drain poses a threat to as yet unidentified archaeological resources. To more accurately identify areas of archaeological sensitivity within the municipality, the City has commissioned the preparation of an Archaeological Master Plan. The results of the study are to be presented in mid 2001. It is recommended that the results of the Archaeological Master Plan be utilized to review proposed construction activities throughout the Walker Road Corridor and Grand Marais Road Corridor and identify any specific archaeological conditions such as predevelopment assessment or construction monitoring that should be applied to the project.

### **3.11 Noise and Impacts**

An environmental Noise Impact Assessment was undertaken for the Walker Road and Grand Marais Road East Corridors by Valcoustics dated January, 2001 (refer to Appendix F). The

Valcoustics report concludes that proposed improvements to the roadway will have minimal impact upon the existing conditions along the Walker Road and Grand Marais Road East Corridors. However, extension of the Walker Industrial Park access through Foster Avenue to Walker Road may have a negative impact on the dwellings adjacent to the Foster Avenue right-of-way. As a result, mitigation measures will be required, which may include:

- reduction in posted speed;
- limit traffic to automobile only;
- purchase of adjacent dwellings; and/or
- construction of berms and noise barriers where feasible and appropriate.

### **3.12 Land Use Designation**

Planned land use designations are shown as part of the City of Windsor and Town of Tecumseh land use maps (refer to Figures 7.0 and 8.0 respectively).

#### **3.12.1 City of Windsor - Official Plan**

##### **3.12.1.1 Walker Road - Division Road to Provincial Road**

As previously mentioned, the Walker Road and Grand Marais Road East Corridors are well developed. The City of Windsor Official Plan designates a range of land uses within these two corridors, however, the primary focus is on commercial and industrial land uses. However, the section of Walker Road from Division Road southerly to Provincial Road has been the subject of number of rezoning applications within the past two years. At this time, there is considerable pressure to develop a majority of the lands in this area for large scale “big box” commercial uses despite an industrial designation in the Official Plan. With the exception of this section of the corridor, little change in the designation of the remaining lands is expected.

### **3.12.1.2 Walkerville Industrial Area**

For purposes of this report, the Walkerville Industrial Area is located east of Walker Road from Riverside Drive East to Richmond Street. These lands are occupied by a number of industrial land uses, as well as interim uses (ie., parking areas) and vacant lands (refer to Figure 9.0).

At this time, access to lands north of Wyandotte Street East is from Walker Road and access to lands south of Wyandotte Street East is from Edna Street (unacquired right-of-way), Richmond Street, Montreuil and St. Luke Road.

As noted in Section 4.4, the grade separation on Wyandotte Street East, east of Walker Road is recommended for removal. As a result, this section of Wyandotte Street East will reclaim desirable frontage for potential industrial and/or commercial land uses. Consideration should be given to ensuring that at such time that the grade separation is removed, driveway access along Wyandotte Street East be permitted. Where possible, driveway access should be consolidated and reciprocal access encouraged between uses/owners.

It should be noted that an abandoned railway right-of-way is located parallel to, and east of Walker Road (refer to Figure 9.0). Sections of the railway right-of-way have been sold to abutting land owners, however, remaining property may be available to create a service drive or right-of-way to provide future access to Wyandotte Street East for the lands to the south.

### **3.12.1.3 City of Windsor - Airport Lands**

The lands at the northern limit of the Windsor Airport property are located within the City of Windsor boundaries (refer to Figure 10.0). During the course of this study, a significant portion of the lands were provided to DaimlerChrysler for the expansion to their research and development facility. In addition to providing access to these lands from Walker Road, there was an apparent opportunity to provide an alternate access to/from the Walker Industrial Park. An alternate access to this area has long been desired by the City due to the growing congestion on Central Avenue.

As part of the analysis, existing operations at Windsor Airport were reviewed including the

Approach and Transition Surfaces required for aircraft approaches and take-offs to the main runway (07-25). It was determined that due to existing regulations regarding airport operations, an access from the Walker Industrial Park to Walker Road via Calderwood was not practical. Accordingly, Foster Street became the recommended access point from Walker Road to the Industrial Park. A possible roadway alignment to Kautex Drive has been illustrated on the preferred design.

### **3.12.2 Town of Tecumseh - Airport Lands**

The Windsor Airport is primarily located in the Town of Tecumseh. Currently, the lands are designated as Agricultural and Natural Area in the Town's Official Plan (refer to Figure 8.0).

### **3.12.3 Windsor International Airport**

The City of Windsor in partnership with SERCO Aviation Services operate the Windsor Airport. As part of the future plans for the sustainability and development of the airport lands, a number of development scenarios have been entertained. For purposes of this study, our analysis included the development of the Windsor Airport lands for a range of aviation, business park and industrial uses, which are anticipated to be developed over the next 15 years.

## **3.13 Transportation**

The Walker Road corridor serves as a major north-south arterial roadway in the City's transportation network, providing a vital connection to rail facilities (Via Rail), airline facilities (Windsor Airport and Provincial Highways (Highway 401/Highway 3), as well as local access to abutting properties, including major commercial and industrial land uses. A Transportation Assessment Study was completed by Dillon Consulting Limited to address various transportation issues related to this project, a copy of which has been included in Appendix G for further reference.

### **3.13.1 Existing Roadway Conditions**

Within the study limits, the existing roadway conditions are outlined by Precinct, as follows:

#### **North Precinct**

Walker Road has a basic two-lane urban cross section with lane widening at some intersections to provide auxiliary turn lanes. Three of ten intersections are signalized, in addition to a railway crossing north of Wyandotte Street.

The majority of abutting properties have direct access to Walker Road, with mixed residential, commercial, industrial and office uses. Some on-street parking is permitted, however, the majority of parking is accommodated on private properties.

#### **Central Precinct**

Walker Road is a basic five-lane urban cross section with lane widening at some intersections to provide auxiliary turn lanes. Seven of twelve intersections are signalized, in addition to railway crossings north of Seminole Avenue and at Grand Marais Road.

The majority of abutting properties have direct access to Walker Road, with mixed commercial and industrial land uses. Major local area facilities include Market Square, Hearn Warehousing, Ford Motor Company (east of Walker on Seminole), General Motors, Windsor Regional Hospital (west of Walker on Lens) and DaimlerChrysler Canada. All parking requirements are accommodated on private properties, with generally well defined driveway access.

#### **South Precinct**

Walker Road has a basic four lane, mixed urban and semi-urban (mountable curbs with shoulders) cross section with lane widening at some intersections to provide auxiliary turn lanes. Five of fourteen intersections are signalized.

The majority of abutting properties have direct access to Walker Road, with mixed residential, commercial and industrial land uses. For the majority of properties, particularly those located south of the E.C. Row Expressway, there is limited width available to accommodate off-street

parking, resulting in some parking encroachment within the public right-of-way (boulevard areas). In addition, access to this parking is generally poorly defined due to the presence of the mountable curbs.

### **Addendum to Walker Road Corridor 1995 ESR**

Walker Road has a basic two lane rural cross section with lane widening at some intersections to provide auxiliary turn lanes. The three intersections present are all signalized, in addition to a railway crossing south of Provincial Road.

The majority of abutting properties within this precinct are undergoing development. Where there are opportunities, access locations are being consolidated and interparcel access is being encouraged.

### **Grand Marais Road East Corridor**

Grand Marais Road has a basic two lane, mixed rural and urban cross section with lane widening at some intersections to provide auxiliary turn lanes. Two of six intersections are signalized.

Accesses to abutting properties are consolidated and generally well defined despite the rural nature of the roadway. Land uses are primarily industrial with some commercial and recreational uses.

## **3.13.2 Traffic Volumes**

### **a) Existing Traffic**

Based on our review of turning movement counts collected from the City of Windsor, it is apparent that morning peak traffic occurs between 8:00 to 9:00 a.m. Afternoon peak traffic volumes were characterized as having two distinct peaks, the first corresponding to the shift change at the auto plants (between 2:30 and 4:00 p.m.), and the second corresponding to the more typical commuter peak (5:00 to 6:00 p.m.).

Average daily traffic volumes vary through the project corridor, with average volumes of approximately 11,000 vehicles per day (vpd) in the North Precinct, 28,000 vpd in the Central

Precinct, 22,000 vpd in the South Precinct, 18,000 vpd in the 1995 Class EA Precinct, and 18,000 vpd in the Grand Marais Precinct.

## **b) Traffic Forecasts**

Existing traffic volumes were forecast to 2016 by applying a rate of growth in background traffic volumes, as well as increased traffic from new developments within the Study Area.

Background traffic growth rates were taken from the City's transportation model in the recent WALTERS study, including manual manipulation to achieve a normal continuous flow of traffic between intersections. In addition, adjustments to the traffic volumes were made to account for changes in travel patterns resulting from the recommended extension of Temple Drive to Walker Road, the extension of Foster Avenue to serve the lands west of the C & O railway and adjacent access to the Walker Industrial Park, and the increased volumes at Parkdale Place resulting from the discontinuation of Grand Marais Road, west of Walker Road.

