

CITY OF HAMILTON

TRANSPORTATION, OPERATIONS & ENVIRONMENT
Roads & Traffic

Report to: Mayor and Members
Committee of the Whole

Submitted by: Peter M. Crockett, P.Eng.
General Manager

Date: November 4, 2002

Prepared by: Ron Gallo
Extension 6160

SUBJECT: Durand Neighbourhood Traffic Study Environmental Assessment (TOE02204) - (Affects Primarily Ward 2 and Has Minor Implications on Ward 1)

RECOMMENDATION:

- (a) That the General Manager, Transportation, Operations and Environment, be authorized and directed to file the Class Environmental Assessment (EA) Project File Report for the Durand Neighbourhood Traffic Study with the Municipal Clerk for a forty-five (45) day public review; and upon final approval
- (b) That in order to allow the timely implementation, staff be authorized to undertake detailed design and implementation of the Durand Neighbourhood Traffic Study – Priority 1 traffic calming measures at an estimated cost of \$150,000; and
- (c) That financing for the Durand Neighbourhood Traffic Study – Priority 1 implementation in the amount of \$150,000 be financed from the 2001 Capital budget account number 4030116102; and
- (d) That the Durand Neighbourhood Traffic Study – Priority 2 traffic calming measures be considered for implementation upon approval of the 2003 capital budget; and
- (e) That the existing northbound “No Left Turn, 7:00am to 9:00am and 4:00pm to 6:00pm, Monday to Friday” regulation on James Street South at Markland Street be replaced with a full-time “No Left Turn” regulation; and
- (f) That Caroline Street South between Herkimer Street and Main Street West be operated as a two-way street (presently a one-way southbound street); and
- (g) That Hess Street South between Herkimer Street and Main Street West be operated as a two-way street (presently a one-way northbound street); and
- (h) That southbound stop control be implemented on Hess Street South at Duke Street; and
- (i) That northbound stop control be implemented on Caroline Street South at Duke Street; and

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 2 of 11

- (j) That the existing westbound stop control on Markland Street at Park Street South be removed; and
- (k) That the south curb lane of Markland Street between James Street South and Queen Street South be designated as a westbound Bicycle Lane; and
- (l) That unrestricted parking be permitted, all day, Monday to Friday, on the south side of Herkimer Street between Hess and MacNab; and
- (m) That unrestricted parking be permitted, all day (except the PM peak period), Monday to Friday, on the north side of Herkimer Street between Bay and MacNab; and
- (n) That unrestricted parking be permitted all day, Monday to Friday, on the north side of Charlton Avenue between Hess and MacNab; and
- (o) That unrestricted parking be permitted all day, Monday to Friday, on both sides of Bay Street South between Aberdeen and Herkimer; and
- (p) That Council endorse the reclassification of Aberdeen Avenue (Bay St. S. to James St. S.), Markland Street, Robinson Street, Duke Street, Park Street, MacNab Street and Jackson Street to that of 'Local' street classification; and
- (q) That a road alteration By-law be prepared, to address the physical curb extension proposals, for Council endorsement, following approval of this report, as required by the Municipal Act; and
- (r) That an appropriate by-law to amend the City of Hamilton Traffic By-law 01-218 be passed and enacted; and
- (s) That an appropriate by-law to amend the City of Hamilton Traffic By-law 01-215 be passed and enacted

Peter M. Crockett, P.Eng., General Manager
Transportation, Operations & Environment

EXECUTIVE SUMMARY:

The area bounded by James Street South to the east, Queen Street to the west, Main Street West to the north, and the foot of the escarpment to the south is known as the Durand Neighbourhood.

The Durand Neighbourhood Association (DNA) has identified issues related to safety, volume and speed of traffic, as well as parking within their community. The DNA has indicated that these issues are negatively affecting the quality of the environment for the current residents and the ability to attract new residents. Traffic issues stem from the unique position of the Durand Neighbourhood. Situated in an area bordered by James and Queen (two mountain access roadways), as well as in close proximity to St.

