

RE: TRAFFIC IMPLICATIONS OF CHURCH DEVELOPMENT
CENTRAL ADMINISTRATIVE AREA

ITEM 6
MANAGER'S REPORT NO. 62
COUNCIL MEETING 1983 10 17

MUNICIPAL MANAGER'S RECOMMENDATION:

1. *THAT the recommendation of the Director Planning & Building Inspection be adopted.* * * * * *

TO: MUNICIPAL MANAGER 1983 October 11
FROM: DIRECTOR PLANNING & BUILDING INSPECTION Our File: 08.126
SUBJECT: CENTRAL ADMINISTRATIVE AREA -
TRAFFIC IMPLICATIONS OF CHURCH DEVELOPMENT

RECOMMENDATION:

1. THAT this report be received for the information of Council.

1.0 INTRODUCTION/SUMMARY

Arising out of its consideration of rezoning reference #46/83 (Item 5, Municipal Manager's Report No. 56, 1983 September 19) Council requested "That the statistics relating to traffic in the area of this rezoning application be brought forward for Council's consideration".

Churches typically generate peak traffic demand on Sundays when traffic congestion due to travel demand exceeding road capacity is not an issue. In the Central Administrative Area however the concentration of church uses has apparently been perceived as a concern by the existing church because of potential localized traffic congestion.

Our conclusion is that traffic congestion will not be an issue although coincident peaking of Sunday parking demand may result in some competition for on-street parking space. The issue of parking and congestion is further discussed below.

2.0 CENTRAL ADMINISTRATIVE AREA PLAN: CHURCH DEVELOPMENT

Within the Central Administrative (Planning) Area there are now three church proposals in the rezoning process. In addition Calvary Temple is proposing under existing zoning and over a period of time to triple its congregation seating. Relevant statistics for these churches is shown on Table 1 attached and the specific locations are shown on the plan in Figure 1 attached. It should be noted that these church sites have been/are being rezoned in conformance with the Central Administrative Area Plan. This development plan proposes that land in the area bounded by Canada Way, Spratt and Norland be developed for Community/Institutional use. The uses permitted (under P5 guidelines) include churches, rest homes, schools and institutional housing. The R4 zoned area of the Community/Institutional use triangle shown on Fig. 1 defines the extent to which redevelopment of this area has not yet been completed according to plan.

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3.0 PARKING

3.1 By-law Requirements

The Municipality's Zoning By-law requires that churches provide off-street parking as follows:

"One space for each ten seats plus -

One space for each 19m² (204.52 sq.ft.) of gross floor area used for assembly within a church building or church hall."

The by-law requirement of one off-street space per ten seats is clearly less than the parking demand generated by those ten seats. The Bylaw implicitly recognizes that it would be socially cost inefficient to require churches, a non-peak occasional use in terms of traffic generation to accommodate all their potential parking demand on site. The following factors are relevant to this interpretation.

1. At most services in most churches attendance will be less than seating capacity.
2. Car occupancy of church attendees will be high with considerable shared use of cars being prevalent.
3. The availability of on-street parking on Sundays is usually not a problem because of the low demand for road space by other users (parked and moving cars).

3.2 On-Street Parking

If we assume that the stated seating capacity of a church represents peak demand then the by-law requirement for off-street parking addresses approximately one third of this peak. In the case of the Central Area the extent of competition for parking space on-street will be determined by:

1. The frequency of coincidence of peak demand amongst the various churches.
2. The extent to which individual churches provide off-street parking in excess of by-law requirements (for example the Kingdom Hall is providing 60 spaces whereas only 35 are required).
3. The extent to which designated on site parking capacity is stretched through double parking in aisles, etc.
4. The availability of alternative off-street parking (for example the Calvary Temple may find it expedient to negotiate for the use of normally vacant off-street parking spaces (on Sundays) at the office developments across the road on Norland.
5. The extent to which on-street spaces are available on adjacent streets. In this regard we do not anticipate there would be a warrant for banning parking on Sproutt and Norland on Sundays when those streets are developed to their final standard.

6. The extent to which other uses (primarily residential) compete for on-street parking on Sunday or would object to church goers parking on street and lobby successfully to prevent it.

