City of Windsor

RIVERSIDE DRIVE VISTA IMPROVEMENT PROJECT

Class Environmental Assessment

Environmental Study Report

December 2006

IBI GROUP

EXECUTIVE SUMMARY

The following Executive Summary provides an overview of the process followed in preparing the Riverside Drive Vista Improvement Project Class Environmental Assessment (EA), plus a brief description of the preferred improvement program and associated implementation and mitigation recommendations.

ES.1 Introduction and Background

The Study Terms of Reference introduces the objective of this Riverside Drive Vista Improvement Project Environmental Assessment (EA), which is to "provide an improved transportation corridor that will serve the needs of the transportation system and area growth over the next 20-year period". Through extensive public consultation, this objective expanded to include four more specific objectives for Riverside Drive improvements:

1. Reduce traffic speed;
2. Reduce traffic volume;
3. Make Riverside Drive safer for all users; and
4. Make Riverside Drive look like a Scenic Drive.

The primary EA study area extends 16 km from Rosedale Avenue just west of the Ambassador Bridge, east to the City border. A secondary study area for traffic analysis purposes was also established from Riverside Drive to Wyandotte Street along this 16 km corridor.

In the Windsor Official Plan, Riverside Drive is well established as the subject of important City policies regarding a Scenic Drive, Civic Way and Theme Street, and a designated Bikeway. In 1995, the City prepared an EA for improvements to Riverside Drive between Strabane Avenue and St. Rose Avenue, including the introduction of on-road bike lanes. Council differed this until completion of the new Official Plan and Windsor Area Long Range Transportation Study (WALTS) in 1999. This was then followed by a deferral by City Council in 1999 until the City's Bicycle Use Master Plan (BUMP) was completed. Finally, in 2001 City Council deferred the subject of bike lanes as part of Riverside Drive improvements until a traffic calming study and EA could be completed. This Riverside Drive Vista Improvement Project EA has been prepared in response to this last Council resolution. In 2000 City Council also approved the Central Riverfront Implementation Plan (CRIP), including an important policy to develop a Pedestrian Promenade on the north side of the Drive through the core area.

With this project background, this current EA project has been conducted to satisfy the Schedule C requirements of the Municipal Class Environmental Assessment process in response to the Ontario Environmental Assessment Act. Requirements of the Canadian Environmental Assessment Act (CEAA) have also been considered. The resulting EA was prepared under the direction of a Steering Committee of a Councillor from each City ward, plus a Technical Committee of involved City staff and senior representatives of the Study Consulting Team from IBI Group and its sub-consultants.

ES.2 Public Consultation

The public consultation program conducted for this EA involved Notices of Study Commencement and Study Completion to involved agencies and stakeholders, with the public notified through media advertisements and coverage. Progress newsletters were mailed to contacts on the project mailing list, and a number of outreach meetings were held with groups interested in the project. The latter included attendance at a residents meeting held on October 24, 2006 with about 200 residents to discuss the draft preferred improvement program for Riverside Drive.

Public interest remained high throughout this project, including submission of numerous e-mails and letters from agencies, stakeholders groups and residents to Project Team contacts filed in the project record. Following two preliminary resident public meetings held in April, 2005, one discretionary and two mandatory Public Information Centres (PICs) were held as follows to provide formal opportunities for public involvement and input:

PIC Date	Theme	Signed-In
#1 – May 10, 2005 Discretionary	• Project Scope and History • Transportation Problems and Opportunities • Streetscape / Urban Design Alternatives	76
#2 – December 7, 2005 Mandatory	• Problem Statement • Alternative Transportation Solutions • Alternative Streetscape Solutions • Evaluation Considerations	110
#3 – May 24, 2006 Mandatory	• Draft Preferred Improvement Program	149

ES.3 Description of Problem and Opportunity

This project began with the recognition that the 16 km Riverside Drive study area comprises a number of different land use and character areas, ranging from the 24 riverfront area parks and civic areas, through to residential blocks, high density residential towers, commercial nodes, industrial operations and the north edge of Windsor's core area. While these differing sections of Riverside Drive require different treatments and solutions, there should also be design consistency applied in the use of these solutions.