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 3 of 11

Joseph's Hospital and the downtown core, Durand is adversely affected by the resulting influx of commuter traffic.

City Council approved conducting a traffic study to evaluate the extent of the traffic problems as indicated by Durand residents. Results of the studies and various potential solutions were presented to residents at two formal public meetings. The DNA, through its executive, was consulted throughout the entire process at a series of formal and informal meetings and provided advice as the designated neighbourhood representative.

It was concluded that a comprehensive plan was required to meet the needs of residents. The needs were identified primarily as improved safety, reduced speeds and reduced traffic volumes on neighbourhood roadways while maintaining parking supply. Proposed solutions were based on the premise that on-street parking would not be reduced.

It was determined that a number of traffic mitigating measures would have to be utilized simultaneously to achieve the desired community-wide objectives noted above. The following changes are recommended:

- the conversion of Hess and Caroline from one-way streets to two-way;
- extended hours for the turning restriction at James/Markland;
- curb extensions, as a traffic calming application, at various intersections throughout the neighbourhood;
- improved roadway markings and signing at several locations;
- implementation of a bicycle lane on Markland;
- modifications to traffic signal displays
- improvements and changes to on-street parking

Implementation of the approved traffic plan will likely not take place until 2003, although signing and road markings improvements have been or will be installed this year. The timing is due to the current extent of the construction schedule, as well as the anticipated date of Council approval of the project. Funding for installation will be partly provided through the 2001 traffic calming capital budget. It is intended that 60% of this City-wide budget be utilized for Durand. This would cover about 60% of the total cost of implementation of the Durand project, with the remainder deferred, subject to additional financing.

A road alteration By-law, as required by the Municipal Act, will be forwarded to Council subject to the approval of this report.

The consultants' project file report, outlining all critical study details, will be made available on the City's web site and for public viewing at various City facilities for thirty days following the approval of this report.

BACKGROUND:

Problem

The Durand Neighbourhood has a rich history of community involvement and has been the subject of neighbourhood studies in the 1970's and 1980's, focusing on traffic and parking issues. Durand is defined as the area bounded by James Street to the east, Queen Street to the west, Main Street to the north and the foot of the escarpment to the

south. Identified as a “distinctive residential neighbourhood” located in the central downtown district, Durand experiences a number of traffic related pressures. Influenced by the proximity of St. Joseph’s Hospital, the downtown core and three primary mountain accesses, the resulting traffic problems continue to be a major concern for area residents.

More recently the Durand Neighbourhood Association (DNA), has been the community’s primary representative and have asked that the City of Hamilton assist in addressing their traffic related concerns. The primary issues were that of traffic volumes, vehicle speeds, parking needs and pedestrian safety.

Traffic Study Plan

Independent consultant services were sought in order to provide a professional and experienced assessment. The consulting firms IBI Group and GMK 2000 were retained by the City for their expertise in traffic management projects. IBI Group was also the consultant involved in the development of the Downtown Transportation Master Plan. Their familiarity with the downtown issues was seen as a major advantage for the Durand Traffic Study. Given that the potential solutions could involve significant operational and/or physical alterations to roadways, a series of public consultation sessions were planned. This was to ensure compliance with the requirements of the Municipal Class Environmental Assessment for master plans. An initial public meeting was held, in conjunction with the DNA annual general meeting, in October 2001 to introduce City staff and Consultants to describe the traffic study process and anticipated timelines. All available study information was provided and regularly updated on a specially created web page as part of the City’s web site.

The DNA executive and traffic committee provided feedback at a number of formal and informal working meetings held throughout the study process.

Data Assessment and Strategy

In order to establish the level of severity and priorities of the identified problems, an extensive assessment of current traffic conditions was undertaken. This included the following:

- Residents’ comments
- Current traffic volumes - new counts obtained
- Vehicle speeds - special studies conducted
- Collision history review
- Roadway geometry documentation
- Roadway classifications - existing classification plan reviewed

Results and analysis of the data were presented to the public at a second advertised open house on February 20, 2002. A number of alternative solutions including revised roadway classifications, conversion of one-way streets to two-way operation, traffic calming, road closures, parking enhancements, bicycle lanes, and pedestrian safety measures were introduced for consideration and discussion with residents (refer to project file report for details). Comments were received from those who attended as well as from others through the City’s web site and mail received or faxed.