Increased traffic volumes resulting from the development of the Devonshire Heights Subdivision, the Windsor Airport developable surplus lands and the commercial development of lands south of Division Road, were also included in the traffic forecasts.

### **3.13.3 Level of Service**

An analysis of the level of service was completed for both the existing and future traffic conditions, as outlined in the Transportation Assessment, included in Appendix G.

Based on this analysis, several intersection improvements have been recommended, as outlined in the traffic impact study illustrated in the preferred design drawings for this project.

### **3.13.4 Public Transit**

There are several Transit Windsor bus routes which are located along, and which cross the Walker Road and Grand Marais Road corridors, including:

- Crosstown 2 Express Crossing Walker Road at Riverside Drive

- Crosstown 2 Crossing Walker Road at Wyandotte Street
- Central 3 Crossing Walker Road at Richmond Street and on Grand Marais Road, east of Central
- Ottawa 4 (intermittent service) Walker Road from Richmond to Ottawa
- Ottawa 4 Walker Road from Ottawa to Seminole
- Transway 1C Crossing Walker Road at Tecumseh Road
- Walkerville 8 Walker Road from Ypres to Legacy Park Drive and crossing Walker Road at Division
- Transway 1C Express Crossing over Walker Road on E.C. Row Expressway

Based on discussions with Transit Windsor, several improvements to existing bus stop facilities are being considered, and may be implemented in conjunction with the construction of the preferred roadway improvements. The following summarizes the bus stop improvements being recommended by Transit Windsor:

- Wyandotte Street Bus shelter and pad at the northwest and southeast corners.
- Richmond Street If Edna Street is acquired and upgraded, the bus route would be changed from its current location on Richmond due to difficulties in making left turns across this offset intersection alignment.
- Ottawa Street Bus shelter and pad on the northeast corner at Monmouth (additional property is required to accommodate this).
- Tecumseh Road A bus bay is required on the northwest corner at Walker. Also, an extended auxiliary eastbound right turn lane could also serve as a bus bay facility at the southwest corner at Walker.
- Parkdale Place Bus shelter and pad at the southwest and northeast corners.
- Digby Avenue/Temple Drive Bus shelter and pad at the northeast and southwest corners.



- Division Road A bus bay is required on the east side of Walker, north of Division Road (north of Tim Horton's driveway).
- Canada Post A bus bay is required on the west side of Walker, in front of the existing Canada Post facility.
- Legacy Park Drive A bus bay is required on the north side of Legacy Park, west of the driveway entrance to Staples.

The need for the above transit facility improvements should be reconfirmed at the time of implementing the preferred roadway improvements.

### **3.13.5 Railways**

Four railway crossings of Walker Road exist within the limits of this study. VIA Rail's facilities, CN Rail tracks and several abandoned tracks cross Walker Road south of Riverside Drive. Essex Terminal Railway crosses Walker Road immediately north of Seminole Road. The mainline track of the St. Lawrence & Hudson Railway crosses Walker Road at Grand Marais Road. CN Rail crosses Walker Road south of Provincial Road.

Via's facilities cause very limited disruption to traffic flow on Walker Road and, in any case, exist because of the operation of the Windsor Train Station at this location. CN Rail's use of this crossing is also very limited, primarily to serve Allied Domecq's (formerly Hiram Walker) operation on the waterfront. A number of track crossings in this area are now abandoned or no longer in use and likely can be removed.

The Essex Terminal Railway's crossing of Walker Road is limited to 2 to 3 trains per day of approximately 12 to 14 cars per train. Very little disruption to traffic results.

The St. Lawrence & Hudson Railway crossing of Walker Road is that railway's mainline track leading to the Windsor-Detroit rail tunnel. Up to 26 long trains a day cross here, causing

considerable traffic disruption. This disruption is complicated by the proximity of the crossing to the Grand Marais Road intersection. Also, trucks providing just in time deliveries to the industrial plants in the area, particularly DaimlerChrysler, are often delayed at this crossing. Railway crossing gate replacement is a regular occurrence for railway maintenance staff.

A considerable amount of information relating to the CN Rail crossing of Walker Road at Provincial Road was identified in the 1995 Class Environmental Assessment document. CN Rail's use of this crossing continues to be limited. However, because these tracks lead to the Windsor-Detroit rail tunnel, they are of strategic interest to the railways and their use can change at any time. With the increasing volume of vehicular traffic on Walker Road it is important that the City of Windsor regularly review the use of this crossing with CN Rail staff.

### **3.13.6 Pedestrians**

Presently, sidewalk locations and widths vary throughout the corridor. At some locations, sidewalks are non-existent and/or discontinuous. The existing conditions are not friendly to pedestrians and the physically disabled.

### **3.13.7 Cycling**

Presently, cyclists in the Walker Road and Grand Marais Road Corridors are required to use the roadway for cycling activities. There are only two sections of the Walker Road Corridor which form part of the City of Windsor's existing cycling route.

The first is a section of Walker Road from Seminole Street to Ottawa Street. This route extends easterly on Seminole Street to Central Avenue and westerly on Ottawa Street to Kildare Street.

The second is a planned route easterly along Grand Marais Road East from the Walker Road/Grand Marais Road intersection. The planned route also extends to the west along Memorial Drive.

It should be noted that the City of Windsor is currently preparing a Bicycle Use Master Plan (BUMP) to update the Bicycle Use Development Study (BUDS) completed in 1990. Proposed changes to bicycle routes are discussed in Section 5.1.5.

### **3.13.8 Accidents**

Based on accident reports for the years 1996 through 1999, a summary of accident totals was developed for intersections and mid-block locations along the Walker Road corridor, as shown in Figure 11.0.

The highest total intersection accidents along Walker Road occurred at the Tecumseh Road and the Ottawa Street intersections, with the intersections at the E.C. Row Expressway ramps not far behind.

The highest total mid-block accidents along Walker Road occurred between Division Road and Moxlay Avenue. The section of Walker Road from Grand Marais Road to the E.C. Row Expressway also had a relatively high accident total.

### **3.14 Existing Infrastructure**

The existing infrastructure in the Walker Road Corridor for the north, central and south precincts is summarized in Appendix H. The existing infrastructure on Walker Road, south of Division Road has not changed significantly from that which was identified in the 1995 ESR.

A detailed account of existing infrastructure should be completed prior to implementing each phase of the roadway improvements.

### **3.15 Geotechnical Investigation**

A geotechnical investigation was not completed as part of this undertaking. A geotechnical investigation was recently completed for the reconstruction of the Walker/Division intersection. A detailed geotechnical investigation should be completed prior to implementing each phase of the roadway improvements.

### **3.16 Environmental Site Assessment**

An environmental site assessment for the Walker Road and Grand Marais Road East Corridors was completed as part of this Study (refer to Appendix K). The site assessment reviewed the past and present land uses associated with the corridors and inferred potential environmental liabilities that may be present adjacent to municipal right-of-way.

The preliminary analysis rated the risk associated with the historical land uses at specific sites and should be considered where property is required to be purchased for roadway improvements.

## **4.0 IDENTIFICATION AND EVALUATION OF ALTERNATIVE DESIGN CONCEPTS**

As noted in prior sections of this report, Phases 1 and 2 of the Class EA process have been previously completed. Phase 3 of the Class EA process entails the evaluation of alternative design concepts which satisfy the preferred planning solution identified in Phase 2. This evaluation concludes with the selection of a preferred design for each of the three defined Precincts.

Owing to the diversity of the precincts and to the level of detail required for meaningful public input, it was decided to present the evaluation of alternative design concepts and the details of the preferred design at two separate Public Information and Consultation sessions.

In addition to the evaluation of design concepts for each of the three precincts, modifications and/or improvements to that section of Walker Road from Division Road to Provincial Road (City Limits) and for Grand Marais Road East from Walker Road to Central Avenue are also addressed.

Alternative design concepts identified for the first Public Information and Consultation session included consideration of the following:

- Number of traffic lanes (road design)
- Intersection improvements
- Grade separation of railway crossings
- Road closures

#### **4.1 Alternative Road Designs and Intersection Improvements**

Alternative road designs and intersection improvements are based on the Transportation Assessment Study included in Appendix G of this report. The alternatives describing the required number of traffic lanes were determined based on the capacity required for the projected traffic volumes to the year 2016, as well as, traffic and pedestrian safety considerations.

To identify alternative intersection improvements, Level of Service calculations were completed at all existing signalized intersections (refer to Appendix G).

#### **4.2 Identification of Alternative Designs**

For purposes of evaluating alternative designs for each of the three precincts, general level alternatives were identified.

Table 2.0 identifies the Recommended Design and Optional Designs available at select locations. Also identified is the Recommended Design for Walker Road from Division Road to Provincial Road (City Limits) and for Grand Marais Road from Walker Road to Central Avenue.