Existing roadway characteristics and design conditions vary along the study area in terms of travel lanes, provision of curbs and on-road bike lanes, sidewalks and boulevards. This creates additional opportunities to provide a more consistent design treatment along the entire route. This EA concluded that Riverside Drive east of Strabane Avenue does not offer the operational characteristics and physical roadway quality expected of an important Scenic Drive. Speeding is a problem, with 85th percentile speeds recorded on sections of Riverside Drive that exceed the 50 km/h posted limit. Existing traffic volumes also exceed the planning capacity assigned to a Scenic Drive. Therefore, ways must be found to effectively divert appropriate types (i.e. cross-town through traffic) of traffic off Riverside Drive onto the parallel arterial routes.

Portions of Riverside Drive, especially east of Lauzon Road, have also experienced relatively high collision rates, although temporary measures taken early in this EA process have mitigated the conditions contributing to this safety issue. Although environmental conditions (i.e. rain, ice, fog) contribute to collisions along Riverside Drive, another contributing factor is driver behaviour.

In terms of roadway design, much of the Riverside Drive East geometry east of Walker Road is deficient by current standards, with no continuous barrier curbs, sidewalks or bike lanes, and with insufficient lane and R.O.W. width in many locations. Without an approved Environmental Assessment to improve these Riverside Drive design deficiencies, the City of Windsor cannot commence any significant improvements to the roadway surface and associated boulevards and sidewalks. Upgrading of underground utilities could not be coordinated with surface improvements because there was no approved EA for these surface improvements.

Numerous opportunities have also been identified through this EA process, and other design studies such as the approved Central Riverfront Implementation Plan (CRIP), to introduce improved streetscape features to Riverside Drive as a Scenic Way.

ES.4 Existing Conditions

The existing roadway geometry and pavement condition also varies along Riverside Drive. The public road right-of-way width varies from as narrow as 13.4 m, to over 26 m in width. The road surface between Devonshire and Montreuil, between George and Ford and east of Lauzon Road are rated as being in poor condition and in need of resurfacing. The section between Esdras Place and St. Rose, and from the Little River bridge to Clover Avenue were resurfaced in 2006. However, this basic mill and pave with no curb works and resulting poor drainage means this resurfacing has an expected lifespan of only 5-7 years.

Ongoing roadway network improvements and planned/proposed projects are also located in the northeast Windsor/Essex area. These include current plans to continue the extension of Wyandotte Street east to Banwell Road, and McHugh Street east to Lesperance Road, thereby offering new east-west alternative routes to Riverside Drive for commuter traffic. These and other roadway network improvements east of Windsor, such as the Manning Road/County Road 19 and County Road 22 widening projects will enhance the diversion of through traffic off Riverside Drive, helping to address the project objective to reduce traffic volume on the Drive.

Existing natural environment conditions along Riverside Drive were also inventories and assessed as part of this EA. This concluded that since Riverside Drive is predominantly an urban transportation corridor, attention must be paid to the impacts of roadway improvement on bordering manicured parkland, residential lawns and hedgerow trees. Vegetation communities along the Drive are valuable to the street character, but also common and widespread throughout Ontario and globally.

The Detroit River will not be directly impacted by Riverside Drive improvements, and the Federal Department of Fisheries and Oceans has confirmed that issuance of a Fisheries Act authorization to improve the Drive is not expected. However, because the Little River crossing Riverside Drive is a navigable waterway, Transport Canada has confirmed that a permit under the Navigable Waters Protection Act will likely be required for any widening of the Little River bridge, and this will trigger Canadian Environmental Assessment Act (CEAA) requirements at the detailed design stage.

In terms of the socio-cultural environment, a Heritage Impact Assessment was conducted of the primary study area, and numerous structures and landscapes were found to be significant, but none will be impacted by the preferred Riverside Drive improvement program. Similarly, a Stage 1 Archaeological Assessment was conducted of the primary study area, and concludes that additional assessments or mitigative measures are warranted within the study area prior to construction.

