

ITEM 3
MANAGER'S REPORT NO. 6
COUNCIL MEETING 86/01/27

RE: PROPOSED BUS ROUTING ALONG PORTLAND STREET
(Item 14, Report no. 1, 1986 January 06)

MUNICIPAL MANAGER'S RECOMMENDATION:

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

* * * * *

TO: MUNICIPAL MANAGER 1986 January 21

FROM: DIRECTOR PLANNING &
BUILDING INSPECTION

SUBJECT: PROPOSED BUS ROUTING ALONG PORTLAND STREET: COMPARISON OF
ALTERNATIVES (FURTHER TO TABLED STAFF REPORT, MANAGER'S REPORT
NO. 1, ITEM 14, 1986 JANUARY 06)

=====

RECOMMENDATION:

1. THAT a copy of this report and a copy of the report that was tabled on 1986 January 06 (Item 14, Report No. 1) be sent to Mr. T. B. Prentice, 4386 Portland Street, Burnaby, B. C. V5J 2N6.

REPORT

1.0 INTRODUCTION:

At its meeting of 1986 January 06, Council considered and tabled a report (Manager's Report No. 1, Item 14) regarding the proposed routing of the No. 116, Suncrest bus via Sussex and Portland. That report was written in response to the delegation representing Portland Street residents who are opposed to this routing. Council tabled that report pending a further staff report comparing alternatives. This report is intended to provide that comparison.

2.0 ALTERNATIVE ROUTINGS:

For the purpose of this report we have examined three routing alternatives for the Suncrest route as discussed below. One of the options is operationally infeasible but its evaluation has been included for the purpose of comparing route coverage.

2.1 Existing Routing

The Suncrest area is currently served by route 130 as shown on Figure 1. Route 130 extends from the Suncrest residential loop to the Kootney Loop via Metrotown. The Metrotown routing has recently been modified on an interim basis to provide a connection with Metrotown rapid transit station. Because of the length of the existing route, No. 130 buses currently dwell on Marine Drive at Greenall for schedule recovery purposes. With the full integration of South Burnaby routes and rapid transit (now scheduled, for implementation in 1986 March 07), route 130 would be broken into two routes. The Suncrest area would be linked to the Metrotown bus interchange via a

direct routing along Sussex by a 'new' route designated No. 116. Because this route is much shorter than the existing 130, there would be no schedule recovery along the route except at the Metrotown terminus.

2.2 Proposed Routing

Figure 2 shows the proposed routing of the 116 'Suncrest' bus that has been endorsed for implementation as a part of the bus/ALRT integration plan. With this routing, the existing Suncrest (one-way) loop has been extended by routing buses along Sussex from Rumble to Portland and along Portland from Sussex to Patterson. This loop extension has been proposed in order to improve network coverage (i.e., reduce walking distance to bus stops along the route). As discussed in the tabulated staff report, the principal drawback to this proposal is that it utilizes a local residential street (Portland) has not been used previously by buses. Between Patterson and McKay, Portland Street is finished to a 28 foot standard and between McKay and Sussex it is surfaced with an interim cap. The use of residential standard streets by buses is not ideal, however there are other local residential streets in the municipality that are used for bus routing. The new route (in common with all other new routings in the ALRT/bus integration plan) has been "successfully" field tested by a full-sized transit vehicle.

2.3 Sussex Alternative

Figure 3 shows a routing that has been suggested (by Portland residents) and previously considered by BC Transit and rejected. This routing would expand the Suncrest loop by extending service down Sussex from Rumble to Marine Drive (Sussex is a local collector) and via Marine Drive to Patterson where it would join the existing routing. This proposal, however, is technically infeasible because of the steep sustained grade, of 15% on approach to Marine Drive. The current routing uses Patterson which has a sustained grade of 12 1/2% on approach to Marine Drive. This grade is at the limit of safe transit operation.

It has been suggested that the steep grade should not be an issue because the buses would be going downhill. This is not the case. It is far safer to operate a bus up a steep grade than down it. The municipality has no plans for improvement of the grade along Sussex since it is only a local collector. Our coverage analysis confirms that it would not be beneficial to contemplate such an improvement for buses.

3.0 ROUTE COVERAGE

We have considered route coverage from a number of different perspectives as listed in Table 2 and discussed below. Our basic unit of measurement has been the residential property. Property counts have been converted to population counts by assuming one household per property factored by average household size (from the 1981 census). Census data for the Sussex/Neilson planning study area are listed in Table 1 attached.