Reference should be made to the Recommended Design and Optional Design figures provided in Volume 2, Appendix B.

#### **4.3 Evaluation of Alternative Designs**

The evaluation of alternative designs was based on a set of factor groups and evaluation factors for each of the following:

**TABLE 2.0  
IDENTIFICATION OF ALTERNATIVE DESIGNS**

Location	Recommended Design	Optional Design
<b>a) North Precinct</b> <ul style="list-style-type: none"> <li>• Riverside Drive Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Addition of westbound left turn lane on Riverside Drive</li> </ul>	<ul style="list-style-type: none"> <li>• No intersection improvements</li> </ul>
<ul style="list-style-type: none"> <li>• Wyandotte Street Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements with removal of railway structure located to the east.</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements without removal of railway structure located to the east .</li> </ul>
<ul style="list-style-type: none"> <li>• Wyandotte to Richmond</li> </ul>	<ul style="list-style-type: none"> <li>• Pavement improvements with lane delineation.</li> </ul>	<ul style="list-style-type: none"> <li>• Lane delineation.</li> </ul>
<ul style="list-style-type: none"> <li>• Richmond Street Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements.</li> </ul>	
<ul style="list-style-type: none"> <li>• Richmond to Ottawa</li> </ul>	<ul style="list-style-type: none"> <li>• Pavement improvements with lane delineation.</li> </ul>	<ul style="list-style-type: none"> <li>• Lane delineation.</li> </ul>
<ul style="list-style-type: none"> <li>• Ottawa Street Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements.</li> </ul>	<ul style="list-style-type: none"> <li>• No intersection improvements.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Central Precinct</b></li> <li>• Ottawa to Seminole</li> </ul>	<ul style="list-style-type: none"> <li>• Modify lane delineation and incorporate median barrier.</li> </ul>	<ul style="list-style-type: none"> <li>• No modification to lane delineation and no median barrier.</li> </ul>
<ul style="list-style-type: none"> <li>• Seminole to Tecumseh</li> </ul>	<ul style="list-style-type: none"> <li>• No change to existing.</li> </ul>	
<ul style="list-style-type: none"> <li>• Tecumseh Road Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements.</li> </ul>	
<ul style="list-style-type: none"> <li>• Tecumseh to Ypres</li> </ul>	<ul style="list-style-type: none"> <li>• Pavement repair as required.</li> </ul>	
<ul style="list-style-type: none"> <li>• Ypres Boulevard Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements.</li> </ul>	
<ul style="list-style-type: none"> <li>• Ypres to Grand Marais</li> </ul>	<ul style="list-style-type: none"> <li>• Pavement repair as required.</li> <li>• Incorporate median barrier.</li> </ul>	
<ul style="list-style-type: none"> <li>• Grand Marais Road Intersection</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements with grade separation including improvements to Grand Marais leg of intersection.</li> </ul>	<ul style="list-style-type: none"> <li>• Intersection improvements without grade separation and excluding improvements to Grand Marais leg of intersection.</li> </ul>

**TABLE 2.0**  
**IDENTIFICATION OF ALTERNATIVE DESIGNS**

Location	Recommended Design	Optional Design
<b>c) South Precinct</b>		
• Grand Marais to Parkdale	• 5 lane cross-section.	• 4 lane cross-section with centre median.
• Parkdale Intersection	• Intersection improvements with signalization.	
• Parkdale to Digby	• 5 lane cross-section.	• 4 lane cross-section with centre median.
• Digby Intersection	• Intersection improvements.	
• Digby Extension to Temple Drive	• Alignment change.	
• Walker at E.C. Row Expressway	• Intersection improvements with improved lane alignments for 5 lane cross-section.	• Intersection improvements with improved lane alignments for 4 lane cross-section with centre median.
• E.C. Row to Division (mid-block)	• 5 lane cross-section .	• 4 lane cross-section with centre median.
• Sydney Intersection	• Intersection improvements.	
• Seymour Intersection	• Close at Walker Road.	
• Foster Intersection	• Intersection improvements.	
• Foster Extension to Airport Lands and Walker Industrial Park	• See alignment.	
• Lappan Intersection	• Close at Walker Road.	
• Calderwood Intersection	• Intersection improvements with signalization.	
• Melinda Intersection	• Close at Walker Road.	
• Ledyard Intersection	• Close at Walker Road.	
• Airport Intersection	• Intersection improvements.	
• Moxlay Intersection	• Close at Walker Road.	
• Division Intersection	• Intersection improvements.	

- Traffic Service Impacts
- Cycling Service Impacts
- Land Use Impacts
- Social Impacts
- Economic Impacts
- Cultural Resource Impacts
- Natural Environment Impact
- Project Cost (refer to Table 3.0)

An Evaluation Summary was then prepared based on the evaluation factors noted for each Factor Group. Recommended solutions for each of the three precincts were determined on the basis of this evaluation.

For the North Precinct, alternative designs evaluated included the Do Nothing Alternative, and intersection improvements at select intersections.

For the Central Precinct, alternative designs evaluated included the Do Nothing Alternative, Intersection Improvements at select intersections and a combination of Intersection Improvements at select intersections with a grade separation at the St. Lawrence & Hudson Railway crossing.

For the South precinct, alternative designs evaluated included the Do Nothing Alternative, Intersection Improvements at select intersections, Intersection Improvements at select intersections in combination with a 4-lane cross section with centre median, and Intersection Improvements at select intersections in combination with a 5-lane cross section with medians only at the intersections.

Table 3.0 provides details of the evaluation.



**TABLE 3.0  
EVALUATION OF ALTERNATIVE DESIGNS**

**NORTH PRECINCT  
RIVERSIDE DRIVE EAST TO OTTAWA STREET**

<b>Factor Group Evaluation Factors</b>									
<b>Alternative Designs</b>	<b>Traffic Service Impacts</b>	<b>Cycling Service Impacts</b>	<b>Land Use Impacts</b>	<b>Social Impacts</b>	<b>Economic Impacts</b>	<b>Cultural Resource Impacts</b>	<b>Natural Environment Impact</b>	<b>Project Cost</b>	<b>Evaluation Summary</b>
Do Nothing	<p>As traffic volumes continue to increase there will be a decrease in:</p> <ul style="list-style-type: none"> <li>level of service (traffic flow and delays)</li> <li>vehicular, pedestrian and cyclist safety</li> </ul>	<ul style="list-style-type: none"> <li>No improvement in cycling safety and convenience</li> </ul>	<p>d) Compatible with existing/ proposed land uses</p> <p>e) no removal of Wyandotte subway required</p> <p>f) not compatible with OP (gateway, civic way) policies</p>	<ul style="list-style-type: none"> <li>no loss of property</li> <li>may increase noise levels</li> <li>may decrease air quality levels</li> </ul>	<ul style="list-style-type: none"> <li>no disruption to businesses</li> <li>no improvement to business environment</li> <li>not compatible with OP (gateway, civic way) policies</li> </ul>	<ul style="list-style-type: none"> <li>no loss of cultural resources. All designated heritage structures to remain</li> <li>no opportunity to expand on historical theme of the northern portions of Walker Road</li> </ul>	<ul style="list-style-type: none"> <li>no impact on natural environment</li> <li>no opportunity to improve natural environment</li> </ul>	<ul style="list-style-type: none"> <li>minimal cost</li> </ul>	<ul style="list-style-type: none"> <li>level of service will decrease</li> <li>decrease in vehicular, pedestrian and cyclist safety</li> <li>compatible with existing/proposed land uses</li> <li>not compatible with OP (gateway, civic way) policies</li> <li>no loss of property</li> <li>no disruption</li> <li>no opportunity to expand on historical theme in the northern portions of Walker Road</li> <li>no opportunity to improve natural environment</li> </ul>
Riverside Drive East/Wyandotte/ Richmond/ Ottawa Intersection Improvements	<ul style="list-style-type: none"> <li>will improve level of service and accommodate future traffic volumes at key intersections</li> <li>closing of Tuscarora Street and Wyandotte Pl. to improve safety</li> <li>improvement to intersection geometry positively impacts vehicular, cyclist and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>moderate improvement in cycling safety and convenience at signalized intersections</li> </ul>	<ul style="list-style-type: none"> <li>compatible with existing/proposed land uses</li> <li>removal of subway structure (rail bridge) east of Walker Road required to implement intersection improvements at Wyandotte East</li> <li>removal of five (5) rail lines, south of Riverside Dr. E.</li> <li>compatible with City of Windsor Official Plan (urban design, gateway, civic way) policies</li> </ul>	<ul style="list-style-type: none"> <li>minimal loss of private property at: <ul style="list-style-type: none"> <li>Walker/Wyandotte intersection (southwest corner)</li> <li>north side of Riverside Drive</li> <li>east side of Walker at Ottawa</li> </ul> </li> <li>may increase noise levels</li> <li>may improve air quality levels</li> <li>moderate short-term impact during construction</li> </ul>	<ul style="list-style-type: none"> <li>minimal impact to existing businesses</li> <li>acceptable level of service, improved traffic flows and improved vehicular and pedestrian safety will generally assist businesses (limited number)</li> <li>supports OP policies</li> </ul>	<ul style="list-style-type: none"> <li>no loss of cultural resources. All designated heritage structures to remain</li> <li>opportunity to expand on historical theme in the northern portions of Walker Road</li> </ul>	<ul style="list-style-type: none"> <li>potential for removal of five (5) trees on north side of Riverside Dr. E.</li> <li>opportunity to “green” existing roadway, where practical (street scape)</li> </ul>	<ul style="list-style-type: none"> <li>moderate cost</li> </ul>	<ul style="list-style-type: none"> <li>will improve level of service and accommodate future traffic volumes at key intersections</li> <li>improvement to intersection geometry positively impacts vehicular, cyclist and pedestrian safety</li> <li>compatible with existing/ proposed land uses</li> <li>compatible with City of Windsor Official Plan (urban design, gateway, civic way) policies</li> <li>minimal loss of private property</li> <li>minimal impact to existing businesses</li> <li>opportunity to expand on historical theme in the northern portions of Walker Road</li> <li>opportunity to “green” existing roadway, where practical (streetscape)</li> </ul> <p align="right"><b>RECOMMENDED SOLUTION</b></p>

