

REGIONAL MUNICIPALITY OF OTTAWA-CARLETON
MUNICIPALITÉ RÉGIONALE D'OTTAWA-CARLETON

REPORT
RAPPORT

Our File/N/Réf. **25 12-97-0046**
Your File/V/Réf.

DATE 7 May 1997

TO/DEST. Co-ordinator, Transportation Committee

FROM/EXP. Director Engineering Division
Environment and Transportation Department

SUBJECT/OBJET **TRANSIT PRIORITY MEASURES - WOODROFFE AVENUE
NORTHBOUND BUS LANE CNR SUBWAY TO NORICE STREET**

DEPARTMENTAL RECOMMENDATIONS

That the Transportation Committee recommend Council:

- 1. Approve the preliminary design for the proposed construction of a northbound bus lane on Woodroffe Avenue from the CNR subway to Norice Street as illustrated on Drawing No. RT-2265;**
- 2. Authorize the initiation of the public hearing process as required by Sections 297 and 300 of the Ontario Municipal Act.**

BACKGROUND

Transit priority measures on Regional roads and staged implementation of transitway extensions to serve the outer urban areas are two critical components of the Region's transit strategy to achieve the target transit modal shares identified in the Transportation Master Plan (TMP) and the new Official Plan (OP). The Woodroffe corridor linking Barrhaven to the Baseline Transitway station presents opportunities for implementing both transit priority measures and transitway staging measures, ultimately leading to the development of the Southwest Transitway.

The opportunity to implement bus only lanes on Woodroffe Avenue has been identified in the Southwest Transitway Extension Environmental Study, the Transportation Master Plan and the Planning and Environmental Assessment Summary Report of the integrated OP review process. However, based on TMP's travel demand projections, the widening of Woodroffe Avenue, initially to accommodate bus only lanes, and the completion of the Southwest Transitway are anticipated in the second half of the planning period from 2002 to 2006 and beyond.

At present, Woodroffe Avenue has one lane per direction south of Slack Road, and two lanes, for the most part, to the north of Slack Road. Until its widening, Woodroffe Avenue will be treated as part of the Transit Priority Network identified in the TMP, for the purpose of monitoring, identifying and implementing transit priority measures involving physical and operational measures to give buses preferential treatment over other vehicles.

Transit priority work on Woodroffe Avenue, between Fallowfield Road and the Baseline Transitway Station, began in 1995, as part of the Transit Priority Task Force program, and a number of traffic signal timing modifications have been made to improve bus operations, particularly to reduce delays for northbound buses turning left to enter the Baseline Station.

Detailed analysis has shown that significant delays to buses and variations in their running times are caused by long queues of northbound traffic extending southward from the Meadowlands intersection. Consequently it was determined that the introduction of a northbound bus only lane over a short section of Woodroffe Avenue, between the CNR crossing and Meadowlands Drive, would be of benefit to bus operations on Woodroffe Avenue.

The introduction of this bus only lane requires the widening of Woodroffe Avenue between the CNR crossing and Norice Street, and designating the new curb lane and the existing curb lane from Norice Street to Meadowlands Drive as a bus only lane. This report summarizes the justification for the bus only lane and describes the proposed modifications to the roadway cross-section.

DISCUSSION

Four peak period routes (# 70,73,76 & 77) and three regular routes (# 170,173 & 177) operate on the five kilometres section of Woodroffe Avenue between Fallowfield Road and the Baseline Transitway Station. Additional peak period routes and regular routes also operate on Woodroffe Avenue, but all of them to the north of Vaan Drive.

Northbound buses entering the Baseline Station include 26 express buses and 29 regular route buses during the morning peak hour, while about the same number of buses leave the station in the southbound direction in the afternoon peak hour. Peak directional passenger volumes exceed 1000 per hour for the express buses, and 500 per hour for the regular route buses, during the morning and afternoon peak periods.

Peak hour, peak directional vehicular traffic volumes on Woodroffe Avenue are under 1000 vehicles per hour (vph) south of Hunt Club Road, but increase by over 20% north of Hunt Club Road, and by a further 30% north of the intersection at Knoxdale Road. Between Knoxdale Road and Meadowlands Drive, traffic volumes are around 2000 vph both for the AM Peak Hour, in the northbound direction, and for the PM Peak Hour, in the southbound direction.

