Re: CANADA WAY/RAYSIDE AREA TRAFFIC ACCESS

Following is the report of the Director of Planning dated August 20 regarding the above.

The Municipal Manager has included Appendix II as an In-Camera item and it is not included with this report, even though it is referred to on page 160.

The Municipal Manager concurs that if we proceed with any corrective work, we should proceed with Option "C". If we are able to only acquire the widening strips from the properties on Canada Way, rather than acquire the entire properties as included in the estimate in the report, the costs for Option "C" could drop by approximately \$140,000. This may be optimistic, but the point is, the costs for Option "C" as reflected in this report item are probably about \$100,000 greater than it will cost when the project is completed. There also, of course, may be funds received from the Province, and this would reduce our costs even further.

It seems prudent therefore, to await a response from the Province with respect to cost-sharing before consideration is given to a commitment of this project. Further, it is desireable to see what the Transportation Committee reports in the way of priorities on the projects covered in the "Comprehensive Transportation Plan", because the financing of those projects could indeed affect this project. The Municipal Manager therefore feels that while he would be prepared to recommend Option "C" if any work is going to be done, he cannot make a specific recommendation until such time as he has heard from the Province as to cost-sharing and the Transportation Committee as to priorities of major transportation projects.

RECOMMENDATIONS:

- 1. THAT recommendation #2 of the Director of Planning be adopted; and
- 2. THAT recommendation #1 of the Director of Planning be tabled for consideration after we have received advice from the Province with respect to cost-sharing of Option "C" and the Transportation Committee's recommended priorized implementation programs as outlined in recommendation #5 of the Committee's report; and
- 3. THAT the petitioners be advised of the action taken by the Municipal Council in this respect.

TO:

MUNICIPAL MANAGER

PLANNING DEPARTMENT 1979 August 20

FROM:

MUNICIPAL ENGINEER DIRECTOR OF PLANNING

Our File: 08.640

SUBJECT CANADA WAY/RAYSIDE AREA TRAFFIC ACCESS

RECOMMENDATIONS:

- 1. THAT in the event Council deems it appropriate to proceed with this matter that Option "C", which would involve the reconstruction of the Canada Way/Rayside Avenue intersection, be approved at a total cost cost of \$456,390; and
- THAT application be made to the Provincial Ministry of Transportation, Communications and Highways for assistance relative to the necessary property acquisitions and construction of the road widening as outlined in the following report.

BACKGROUND

On 1979 April 30, Council requested a report on alternative means of solving the access/egress problem from the Canada Way/Rayside Avenue area neighbourhood north of Canada Way. This matter had been previously brought before Council and the Traffic & Safety Committee by residents of the north side of Canada Way (refer to Appendix I attached).

REPORT

PLANNING DEPARTMENT Canada Way/Rayside - Access 1979 AUGUST 20 - page 2

The residents of this area presently have access to Canada Way at Sperling, Clayton and Rayside Avenues. None of these points, however, permit easy left turns for residents wishing to travel eastbound on Canada Way due to the heavy volumes on Canada Way. There are approximately seventy dwelling units involved, not counting those on Canada Way. Existing Community Plans would permit the growth of approximately 80 additional units at R8 densities.

The eastbound residents leaving the area had been in the habit of coping with this problem by turning right out of Clayton or Rayside, travelling westbound on Canada Way to Sperling, Chiselhampton or Rugby Streets, then turning left and circulating through the neighbourhood and finally turning right (eastbound) onto Canada Way.

With the installation of barriers on the streets south of Canada Way, this movement is hindered, although there is space available to turn left into Chiselhampton or Sperling, turn the vehicle around and turn right onto Canada Way proceeding east. Thus eastbound movements onto Canada Way from this north side area are still similar to the situation before the barriers were put up, which is recognized as being an inconvenient and awkward traffic movement.

ALTERNATIVES

Alternatives to the present situation involve providing the residents of this residential area north of Canada Way access to the existing traffic signal at Burris and Canada Way via a new link road; or secondly, reconstructing the intersection and installing a new traffic signal at Canada Way and Clayton Avenue; or thirdly, reconstructing the intersection at Canada Way and Clayton Avenue to permit left turn storage without the installation of the traffic signal.