ES.5 Alternative Solutions

Alternative planning solutions to improve Riverside Drive were developed, presented to the public and screened for potential inclusion in the improvement program. Ten (10) types of planning solutions were identified, with the results of the screening process summarized as follows highlighting the alternatives recommended for further evaluation:

Planning Solution	**Type of Alternatives**	**Conclusion**
1. Do Nothing	Maintain Existing Condition - with basic resurfacing, curb and sidewalk reconstruction.	Does not satisfy the project objectives.
2. Roadway Capacity	Capacity Enhancement – add additional travel lanes.	Screen out from further consideration as contrary of City objectives for Riverside Drive.
	Capacity Reduction – reduce to 2 travel lanes in the core with on-road bike lanes.	Screen out from further consideration due to travel delays and capacity deficiencies.
3. Traffic Volume	Traffic Diversion – from Riverside Drive to alternative routes while maintaining local and visitor access.	Screen out traffic obstructive diversion measures such as diverters and closures.
		Retain traffic diversion and traffic calming measures for further evaluation.
	Transportation Demand Management (TDM) to shift more Riverside Drive traffic to alternative modes or times.	Continue to support existing City policies on TDM.
4. Posted Speed	Reduce posted speed limit to 40 km/h.	Screen out since 50 km/h is a reasonable speed limit for Riverside Drive, with 40 km/h more suited to local residential streets
5. Traffic Calming	Vertical Deflections - to slow vehicle speed and encourage diversion to alternative routes.	Raised crosswalks, raised intersections and textured sidewalks retained for further evaluation.
		Screen out more effective speed humps based on the City's Traffic Calming Policy and emergency response needs. Rumble strips not recommended owing to noise impacts.
	Horizontal Deflections - to slow vehicle speed and encourage diversion to alternative routes.	Traffic circles and raised median islands retained for further evaluation.
		Further lane narrowing and curb radius reduction screened out since minimum road design geometry is being applied to Riverside Drive improvements.
	Traffic Calming Signage	Regulatory traffic calming warning signs and Intelligent Transportation System information displays (i.e. speed, road condition) retained for further consideration.
6. Traffic Management and Operations	Improved Intersection Operations – at selected signalized and unsignalized intersections.	Further improvement assessment warranted.
7. Intersection Traffic Control	Addition of traffic signals and stop signs on Riverside Drive to slow traffic speed and encourage diversion.	Can only be provided where warranted based on City and industry standards.

8. Cycling Features	No On-Road Bike Lane Extension	Screened out as not compatible with City policy and existing conditions.
	On-Road Bike Lane Extension	Retained for further evaluation.
	Off-Road Side Paths	Screened out owing to industry practice and impacts of the widened road right-of-way.
	On-Road Widen Shared Lanes	May be considered only in short sections, but screened out along extended sections of Riverside Drive.
	Shared Roadway	May be considered only in short sections, but screened out along extended sections of Riverside Drive.
	Off-Road Multi-Use Trails	Screened out as routes are available only through public parkland where trails already exist.
	Bicycle Boulevard	Screened out based on impacts of vehicular traffic and access to property and parkland.
9. Walking Features	Added North Side Sidewalks	Retained along public parkland where no parallel trail exists.
	Central Riverfront Pedestrian Promenade	Retained as recommended in Central Riverfront Implementation Plan.
10. Roadway Geometry	Use minimum design standards where possible.	Minimum design standards fit within most of Riverside Drive right-of-way.

ES.6 Design Concepts For The Preferred Solution

In order to achieve the four objectives of this EA to reduce vehicle speed, reduce traffic volume, improve safety for all users and make Riverside Drive look like a Scenic Drive, all while maintaining the Drive as a public roadway, the following preferred improvement program has been developed:

1. **Nodes** – A series of intersection and mid-block nodes are included in the improvement program at 37 strategic locations where there is a significant opportunity for pedestrian crossing and special design treatments. The seven (7) N-1 primary nodes are located at signalized intersections where the intersection surface will be raised and coloured as part of traffic claming. At twenty-one (21) N-2 secondary nodes located mainly at public parkland, intersection pedestrian signals (IPS), crosswalk markings and a coloured intersection surface will be installed to facilitate safer pedestrian crossings. At nine (9) N-3 tertiary nodes, a centre median refuge island will be installed at these intersections to facilitate safer pedestrian crossings and to act as a visual traffic calming features. This progression of nodes along the 16 km section of Riverside Drive is intended to both slow the pace and speed of traffic, thereby encouraging through traffic to use alternative travel routes. The nodes designs also provide new opportunities for streetscape improvements along the Drive.