The section between Knoxdale Road and Meadowlands Drive is the most critical section for bus operations on Woodroffe Avenue, particularly in the AM peak period given the high peaking characteristic that was observed during the morning travel period, as well as the heavy left turn movements at both the Knoxdale and Meadowlands intersections.

Roadway cross-section in the northbound direction changes from two lanes south of Norice Street, to three lanes between Norice Street and Meadowlands Drive, and back to two lanes north of Meadowlands Drive. The curb lane between Norice Street and Meadowlands Drive is highly under-utilized, as vehicles and buses tend to stay on the two inside lanes right through this section.

Field observations during the morning peak period have shown northbound buses running into a bottleneck north of Knoxdale Road, getting trapped in queues extending from Meadowlands Drive as far south as the CNR crossing, and a number of them missing the green interval at either the Norice Street or the Meadowlands Drive traffic signals. Delays experienced by buses in this section of Woodroffe Avenue increase both the length and the variation of bus running times, which in turn affect service reliability and create the need for additional buses to meet scheduling targets.

By introducing a northbound bus only lane between the CNR crossing and Meadowlands Drive, and appropriately modifying traffic signal timings, a larger proportion of buses can be guaranteed to arrive on a green indication at all the traffic signals between Knoxdale Road and the Baseline Transitway Station. With this arrangement, buses can travel relatively unimpeded in the curb lane until they reach the intersection at Meadowlands Drive, and leave the other two lanes exclusively to vehicular traffic. North of Meadowlands Drive, buses will be able to change lanes and enter the left-turn lane in time for the lagging left-turn arrow at the Baseline Station intersection.

The main benefit to bus operations will be the reduction in average running time, which would enable a one minute reduction in the schedule time for the morning peak period buses, and the saving of one bus annually, on average, from two of the four main booking periods. This amounts to an annual cost saving of \$50,000 to \$75,000, which would enable the recovery of the estimated cost of introducing the new bus only lane, \$335,000, in about four to five years.

DESIGN PROPOSAL

The east side of Woodroffe Avenue will have to be widened by a lane from the north side of the CP Rail railway structure to Norice Street in order to provide for the northbound bus only lane operation.

In accordance with the initiatives set out in the Draft Transportation Master Plan when a bus only lane is introduced on a section of Regional Road and where it is not possible to accommodate buses and cyclists separately, a shared-use curb lane shall be provided to appropriate standards.

This design provides for the construction of a 4.2m lane widening on the east side of Woodroffe Avenue. A 2m concrete sidewalk will be constructed immediately adjacent to the new curbline.

The lane widening at Norice Street will require modifications to the existing traffic control plant at this location and the relocation of the Nepean Hydro pole line.

The introduction of the northbound bus only lane will not impact traffic operations.

COST ESTIMATE

The following cost estimates are at a preliminary design level stage and are provided for the information of the Transportation Committee and Regional Council.

<u>Item</u>	<u>Cost Estimate</u>
Construction	190,000
Engineering	50,000
Traffic Control Plant	45,000
Utilities	35,000
Contingency	15,000
Total	335,000

ENVIRONMENTAL ASSESSMENT

Regional Road modifications required to provide localized operational improvements are identified as Schedule “A” projects under the environmental assessment process for municipal road projects. This proposed undertaking is limited in scale, will not result in greater traffic or any adverse environmental impacts.

Schedule “A” projects are deemed to be approved projects and, as such, subject to all other approvals, the proponent may proceed to the design and construction stages for the proposed works without further reference to the class environmental assessment planning and design process.

CONSULTATION

The opportunity for general public input will be provided via the public hearing process.