Other alternatives which have been considered and are discarded -

- Installation of a signal without widening Canada Way which would have caused severe congestion on Canada Way.
- · Investigation of alternative alignments to construct a link road none of which was feasible.
- · Alternative signal locations.

A. LINK ROAD OPTION (Refer to attached Map #2)

A number of alternative road alignments to link Rayside with Burris have been investigated. If this roadway were to be constructed, the preferred alignment would connect the north end of Rayside Street with the north end of Burris Street by constructing the link road along the old B.C. Hydro inter-urban railway right-of-way, between the Trans Canada Highway and the housing development (R.Z.#61/75) which is presently under construction. This alignment would retain a buffer of trees along the freeway which would assist in protecting the residential areas from the noise generated by the freeway and is lower in cost than a frontage road along the freeway.

The Municipal Engineer anticipates that a 7.3 m (24 ft.) two-way roadway with curbs, drainage and lighting could be constructed.

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A. Link Road Option - cont'd.

One property occupied by a home at the north end of Rayside Street and a portion of an adjacent property would be required to gain access to the existing Hydro right-of-way, which would carry the new road to the north end of Burris Street. The roadway would jog north of the Park to save the parkland and discourage through westbound traffic from coming through the area from 6th Street.

B.C. Hydro has indicated that they would be prepared to consider offers from the Municipality for the purchase of the property involved (refer to attached Appendix II). This alignment is preferable to constructing a frontage road adjacent to the freeway in terms of retention of trees and cost of construction.

The estimated cost of Option "A" is \$483,000.

TRAFFIC SIGNAL OPTION - CANADA WAY AND CLAYTON AVENUE (Refer to attached Map #3)

The appropriate location for a signal to serve this area would be at Clayton Street and Canada Way in terms of spacing from existing signals and the fact that Canada Way is straight in this area.

The signalization of this intersection would involve several steps -

- a) Improving the grade to raise the level of Clayton Street closer to that of Canada Way.
- b) Acquiring one property to improve the angle of the intersection.
- c) Acquiring property to widen Canada Way to permit the construction of a left-turn storage bay for traffic turning into Clayton Street.
- d) The Rayside Street/Canada Way intersection could be closed to channel traffic to the signalized intersection.

The estimated cost of Option "B" is \$486,390.

C. ROADWAY WIDENING OPTION ON CANADA WAY

Another option lower in cost, effectiveness and impact would be to widen Canada Way to provide a fifth lane in the centre of the roadway.

This area would provide a median which would permit cars turning left into Clayton to use the median as a storage area without stopping the two eastbound lanes of traffic. Residents turning left onto Canada Way (eastbound) could use the median as a waiting point or acceleration area to merge with the eastbound traffic, making the left turn out of Clayton easier.

Right turns out of Clayton would remain as now unless further widening on the north side of Canada Way were provided to give an acceleration area.

If this intersection improvement is implemented, the Municipal Engineer would be asked to consider the advisability of limiting access and egress at the Canada Way and Rayside Street intersection to right turn in and right turn out only.

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C. Roadway Widening Option - cont'd.

The widening of Canada Way on the north side would require a considerable amount of fill and the construction of retaining walls. The intersection design would be basically the same as with the signal option, but without the actual traffic signal.

The estimated cost of Option "C" is \$456,390.

ASSESSMENT OF ALTERNATIVES

The <u>attached</u> Tables 1 and 2 illustrate that there are differences in the impacts of the three alternatives.

Construction of the link road would service eastbound movements by providing access to the existing signal at Burris Street. Unless left turns off or on to Canada Way were banned, not all traffic coming and going from the neighbourhood would use the new road link. The level of access to the neighbourhood is lower or more difficult if the road option is considered and slightly higher if a complete traffic signal at Clayton Street is installed.

If the road solution is implemented, it would tend to dampen the redevelopment opportunities in the area. It would be appropriate to revise the existing Community Plan, which now permits R8 densities, to permit only the construction of single family homes as the increase in population in this neighbourhood would aggravate the traffic problems at intersections such as Sperling, Clayton, Rayside and Canada Way.

The construction of a new link road would provide an alternative route for residents, however, it is likely that not all vehicles would take this more circuitous trip to reach homes in the area from Canada Way. In this sense the provision of the roadway would only be a partial solution to the problem. It would be possible, however, to ban left turns in and out of Rayside, Clayton and Sperling to encourage use of the link road. The link road option would not assist in promoting redevelopment in the area as the access route would be lengthy.