3.1 Existing Route

The Municipality has adopted standard that residential areas should not be further than 400 meters (1/4 mile radial distance from a bus route). This standard is useful for broad scale evaluation transit coverage but may be misleading at the local level. For example, residential properties located in the vicinity of McKee Street and Gray Avenue are within 400 meters distance of two bus routes (along Marine Drive and Nelson). However, the Nelson bus is inaccessible to this area because of the Gray Creek Ravine and the walk to a bus stop at Marine Drive and Sussex is 600 meters (B.C. Transit's guideline standard is that residential areas should be within 450 meters walking distance to a bus stop). In any case, the mid-way connector that runs along Marine Drive is not a viable alternative to a Metrotown link. Figure 1, which shows the existing routing of the Suncrest bus also shows the area, which for practical purposes, we consider to beyond the Municipality's 400 meter coverage/accessibility standard. For each of the three route options we have counted the number of properties at 200 meter interval distance from a bus route. This data is listed in Table II and indicates that with the existing routing, approximately 190 properties are beyond the 400 meter distance to the Suncrest bus (or alternative) within our defined study area. It is this 'deficiency' in coverage standard that prompted the review of alternatives to existing routing.

3.2 Proposed Routing

The extension of Suncrest loop by the utilization of Sussex and Portland as shown on Figure 2 is considered the most practicable way of addressing the coverage deficiency. It decreases the number of people beyond 400 meters from a bus route substantially (Table II). It also reduces walking distance for a much larger population shown by the shaded area in Figure 2. The average distance to a bus route is reduced from 250 meters to 185 (as the crow flies). We estimate that the majority of the population in the shaded area (840 persons) will have walking distances reduced by 3 to 5 minutes (depending on condition). We estimate that the annual benefit from this routing in terms of reduced walking time is equivalent to 2000 person hours.

It has been pointed out that persons catching the bus along Portland would have to spend 8 to 9 minutes riding around the loop before going on to Metrotown. However, it should be noted that catching the bus along Portland to go to Metrotown is an option: those who are sufficiently vigorous or willing, can walk the extra distance to Rumble and catch the bus there as they do now. In any case, on the return journey from Metrotown Portland Street passengers would be first off on the loop.

3.3 Sussex/Marine Drive Alternative

Although this alternative is technically infeasible and hence not an alternative, it is worth reviewing with the coverage implications such a routing are. This route would be marginally better in terms of reducing the number of households beyond 400 meters but overall gains in improved accessibility

are not as great as for the Portland routing that has been proposed. Gains are also offset by reduced accessibility to those residents along Patterson in the Suncrest Drive area.

4.0 DISCUSSION CONCLUSIONS

There are only two options for the routing of the Suncrest bus: the existing routing or the proposed routing via Sussex/Portland. B.C. Transit's operating costs for both alternatives would be the same since the routes are of equivalent length. The Sussex/Portland proposal is expected to be marginally more cost effective because it would expect it to attract (again, marginally) more riders because of its enhanced coverage. Thus the primary case for the proposed routing of the 116 Suncrest bus via Portland rests on the overall benefits accruing to area residents from improved coverage. The analysis of route coverage in Table II suggests that these benefits are not insubstantial.

Balanced against this overall benefit is the disbenefit perceived by Portland Street residents who object to the introduction of a bus route onto their street. We appreciate the concerns of these residents but believe that they may be overestimating the disbenefit of having a transit route on their street. We have found that residents also strenuously object to removal of an existing bus route from their street or immediate neighbourhood.

Our re-evaluation of alternative routings to that proposed for the No. 116 Suncrest route have served to re-confirm to us that the proposed routing endorsed by Council is the appropriate one.



A. L. PARR
DIRECTOR PLANNING &
BUILDING INSPECTION

PL/jce
Attach.

cc: Director Engineering

Table 1

Suncrest Area Demographic Information	
1. Single Family Dwelling Units	83.3%
2. Population in Private Households	98.1%
3. Average Household Size	2.9 persons
4. Households With Children	45.9%
5. Population Distribution by Age	
	0 - 4 5.4%
	5 - 19 20.2%
	20 - 29 16.7%
	30 - 44 19.4%
	45 - 64 26.3%
	65+ 12.0%

Source: 1981 Census data for Planning Study Area 25 from "Population and Dwelling Unit Profiles for Burnaby 1971 - 2001" Planning & Building Inspection Department, February, 1984.

Comparison of 'Suncrest' Route Alternatives

Existing		Proposed		Considered	
Routing of 'Suncrest' Loop Sussex, Rumble, Paterson, Marine Drive, Joffre, Rumble, Sussex (See Fig. 1)		Sussex, Rumble, Paterson, Marine Drive, Joffre, Rumble, Sussex (See Fig. 2)		Sussex, Marine Drive, Joffre, Rumble, Sussex (See Fig. 3)	
Grade on Marine Drive Approach Local Residential Streets Employed by Route		Paterson : 12.5% (at operational limit) Joffre : Marine Drive to Rumble		Paterson : 14.8% (not operable by transit) Joffre : Marine Drive to Rumble	
Residential Properties Abutting New Routing (i.e. not previously on a 'bus street')		88		38	
Route Coverage*: (No. of Properties)					
0 - 199 metres from route		425 properties		384 properties	
200 - 399 " " "		146 properties		211 properties	
400+ " " "		75 properties		51 properties	
Average distance from route		186 metres		193 metres	
Population closer to transit stop (3-5 minutes)		840 persons		750 persons	
Population further from transit stop (6-10 minutes)		--		430 persons	