Assessment of data and residents’ feedback was evaluated through an integrated approach guided by the primary needs of the community combined with the

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 5 of 11

philosophies of the 1987 “Durand Neighbourhood Plan” and the “Downtown Transportation Master Plan” as guidelines. Essentially the focus was placed on three key guiding principles:

- Safety
- Parking requirements
- Maximized use of designated arterial roadways

This approach remained consistent with the 1987 Durand Neighbourhood Plan which noted “...consideration should be given to turn restrictions, road closures, direction of traffic flow to optimize traffic distribution on the arterial road network and minimize flow of traffic on residential roads”.

With the guiding principles providing the foundation, preferred alternatives were established and subsequently presented at a third public open house on May 9, 2002. Discussions and comments from this session generated a considerable amount of feedback from which the recommended alternatives were derived. We believe that the recommended alternatives provide the best comprehensive solution for the Durand Neighbourhood as a whole. Similar traffic plans have resulted in neighbourhood-wide reduction in collisions of up to 20%. While individual residents may not sense that the overall plan addresses all of their specific concerns, all recommended measures combined should result in some direct or indirect benefit to most.

Recommended Alternatives

(Specific Details Available in Project File Report)

1. Street Classification Changes

The study provided treatments for streets that were based on their functional classification. It was decided that some classifications were not appropriate for the present land and traffic use. It is proposed that several roadways have their street classification altered to better reflect their current functions. The current street classification system for Durand is based on the 1987 Durand Neighbourhood Plan. The City Of Hamilton does not have an official classification system as yet. The recommended Durand street classification changes are listed in the following table:

Street Name	Existing Street Classification	Proposed Street Classification
Aberdeen Avenue (Bay St. S. to James St. S.)	Collector	Local
Markland Street	Collector	Local
Robinson Street	Collector	Local
Duke Street	Collector	Local
Park Street	Pedestrian-Oriented	Local
MacNab Street	Pedestrian-Oriented	Local
Jackson Street	Pedestrian-Oriented	Local

The remaining roadways in Durand will maintain their existing street classification.

- See Appendix ‘E’
- 1. Markland Street and James Street South – (a physical restriction to prohibit northbound left turns at all times)**
- Southbound right turns will continue to be permitted

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 6 of 11

- Flexible knockdown posts are proposed for placement along the centreline of James to prevent northbound left turns to reinforce a full-time legislated turn ban
- Implementation is subject to a follow-up review of the impact on traffic volumes on Aberdeen west of James
- See Appendix 'B'

Rationale:

- reduce cut-through traffic volumes on Markland Street
- redistribution of through traffic to arterial roadways
- longer and more frequent vehicle gaps aiding pedestrian crossing
- lower volumes consistent with bicycle lane implementation

2. Markland Street/Park Street South – (removal of westbound stop sign)

- See Appendix 'B'

Rationale:

- elimination of stopping violations
- reduced potential for conflicts for both drivers and pedestrians
- reduced vehicle emissions, noise and brake dust pollution
- consistent with bicycle lane

3. Markland Street between James Street South and Queen Street – (designated bicycle lane for eastbound direction...contra-flow)

- Vehicle travel in the westbound direction will become a shared bicycle/automobile lane
- See Appendix 'B'

Rationale:

- contribute to reducing vehicle speeds
- provide bicycle designated facility in neighbourhood
- safer route for cyclists
- future connection to bicycle route system

4. Queen Street/Duke Street – (Intersection Pedestrian Signal)

- Satisfies technical warrants
- Crossing will be located on the north leg – minimize conflicts with turning vehicles
- Installation anticipated in 2003 subject to funding from the signal installation budget (typically 3 – 4 IPS installations are budgeted for per year)
- Underground services and pole bases have been installed as part of the Queen Street reconstruction
- See Appendix 'C'