COMMENTS FROM THE REGIONAL CYCLING ADVISORY COMMITTEE

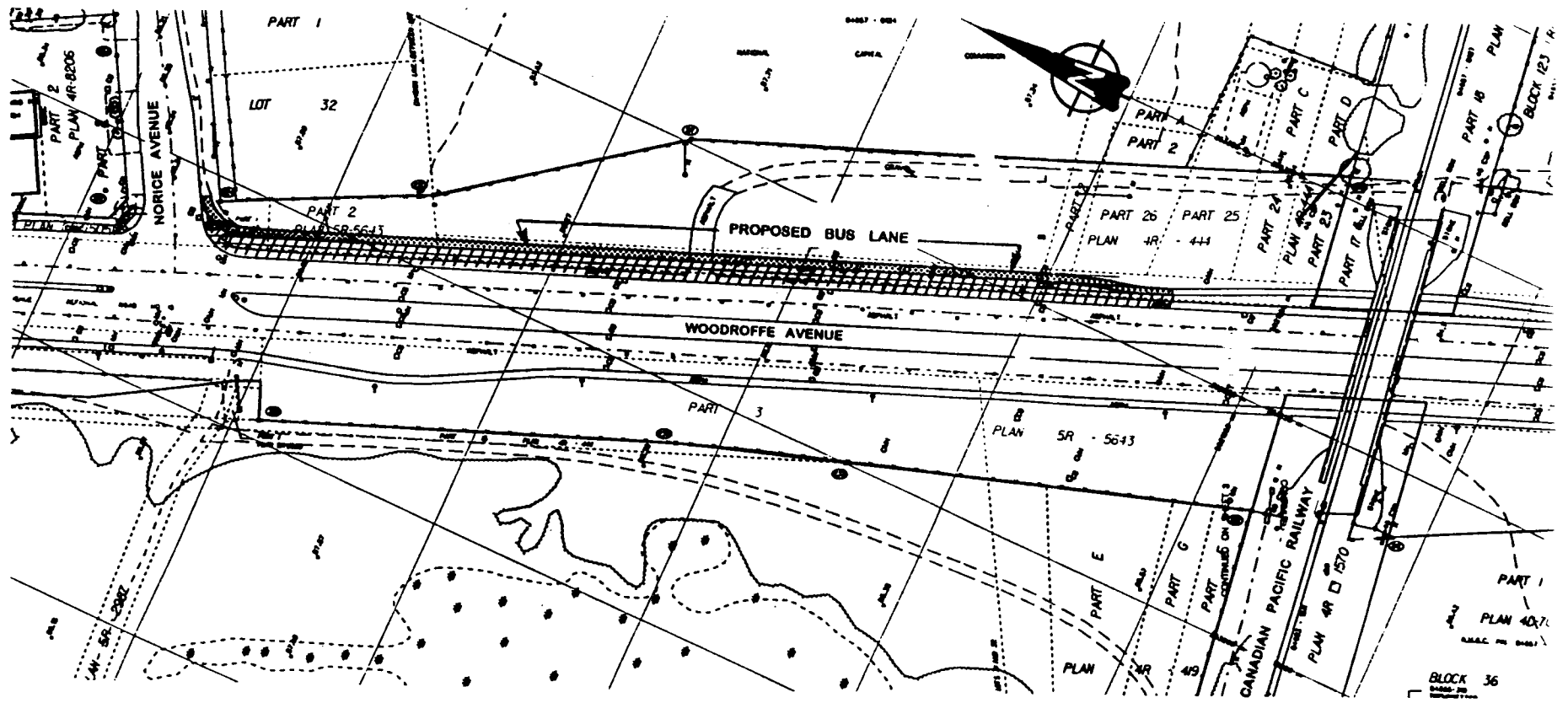
Preliminary design drawings for the proposed construction of the northbound bus lane have been discussed with the Regional Cycling Group (RCAG).

Any comments will be available when this item is considered at Transportation Committee.

Indications are that there is general agreement with the design proposal.