**CENTRAL PRECINCT  
OTTAWA STREET TO GRAND MARAIS ROAD EAST**

Factor Group Evaluation Factors									
Alternative Designs	Traffic Service Impacts	Cycling Service Impacts	Land Use Impacts	Social Impacts	Economic Impacts	Cultural Resource Impacts	Natural Environment Impact	Project Cost	Evaluation Summary
Do Nothing	<ul style="list-style-type: none"> <li>will decrease level of service (traffic flow and delays)</li> <li>decrease in vehicular, pedestrian and cyclist safety</li> </ul>	<ul style="list-style-type: none"> <li>no improvement in cycling safety and convenience</li> </ul>	<ul style="list-style-type: none"> <li>compatible with existing/proposed land uses</li> <li>not compatible with OP (gateway, civic way) policies</li> </ul>	<ul style="list-style-type: none"> <li>no loss of property</li> <li>may increase noise levels</li> <li>may decrease air quality</li> </ul>	<ul style="list-style-type: none"> <li>no improvement to business environment</li> <li>does not support OP policies</li> </ul>	<ul style="list-style-type: none"> <li>no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>no impact on natural environment</li> </ul>	<ul style="list-style-type: none"> <li>minimal cost</li> </ul>	<ul style="list-style-type: none"> <li>level of service will decrease</li> <li>decrease in vehicular, pedestrian and cyclist safety</li> <li>compatible with existing/proposed land uses</li> <li>not compatible with OP (gateway, civic way) policies</li> <li>no loss of property</li> </ul>
Intersection Improvements Tecumseh Road East/ Ypres and Grand Marais East (Interim Solution at Grand Marais East)	<ul style="list-style-type: none"> <li>will improve level of service at key intersections</li> <li>improvement in intersection geometry positively impacts vehicular, cyclist and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>moderate improvement in cycling safety and convenience at signalized intersections</li> <li>will improve off-road cyclist convenience by connection of Memorial Drive bikeway to Grand Marais East</li> </ul>	<ul style="list-style-type: none"> <li>compatible with existing proposed land uses</li> <li>compatible with OP (civic way, urban design) policies</li> </ul>	<ul style="list-style-type: none"> <li>minimal loss of property</li> <li>may increase noise levels</li> <li>may improve air quality</li> <li>moderate impact during construction</li> </ul>	<ul style="list-style-type: none"> <li>minimal impact to existing businesses</li> <li>acceptable level of service, improved traffic flows and improved vehicular and pedestrian safety will generally assist businesses</li> <li>moderate improvement in level of service to existing businesses (ie., deliveries to Daimler-Chrysler, and other area businesses)</li> <li>supports OP (gateway, civic way) policies</li> </ul>	<ul style="list-style-type: none"> <li>no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>no impact on natural environment</li> </ul>	<ul style="list-style-type: none"> <li>moderate cost</li> </ul>	<ul style="list-style-type: none"> <li>will improve level of service at key intersections</li> <li>improvement in intersection geometry positively impacts vehicular, cyclist, pedestrian safety</li> <li>compatible with existing/proposed land uses</li> <li>compatible with OP (civic way, urban design) policies</li> <li>minimal loss of property</li> <li>minimal impact to existing businesses</li> </ul> <p style="text-align: center;"><b>RECOMMENDED SOLUTION (Interim Solution at Grand Marais Road East)</b></p>
Intersection Improvements Grade Separation at St. Lawrence & Hudson Tracks, including Intersection Improvements and Long Term Solution	<ul style="list-style-type: none"> <li>improved level of service by elimination of delays due to train traffic</li> <li>intersection improvement/ grade separation positively improves vehicle/cyclist/ pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>will improve off-road cyclist convenience by connection of Memorial Drive bikeway to Grand Marais East</li> <li>moderate improvement in cyclist safety and convenience</li> </ul>	cv) compatible with existing land uses cw) negative impact on properties at: <ul style="list-style-type: none"> <li>2691 Walker - residence</li> <li>Windsor Metal and Battery</li> </ul>	<ul style="list-style-type: none"> <li>minimal loss of private property               <ul style="list-style-type: none"> <li>2691 Walker - residence</li> <li>Windsor Metal and Battery</li> </ul> </li> <li>decrease noise levels</li> <li>improve air quality levels</li> <li>negative impact on properties at:               <ul style="list-style-type: none"> <li>#2691 Walker - residence</li> <li>Windsor Metal and Battery</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>minimal disruption to existing businesses</li> <li>high improvement in level of service to existing businesses (ie., deliveries to Daimler-Chrysler, and other area businesses)</li> <li>high improvement in public safety (emergency services)</li> </ul>	<ul style="list-style-type: none"> <li>no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>relocation of the Grand Marais Drain south of grade separation may be required</li> <li>possible enhancement opportunities to Grand Marais Drain to west of Walker Road</li> </ul>	<ul style="list-style-type: none"> <li>high cost</li> </ul>	<ul style="list-style-type: none"> <li>moderate level of service to accommodate increased traffic volumes</li> <li>will improve traffic flow</li> <li>intersection improvement/grade separation positively improves vehicle/cyclist/pedestrian safety</li> <li>will improve cyclist convenience by connection of Memorial Drive bikeway to Grand Marais East</li> <li>compatible with existing land uses</li> <li>compatible with OP policies</li> <li>minimal loss of private property (2691 Walker Road and Windsor Metal and Battery)</li> <li>minimal disruption to existing businesses</li> <li>moderate improvement in level of service to existing businesses (ie., deliveries to Daimler-Chrysler and other area businesses)</li> <li>possible enhancement opportunities to Grand Marais Drain to west of Walker Road</li> </ul> <p style="text-align: center;"><b>RECOMMENDED SOLUTION</b></p>