Rationale:

- improved pedestrian safety
- encourage pedestrian mobility

5. Intersection Curb Extensions – (various locations throughout Durand)

- Also identified in alternative #8 below
- See Appendix 'B'

Rationale:

- reduced vehicle speeds
- discourage cut-through traffic
- provide shorter pedestrian crossing distances
- potentially reduce the number of collisions

6. Conversion of One-way Streets to Two-way Operation

- Conversion of Hess Street South between Herkimer and Main (the section between Herkimer and Aberdeen is currently two-way)
- Conversion of Caroline Street South between Herkimer Street and Main (the section between Herkimer and Aberdeen will remain one-way as on-street parking can not be accommodated with a two-way operation)
- Some intersection corners will require radius improvements (rounding of corners) to facilitate new turning movements
- Landscaped island at Hess and Main will have to be cut back
- See Appendix 'A'

Rationale:

- reduced vehicle speeds
- improved internal neighbourhood vehicle circulation

7. On Street Parking (See Appendix 'D')

Herkimer

- Allow unrestricted parking, all day, Monday to Friday, on the south side between Hess and MacNab (currently parking is prohibited during the peak traffic periods)
- Permit unrestricted parking, all day (except the PM peak period), Monday to Friday, on the north side between Bay and MacNab
- The parking meters between Park and MacNab will remain in place, at present, pending a further parking review to take place upon completion of St. Joseph's Hospital expansion

Charlton

- Remove the current PM peak period restriction and allow unrestricted parking all day, Monday to Friday, on the north side between Hess and MacNab
- All parking meters will remain in place

Bay

- Remove the AM peak period restriction and allow unrestricted parking all day, Monday to Friday, on both sides between Aberdeen and Herkimer. The existing 'No Stopping Anytime' corner clearances at both south corners of Herkimer will be retained.

Parking on these roadways will continue to be subject to the through street parking by-law, which does not permit parking from 2:00AM to 7:00AM on through streets to permit unobstructed street maintenance. All existing corner clearances will be maintained to help ensure intersection safety. All parking meters are expected to remain in place, although there will be a need to fine-tune the parking regulations at the time of implementation, due to specific residential and commercial requirements. It is preferred that a less restrictive approach be implemented initially (i.e. unrestricted vs. time limited parking).

8. Safety Modifications – (painted stop lines and traffic arrows, street name signing, warning signs, intersection improvements)

- Painted stop lines and traffic arrows at problem intersections
- Signal modifications
- Improved intersection street name signing at various locations
- Additional playground advance signs in all approaches to Durand Park
- Fluorescent yellow school area signs on Bay for Central Public School as soon as school sign replacement program is launched
- Intersection curb extensions
- See Appendix 'C'

- Rationale:
- improved driver visibility
 - increased stopping compliance
 - increased pedestrian safety
 - clear warning to motorists
 - safer and more efficient driver activity
 - reduced traffic on local roadways

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 9 of 11

The following table provides a detailed snapshot of the Durand Neighbourhood intersection safety analysis and recommended improvements as per consultant's review:

Safety Analyses

	Summary of Collision Experience	Recommended Improvements
OVERALL	Residents in Durand are concerned about traffic safety. It is reported that there are many "Near-miss" collisions in addition the formal collision statistics.	Implement two-way streets, where feasible, to slow traffic Implement neighbourhood wide traffic calming to slow traffic and improve safety
UNSIGNALIZED INTERSECTIONS		
Bold Street and Hess Street	Over-representation of right angle collisions	Paint stop bars on Bold Street Construct curb extensions
Caroline Street and Charlton Avenue	Over-representation of right angle collisions	Improve intersection street name visibility Construct curb extensions
Hess Street and Robinson Street	Over-representation of right angle collisions	Paint stop bars on Robinson Street Consider curb extensions Restrict parking close to intersection
Hess Street and Markland Avenue	No dominant collision types Low collision frequency	Convert Hess Street to two-way Implement neighbourhood traffic calming (as above)
Hess Street and Jackson Street	Right angle and sideswipe collisions	Improve intersection and advance signing for Jackson Street Implement measures to reduce speeds on Hess (e.g. two-way streets)
Charlton Avenue and Park Street	Over-representation of WB sideswipe collisions	Improve signage for park street Install advance signage for Durand Park Paint left-through arrow on south lane of Charlton
Herkimer Street/MacNab Street	Over-representation of right angle collisions Over-representation of sideswipe collisions	Construct curb extensions Implement measures to reduce speeds on Herkimer
Charlton Avenue/MacNab Street	No apparent dominant collision types Average collision frequency	No changes recommended
Herkimer Street/Caroline Street	Pedestrian collisions	Consider curb extensions
SIGNALIZED INTERSECTIONS		
Charlton Avenue and Hess Street	Over-representation of right angle collisions	Install limited visibility signal heads at Charlton/Queen
Bay Street and Hunter Street	Over-representation of right angle collisions	No definitive deficiencies identified Consider conducting conflict study
Queen Street/Charlton Avenue	Over-representation of right angle collisions	Modify lane markings for westbound approach Provide limited visibility beacon on SB hazard marker at Queen/Herkimer intersection
Hess Street and Hunter Street	Over-representation of right angle collisions	No definitive deficiencies identified Consider conducting conflict study
Bay Street and Herkimer Street	Over-representation of right angle collisions	Review mounting height of signal for NB traffic

9. Other Community Initiatives

- Promote an on-going dialogue between Durand residents and City staff to ensure traffic problems are addressed as they arise
- Maintain dialogue on traffic issues through the Durand Neighbourhood Association newsletter
- Encourage residents to participate in Neighbourhood Speed Watch program; utilize the Road Rage Hotline (905-546-1768); Block Parents program; Neighbourhood Watch program
- Request Hamilton Police Services to provide regular speed enforcement

Implementation Strategy

In general, the recommendations coming out of this study will be implemented as soon as possible recognizing limitations with respect to the approvals process and funding availability.

In terms of phasing, the proposed safety improvements can be implemented immediately and are not tied to the approval of this study. Some signing and road marking enhancements have already been completed.

The following is suggested as a phasing strategy for the remaining items:

- Priority 1 – Engineering services, parking changes, one-way to two-way conversions of Hess Street and Caroline Street and curb extensions on Herkimer Street and Charlton Avenue (which are tied to the changes in parking restrictions on these streets). Also included in Phase 1 is the installation of posts on James Street to prevent northbound left turns into Markland Street as well as the intersection pedestrian signal at Queen/Duke (subject to 2003 capital funding in the signals program).
- Priority 2 – Remainder of the curb extensions and Markland Street bike lane. Funding is presently available for Priority 1 work. Priority 2 items will be put forward for consideration in the 2003 capital budget.

The conversion of Duke Street and Bold Street to two-way can not proceed at present due to parking limitations on Duke Street. This conversion could be reconsidered at such time as reduced on-street parking needs would allow.

It is anticipated that most Priority 1 items will not be implemented until the spring of 2003 as they must be preceded by detailed design and cannot occur during the winter.

Other Future Enhancements

The conversion of James Street South, in the Durand area to two-way operation is subject to the success of this year's two-way conversion of James Street between Main Street and Murray Street.

Upgrading of Bay Street to include improved pedestrian safety with wider sidewalks, a linear park, bicycle lanes and other landscaping plans are currently in the Bay Street streetscaping plan.

ANALYSIS OF ALTERNATIVES:

A wide range of traffic management strategies were considered. Road closures, traffic calming, one-way to two-way street conversions, safety initiatives and community programmes are all alternatives which were presented as potential solutions.