A quick estimate suggests that if demand peaks occur simultaneously at all four churches then up to 75% of the potentially available on-street parking space (assumed to include Norland, Sunset, Ledger and the south side of Sprott) may be required by church goers.

4.0 TRAVEL DEMAND

As a rule of thumb the combined total of (daily) traffic flows on Saturday and Sunday is equal to the average weekday traffic flow on most roads in the Municipality. Consequently the major road network has ample capacity to accommodate Sunday demand.

In this instance however there has been some concern expressed to Council that the four proposed church developments will create localized congestion. Pending the westward extension of Ledger to Kincaid the major exit for 3 of the 4 churches will be to Sprott via Godwin. Although there would be queuing on Godwin as a result of church goers discharging simultaneously the low Sunday traffic flow on Sprott would ensure ample gaps for the orderly and rapid clearance of the queue. Since we would expect the discharge to occur over an expanded period of a half hour or more the Godwin/Sprott intersection would operate within accepted capacity limitations. Obviously with greater 'staggering' of exiting and the provision of an alternate exit route (Ledger) this situation would be further improved.

We have also considered the impact of church development on Sprott which is the major street that would be most affected. If there were to be a problem then westbound movement in the section of Sprott between Douglas and Godwin would offer the greatest concern. This is because westbound capacity is limited by the intersection at Douglas. Table II and Figs. 2a and b (attached) summarize the relevant traffic count data in this section. The data confirms that on Sundays Sprott carries considerably less traffic than on weekdays when peak hour commuter flows approach practical capacity.

If we assume that all four churches are full and services conclude within the same hour then up to 520 vehicle trips will be generated. If we further assume that half of these trips proceed westbound on Sprott then they would increase Sunday peak hour loading to 360 vehicles per hour. This is approximately three-quarters of the weekday peak hour demand and about 60% of Sunday capacity for the present road configuration. Once Sprott Street is widened to proposed (arterial) standard, the volume/capacity ratio (an indicator of congestion) would be further reduced.

5.0 CONCLUSIONS

Despite the proposed concentration of church development in the Central Administrative Area there will be no adverse impact because of traffic congestion. The extension of Ledger, and the widening of Sprott and Norland will considerably add to the capacity and flexibility for the immediate road network to handle traffic demand. The only possible concern that we can foresee is the competition for on-street parking should there be simultaneous peaks in demand by all of the churches.

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As a broad conclusion we would expect that the designated Community/Institutional area could support further concentration of church uses beyond what is currently proposed. However, pending road network improvements and the experience that will be gained subsequent to implementation of the existing church proposals a greater diversity of Community/Institutional activity should be encouraged.