**SOUTH PRECINCT**

**GRAND MARAIS ROAD EAST TO DIVISION ROAD**

Factor Group Evaluation Factors  Alternative Designs	Traffic Service Impacts	Cycling Service Impacts	Land Use Impacts	Social Impacts	Economic Impacts	Cultural Resource Impacts	Natural Environment Impact	Project Cost	Evaluation Summary
Do Nothing	<ul style="list-style-type: none"> <li>will result in decreased level of service</li> <li>will result in decreased vehicular/cyclist/pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>no improvement to cycling safety and convenience</li> </ul>	<ul style="list-style-type: none"> <li>compatible with existing land uses</li> <li>doesn't allow for connection into airport lands, Parkwood or Walker Farms Business Parks</li> <li>not compatible with OP (gateway, civic way) policies</li> </ul>	<ul style="list-style-type: none"> <li>no loss of private property</li> <li>may increase noise impacts</li> <li>may decrease air quality</li> </ul>	<ul style="list-style-type: none"> <li>minimal disruption to existing businesses</li> <li>no improvements to business environment</li> </ul>	<ul style="list-style-type: none"> <li>no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>no impact on natural environment</li> </ul>	<ul style="list-style-type: none"> <li>minimal cost</li> </ul>	<ul style="list-style-type: none"> <li>will result in decreased level of service</li> <li>will decrease vehicular/cyclist/pedestrian safety</li> <li>compatible with existing and proposed land uses</li> <li>doesn't allow for connection into airport lands or Walker Farms Business Park</li> <li>not compatible with OP (gateway, civic way) policies</li> <li>no improvements to business environment</li> <li>minimal cost</li> </ul>
Intersection Improvements Only at Parkdale/Digby/EC Row Expressway/Sydney/Foster/Calderwood/Airport/Division	<ul style="list-style-type: none"> <li>moderate improvement in level of service</li> <li>allows for connection into Parkwood (Temple) Industrial Park and Walker Industrial Park</li> <li>intersection improvements positively impacts vehicular/cyclist/pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>minimal improvements in cyclist convenience and safety at signalized intersections</li> </ul>	<ul style="list-style-type: none"> <li>compatible with existing land uses</li> <li>moderate impact on existing land uses at intersections</li> <li>moderate impact on existing land uses at Foster/ Riberdy (Walker Farm Extension)</li> <li>not compatible with OP (gateway, civic way) policies</li> <li>allows for connection into airport lands, Parkwood and Walker Farms Business Parks</li> </ul>	<ul style="list-style-type: none"> <li>moderate loss of property at Digby to accommodate Temple Drive extension as well as realignment west of Walker (North Service Road) and Foster</li> <li>minimal loss of property at intersections to accommodate left turn lanes</li> <li>minimal increase in noise levels</li> <li>minimal improvement in air quality levels</li> <li>moderate impact during construction</li> </ul>	<ul style="list-style-type: none"> <li>minimal improvement to business environment (Walker Road Corridor)</li> <li>moderate improvement to Parkwood and Walker Farms Industrial Parks and potential development of northern airport lands</li> </ul>	<ul style="list-style-type: none"> <li>no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>no impact of Candidate Natural Heritage Site (Digby/Temple at Walker Road)</li> <li>no opportunity to improve natural environment through boulevard tree planting</li> </ul>	<ul style="list-style-type: none"> <li>moderate cost</li> </ul>	<ul style="list-style-type: none"> <li>moderate improvement in level of service</li> <li>allows for connection into Parkwood (Temple) and Walker Business Parks</li> <li>intersection improvements positively impacts vehicular/cyclist/pedestrian safety</li> <li>compatible with existing land uses</li> <li>not compatible with OP (gateway, civic way) policies</li> <li>moderate loss of property at Digby</li> <li>no opportunity to improve natural environment through boulevard tree planting</li> <li>moderate cost</li> </ul>

**SOUTH PRECINCT  
GRAND MARAIS ROAD EAST TO DIVISION ROAD**

Factor Group Evaluation Factors	Traffic Service Impacts	Cycling Service Impacts	Land Use Impacts	Social Impacts	Economic Impacts	Cultural Resource Impacts	Natural Environment Impact	Project Cost	Evaluation Summary
<p>Alternative Designs</p> <p>Intersection Improvements, including 4 Lane Cross Section with Medians at Mid-Block Locations</p>	<ul style="list-style-type: none"> <li>• higher improvement in level of service</li> <li>• will improve vehicular safety by restricting left turns at intersections only</li> <li>• potential for traffic infiltration into existing residential areas</li> </ul>	<ul style="list-style-type: none"> <li>• minimal improvements in cyclist convenience and safety at signalized intersections</li> </ul>	<ul style="list-style-type: none"> <li>• not compatible with existing land uses</li> <li>• moderate impact on existing land uses at intersections</li> <li>• high impact on existing land use due to elimination of direct left turn access/egress</li> <li>• allows for connection into airport lands, Parkwood and Walker Farms Business Parks</li> <li>• compatible with OP (gateway, civic way) policies</li> <li>• moderate impact on existing land uses at Foster/Riberdy (Walker Farms Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• moderate loss of property at Digby to accommodate Temple Drive extension as well as realignment west of Walker (North Service Road) and Foster</li> <li>• minimal loss of property at intersections to accommodate left turn lanes</li> <li>• minimal increase in noise levels</li> <li>• minimal improvement in air quality levels</li> <li>• moderate impact during construction</li> <li>• moderate impact during construction</li> </ul>	<ul style="list-style-type: none"> <li>• higher level of disruption to businesses due to elimination of opportunity for direct left turn access/ egress</li> <li>• replace curb with barrier and restoration of right-of-way</li> <li>• defined access/egress points. Some parking in front of existing businesses will be lost/ relocated (where practical)</li> <li>• acceptable level of service, improved vehicular and pedestrian safety will generally assist businesses</li> <li>• supports OP (gateway, civic way) policies</li> <li>• moderate improvement to Parkwood, Walker Farms Business Parks and potential development of northern airport lands</li> </ul>	<ul style="list-style-type: none"> <li>• no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>• no impact on Candidate Natural Heritage Site (Digby/Temple at Walker Road)</li> <li>• opportunity to improve natural environment through boulevard tree planting</li> </ul>	<ul style="list-style-type: none"> <li>• high cost</li> </ul>	<ul style="list-style-type: none"> <li>• higher improvement in level of service</li> <li>• will improve vehicular safety by restricting left turns at intersections only</li> <li>• potential for traffic infiltration into abutting residential areas</li> <li>• minimal improvements in cyclist convenience and safety at signalized intersections</li> <li>• not compatible with existing land uses</li> <li>• high impact on existing land use due to elimination of direct left turn access/egress</li> <li>• allows for connection into airport lands, Parkwood and Walker Farms Business Parks</li> <li>• compatible with OP (gateway, civic way) policies</li> <li>• moderate impact on existing land uses at Foster/Riberdy (Walker Farms Extension)</li> <li>• moderate loss of property at Digby to accommodate Temple Drive extension as well as realignment west of Walker (North Service Road)</li> <li>• minimal loss of property at intersections to accommodate left turn lanes</li> <li>• minimal increase in noise levels</li> <li>• minimal improvement in air quality levels</li> <li>• moderate impact during construction</li> <li>• higher level of disruption to businesses due to elimination of opportunity for direct left turn access/ egress</li> <li>• replace mountable curb with barrier curb and restoration of right-of-way</li> <li>• defined access/egress points. Some parking in front of existing businesses will be lost/relocated (where practical)</li> <li>• acceptable level of service, improved vehicular and pedestrian safety will generally assist businesses</li> <li>• supports OP (gateway, civic way) policies</li> <li>• moderate improvement to Parkwood, Walker Farms Business Parks and potential development of northern airport lands</li> <li>• no cultural resource impacts</li> <li>• no impact on Candidate Natural Heritage Site (Digby/Temple at Walker Road)</li> <li>• opportunity to improve natural environment through boulevard tree planting</li> </ul>

**SOUTH PRECINCT  
GRAND MARAIS ROAD EAST TO DIVISION ROAD**

Factor Group Evaluation Factors	Traffic Service Impacts	Cycling Service Impacts	Land Use Impacts	Social Impacts	Economic Impacts	Cultural Resource Impacts	Natural Environment Impact	Project Cost	Evaluation Summary
<p>Intersection Improvements, including 5 Lane Cross Section at Mid-Block Locations</p>	<ul style="list-style-type: none"> <li>• higher improvement in level of service</li> <li>• recommends closing of Seymore/Lappan/Melinda/Moxlay</li> <li>• will improve vehicular/cyclist/pedestrian safety by allowing safe left turns within a separate, designated lane</li> <li>• restricts infiltration into adjacent neighbourhoods as a result of road closures</li> </ul>	<ul style="list-style-type: none"> <li>• minimal improvements in cyclist convenience and safety at signalized intersections</li> </ul>	<ul style="list-style-type: none"> <li>• compatible with existing land uses</li> <li>• moderate impact on existing land uses at intersections</li> <li>• compatible with OP policies</li> <li>• allows for connection into airport lands, Parkwood and Walker Farms Business Parks</li> <li>• moderate impact on existing land uses at Foster/ Riberdy (Walker Farms Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• moderate loss of property at Digby to accommodate Temple Drive extension as well as realignment west of Walker (North Service Road)</li> <li>• minimal loss of property at intersections to accommodate left turn lanes</li> <li>• minimal increase in noise levels</li> <li>• minimal improvement in air quality levels</li> <li>• moderate impact during construction</li> </ul>	<ul style="list-style-type: none"> <li>• moderate disruption to businesses</li> <li>• replace mountable curb with barrier curb and restoration of right-of-way</li> <li>• defined access/egress points. Some parking in front of existing businesses will be lost/relocated (where practical)</li> <li>• opportunity for parking area at location of closed streets</li> <li>• acceptable level of service, improved vehicular and pedestrian safety will generally assist businesses</li> <li>• supports of OP policies</li> <li>• moderate improvement to Parkwood, Walker Farms Business Parks and potential development of northern airport lands</li> </ul>	<ul style="list-style-type: none"> <li>• no impact on cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>• no impact on Candidate Natural Heritage Site (Digby/Temple at Walker Road)</li> <li>• opportunity to improve natural environment through boulevard tree planting</li> </ul>	<ul style="list-style-type: none"> <li>• high cost</li> </ul>	<ul style="list-style-type: none"> <li>• higher improvement in level of service</li> <li>• recommends closing of Seymore/Lappan/Melinda/Moxlay</li> <li>• will improve vehicular/ cyclist/pedestrian safety by allowing safe left turns within a separate designated lane</li> <li>• Restricts infiltration into adjacent neighbourhoods as a result of road closures</li> <li>• minimal improvements in cyclist convenience and safety at signalized intersections</li> <li>• compatible with existing land uses</li> <li>• moderate impact on existing land uses at intersections</li> <li>• compatible with OP policies</li> <li>• allows for connection into airport lands, Parkwood and Walker Farms Business Parks</li> <li>• moderate impact on existing land uses Foster/ Riberdy (Walker Farms Extension)</li> <li>• moderate loss of property at Digby to accommodate Temple Drive extension as well as realignment west of Walker (North Service Road)</li> <li>• minimal loss of property at intersections to accommodate left turn lanes</li> <li>• minimal increase in noise levels</li> <li>• minimal improvement in air quality levels</li> <li>• moderate impact during construction</li> <li>• moderate disruption to businesses</li> <li>• replace mountable curb with barrier curb and restoration of right-of-way</li> <li>• control of access/egress points. Some parking in front of existing businesses will be lost/relocated (where practical)</li> <li>• opportunity for parking area at location of closed streets</li> <li>• acceptable level of service, improved vehicular and pedestrian safety will generally assist businesses</li> <li>• supports of OP policies</li> <li>• moderate improvement to Parkwood, Walker Farms Industrial parks and potential development of northern airport lands</li> <li>• no cultural resource impact</li> <li>• no impact of Candidate Natural Heritage Site (Digby/Temple at Walker Road)</li> <li>• opportunity to improve natural environment through boulevard tree planting</li> <li>• high cost</li> </ul> <p style="text-align: right;"><b>RECOMMENDED SOLUTION</b></p>