Option "B", the full signalization of the Canada Way/Clayton intersection, provides a positive connection between the neighbourhood and the Canada Way corridor. This solution would, however, result in the congestion of Canada Way and a loss of capacity, particularly for eastbound traffic which is continuously leaving the Sperling/Canada Way intersection. This route has now been recommended by the Transportation Committee as a primary arterial.

Were it not so important to maintain the primary arterial function and highest possible capacity of Canada Way, the proposed signalization of the Clayton Street and Canada Way intersection would provide the better means of access, from the viewpoint of the neighbourhood.

The role of Canada Way as a primary arterial route is one of the keys to evaluating the appropriateness of a signal at Clayton Street. Different signalization methods could be employed but all alternatives would reduce both the westbound and eastbound capacity on Canada Way to varying degrees if all turning and pedestrian movements are to be accommodated. For this reason the Ministry of Transportation, Communications and Highways has opposed the installation of a signal, which presently does not meet the volume "warrants" and would not be expected to in the future even if the neighbourhood became fully developed.

The installation of a signal would assist in promoting redevelopment plans in the area, by improving the access.

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Option "C", roadway widening, is less effective than a full traffic signal; however, the solution would not congest Canada Way and the left turn movement of vehicles in and out of Clayton Street would be facilitated. The Municipal Engineer has been advised by the Ministry of Highways that the planned upgrading of the signal at Burris Street and Canada Way will result in a 15 second period per cycle when no westbound traffic on Burris and turning that intersection, save the small volume coming south in providing gaps in the westbound flow past Clayton to enable use of the island provided by Option "C".

The Ministry's staff have reviewed a sketch of Option "C" on Canada Way and have indicated that they would not oppose this type of project; however, they indicated that the land acquisition and construction costs would basically have to be borne by the Municipality as it would not be one of their priorities. However the possibility of obtaining assistance either with land or construction costs may exist.

Option "C" would not have a strong impact on the rate of redevelopment as access would be improved to a lesser degree than with the signal option.

COSTS AND SOURCE OF FUNDING

Further study of land acquisition and construction costs for the alternatives has resulted in higher cost estimates being prepared than those originally presented to the Traffic and Safety Committee. Discussions have taken place with B.C. Hydro, and normal roadway and intersection standards have been employed for the designs except for the roadway link which is slightly substandard in width of pavement.

Judgments have been made by the Legal and Lands Department and Planning Department staff with regard to acquisition of properties for Options "B" and "C" which involve road widening on Canada Way. In several cases this will involve purchase of entire homes when only seven feet of land will be needed. These acquisitions are anticipated because the widening would bring the roadway very near existing dwellings. These costs could be lower if total acquisitions can be avoided. Recapture of costs upon sale of the lots would also be possible, however this benefit has not been evaluated.

The Municipal Treasurer has indicated that funds to acquire land and construct roadworks for this project could be borrowed from the Tax Sale Moneys Reserve Fund and repaid through the C.I.P. budget over a ten-year period at a 9% interest rate.

SUMMARY

Three Options have been evaluated:

- "A" Construction of a new link roadbetween Burris and the north end of Rayside.
- "B" Installation of a signal at Canada Way and Clayton including the redesign of the intersection.
- "C" Widening Canada Way at Clayton as in Option "B" to permit left-turn storage (same as Option "B", without signal).

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Summary - cont'd.

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In terms of impact, all solutions require acquisition of residential property either along Canada Way or at the north end of Rayside.

All three solutions are relatively costly and only Option "B" absolutely solves the access/egress problem to the neighbourhood; however, the resultant congestion of Canada Way resulting from such an installation would be serious in the light of the Transportation Committee's recommendation that Canada Way be designated a primary arterial. For this same reason, the Ministry of Transportation, Communications and

The link road solution has the advantage of providing a link between the neighbourhood and an existing traffic signal at Burris Street and Canada Way. This solution would not negatively affect the capacity of Canada Way. The link road would, in effect, make the neighbourhood into a rather long cul-de-sac which would be inconvenient for residents returning home from destinations to the west of the neighbourhood.