2. **Pedestrian Promenade** – The Riverside Drive Vista Improvement Program provides an opportunity to implement the pedestrian promenade extending along the north side of the Drive from Huron Church Road to Lincoln Road, as recommended in the City's approved Central Riverfront Implementation Plan. The promenade is envisioned as a combination of formal urban pathway and informal residential mixed-use trail with associated landscaping and waterfront view platforms. The detailed design of this feature will endeavour to minimize impacts on abutting riverfront parkland.

3. **Exclusive On-Road Bike Lanes** – After evaluating a number of different ways of accommodating bicycles on Riverside Drive, and considering bikeway provisions in other municipalities and settings, this EA has concluded that exclusive on-road marked bike lanes are the most appropriate type of bikeway for Riverside Drive. This conclusion is based on the 85th percentile speed on the Drive being 60 km/h with average daily traffic volumes greater than 5,000 vpd per lane. Many other cities implement on-road bike lanes under these conditions, for example in London, Kitchener, Hamilton in Ottawa. This improvement program includes on-road bike lanes along the entire length of Riverside Drive from Rosedale Avenue to the east City boundary. This is accomplished by adding to the existing bike lanes between Vista Place and Crawford Avenue, and between Lincoln Road and Strabane Avenue to create a continuous, consistent facility for cycling on Riverside Drive and accessing riverfront parkland and other cycling destinations.

4. **Traffic Diversion** – There are three important elements to the objective for traffic diversion from Riverfront Drive to parallel routes. The first is to retain the ability to turn off Riverside to connecting street, especially in the core area where the four lane section provides for convenient turning movements. The second is to locate additional warranted left turn opportunities at Strabane Avenue and Florence Avenue. The third and most important element of traffic diversion if to provide Wyandotte Street east with the capacity and operational characteristics to attract and accommodate through traffic diverted from Riverside at an acceptable level-of-service. This will be accomplished by implementing the East Riverside Secondary Plan recommendation to extend Wyandotte Street and McHugh Street east, by enhancing the capacity of Wyandotte Street East with potential peak period on-street parking restrictions and by reviewing the warrants and timing of traffic signals on Wyandotte Street east.

5. **Road Reconstruction** – The sections of Riverside Drive currently rated in poor condition will be reconstructed as part of this improvement program. Reconstruction will be contained within the existing right-of-way, except in front of the Ford Canada and Hiram Walker and Sons property between Devonshire Road and Walker Road, and six residential properties where very narrow strips of property will have to be acquired to widen the right-of-way. The reconstruction will include resurfacing, widening the road surface to accommodate bike lanes, associated utility relocation, construction/reconstruction of curbs and sidewalks and the development of the 38 intersection and mid-block nodes forming part of the improvement program.

6. **Sidewalk Addition** – The improvement program includes a continuous sidewalk along the south side of Riverside Drive along the entire study area length. On the north side of the Drive east of Devonshire Road, sections of new sidewalk will be added in the Hiram Walker and Sons area, and along the south edge of riverfront parkland only where there is no parallel off-road trail in the park.

7. **Traffic Calming** – The horizontal deflections at the N-1 Primary node intersection surfaces, and the vertical deflections at the N-3 raised medians are traffic calming measures on Riverside Drive. The progression of these nodes along the travel route is also a form of traffic calming. This will be augmented by the addition of six (6) traffic circles in the residential section of Riverside Drive at Rossini Blvd., Buckingham Drive, St. Louis Avenue, Jefferson Blvd., St. Rose Avenue and Eastlawn Blvd. Traffic circles are rated as having substantial speed reduction and safety benefits, and while raised intersections and raised median islands offer less benefits, they will all have a cumulative effect in reducing travel speed along Riverside Drive. It is important to note that when considering the use of more stop signs and maximum speed warning signs on the Drive, the primary purpose of signing is to regulate traffic movement, not to calm traffic speed and volume.