The most effective plan to reduce speeding, improve safety and reduce traffic volumes on residential roadways is one which utilizes some or all measures as an integrated neighbourhood traffic management plan providing community-wide benefits.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Cost Estimates

- Engineering Services \$10,000

SUBJECT: Durand Neighbourhood Traffic Study (TOE02204) - (Ward 2) - Page 11 of 11

• Two-way conversions	\$72,000
• Parking	\$4,000
• Safety improvements	\$32,500
• Curb extensions	<u>\$139,000</u>
Total	<u>\$257,500</u>

It is recommended that 60% (\$150,000) of the City's 2001 traffic calming capital budget (\$250,000) be allocated to the Durand Neighbourhood traffic plan. There was no traffic calming capital budget available for 2002 due to internal priorities. As a result, the implementation plan consists of a two-phase priority program:

Priority 1 - engineering services, safety improvements, parking, two-way conversions and about two-thirds of the traffic calming devices. The majority of safety improvements are funded by existing operating budget. The approximate cost for Priority 1 items is \$150,000. IPS will be funded from signal budget.

Priority 2 - remainder of the traffic calming devices and bicycle lane at a cost estimate of \$107,500.

POLICIES AFFECTING PROPOSAL:

N/A

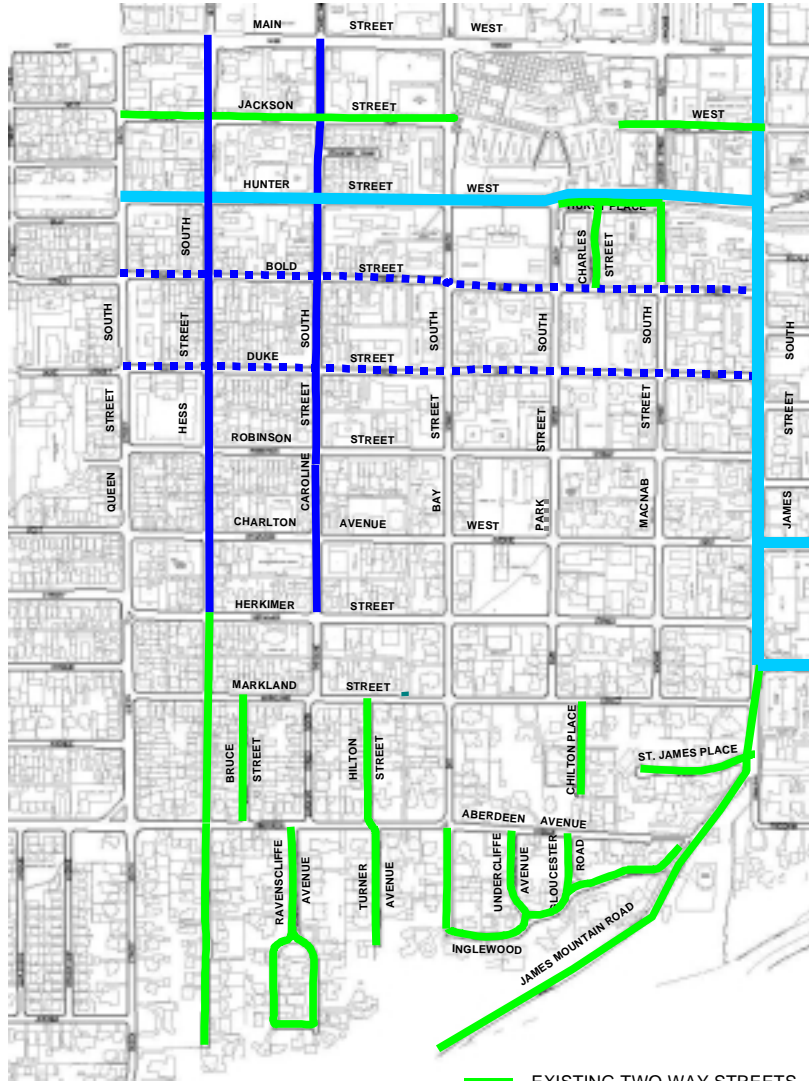
CONSULTATION WITH RELEVANT DEPARTMENTS/AGENCIES:

The core study group included various Transportation, Operations and Environment staff, and staff from Planning, the Police, Parking and Enforcement Operations as well as the DNA executive and traffic sub-committee. Extensive consultation was carried out with all affected agencies. Consultants and staff met with and received feedback from emergency services (Fire, Ambulance, Police), street maintenance personnel, St. Joseph's Hospital, Durand Neighbourhood Association, and City Councillors from Ward 1 and Ward 2.