The widening of Canada Way without the installation of a signal would be an improvement for users of Clayton Avenue. Left turns would still have to cross Canada Way, but the improved geometry and protection offered by the traffic island would improve the ease of this movement for vehicles entering and leaving Clayton Avenue.

In the light of the numerous aspects of this problem, the preferred alternative is Option "C" - to reconstruct the Canada Way/Rayside Avenue intersection to facilitate left turn movements in and out of Rayside.

Staff would question whether or not costs of this magnitude would be justified in this case, relative to other Municipal priorities; however, in accordance with the request of Council, this report has evaluated the alternative means of improving access to this neighbourhood and the recommendations have been prepared in this context.

A. L. PARR DIRECTOR OF PLANNING

E. E. OLSON

MUNICIPAL ENGINEER

BR:1f Attachments

cc: Municipal Treasurer

	Solves Problem of Access	Impact of Solution on Canada Way Capacity	# of Residential Properties to be Acquired	Positive Benefits e.g. Redevelopment	Impact on Trail System or Parks	Side Effects of Solution	Expressed Views of Residents Clayton/Raysid	Ministry of Transportation, Communications & Highways Le	Time Required to Construct
OPTION "A" ROAD	Yes, but some traf-fic will continue to use existing streets to avoid longer trip	No negative impact	l plus portion of second	*Minimal benefit as access would be indirect	Minor con- lict with trail system	Some through traffic would use road as "shortcut"	Support road as interim measure	Support road	Fair
OPTION "B" TRAFFIC SIGNAL	Yes	Negative impact as Canada Way traffic would be impeded	**Portions of 7 for wid- ening on Canada Way (subject to final de- sign).	Would tend to promote new develop- ment. Provides pedestrian signal to cross Canada Way	No negative impact	Road clo- sure at Rayside desirable	View signal as ultimate solution	Opposed to signal	Fair-Poor (land acquisition)
OPTION "C" WIDEN CANADA WAY	Only partially improves situation	No nega- tive impact	Land re- quired same as for sig- nal option "B"	Similar to "status quo" would slightly enhance dev- elopment potential	No impact	No impact	Not known	Not opposed	Fair-Poor (Tand acquisition)

^{*} If this course is pursued, it would be appropriate to change the existing Community Plan to single-family zoning to avoid increasing the traffic problem.

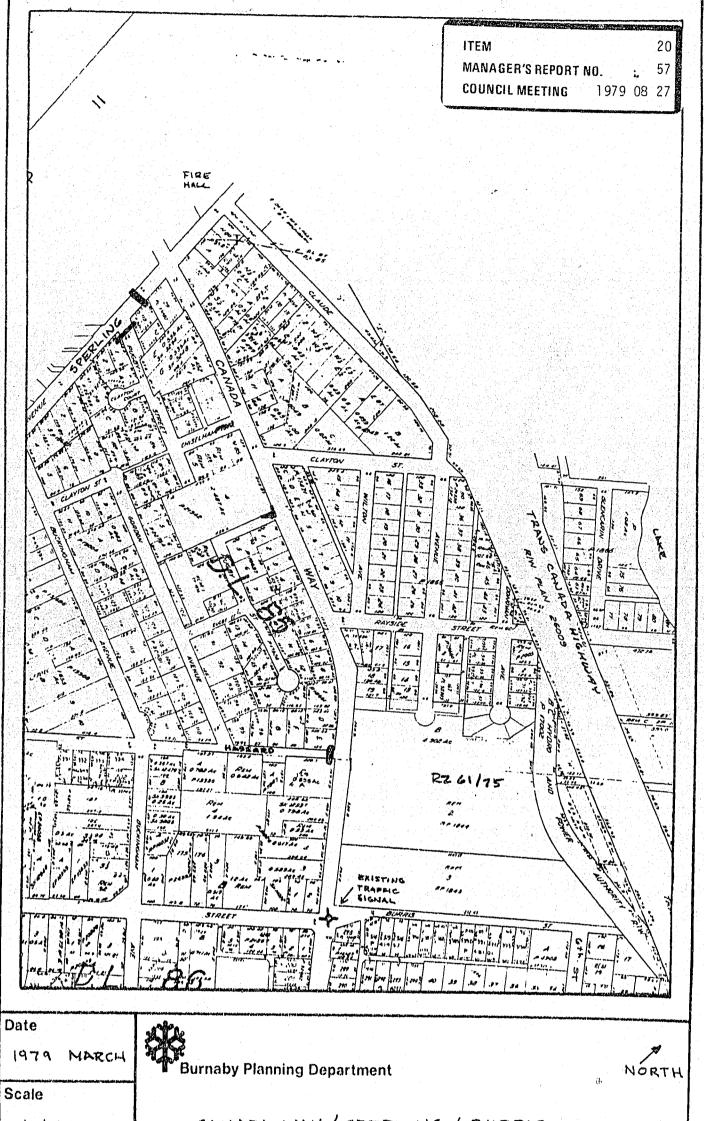
** Would involve entire properties in several instances.