*Approved by
Jim Miller, P.Eng.*

RP/MJR/rk




OTTAWA-CARLETON

Environment and Transportation Department

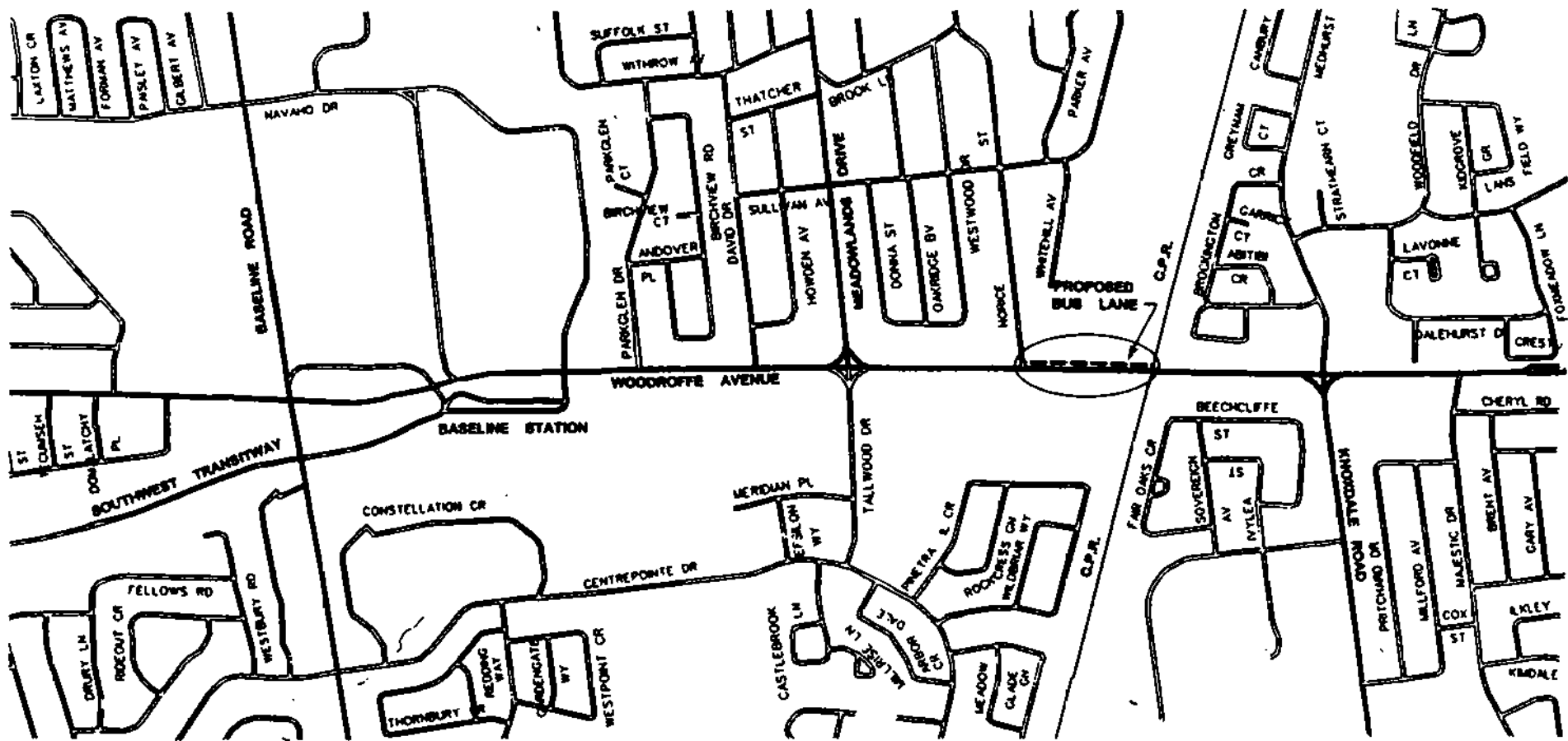
PROPOSED WOODROFFE AVENUE BUS LANE C;P.R. SUBWAY TO NORRICE STREET

Drawn	Checked	Date	Scale
		JUNE 97	N.T.S.

PROPOSED BUS LANE	
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Wayne Bennett P. Eng.
Manager Transportation Projects

RT-2265



OTTAWA-CARLETON
 Environment &
 Transportation Department

WOODROFFE AVENUE NORTHBOUND
BUS LANE
C.P.RAILWAY SUBWAY TO NORCISE STREET

Drawn	Checked	Date	Scale
		JUNE 97	N.T.S.

ENGINEERING DIVISION

W. Bennett, P.Eng.
 Manager Transportation Projects

LOCATION PLAN

RT - 2267