CITY STRATEGIC COMMITMENT:

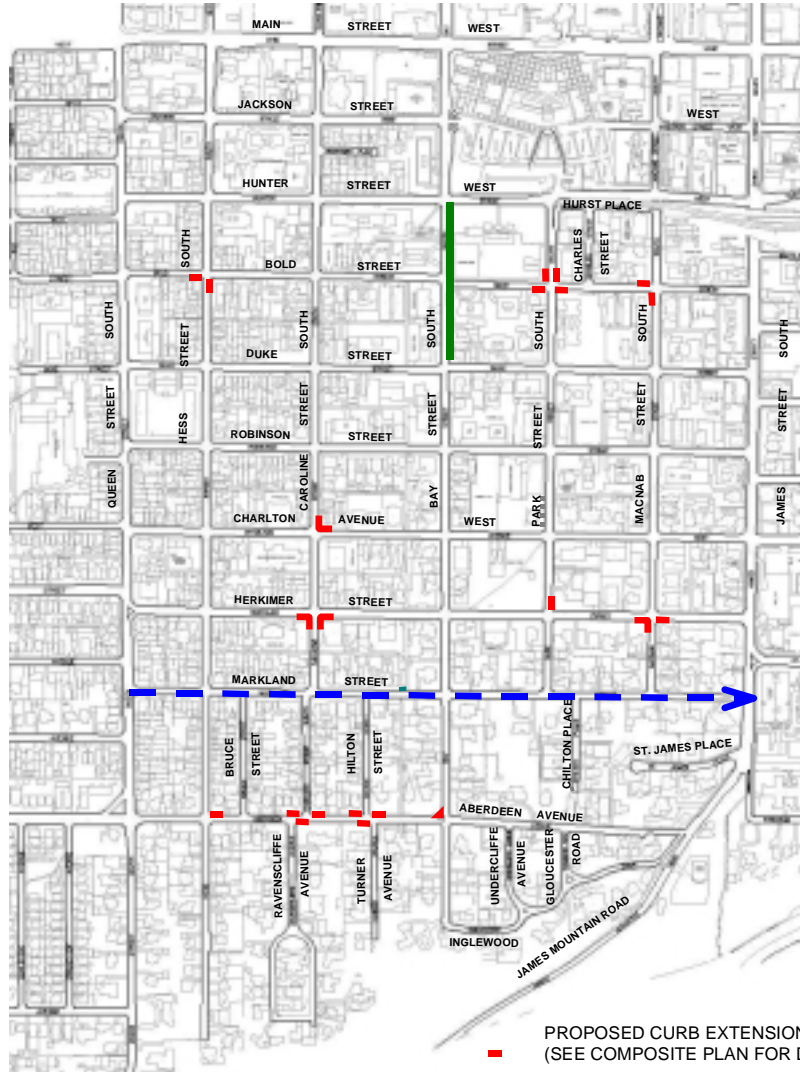
The proposed traffic modifications should contribute to the Durand Neighbourhood Association's objectives of improving the quality of life and attracting new residents. Alternatives such as turn restrictions, curb extensions and improved traffic controls will aid in providing a safer, more liveable neighbourhood for residents, pedestrians and motorists. Changes to the traffic operation on residential roadways will result in quieter, less polluted and bike friendly streets, while thorough traffic is encouraged to utilize the arterial road network.

