

10.0 SUMMARY AND CONCLUSIONS

Until now, Regional streets have been relatively high speed facilities, catering primarily to car and truck traffic. Both transit and pedestrians have taken on secondary roles, as have cyclists. That is now changing. The perception of the role of Regional streets is being transformed from that of moving vehicles to that of accommodating all modes of transportation within the context of integrating and enhancing communities, creating a sense of place, defining community character and helping to instill community pride. The requirements associated with mobility need to be balanced with other community objectives, on an overall basis, as well as within the context of unique situations.

The purpose of this study was to examine the various needs and objectives critically within the existing available right-of-way and road design standards, and then to assess how more effective use could be made of the available Regional rights-of-way in order to achieve the optimal balance between these competing requirements.

During the next ten years, approximately thirteen sections of Regional streets are scheduled to be widened to six lanes, as per the 2005 – 10 Year Road Construction Program. The requirement to widen Regional streets from an existing four/five lane cross-section to a six or seven lane cross-section should be critically reviewed on a link by link basis, as the needs are identified. Other viable alternative solutions, such as widening a parallel collector street instead, should be considered where applicable. Nonetheless, in the cases where no other viable options exist except to widen Regional streets to six/seven lanes, consideration should be given to allocating the additional lanes to HOV and/or transit lanes in order to help encourage ridesharing and to be supportive of transit initiatives, rather than widening solely for mixed traffic (i.e. continuation of the status quo). It is recognized however, that implementation of HOV/bike lanes will need to be phased in a logical manner which reflects continuity. For example, at the outset of a widening to a six lane cross-section, it may be necessary to allow mixed traffic in the newly added lanes, because HOV has not yet be implemented up and/or downstream. However this should only be on the explicit understanding by the public that the intent is to convert these outside lanes for exclusive HOV/bike use at some point in the future.

For most of the four lane Regional streets that are proposed to be widened to six lanes, the available space is limited to a 36 metre right-of-way. Within the limited 36 metre right-of-way, 12 alternative cross-sections were developed which reflect different treatments of how cyclists and other elements are accommodated, and differ with respect to the width of the median. One of the common key features of these alternative cross-sections is reduced lane widths for mixed use vehicular traffic in order to allocate space for other elements which are also viewed as being equally important, such as exclusive bike lanes, wider boulevards, and/or raised medians. The Region will need to develop an access control policy related to the introduction of the planted medians. This policy will need to balance the desired cross-sections which include the medians, with access requirements including alternative means of addressing the access requirements

These 12 alternative cross-sections were evaluated based on various criteria in the categories of transportation functionality, mobility and safety; cost; and community needs and values. The alternative with exclusive bike lanes and 6 metre wide raised medians

has been identified as being the recommended cross-section. The on-street exclusive bike lanes are better in accommodating cyclists. The extra width between the transit vehicles and the curb with the inclusion of on-street bike lane, can also enhance the safety of pedestrians walking along the sidewalk. The median can also provide a refuge area for pedestrians crossing the street. The wide medians would also allow more space for landscaping and the associated protective measures, thus enhancing the aesthetics of the corridor. This preferred cross-section is viewed as being able to accommodate all modes of travel in a safe and efficient manner.

In order to test the suitability of the recommended cross-section, it was applied to segments of five case study corridors, representing the five typologies reflecting various land use/transportation characteristics which need to be considered. The five typologies and case study corridors are: residential (McCowan Road near Denison Road), urban mixed use (Leslie Street near Highway 7), commercial (McCowan Road near Highway 7), employment campus (16th Avenue near Highway 404) and industrial (Weston Road near Steeles Avenue).

The recommended alternative cross-section was found to be applicable to all these typologies, with the exception of the residential typology where some modifications and refinements were found to be needed. For the residential typology, a 5.2 metre wide median at mid-block locations would need to be implemented rather than the 6 metre wide median, since it is constrained by the adjacent developments (typically reverse frontage). For other typologies, landscaping and sidewalks could be extended through appropriate agreements onto private property to complement landscaping which is placed within the public right-of-way. This is more difficult to achieve in a residential setting with reverse frontage development.

