APPENDIX B – EVALUATION OF ALTERNATIVE CROSS-SECTIONS

1.1 Wyandotte Street

Although the extension of the bicycle lanes from their current location to the western limits of the study area are identified by Schedule F of the City of Windsor Official Plan, City Staff indicated that a limited right of way at the intersection with Ouellette Avenue as well as potential conflicts with access near the Windsor-Detroit Tunnel Plaza may affect the location of dedicated bicycle lanes along the entire corridor. If that is the case, **the introduction of the proposed cross-section along Wyandotte Street is recommended only from Caron Avenue to Victoria Avenue.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Wyandotte Street	✓	✓				✓	✓		
MU	5	10				10	10	10	45

1.2 Ouellette Avenue

The proposed cross-section shows the minimal dimensions to be considered along the corridor at locations only where a raised median island will provide additional opportunities for safe pedestrian crossing. Due to the nature of the corridor (Class II Arterial) it is expected that the strategic location of these crossings will enhance pedestrian movements without disrupting vehicular traffic. Since the portion of Ouellette Avenue north of Elliott Street is planned for reconstruction as part of the Downtown Windsor Streetscape Improvements, **the proposed introduction of raised median islands is recommended only from south of Elliott Street to north of Giles Boulevard.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Ouellette Avenue		✓	✓	✓				$	
MU		10	5	5				10	30

1.3 University Avenue

Alternative 1. This option expands the current opportunities for utilitarian activities, accessibility, and spatial experience with the introduction of wider sidewalks and boulevard in one side of the road. Connectivity along the corridor is enhanced with the introduction of dedicated bicycle lanes at both sides of the road which also increases the perceived safety of the roadway users. However, on-street parking is not provided which limits its acceptance. This alternative would require reconstruction of the existing sidewalks and the introduction of boulevards, street furniture and infrastructure to support landscaping.

Alternative 2. This option follows an approach similar to the proposed for Wyandotte Street in which minimal changes to the existing roadway configuration along University Street are required. Connectivity along the corridor is enhanced with the introduction of dedicated bicycle lanes on both sides of the road with the consequent increase in perceived safety for all roadway users. However, no additional space is provided for utilitarian activities or enhancement of the spatial experience. Parking is maintained on both sides of the roadway. This option may require only appropriate signalization and pavement markings to be operational.

Alternative 3. This option enhance connectivity and spatial experience along the corridor with the introduction of a central boulevard with space for streetscaping and a two-way bikeway. Accessibility along the corridor is maintained, but no additional space is provide for utilitarian activities. This option does not provide on-street parking opportunities. Construction costs for this option can be considered as high since it requires a full reconstruction of the central portion of the corridor.

Alternative 4. This option provides the same benefits described for Alternative 3 but a lower cost is expected due to the allocation of a boulevard on both sides of the roadway rather than in the central portion of the road. A two-way bicycle path is maintained in the middle of the roadway, but no parking provisions are included as part of this alternative. It should be noted that public comments indicated a preference for this alternative. **It is recommended that this proposed cross-section be introduced from Crawford Avenue to McDougall Street.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
University Avenue Alternative 1	✓	✓	✓	✓	✓		✓	$$	
CCB	10	10	5	5	10		10	5	55
MU	5	10	5	5	10		10	5	50
ASI	10	5	2	5	5		10	5	42
University Avenue Alternative 2	✓	✓				✓	✓	$	
CCB	10	10				10	10	10	50
MU	5	10				10	10	10	45
ASI	10	5				10	10	10	45
University Avenue Alternative 3	✓	✓		✓	✓		✓	$$$	
CCB	10	10		5	10		10	0	45

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
MU	5	10		5	10		10	0	40
ASI	10	5		5	5	10	10	0	45
University Avenue Alternative 4	✓	✓		✓	✓		✓	$$	
CCB	**10**	**10**		**5**	**10**	**10**	**10**	**5**	**60**
MU	**5**	**10**		**5**	**10**	**10**	**10**	**5**	**55**
ASI	10	5		5	5	10	10	**5**	**50**

1.4 Pitt Street

Alternative 1. This option replaces excess roadway capacity with additional space for connectivity, accessibility, utilitarian activities, and spatial experience with the introduction of a shared transit / bicycle lane and boulevards on both sides of the roadway. This options allows for on-street parking in one side of the roadway. **This alternative is recommended from Ferry Street to Goyeau Street. Just west of Ferry Street, parking is provided on both sides of the roadway to support accessible parking in front of the University of Windsor facilities (former Windsor Star).**

Alternative 2. This option expands the opportunities for utilitarian activities and spatial experience offered by Alternative 1, but on-street parking is not provided which limits its acceptance unless it is determined that the parking is surplus to needs.