Recommended One-way to Two-way Street Conversions



- EXISTING TWO-WAY STREETS
- PROPOSED TWO-WAY STREETS
- - - PROPOSED TWO-WAY STREETS (SUBJECT TO PARKING CONDITIONS ON DUKE STREET)
- PROPOSED TWO-WAY STREETS (AS PER DOWNTOWN MASTER PLAN)

Recommended Curb Extensions and Lane Reductions



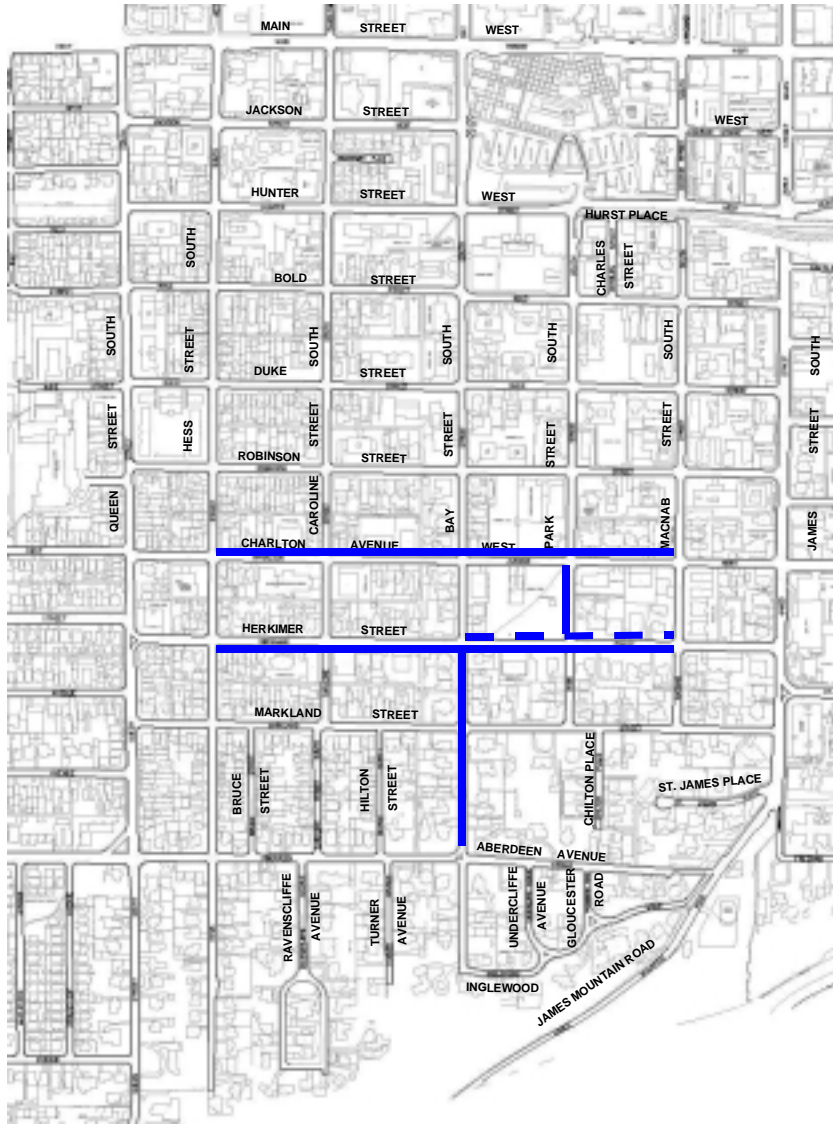
- PROPOSED CURB EXTENSIONS
(SEE COMPOSITE PLAN FOR DETAILS)
- PROPOSED SIDEWALK WIDENING
(FINAL DESIGN PENDING RECOMMENDATIONS
OF DOWNTOWN STREETSCAPING PLAN)
- ■ ■ PROPOSED BICYCLE ROUTE
(Westbound: shared traffic,
Eastbound: Contra-flow dedicated
bicycle lane)

Recommended Safety Improvements



NOTE: IN ADDITION TO SPECIFIC SAFETY IMPROVEMENTS, NEIGHBOURHOOD WIDE TRAFFIC CALMING IS REQUIRED TO SLOW TRAFFIC AND IMPROVE SAFETY. THIS INCLUDES CURB EXTENSIONS, LANE REDUCTIONS AND ONE-WAY TO TWO-WAY STREET CONVERSION AS OUTLINED ON OTHER EXHIBITS

Recommended Changes to On-street Parking





Proposed Durand Road Classifications