#### **4.4 Selection of Recommended Design**

Based on the results of the evaluation noted in Table 3.0, the following designs were recommended for each precinct:

##### **North Precinct**

Intersection improvements at Riverside Drive East, Wyandotte Street East, Richmond Street and Ottawa Street.

##### **Central Precinct**

Intersection improvements at Tecumseh Road East, Ypres Boulevard, and Grand Marais Road.

It is also recommended that Walker Road and the St. Lawrence & Hudson Railway crossing be grade separated. In the event that funding is not available for the construction of this grade separation then the intersection improvements proposed for the Grand Marais Road intersection should proceed as an interim solution.

##### **South Precinct**

Intersection Improvements at Parkdale, Dibgy, E.C. Row Expressway, Sydney, Foster, Calderwood, Airport and Division Road, in combination with the construction of a 5-lane cross section on Walker Road from Grand Marais Road to Division Road.

The recommended solution also includes the closing of Walker Road at Seymour, Lappan, Melinda, Ledyard, and Moxlay.

##### **Addendum to Walker Road Corridor 1995 ESR**

In addition to the alternative designs identified for the three precincts, review of the preferred design for Walker Road from Division Road to Provincial Road (City Limits), as noted in the 1995 Class Environmental Assessment, was also undertaken and prepared for public exhibit.

Having identified alternative designs, and a recommended design, public and agency input was solicited. The recommended design is so identified based on the assessment and evaluation of available information and studies completed to this stage of the process.

A preferred solution will subsequently be developed based on the assessment and evaluation of the design alternatives outlined previously and including consideration of the input received through the public and agency consultation, as described in Section 4.6.

#### **4.5 Storm Water Drainage Considerations**

A detailed evaluation of existing storm drainage systems is beyond the scope of this Class EA.

Based on early discussions with the City, we understand that records of the existing storm sewer system within the North Precinct are incomplete. A detailed investigation into the location, size and condition of the storm sewers within this area is required before an evaluation of the sewer system can be completed. The investigation and evaluation of the sewer system should be completed in advance of any planned roadway improvements in this area.

Within the southern portion of the Central Precinct (Tecumseh Road to Memorial Drive), a storm relief study for the Woodlawn/Ypres/Memorial area was recently completed (September, 2000). The focus of this study was to identify and recommend sewer system improvements which could provide a measure of relief to the basement flooding being experienced within the residential areas west of Walker Road. A further review of the Walker Road storm sewers should be completed in advance of any planned roadway improvements in this area.

Within the southern portion of the South Precinct (E.C. Row to Division Road), a storm drainage study for the Bliss/Riberdy/E.C. Row/Division area was recently completed (June, 2000). The focus of this study was to identify the recommended storm drainage outlet requirements for the existing storm drainage system, including reassignment of drainage area boundaries. The Dillon study on the storm drainage system for Wards 7 and 8 was referenced in the June, 2000 study, however, recommendations on the need for upgrading the Walker Road storm sewers was not

included. A further review of the Walker Road storm sewers should be completed in advance of any planned roadway improvements in this area.

Within the portion of Walker Road from Division Road to Provincial Road (City Limits), the storm drainage requirements for the Walker Road corridor were identified in the Environmental Study Report, completed by Dillon in September, 1995. Within the southern portion of this Precinct (south of Legacy Park Drive), additional downstream drainage improvements were identified as being necessary to accommodate the resulting improvement to the Walker Road drainage system. Evaluation of these downstream drainage requirements have not been identified, as this work was beyond the scope of that report. The required downstream drainage improvements must be identified and implemented before any further roadway improvements are completed in the southern portion of this Precinct. The 1995 Study confirmed agreement that flows within the section of Walker Road between Legacy Park Drive and Division Road could be discharged to the Sixth Concession Drain.

Within the Grand Marais Road Precinct, a review of the existing storm drainage system and the required drainage improvements should be completed in advance of any roadway improvements in this area.

#### **4.6 Public and Agency Consultation for Alternative Designs**

Due to the size of the study area, the Public and Agency Consultation program consisted of a number of methods to solicit public and agency input in to the planning of this project. A notice was developed requesting public input and advertised in the Windsor Star on January 15, 2000 (refer to Appendix C).

A letter dated January 17, 2000 was mailed to all property owners located in the Walker Road corridor, including affected agencies. The letter contained the same information in the Notice advertised in the Windsor Star (refer to Appendix C).



In addition, the Notice was placed on the project web site and a press release was issued regarding the Public Information and Consultation Session # 1. Interviews were conducted with senior staff from the City of Windsor and the consultant on local radio stations.

Public Information and Consultation Session #1 was held on January 26, 2000 and was attended by 119 persons. At that meeting staff from the City of Windsor and the consultant were available to answer questions from the public and affected agencies. A list of attendees and comments received are included in Appendix I. From 119 attendees, 53 attendees completed a short questionnaire regarding the proposed improvements and commented on the recommended design (refer to Appendix I). A non-statistical summary of the responses can also be found in Appendix I.

## **5.0 PREFERRED DESIGN**

### **5.1 Description of the Preferred Design**

Selection of a preferred design included consideration of those factors identified previously for the identification of alternative design concepts as noted in Section 4.0 of this report (refer to Appendix A). Additional considerations for the selected preferred design included:

- Business access
- Cycling opportunities
- Streetscape opportunities

Comments received through the public and agency consultation were also assessed and, where appropriate, modifications to the recommended design (or preferred design for that section of Walker Road south of Division Road) were incorporated to develop a detailed preferred design for the entire Walker Road Corridor.

At this time, the City of Windsor also requested that the design of improvements to Grand Marais Road from Walker Road to Central Avenue be prepared for public and agency review and for inclusion in this report.

A detailed description of the components of the preferred design is outlined in the following sections. In combination with the textural descriptions, reference should be made to the Preferred Design figures provided in Appendix A.

### **5.1.1 Preferred Road Design**

The following generally describes the details of the preferred design for the Walker Road Corridor and Grand Marais Road East Corridor:

#### **North Precinct (Riverside Drive East to Ottawa Street)**

- no changes to the Riverside Drive intersection.
- removal of all unnecessary tracks crossing Walker Road between Riverside Drive and Wyandotte Street and reconstruction of rail crossings.
- closure of Wyandotte Place (leave driveway entrances only) at Walker Road and at Wyandotte Street.
- removal of the railway structure and infilling of the subway located on Wyandotte Street, east of Walker Road.
- intersection improvements at Wyandotte Street.
- closure of Tuscarora Street at Walker Road.
- pavement improvements and lane delineation (no road widening) from Wyandotte Street to Ottawa Street (remove on-street parking).
- acquire and improve Edna Street to provide access from Walker Road to St. Luke. This will provide access to the vacant lands located adjacent to St. Luke and may be preferable to Richmond Street as an east-west route for Transit Windsor.
- intersection improvements at Richmond Street. Signalization to be installed at north intersection and coordinated with south intersection signalization.
- intersection improvements at Ottawa Street.
- encourage inter-parcel access of developments fronting Walker Road as redevelopment occurs.
- establish parallel cycling route.
- improved sidewalks for pedestrian/physically disabled.

#### **Central Precinct (Ottawa Street to Grand Marais Road East)**

- construct appropriate centre median and necessary road widening south of Ottawa Street intersection. Provide appropriate lane delineation.
- repair deteriorated concrete pavement as necessary.
- reconstruct Tecumseh Road East intersection.
- intersection improvements at Ypres Boulevard.
- intersection improvements at Grand Marais Road.