Alternative 3. This option converts the current one-way traffic to two-way traffic. This alternative can be explored in more detail when road work is proposed to determine the feasibility. Alternative 3 incorporates the same cross section as Alternative 1, which allows for on-street parking. The purpose of this alternative is to enhance the economic activity on the street by providing easier access and visibly of businesses. Additionally

this option will calm traffic making it safer for pedestrians and cyclists and makes navigation easier for drivers.

1.5 Chatham Street

Alternative 1. This option replaces excess roadway capacity with additional space for connectivity, accessibility, utilitarian activities, and spatial experience with the introduction of a shared transit / bicycle lane and boulevards on both sides of the roadway. This options allows for on-street parking in one side of the roadway. **This alternative is recommended from Goyeau Street to Victoria Avenue with consideration for existing improved areas around the intersection with Pelissier Street.**

Alternative 2. This option expands the opportunities for utilitarian activities and spatial experience offered by Alternative 1, but on-street parking is not provided which limits its acceptance unless it is determined that the parking is surplus to needs.

Alternative 3. This option converts the current one-way traffic to two-way traffic. This alternative can be explored in more detail when road work is proposed to determine the feasibility. Alternative 3 incorporates the same cross section as Alternative 1, which allows for on-street parking. The purpose of this alternative is to enhance the economic activity on the street by providing easier access and visibly of businesses. Additionally this option will calm traffic making it safer for pedestrians and cyclists and makes navigation easier for drivers.

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Pitt Street Alternative 1	✓	✓			✓	✓	✓	$$	
MU	**10**	**10**		**5**	**10**	**10**	**10**	**5**	**60**
ASI	10	5		5	5	10	10	**5**	**50**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Pitt Street Alternative 2	✓	✓	✓	✓	✓			$$$	
MU	5	10	5	5	10			0	35
ASI	10	5	2	5	5			0	27
Pitt Street Alternative 3		✓	✓			✓		$$	
MU		10	5			10		5	30
ASI		5	2			10		5	22
Chatham Street Alternative 1	✓	✓		✓	✓	✓		$$	
MU	**10**	**10**		**5**	**10**	**10**	**10**	**5**	**60**
ASI	10	5		5	5	10	10	**5**	**50**
Chatham Street Alternative 2	✓	✓	✓	✓	✓		✓	$$$	
MU	5	10	5	5	10		10	0	45
ASI	10	5	2	5	5		10	0	37
Chatham Street Alternative 3		✓	✓			✓		$$	
MU		10	5			10		5	30

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
ASI		5	2			10		5	22

1.6 Victoria Avenue – North of University Avenue

Alternative 1. The current two-way traffic operations between Chatham Street and University Avenue are maintained but connectivity for other modes of transportation is expanded with the introduction of dedicated bicycle lanes on both sides of the road. Although utilitarian activities and spatial experience are enhanced with the replacement of space currently allocated to diagonal parking with boulevards on both sides of the road, on-street parking is still allowed as parallel parking on both sides of the roadway. It can be assumed that the cost of the proposed cross-section will be in the medium range.

Alternative 2. This alternative offers similar benefits to Alternative 1, but only considers the introduction of a boulevard on the east side of the roadway.

Alternative 3. Connectivity and accessibility are still enhanced as part of this alternative but a trade-off between space for utilitarian activities and spatial experience is required due to the utilization of a central boulevard. This change increases the potential cost of implementation.

Alternative 4. This alternative enhances connectivity along the corridor and provides opportunities for utilitarian activities without diminishing parking alternatives; however, it may affect the perceived safety of roadway users since it does not provide for dedicated bicycle lanes. Since no major modifications of the current roadway configuration are required the cost for this alternative can be considered low. It should be noted that public comments indicated a preference for this alternative**. It is recommended that this proposed alternative be considered for this portion of Victoria Avenue.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Victoria Avenue Alternative 1 (North of University Avenue)	✓	✓	✓	✓	✓	✓	✓	$$	
CCB	10	10	5	5	10	10	10	5	65
ASI	10	5	2	5	5	10	10	5	52
Victoria Avenue Alternative 2 (North of University Avenue)	✓	✓	✓	✓	✓	✓	✓	$$	
CCB	10	10	5	5	10	10	10	5	65
ASI	10	5	2	5	5	10	10	5	52
Victoria Avenue Alternative 3 (North of University Avenue)	✓	✓	✓	✓	✓	✓	✓	$$$	
CCB	10	10	5	5	10	10	10	0	60
ASI	10	5	2	5	5	10	10	0	47
Victoria Avenue Alternative 4 (North of University Avenue)	✓	✓	✓	✓	✓	✓	✓	$	