8. **Roadway Safety Improvements** – Specific traffic safety issues were identified between Lauzon Road and Riverdale Avenue as part of this EA. The preferred improvement program offers the opportunity to permanently solve these issues, rather than continue using the temporary safety improvements added in 2005/06 to this section of Riverside Drive. These special improvements for this section of the Drive include high barrier curbs, re-grading the curves, use of higher friction asphalt and continued use of pavement markings and warning signs.

ES.7 Improvement Program Implementation

Capital Cost – The total capital cost to construct the Riverside Drive Vista Improvement Program is $16.1 million, including 20% for utility relocations and miscellaneous civic works, 23% for the road reconstruction, 13.5% for the pedestrian promenade, 9% for the on-road bike lanes and 10% for the nodes.

Property Acquisition and Cost – About 530 m2 of property is required between Devonshire Road and Walker Road from Ford of Canada and Hiram Walker & Sons Limited to accommodate Riverside Drive improvements in this area. Small strips of frontage will also be required from 4590, 4620 and 4670 Riverside Drive totalling about 90 m2, from 7180 Riverside Drive measured at about 25 m2, from 7350 and 7380 Riverside Drive measured at about 60 m2 and from 8115 Riverside Drive at about 10 m2. The total area of these property acquisitions at about 715 m2 is expected to cost in from $385,000 to $770,000 based on an estimated average property value of between $540 and $1075 per square metre. In addition, about 2.8 hectares of public parkland will be required along the entire length of the study area to accommodate the preferred improvement program.

Street Tree Impacts – Because almost all of the preferred improvements for Riverside Drive can be accommodated within the existing road right-of-way, the preferred design concept requires the expected removal of between 8 and 11 existing mature street trees. This will be confirmed at the detailed design stage, including the possible use of conveyances to adjust the road cross-section to avoid the removal of these abutting street trees.

Improvement Staging – It is recommended that the Riverside Drive improvement program be implemented in five stages starting with Stage 1 between Lauzon Road and Riverdale Avenue. This construction must commence within five (5) years of the filing of this ESR, or the City will have to conduct a review of the EA, prepare an addendum that is placed on the public record, and provide a 30-day public review period that includes the public's right to request a Part II Order. If Stage 1 construction commences within five years, there is no time limit on when subsequent stages of construction begin. Stage 2 is proposed between Lauzon and Ford Blvd., Stage 3 from Ford to Lincoln, Stage 4 from Riverdale to the east City limit and Stage 5 from Lincoln to Rosedale.

Urban Design Guidelines - Special streetscape design and built form design guidelines have been prepared as part of this EA to guide the detailed design of nodes and associated streetscape features, with the overall goal of transforming Riverside Drive into a Scenic Drive and Civic Way.

Federal CEAA Triggers – Based on consultation with federal agencies during the preparation of this EA, only the Navigable Waters Protection Act will trigger federal involvement under the Canadian Environmental Assessment Act regarding improvements to the Little River bridge. This will be addressed at the detailed design during this stage of construction. Contacts were also made with First Nations representatives, and their interests in archaeological information along the riverfront will continue to be collected and provided during the construction stages.

Program Monitoring and Mitigation - It is recommended that progressing through staged design and construction, the City use this ESR and accompanying Riverside Drive design guidelines, related policies and design studies to generate and evaluate detailed roadway improvement designs that will establish the final visual and functional attributes of Riverside Drive. This will include a commitment to; 1) monitor before and after traffic speed and volume conditions, 2) confirm property acquisition needs and street tree impacts, 3) evaluate the use of Intelligent Transportation Systems to display traffic speed and condition information to Riverside Drive motorists, 4) address private property encroachment onto the Riverside Drive public right-of-way (i.e. driveway surfaces, parking surfaces, landscaping features), and 5) providing Stage 2 archaeological assessments of improvement impacts to be provided to the Ministry of Culture and Walpole First Nations.