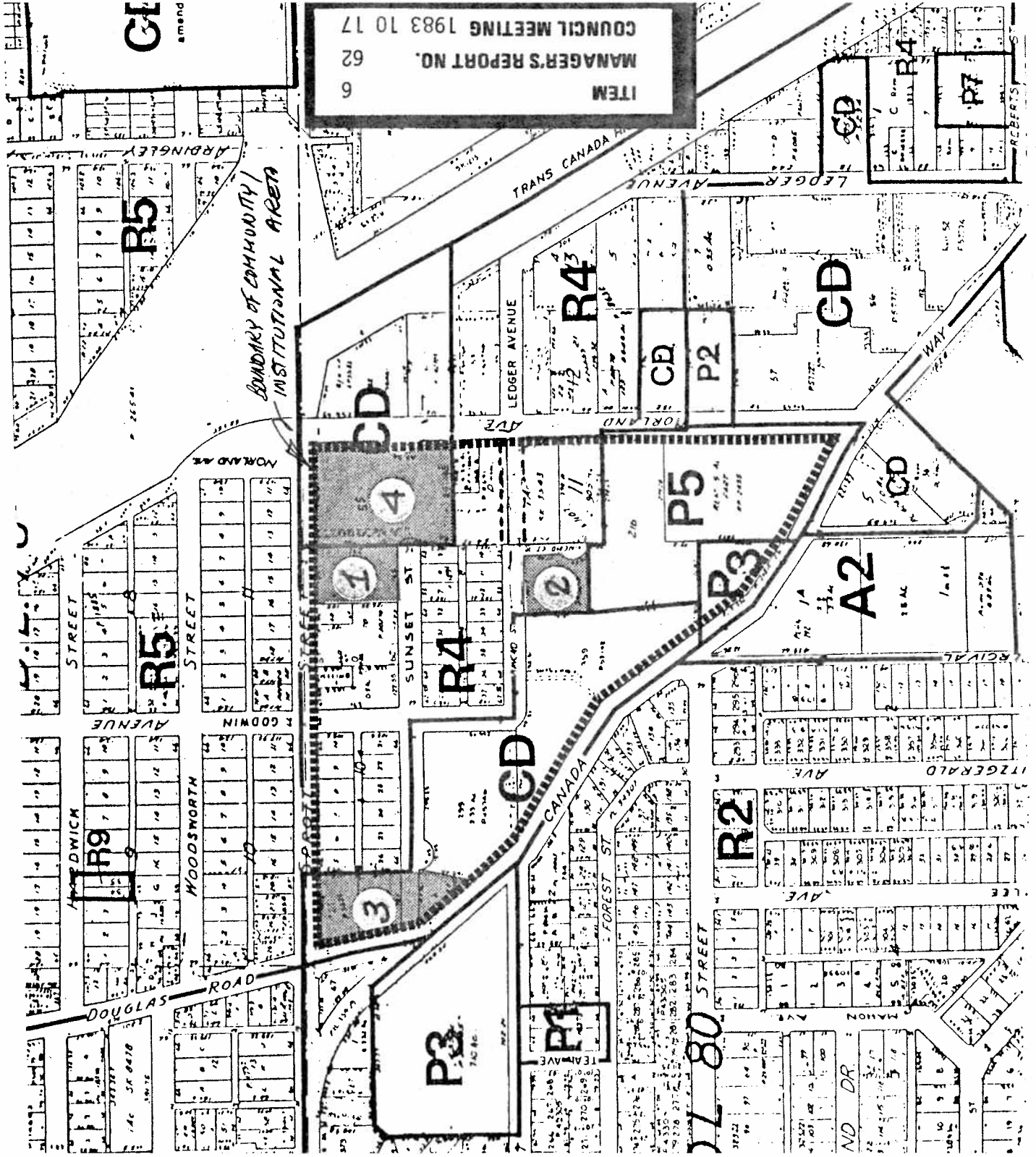


A.L. Parr
DIRECTOR PLANNING &
BUILDING INSPECTION

PL/mcb
Attachs:

cc: Director Engineering

FIG 1 LOCATION OF CHURCHES IN THE COMMUNITY/INSTITUTIONAL AREA (DESIGNATED USE) AREA OF THE CENTRAL ADMIN. AREA PLAN



Church/Address	R.Z. Ref.
1 Kingdom Hall 5976 Sprott	46/83
2 Danish Evangelical Lutheran 4151 Norland	183/81
3 Ukrainian Orthodox 5850 Sunset	26/78A
4 Calvary Temple (Existing) 3905 Norland	15/78

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TABLE I

CENTRAL ADMINISTRATIVE AREA: CURRENT CHURCH DEVELOPMENT

Church Address	RZ. Ref.	Lot Area Sq. Ft.	Site Coverage ¹ Proposed	Sanctuary Seating	Parking ² Required	Parking ² Proposed
1 Kingdom Hall 5976 Sprott	46/83	38,115	9%	310	35	60
2 Danish Evangelical Lutheran 4151 Norland	183/81	33,871	16%	196	24	32
3 Ukrainian Orthodox 5850 Sunset	26/78A	64,469	24%	500	78	79
4 Calvary Temple (Existing) 3905 Norland	15/78	117,481	(11%)	(356)	(37)	(37)
Calvary Temple (Ultimate) 15/78			36%	1264	127	129
Total Proposed Developments						
				1914	264	300