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	LOCATION	PRESENT USE	ESTIMATED COST	SOURCE OF ESTIMATE	COMMENT
OPTION "A" ROAD ROAD	Rayside Avenue) Donovan Avenue) Hydro Right-of-Way Construction estimate for 7.3 m (24 ft.) with storm sewer and lighting.	House) Backyard) Vacant (3.47 ac.) Land Total TOTAL	\$ 90,000 227,000 \$ 317,000 \$ 166,000 \$ 483,000	Legal and Lands Department estimates; based upon total R.O.W. purchase at \$1.50/ sq.ft. Engineering Department	Little or no potential recapture if extra land is sold off.
OPTION "B" TRAFFIC SIGNAL (CANADA WAY & CLAYTON STREET)	Widening on Canada Way (land) refer to Appendix II. *Reconstruction of intersection Signal installation, with approach warning	Residential	\$ 251,390 205,000 30,000 \$ 486,390	Legal and Lands Department Engineering Department Engineering Department	Some recapture by selling remainder of lots possible.
OPTION "C" W I D E N CANADA WAY	Widening on Canada Way (land) *Construction	Residential	\$ 251,390	Legal and Lands Department Engineering Department	As for "B" above.

^{*}Costs include road and sidewalk reconstruction, relocation of power poles, construction of traffic islands, drainage works and retaining walls.