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
CCB	10	10	5	5	10	10	10	10	70
ASI	10	5	2	5	5	10	10	10	57

1.7 Victoria Avenue – North of Park Street – Two Way Traffic Operations

Alternative 1. The current two-way traffic operations between Chatham Street and University Avenue is extended up to Park Street and connectivity for other modes of transportation is expanded with the introduction of dedicated bicycle lanes on both sides of the road. Although utilitarian activities and spatial experience are enhanced with the replacement of space currently allocated to diagonal parking with boulevards on both sides of the road, on-street parking is still allowed as parallel parking on both sides of the roadway. It can be assumed that the full completion of the proposed cross-section will be on the medium range.

Alternative 2. Connectivity and accessibility are still enhanced as part of this alternative but a trade-off between space for utilitarian activities and spatial experience is required due to the utilization of a central boulevard. This change also increase the potential cost of implementation.

Alternative 3. This alternative offers the same benefits than Alternative 1, but only considers the introduction of a boulevard on the east side of the roadway.

Alternative 4. This alternative enhances connectivity along the corridor and provides opportunities for utilitarian activities without removing on-street parking; however, it may affect the perceived safety of roadway users since it does not provide dedicated bicycle lanes. Since no major modifications of the current roadway configuration are required the cost for this alternative can be considered as low. It should be noted that public comments indicated a preference for this alternative**. It is recommended that this proposed alternative will be considered for this portion of Victoria Avenue**.

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Victoria Avenue Alternative 1 (North of Park Street)	✓	✓	✓	✓	✓	✓	✓	$$	
CCB	10	10	5	5	10	10	10	5	65
ASI	10	5	2	5	5	10	10	5	52
Victoria Avenue Alternative 2 (North of Park Street)	✓	✓	✓	✓	✓	✓	✓	$$$	
CCB	10	10	5	5	10	10	10	0	60
ASI	10	5	2	5	5	10	10	0	47
Victoria Avenue Alternative 3 (North of Park Street)	✓	✓	✓	✓	✓	✓	✓	$$	
CCB	10	10	5	5	10	10	10	5	65
ASI	10	5	2	5	5	10	10	5	52
Victoria Avenue Alternative 4 (North of Park Street)	✓	✓	✓	✓	✓	✓	✓	$	
CCB	**10**	**10**	**5**	**5**	**10**	**10**	**10**	**10**	**70**
ASI	10	5	2	5	5	10	10	**10**	**57**

1.8 Victoria Avenue – South of Park Street

Alternative 1. This option maintains the current one-way traffic operations along the corridor but enhances connectivity and the perceived safety for other modes of transportation with the introduction of a two-way bicycle path on one side of the road. Opportunities for enhancement of spatial experience are provided by boulevards in both sides of the roadway. This option maintains on-street parking on one side of the roadway. Minor modifications to the current cross-section are required which suggests a low cost of implementation.

Alternative 2. This proposed alternative rearranged the space allocated for vehicular traffic parking and cycling presented in alternative 1 to support two-way traffic operations along the corridor (one lane per direction). Similar to alternative 1, minor modifications to the current cross-section are required which suggests a low cost of implementation**. If the conversion to two-way traffic operations north of Park Street is accepted this is the recommended alternative.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Victoria Avenue Alternative 1 (South of Park Street)	✓	✓		✓	✓	✓	✓	$	
CCB	10	10		5	10	10	10	5	60
Victoria Avenue Alternative 2 (South of Park Street)	✓	✓		✓	✓	✓		$	
CCB	10	10		5	10	10	10	5	60

1.9 Victoria Avenue – South of Wyandotte Street

Alternative 1. This option maintains the current one-way traffic operations along the corridor but enhances connectivity and the perceived safety for other modes of transportation with the introduction of a two-way bicycle path on one side of the road. This option maintains on-street parking on one side of the roadway. Minor modifications to the current cross-section are required which suggests a low cost of implementation.