1 Maximum permitted site coverage is 40%

2 Includes loading bay(s) if required and/or provided

TABLE II

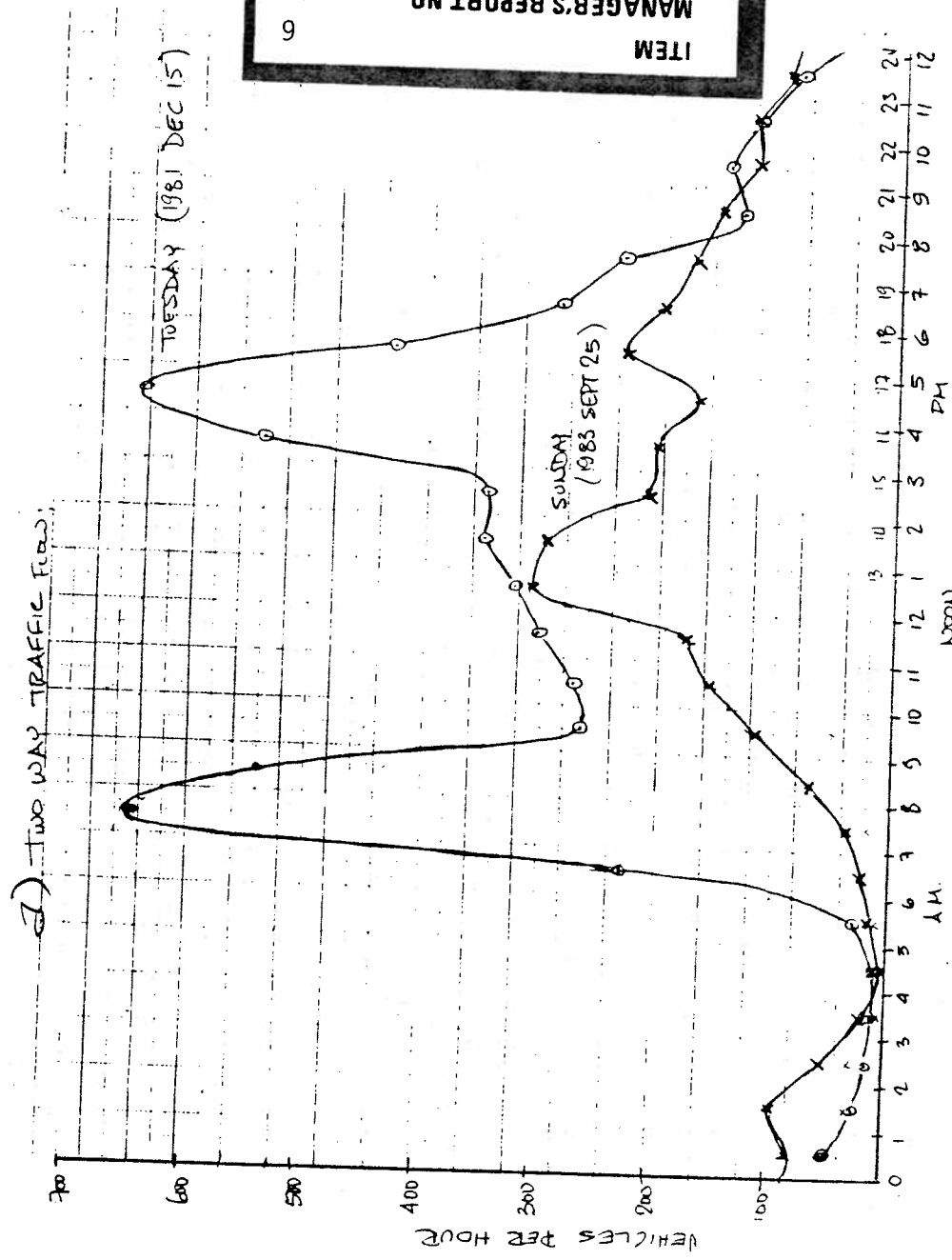
SPROTT: EAST OF DOUGLAS : TRAFFIC COUNT SUMMARY