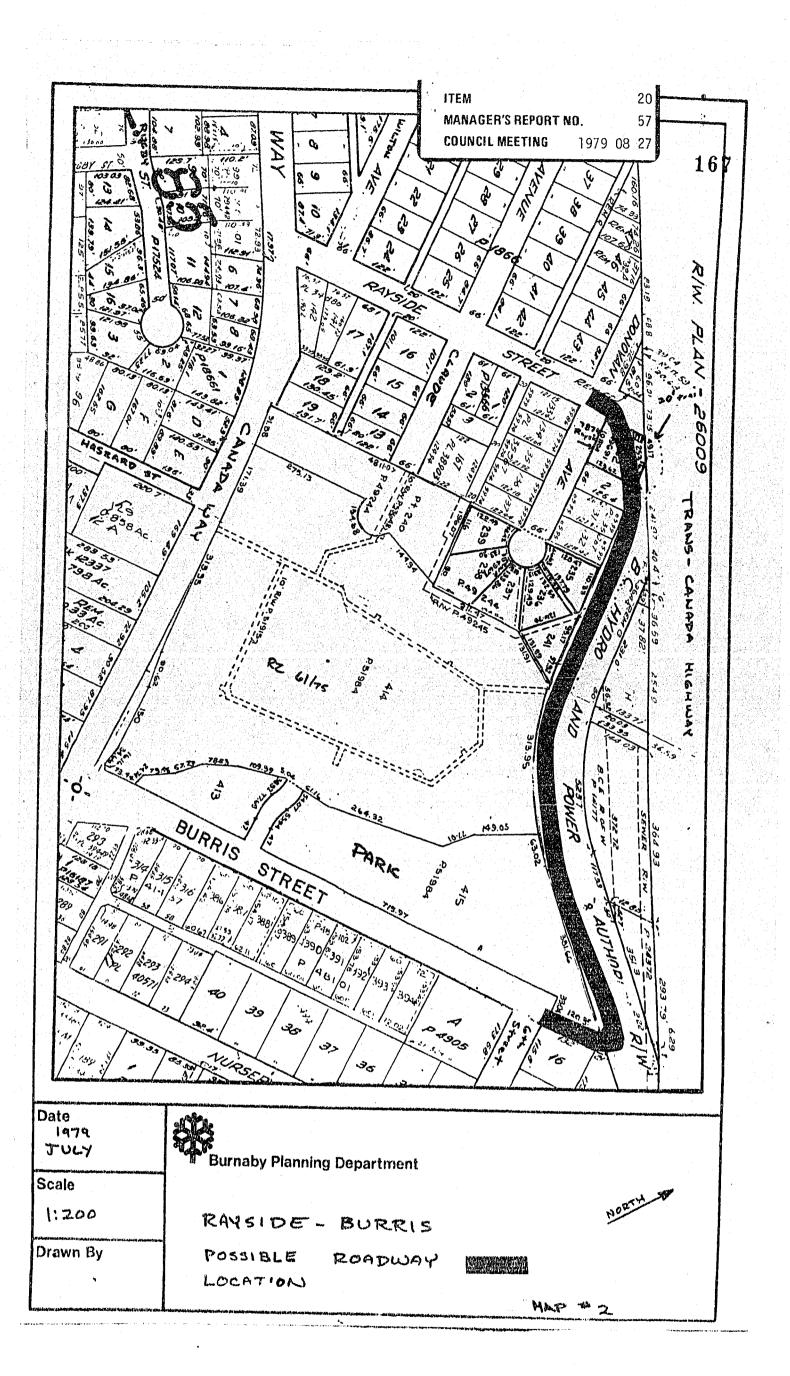
Scale

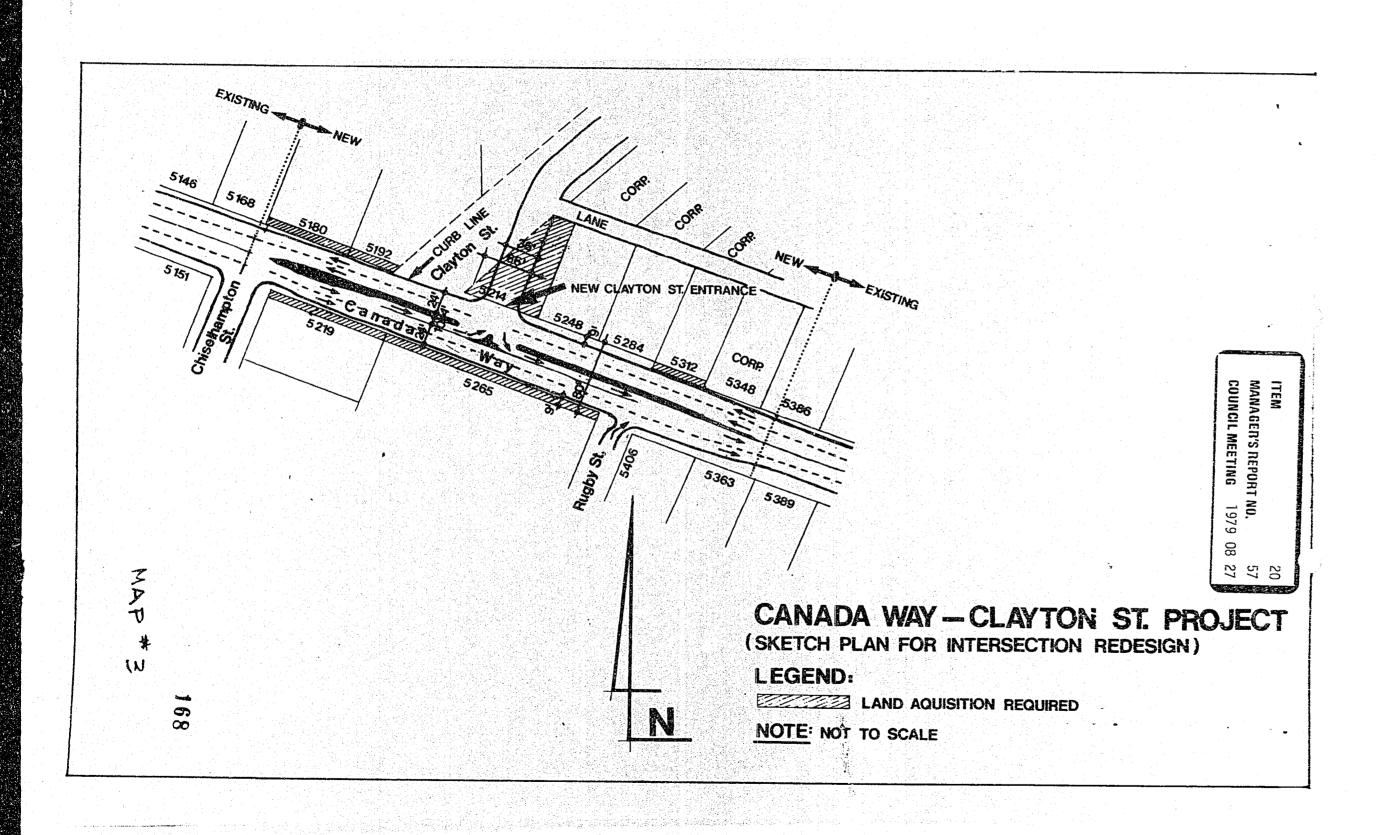
1:400 CANADA WAY SPERLING BURRIS

Drawn By

MAP # 1

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MANAGER'S REPORT NO.

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APPENDIX I

EXCERPT FROM: TRAFFIC AND SAFETY COMMITTEE REPORT

REPORT

Regular Council Meeting

ACCESS AND EGRESS FROM RAYSIDE/CLAUDE AVENUE NORTH OF CANADA WAY

1079 April 30

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Recommendation:

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Your Committee would recommend:

- 1. "THAT Council deny the requested signal at Canada Way and Clayton Avenue due to the lack of the required warrant.
- 2. THAT Council approve either Scheme "A" or "B" as an alternative route to Burris Avenue.
- 3. THAT the petitioners be sent a copy of this report."

The Municipal Engineer prepared a report on this matter which reads as follows:

"As directed by the Traffic Safety Committee, we have checked into the possible alternatives that have been suggested to provide a vehicular route from the captioned area easterly to connect to Burris Street.

1. Parallel to and in front of or behind the existing berm along the north side of Canada Way

We have had to discount this route for a number of reasons.

- (a) There is no room either in front of or behind the berm for a roadway.
- (b) Its connection to Burris Street is too close to the corner of Canada Way and would present operational problems.
- 2. Directly off the end of Claude Avenue

It is physically possible to skirt to the north of those units presently constructed and the into the main entrance driveway to One Arbor Lane, however, it would destroy a number of potential building sites and call for a possible adjustment of others.

3. Extension of the lane north of Claude Avenue

This scheme would involve the relocation of proposed building sites, a procedure that would be complicated as existing underground utilities are already in.

This scheme as with schemes I and 2 would require the consent of the developers of One Arbor Lane.

4. Use of pedestrian walk at the end of Donovan Avenue