The costs related to the recommended cross-sections are clearly higher because of the additional landscaping in the medians and the exclusive bike lanes. This may require a reassessment of the Region's Roads Capital Program within the Master Plan Update. However, phasing the landscaping features would not help reduce the total costs. The potential issues and drawbacks far outweigh the potential cost benefits of phasing the landscaping features, particularly portraying an incomplete picture of the ultimate vision.

Transitional zones between 4/5 lanes and 6/7 lanes typically occur at intersections. At the location where the 6/7 lane cross-section is being reduced to a 4/5 lane cross-section, the curb through lane (approach lane) can become an exclusive right turn lane, or alternatively, a new discharge lane can be introduced beyond the intersection and then tapered to allow vehicles to merge with the other two lanes of through traffic. When a 4/5 lane cross-section is being transitioned into a 6/7 lane cross-section, an exclusive right turn lane can be changed to a shared through-right lane, which matches the curb lane of the 6/7 lane cross-section on the far side of the intersection.

It is also clear that the 36 metre right-of-way imposes many spatial constraints that would not be the case if a wider right-of-way was available. In order to accommodate all the basic and desirable functions of the roadway, a 44.2 metre right-of-way is required. However, this can be reduced to 42.6 metres if the lane widths are reduced. Thus, in newly developing areas where land uses have not been set as yet, ideally a wider right-of-way (i.e. 43 to 46 metres), should be protected, in order to avoid these spatial

constraints when consideration is being given to widening these Regional streets in the future.

As noted, the implementation of HOV/bike lanes would need to be phased in, with the new outside travel lane being a “convertible” lane (i.e. used for mixed traffic initially, and converted to HOV/bike lanes later). The curb lane would be re-stripped as a HOV/bike lane at the time of implementation of HOV and bike lanes as part of an integrated and continuous system. Following the widening but before the implementation of the HOV/bike lanes, signs should be installed to notify the public that the curb lanes will be converted to HOV lanes, or HOV/bike lanes in the future. In the case of future HOV/bike lanes, the 5 metre lane must include a painted delineation between the future bike lane and future HOV lane. Implementation will need to be consistent with and closely coordinated with the Regional Bicycle and Pedestrian Master Plan, and Regional HOV enforcement strategies, as well as a public education campaign with respect to HOV usage.

In summary, the recommended features reflecting in future Great Regional Streets include:

- Convertible six lane cross-sections with 2+HOV, or HOV/bike lanes along the curb lanes
- Exclusive bike lanes (1.5 metres wide) where the York Region Bicycle Master Plan supports their inclusion
- Continuous sidewalks along both sides of the street
- Continuous illumination along both sides of the street
- Reduced lane widths to 3.3 metres for middle and median lanes, and 3.5 metres for curb lanes
- Design and posted speeds both at 60 km/h
- A landscaped median
 - Desirably 6 metres wide for all typologies except residential, assuming that landscaping and sidewalks could be extended through appropriate agreements onto private property to complement landscaping which is placed within the public right-of-way
 - Desirably 5.2 metres wide for the residential typology, given the spatial constraints imposed by reverse frontage development
- Shared through/right turn lane (i.e. no exclusive right turn lane)
- HOV lanes for 2+ passenger vehicles and transit vehicles with curbside stops (i.e. no bus bays)

Ideally, a wider right-of-way, between 43 and 46 metres, should be protected in newly developing areas where land uses have not been set as yet. In such cases, wider boulevards and sidewalks can be provided, which can allow more flexibility in providing different types of planting, landscaping features with some street furniture and street art.

With these recommended features, the future regional streets are expected to exhibit substantial improvements as compared to the existing standard cross-sections, in that the recommended cross-sections would be able to accommodate all modes of travel in a safe and efficient manner. Ride-sharing and transit usage would be encouraged with the

introduction of HOV lanes. Continuous sidewalks and illumination along both sides of the street are expected to enhance walkability and create a more pedestrian friendly environment. Cycling would also be encouraged with the introduction of exclusive bike lanes. The landscaping features along the median and boulevards improve the aesthetics of the regional streets.

In summary, Great Regional Streets are now viewed as integral elements of urban structure, and give form and shape to urban areas. They will help determine the character of an area, influence walkability and scale, and would help to support and integrate land uses along their lengths. They are not only expected to address the transportation network needs including efficiency, viability and capacity, but also the community focused goals related to pedestrian friendliness and transit focused design. This would in turn enhance a sense of place, define the community character and instill community pride.