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TABLE OF EXHIBITS

GLOSSARY OF TERMS

TERM	DEFINITION
Alternative to the Undertaking	Represent other "reasonable ways" of approaching the City's future transportation system objectives for the Riverside Drive Scenic Drive and Civic Way.
Arterial Road	A major or main route.
Auto-dependency	Primary transportation by car with little use of other transportation methods (public transit, cycling, walking).
Balanced Reasoned Argument Approach	Uses descriptive arguments that outline the advantages and disadvantages of all the alternatives, allowing for comparison, rating and selection of a preferred alternative.
Bicycle Use Master Plan	The master plan for bicycle route and facility development in Windsor approved by City Council in 2001.
Canadian Environmental Assessment Act (CEAA)	An Act to establish a federal environmental assessment process.
Capital Cost	Cost of initial infrastructure and ongoing refurbishment.
Carrying Capacity	The maximum use (by passengers or vehicles) of a roadway facility.
Community Infrastructure	A system of public works, supports and resources for activities provided to residents in the local community. Includes hard services such as roads and sewers as well as housing, social services.
CRIP	Central Riverfront Implementation Plan approved by City Council in 2000.
Criteria	Criteria are used to evaluate the advantages and disadvantages of planning alternatives based on the goals of the City of Windsor for the future of Riverside Drive as a designated Scenic Drive and Civic way.
Environmental Assessment (EA)	An Environmental Assessment (EA) is a process used in Ontario to determine the possible impacts that proposed infrastructure projects may have on the environment so that the best possible decisions can be made on if, where, when and how to construct such projects.
Land Use Policies	Are a set of guiding principles or procedures determined by the City of Windsor that outline how land should or can be used.
Level-of-Service (LOS)	A rating methodology used throughout North America to define how well road links and intersections operate. LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. It measures the planning capacity of a road link or intersection with the amount of existing or future vehicular traffic using the link or intersection.
Mobility	The ability to move freely.
Modal Share and Modal Shift	People in a community choose the mode or "type" of transportation they will use. This mode may be a single occupant vehicle, car-pooling, bicycle, transit or walking. The modal share involves the percentage of people that choose each mode.
Multi-modal transportation system	A transportation system that may include several forms of transportation such as automobiles, walking, trucks, cycling, buses, rapid transit, rail (such as commuter and freight), air and marine.

TERM	DEFINITION
Ontario Environmental Assessment Act	The Environmental Assessment Act, passed by the Ontario government in 1975, sets up a process for reviewing the environmental impact of proposed activities prior to the granting of government funds. The act applies to government ministries and agencies, conservation authorities and municipalities.
Preferred Undertaking	Refers to the transportation scenario that is recommended and approved based on the results of the evaluation performed for Phase 1 of the Rapid Transit EA.
Single Occupant Vehicle	The use of a vehicle by only one person.
Streetscaping	Streetscape refers to design of urban roadways and conditions as they affect the people that use them. Streetscapes are an important part of the public spaces where people safely interact, which help define a community's transport conditions, activities, aesthetic quality and identity. Streetscaping (programs to improve streetscape conditions) can include traffic management, sidewalk conditions, landscaping, street furniture (utility poles, benches, garbage cans, etc.), building fronts and materials specifications.
Terms of Reference	Prepared by the City of Windsor as a blueprint for the Environment Assessment process that must be followed in order to meet the requirements of the federal and provincial EA Acts.
Traffic Calming	Traffic calming is a combination or mainly physical measures that reduced the negative effects of motorized vehicle use, alter driver behaviours and improve conditions for non-motorized street use. It is intended to alleviate safety issues relating to high traffic volumes and speeds on roads not designed nor intended to handle such traffic conditions.
Transportation Demand Management (TDM)	The term TDM encompasses alternatives to single vehicle driving (transit, walking, biking, car pooling) and the measures or techniques that encourage the use of these alternate modes in order to maximize the people moving capability of the overall transportation system.
Transportation Modes	Different ways of traveling (by car, bicycle, transit or by foot).
Transportation Operational Improvements	Low cost solutions to improve the flow of traffic and/or transit such as; intersection improvements, transit signal priorities, or the conversion of general traffic lanes to HOV lanes.
Undertaking (The)	A term used in the EA process to identify the project being evaluated (i.e. Riverside Drive Vista Improvements).
Urban Design	"The art of making places". It involves the design of buildings, groups of buildings, spaces and landscapes, in villages, towns and cities, to create successful and livable communities.
Windsor Official Plan	This is a public legal document that sets out City Council's intentions on the growth and management of the City's land use in the form of policies dealing with the future economic, social, and land use changes within the City of Windsor.