There is insufficient right-of-way available for this proposal. Properties on either side have already been developed with duplex housing.

5. Use of the Hydro right-of-way or land immediately to the north.

These are shown as alternatives "A" and "B" on attachment Figure I

On Figure I we have shown two possible alignments for a link road from Rayside to Burris, more or less paralleling the Freeway. Although the municipality owns a strip of land approximately 20 feet wide with street address 7894 Rayside, we do not think that this land is of sufficient width to put through a link road which would have to function as a minor collector. A site visit suggests that it would not be possible to augment this 20 foot right-of-way by encroaching onto the Freeway right-of-way because of crossfall. At the location in question the Freeway right-of-way boundary is at the top of a fairly steep slope

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which falls from the right-of-way to the drainage ditch running on the south side of the eastbound carriageway. There is evidence to suggest that this slope is unstable and may be susceptible to failure from any loading placed near the top edge of the slope and thus major work probably be required with respect to any road that approaches or encroaches on the Freeway right-of-way. Therefore, it would be necessary to purchase the corner property at 7874 Rayside (5530 Donovan Avenue) in order 70 put through a road, as well as acquire a wedge of property from the back of 5568 Donovan, as shown in Figure I-A: western portion. This property could possibly be acquired via a land swap for some of the residential land acquired with respect to 7874 Rayside.

It is not clear which of the alignments we have shown is preferable with respect to the planning goals in this area. The southerly most alignment takes a greater element of parkland lying north of Burris, however, it does provide greater scope with respect to siting the linear park trail. It may also provide for the least impact with respect to removal of trees which to some extent screen the Freeway from the development to the south.