Date of Count	WEEKDAY			SUNDAY
	1981 Dec. 15	1983 Sept. 24	1983 Sept. 24	1983 Sept. 25
Eastbound				
Peak hour Volume (No.) as % of 24 hour (EB)	15:45 - 16:45 475 17.1%	12:15 - 13:15 175 11.9%	12:30 - 13:30 242 13.5%	
Westbound				
Peak hour Volume (No.) as % of 24 hour (WB)	07:00 - 08:00 477 14.5%	11:15 - 12:15 128 8.1%	17:00 - 18:00 129 9.6%	
Total Flow (EB+WB)				
Peak hour Volume (No.) as % of 24 hour	15:45 - 16:45 699 11.5%	10:45 - 11:45 300 8.3%	12:30 - 13:30 350 11.1%	
Total 24 hour Flow (EB + WB)	6068	3624	3142	

SOURCE:

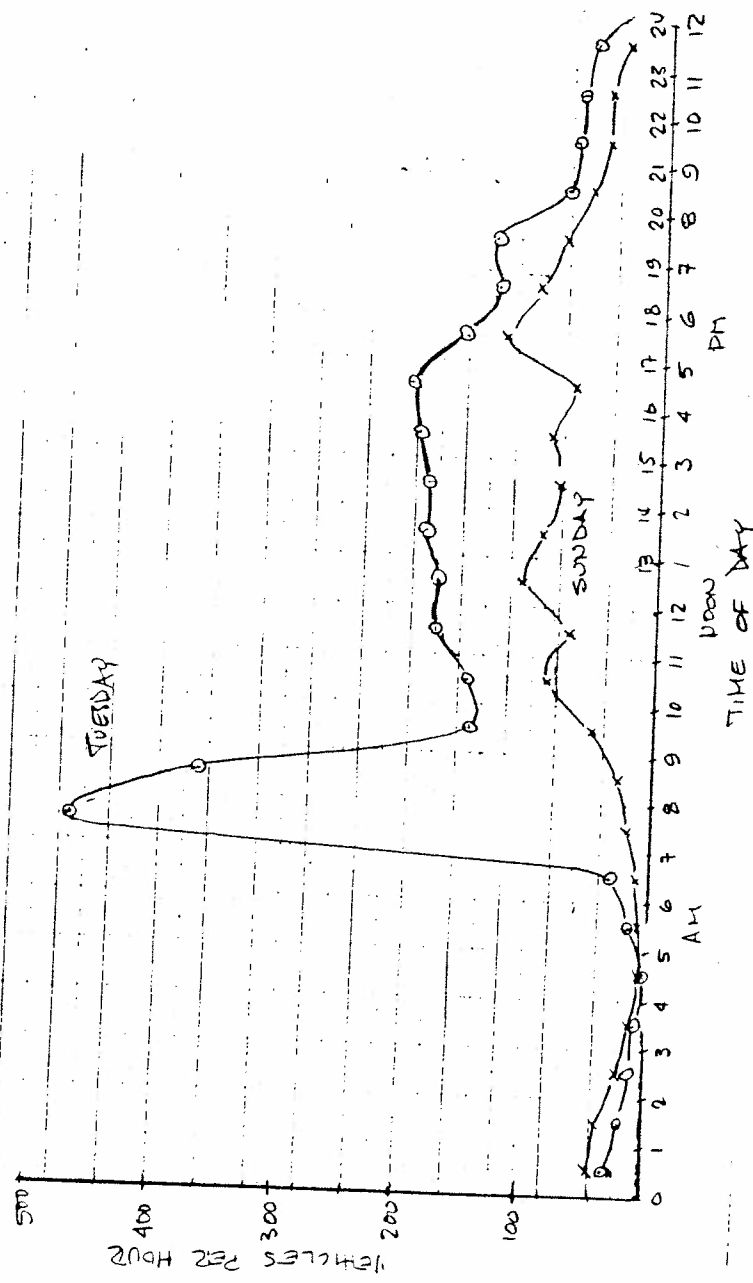
Engineering Department Automatic Count Data

FIG. HOURLY TRAFFIC FLOW BY TIME OF DAY & DAY OF WEEK
SPROTT EAST OF DOUGLAS



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b) Westbound Traffic Flow



SOURCE: ENGINEERING DEPT AUTOMATIC COUNT DATA