### **South Precinct (Grand Marais Road East to Division Road)**

- grade separate Walker Road at the St. Lawrence & Hudson Railway crossing.
- provide 5-lane cross section from Grand Marais Road to Division Road.
- intersection improvements at Parkdale Place. Signalization to be installed.
- intersection improvements at Digby Street.
- realignment of Digby Street west of Walker Road.
- realign Digby Street east of Walker Road and connect to Temple Drive.
- intersection improvements at E.C. Row Expressway.
- intersection improvements at Sydney Avenue.
- close Seymour Avenue at Walker Road (leave driveway access only).
- intersection improvements at Foster Avenue.
- widening of Foster Avenue to Turner Road.
- widening of Foster Avenue to Riberdy Road.
- extension of Foster Avenue to provide access to the Airport lands and to the Walker Industrial Park.
- close Lappan Avenue at Walker Road (leave driveway access only).
- intersection improvements at Calderwood Avenue.
- close Melinda Street at Walker Road (leave driveway access only).
- close Ledyard Avenue at Walker Road (leave driveway access only).
- intersection improvements at Airport Road. Signalization to be installed.
- close Moxlay Avenue at Walker Road (leave driveway access only).
- decisions regarding the use of the rights-of-way of those streets closed at Walker Road should be made in consultation with adjacent property owners at the time of final design.
- establish parallel cycling route.
- improved sidewalks for pedestrian/physically disabled.

### **Addendum to Walker Road Corridor 1995 ESR**

- intersection improvements at Division Road.
- provide 5-lane cross-section from Division Road to Provincial Road.
- intersection improvements to accommodate the access locations for proposed developments on Walker Road. Signalization to be installed.
- encourage inter-parcel access of developments fronting Walker Road as redevelopment occurs.
- intersection improvements at Legacy Park Drive.
- complete intersection improvements at Provincial Road.
- upgrade level crossing at CN Rail crossing of Walker Road.
- intersection improvements at Ducharme Street.
- establish parallel cycling route.
- improved sidewalks for pedestrian/physically disabled.

### **Grand Marais Road East Corridor**

- intersection improvements at Walker Road.
- provide 3-lane cross-section from Walker Road to Central Avenue.
- construct access to DaimlerChrysler truck entrance.
- realign Grand Marais Road from Chrysler Centre to Central Avenue.
- reconstruct and realign Central Avenue intersection.
- establish an off-road bike route within the right-of-way adjacent to Grand Marais Road East.
- improved sidewalks for pedestrian/physically disabled.

### **5.1.2 Railway Grade Separation**

Based on the volume of traffic on Walker Road, the number of trains crossing at this location, and to the fact that much of the truck traffic servicing the DaimlerChrysler facilities in the area (as well as other major industrial facilities further to the north on or adjacent to Walker Road),

supports the need for grade separation of Walker Road at the St. Lawrence & Hudson Railway crossing.

Based on existing elevation differentials between the railway tracks and Walker Road north and south of the crossing, and to the location of the crossing relative to the intersection of Walker Road and Grand Marais Road, it is recommended that this grade separation be in the form of a subway.

Minimal land acquisition will be required to accommodate a subway design on the basis that retaining walls would be constructed in lieu of sloped embankments (see Figure 15.0 in Appendix A).

Construction of a subway will necessitate the southerly relocation of the Grand Marais Drain where it crosses Walker Road. A stormwater pumping station will also be required to drain the subway for discharge to the Drain.

As the crossing location is also the location at which two significant cycling routes cross Walker Road, it is proposed that the rail structure be widened to accommodate cyclist and pedestrian needs. Physical separation between the tracks and the pedestrian/cyclist path will be required.

Construction of this grade separation is contingent on funding availability or agreement and on the fact that this rail line continues to be used by the number of trains which, when compared against traffic volume, continues to warrant grade separation. It is recommended that the City of Windsor pursue funding sources, while maintaining regular consultation with the St. Lawrence & Hudson Railway.

If traffic volume growth and/or traffic safety becomes compromised at this location and at the Grand Marais Road intersection, and funding for a grade separation has not been secured, or the need for a grade separation has diminished due to Railway reconfiguration, then the City of Windsor may need to reconstruct the Grand Marais Road intersection at-grade in combination with the necessary widening and improvements to the at-grade railway crossing.

### **5.1.3 Storm Water Drainage**

As indicated previously, investigations into the location, size, capacity and condition of existing storm sewers within the Walker Road corridor must be completed in advance of the implementation of each phase of the roadway improvements.

Although the required storm drainage requirements have been identified for that section of Walker Road from Division Road to Provincial Road, the southern portion of this drainage area requires the implementation of downstream drainage improvements to accommodate the improved drainage system in that area of the corridor. These downstream drainage improvements must be defined and implemented prior to undertaking any further road improvements south of Legacy Park Drive.

#### **5.1.4 Utilities**

Letters were forwarded to the various utility companies requesting that they identify their future utility upgrading requirements and/or utility conflicts. No responses were received, as the time frame for implementation of this size of study may be beyond the planning time frame of the utility companies. As would generally occur in any event, utility coordination meetings should be arranged in the very early stages of the planned implementation of each phase of road improvements to identify and incorporate the various utility requirements.

#### **5.1.5 Cycling Opportunities**

Cycling opportunities on Walker Road and within the Walker Road Study Area were extensively reviewed. Suggestions and recommendations flowing from this Study were also reviewed against the plans as proposed in the City of Windsor's ongoing Bicycle Use Master Plan Study.

Details of the Preferred Cycling Opportunities within the Walker Road Study Area are identified on Figure 12.0 and referenced in Appendix J. As detailed, it is not intended to designate any part of Walker Road itself as a cycling route. For most of its length, insufficient property is available or could be purchased to accommodate the construction of designated cycling lanes. Traffic

volumes on Walker Road are such that cycling can be difficult and suitable for very experienced cyclists only.

Cycling opportunities have therefore been identified, for the most part, on paralleling roadways which offer a much friendlier environment to cyclists. Connections from these paralleling on-road routes are provided to other on-road routes and to off-road multi-use pathways.

Through the Public Consultation process, a request was made by the Windsor Cycling Committee to consider the use of mountable curbs along Walker Road as compared to the barrier curbs proposed. The problem in using mountable curbs is that their use eliminates the ability to control access points to a significant degree. The inability to control access points is a contributor to the increased potential for both vehicular and pedestrian collisions. The opportunity to control access points along Walker Road is one of the primary benefits of the proposed reconstruction. A detailed response is provided in Appendix J.

In lieu of the construction of designated cycling facilities on Walker Road, it is appropriate to consider a level of financial contribution to proposed parallel cycling facilities.

### **5.1.6 Streetscape Opportunities**

As noted in prior sections, Walker Road acts as the gateway to the City of Windsor for many people traveling to the city. As part of this study, opportunities for the construction of “gateway features” were reviewed and some initial discussions were held with interested parties in this regard.

The best opportunity for placement of a gateway feature exists at the Walker/Division intersection. Property on the northeast corner of this intersection, which may be surplus to the needs of the Tim Hortons at that location, would provide an ideal location for the construction of a suitable gateway feature. Limited discussion of this opportunity has taken place to date and should be pursued by the City.

The opportunity for a gateway feature at the north end of Walker Road is currently limited by the lack of a suitable site. However, with the removal of those tracks crossing Walker Road which are no longer needed, property which is now encumbered by the railways may become available for the siting of a gateway feature. This feature should recognize the heritage designation of the area in which it would be located. As part of their discussion with CN Rail and with VIA Rail, the City should also review opportunities for the siting of a gateway feature.

Along the length of Walker Road, particularly in those sections where significant reconstruction is recommended (Grand Marais Road to Provincial Road), opportunities for streetscape improvements (street lighting, pedestrian lighting, benches, waste receptacles, landscaping) should be evaluated as part of the final design process. Figure 13.0, though not intended to be definitive with respect to streetscape/landscape opportunities, does provide an indication of features which should be considered as design proceeds.

## **5.2 Construction Phasing**

The phasing of the necessary improvements to the Walker Road and Grand Marais Road corridors is based on need and/or funding availability. Phasing has been identified for a 5-year period, following which it is recommended that annual evaluations be completed to assess need and funding availability at that time and to agree on priorities.

It is recommended that the following improvements be completed in the five year period following acceptance of this report. For this five year period, major improvements noted are identified:

- Complete the reconstruction of Walker Road from Division Road to Provincial Road (north to south).
- Construct the extension of Foster Street to service the airport lands and Walker Industrial Park. This work should proceed during the same time frame as 1. above.
- A continuation of discussions with DaimlerChrysler staff must be undertaken to determine timing for completion of the Pillette Road Truck Assembly Plant expansion and to assess operational changes, particularly truck routing plans, for their Windsor Assembly Plant. Plans can then be formulated on the need to reconstruct Grand Marais



Road. (Information concerning prior discussions with DaimlerChrysler staff can be found in Volume 2, Appendix I).