The Planning Department would comment that the actual design of any road link, either option A or B, will need to incorporate the park trail system link through this area, thus, the design could vary slightly from the two alignments illustrated in the report.

The standard of road would be 6.7 metres (22 feet) wide with asphalt curbs.

The total estimated costs for Scheme "A" including construction and property acquisition costs is \$215,000.00.

The total estimated cost for Scheme "B" including construction and property acquisition costs is \$199,000.00.

6. Signalization of Canada Way at Clayton Avenue

While it has been suggested that the above intersection be signalized, the Ministry of Highways have refused to do so because of the absence of the required warrants and because such a signal could only generate further operational problems on Canada Way. In this regard we must agree with the opinion of the Ministry of Highways. However, if approval was granted to go ahead with such a signal we feel that additional measures over and above signal installation are necessary. The existing Clayton leg to the intersection not only comes in at a bad angle but the approach grade is undesirable. Clayton should be turned to approach Canada Way at a right angle with improvements to the approach grade. This would require the purchase of 5214 Canada Way. Because of the left turn potential on the eastbound approach on Canada Way it will be necessary to widen Canada Way and provide left turn storage. If this is not done we will experience added congestion to Canada Way similar to that now being experienced at the Burris Street Intersection, a situation that is soon to be corrected by the widening of Canada Way for the provision of left turn channelization.

In the opinion of the Planning Department the provision of a link road through to Burris will improve the access to existing residences of the Rayside area. If the redevelopment of the western area around Clayton to Sperling is considered, the provision of a traffic signal in the Canada Way/Clayton area would tend to promote redevelopment in this area better than the east end Burris road link which would provide a lower level of road service to the general area. In terms of spin off benefits, the signalization would better improve the access; hence the redevelopment potential of this presently underdeveloped western portion of the area would be increased. This would tend to improve the financial returns to the municipality in the longer run, as well as promoting the goal of implementing redevelopment plans for the area.

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The total estimated costs to signalize and improve the alignment of Clayton Avenue including property acquisition is \$290,500.00.

Respectfully submitted,

Alderman D.P. Drummond, Chairman

Alderman W.A. Lewarne

Alderman D.M. Mercler

RDS:sb

Fig 1

A: WESTERN PORTION

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B EASTERM PORTION

- FREE WAY . R/W

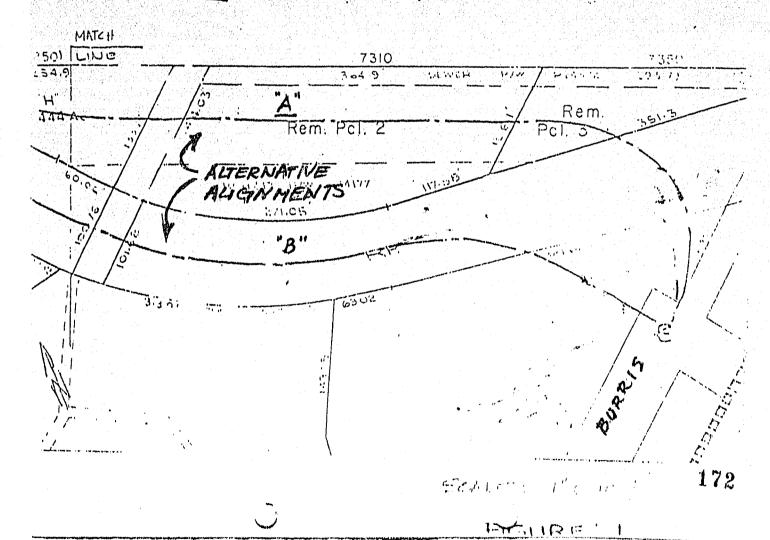


FIG 2 FROFFORED SIGNALIZED JUNCTION MO CAMADA WAY & CILAYTON ITEM 173 MANAGER'S REPORT NO. 57 REPORT COUNCIL MEETING Regular Council Meeting 1979 April 30 1979 08 20 51.65 B2.35 E01 0.54. PETAY (2,150) 2402 100 MUNICAAL, OWNED SIND 18 N. 05. REBY. S