Alternative 2. This proposed alternative rearranged the space allocated for vehicular traffic parking and cycling presented in alternative 1 to support two-way traffic operations along the corridor (one shared lane per direction). Similar to alternative 1, minor modifications to the current cross-section are required which suggests a low cost of implementation. **For continuity along the corridor**, i**f the conversion to two-way traffic operations north of Park Street is accepted this is the recommended alternative.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Victoria Avenue Alternative 1 (South of Wyandotte Street)	✓	✓		✓		✓	✓	$	
R	10	2		10		10	10	10	52
Victoria Avenue Alternative 2 (South of Wyandotte Street)	✓	✓				✓		$	
R	**10**	**2**				**10**		**10**	**32**

1.10 McDougall Street

Although the introduction of the bicycle lanes along McDougall Street is identified by Schedule F of the City of Windsor Official Plan, City Staff indicated that a limited right of way at the intersection with Wyandotte Street may affect the location of dedicated bicycle lanes along the entire corridor. If that is the case, the introduction of the 'share the road' type of facilities along local roads is recommended.

1.11 Janette Avenue – Bruce Avenue

No changes to the current roadway configuration are recommended. However, a potential reconversion and use of the adjacent alleyway from Erie Street to University Avenue may increase the perceived safe of all roadway users, as well as expand connectivity and accessibility opportunities along the corridor.

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
McDougall Street	✓	✓	✓	✓	✓	✓	✓	$$	
CCB	10	10	5	5	10	10	10	5	65
R	10	2	2	10	2	10	10	5	51
ASI	10	5	2	5	5	10	10	10	57
Janette – Bruce Avenue				✓	✓	✓	✓	$$	
R				10	2	10	10	5	37
ASI				5	5	10	10	5	35

1.12 Aylmer Avenue

Alternative 1. This alternative reallocates the current roadway configuration to enhance connectivity and perceived safety for users of other modes of transportation with the

introduction of a two-way bicycle path between Wyandotte Street and Riverside Drive. Parallel parking is provided on both sides of the roadway. Minor modifications to the current cross-section are required which suggests a low cost of implementation.

Alternative 2. This alternative rearranges the current cross-section to provide two-way traffic operations (one lane per direction) and parking on both sides of the roadway. Bulb-outs along the corridor provide space for utilities and streetscaping but no additional enhancements to connectivity for other modes of transportation is provided. This modification of the existing one-way traffic operations may also require the conversion of Glengarry Avenue which, as indicated in Section 3.3.2, serves as one of the main access corridors to Downtown amenities. This option is not recommended.

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Aylmer Avenue Alternative 1	✓	✓		✓		✓	✓	$	
R	10	2		10		10	10	10	52
ASI	10	5		5		10	10	10	50
Aylmer Avenue Alternative 2	✓	✓				✓		$$	
R	10	2				10		5	27
ASI	10	5				10		5	30

1.13 Howard Avenue – From Erie Street to Aylmer Avenue

This option expands the current opportunities for utilitarian activities, accessibility, and spatial experience with the introduction of a boulevard on both sides of the road. Connectivity along the corridor is enhanced with the introduction of a dedicated two-way

bicycle path which also increases the perceived safety for roadway users. On-street parking is maintained on one side of the roadway.

This alternative will require reconstruction of the existing sidewalks and the introduction of boulevards, street furniture, and infrastructure to support landscaping. **This option is recommended in conjunction with Aylmer Alternative 1.**

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Howard Avenue	✓	✓	✓	✓	✓	✓	✓	$$	
R	10	2	2	10	2	10	10	5	51

1.14 Local Roads – Louis Avenue, Elliott Street and Marentette Avenue

If the use of higher order type of roads for the introduction of cycling facilities is not feasible, the introduction of shared lanes along local roads to expand connectivity for other modes of transportation in residential areas may be considered. Since no modifications are required to the current roadway configuration the cost of implementation is low.

1.15 Erie Street

Although the introduction of bicycle lanes along this corridor is identified by Schedule F of the City of Windsor Official Plan, City Staff indicated that the recent reconstruction of Erie Street east of Howard may affect the location of dedicated bicycle lanes along the entire corridor. If that is the case, the introduction of the proposed cross-section along Erie Street is recommended only from Janette Avenue to McDougall Street (if bicycle lanes are provided along McDougall Street).

CORRIDOR	TYPE OF URBAN DESIGN QUALITIES								
	Connectivity	Accessibility	Utilitarian Activities	Behavioural Factors	Spatial Experience	Parking Availability	Public Comments	Cost	Ranking
Erie Street	✓	✓					✓	$	
R	10	2					10	10	32
Local Roads	✓	✓				✓		$	
R	10	2				10		10	32