- Complete the reconstruction of the Provincial Road intersection to its ultimate configuration, including the reconstruction of Walker Road southerly to the municipal boundary.
- Pursue funding availability for the construction of the grade separation at the St. Lawrence & Hudson Railway crossing and reconstruction of the Grand Marais Road intersection.
- Construct the extension of Digby Street to connect with Temple Drive.
- Consultation should also continue with CN Rail and VIA Rail relative to their crossing located south of Provincial Road and to the potential for track removal between Riverside Drive East and Wyandotte Street East.

Minor improvements are as follows:

- Painting of lane delineation between Ottawa Street and Wyandotte Street East.
- Installation of traffic signals at Richmond Street, at Parkdale Place and at Airport Road.

Other long term improvements are required, including:

- The reconstruction of Walker Road should proceed northerly from Division Road to the E.C. Row Expressway.
- The removal and infilling of the subway on Wyandotte Street east of Walker Road and the reconstruction of the Wyandotte Street intersection should proceed prior to the reconstruction of the Tecumseh Road intersection.

As development and redevelopment occurs along Walker Road, reference should be made to this document to assess the need for roadway improvements and to determine property requirements.

### 5.3 Preliminary Cost Estimates

Preliminary cost estimates have been prepared for the nearer-term construction phases identified above based on averaged total costs of construction for similar projects. The estimates presented in Table 4.0 include the cost of construction and engineering.

<b>TABLE 4.0 PRELIMINARY COST ESTIMATES NEAR-TERM CONSTRUCTION PHASES</b>	
<b>DESCRIPTION</b>	<b>ESTIMATED COST</b>
1. Walker Road - Division Road to Provincial Road (City Limits)	\$8,700,000
2. Foster Road Extension	\$2,700,000
3. Temple Drive Extension	\$950,000
4. Walker Road/Grand Marais Road Intersection 1) Road work, storm pump station, and Grand Marais Drain relocation 2) Retaining walls, bridge structure and rail relocation Subtotal Walker/Grand Marais	 \$5,200,000 \$8,700,000 \$13,900,000
5. Grand Marais Road - Walker Road to east of Central Avenue	\$6,700,000

These estimates do not include the cost of property acquisition, utility relocations, above-average storm drainage and watermain replacement, geotechnical subconsultants, financing, legal and the Goods and Services Tax.

### 5.4 Potential Environmental Conditions and Mitigating Measures

As part of the planning and design process which has been followed for the Walker Road Corridor and Grand Marais Road East Corridor, mitigative measures have been incorporated to address potential environmental concerns. Short-term impacts related to construction and long-term impacts related to the completed improvements (if any) are addressed in this section.

#### **5.4.1 Short-Term Environmental Impacts**

As with all construction projects, a certain amount of traffic disruption, noise and dust can be anticipated. Measures to address these concerns will be identified during the detailed design and contract preparation phase of the project. These measures will include restrictions on hours of operations and lane closures required to minimize traffic disruption and nuisance to area residents, as well as the use of water and calcium chloride to control dust. Access to properties within the contract limits will be maintained, wherever possible, throughout the construction activities. Adjacent landowners will be consulted to review impacts on their properties and to discuss temporary access schemes.

Erosion and sediment control measures will be incorporated in the contract to control the release of sediment into the storm sewer system and adjacent watercourses.

With respect to noise impacts during construction, the following will be specified during the preparation of Contract Documents, to be adhered to during construction:

- noise sensitive areas will be identified;
- the Contractor will be required to comply with the appropriate municipal by-laws regarding noise emission standards and hours of operation for construction equipment; and
- general noise control measures (not sound level criteria) will be referred to, or placed into the Contract Documents.

#### **5.4.2 Long-Term Environmental Impacts**

No long-term environmental impacts have been identified during the course of this study.

#### **5.4.3 Property Requirements**

Property requirements are identified in the Preferred Design figures provided in Appendix A. When approval to proceed to final design has been received or at such time as funding for

property acquisition is obtained, accurate determination of property requirements should be undertaken and acquisition attained prior to project tendering. A summary of the expected property requirements are shown on Table 5.0 below:

<b>TABLE 5.0 REQUIRED PROPERTY ACQUISITION/EASEMENTS</b>	
<b>Location</b>	<b>Figure</b>
<b><u>Walker Road Corridor</u></b>	
Wyandotte Street East / Walker Road Intersection	2/3
Wyandotte Street East (Grade Separation Removal)	3
Edna Street right-of-way Walker Road to Street Luke	–
East side of Walker Road @ Ottawa Street	6/7
North side of Tecumseh Road East @ Turner Road (Bus Bay)	11
East side of Tecumseh Road / Ypres Avenue Intersection	12
East side of Walker Road @ north of Grand Marais (Grade Separation)	14
East west side of Walker Road @ Grand Marais Drain (Grade Separation)	15
Digby / Temple intersection (east/west sides of Walker)	16
Temple right-of-way east of Walker	18
East side of Turner @ Digby	17
North side of North Service Road @ Turner Road	17
East side of Walker Road (3100 Walker Road)	19
East side of Walker Road @ Sydney Avenue (corner cut-off)	20
East west of Walker Road @ Foster Avenue (corner cut-off)	21
Foster Extension to St. Etienne Blvd. (2715 St. Etienne)	25
West side of Walker Road @ Calderwood (corner cut-off)	26
West side of Walker Road @ Airport (alignment)	28
East side of Walker (3990 Walker Road) Bus Bay	29
Walker / Division Intersection	30
Division / Turner Intersection	30
Division / Riberdy Intersection	30
West side of Walker, south of Division	31/32
East side of Walker, south of Division	32/33/34
Walker / Provincial Intersection	35
East west side of Walker, South of Provincial	35/36
<b><u>Grand Marais Road East Corridor</u></b>	
North south sides, east Walker	38
Grand Marais Road East / Chrysler Way Intersection	39
Grand Marais Road East / Meldrum Intersection	40
Grand Marais Road East / Central Intersection	41/42

It should be noted that driveway locations identified on the Preferred Design figures are preliminary only. Final agreement of driveway locations must be made in consultation with the property owner and business tenant prior to proceeding to project tendering.

## **5.5 Public and Agency Consultation for Preferred Design**

As previously noted, due to the size of the study area, the Public and Agency Consultation program consisted of a number of methods to solicit public and agency input in to the planning of this project. A notice was developed requesting public input and advertised in the Windsor Star on May 10, 2000 (refer to Appendix I).

A letter dated May 8, 2000 was mailed to all property owners located in the Walker Road and Grand Marais Road East Corridors, to those individuals who had contacted the consultant in the preceding months or attended Public Information and Consultation Session #1, and to affected agencies. The letter contained the same information in the Notice advertised in the Windsor Star (refer to Appendix C).

In addition, the Notice was placed on the project web site and a press release was issued regarding the Public Information and Consultation Session #2. Interviews were arranged with senior staff from the City of Windsor and consultant on local radio stations.

Public Information and Consultation Session #2 was attended by 64 persons. At that meeting staff from the City of Windsor and the consultant were available to answer questions from the public and affected agencies. A list of attendees and comments received are included in Appendix I. Of 64 attendees, 22 completed a short questionnaire regarding the proposed improvements and commented on the preferred design (refer to Appendix I). A non-statistical summary of the responses can also be found in Appendix I.

## **6.0 COMMITMENTS TO FURTHER WORK AND MONITORING**

As part of the detailed design for the Walker Road Corridor Improvements, the following work will be required:

- develop detailed design drawings illustrating the preferred design including mitigating measures identified during the planning stages;
- co-ordinate the required relocation and upgrading of existing utilities with the utility companies;
- assess the requirement for modification/upgrading of storm and sanitary sewers on Walker Road;
- negotiate the acquisition of property required to accommodate the preferred roadway improvements with both the property owner and business tenant;
- meet with any property owners and business tenants who wish to be consulted during the design and construction phases of this project. Of particular importance is the need to agree on driveway locations;
- issue notices of the proposed work to all businesses located within the construction area; and
- submit applications for approval of the works to the appropriate Provincial and local regulatory agencies.

A field inspection and monitoring program will be established both during and following construction of each phase of the Walker Road Corridor improvements, for the following purposes:

- to ensure compliance with the various elements of the preferred design, including mitigative measures, as developed through public and agency review;
- to ensure compliance with the Contract Specifications, Provincial standards and standard construction practices during construction of the improvements; and

*Walker Road Corridor Improvements*  
*Riverside Drive to Provincial Road (City Limits)*  
*Grand Marais Road East Improvements*  
*Walker Road to Central Avenue*

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- to assess the overall performance and effectiveness of the mitigative measures which have been specified.

The City of Windsor intends to initiate a Class Environmental Assessment of Cabana Road in 2001. A decision to close or leave open Moxlay Avenue at Walker Road will be addressed as part of this study.