* Area bounded by Rumble, Grey Creek Ravine, Marine Drive and Kaymar Ravine

Table II

ITEM 3
 MANAGER'S REPORT NO. 6
 COUNCIL MEETING 86/01/27

ITEM 3
 MANAGER'S REPORT NO. 6
 COUNCIL MEETING 86/01/27

127



Fig. 1 Existing Suncrest Route (#130)

Area beyond 400 metres to route (or alternative)

ITEM 3
 MANAGER'S REPORT NO. 6
 COUNCIL MEETING 86/01/27

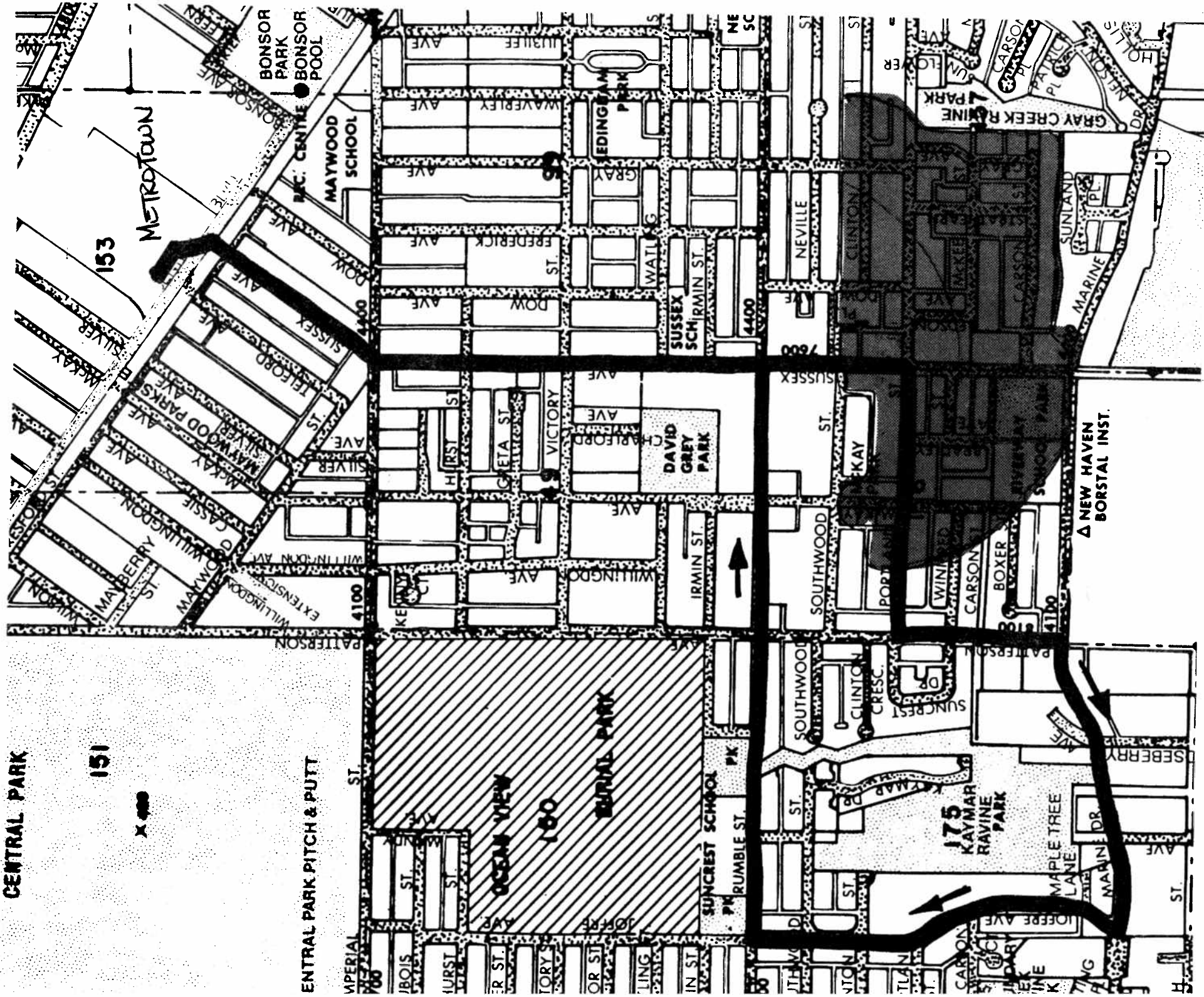


Fig. 2. Proposed Suncrest Route (#116)

ITEM 3
 MANAGER'S REPORT NO. 6
 COUNCIL MEETING 86/01/27

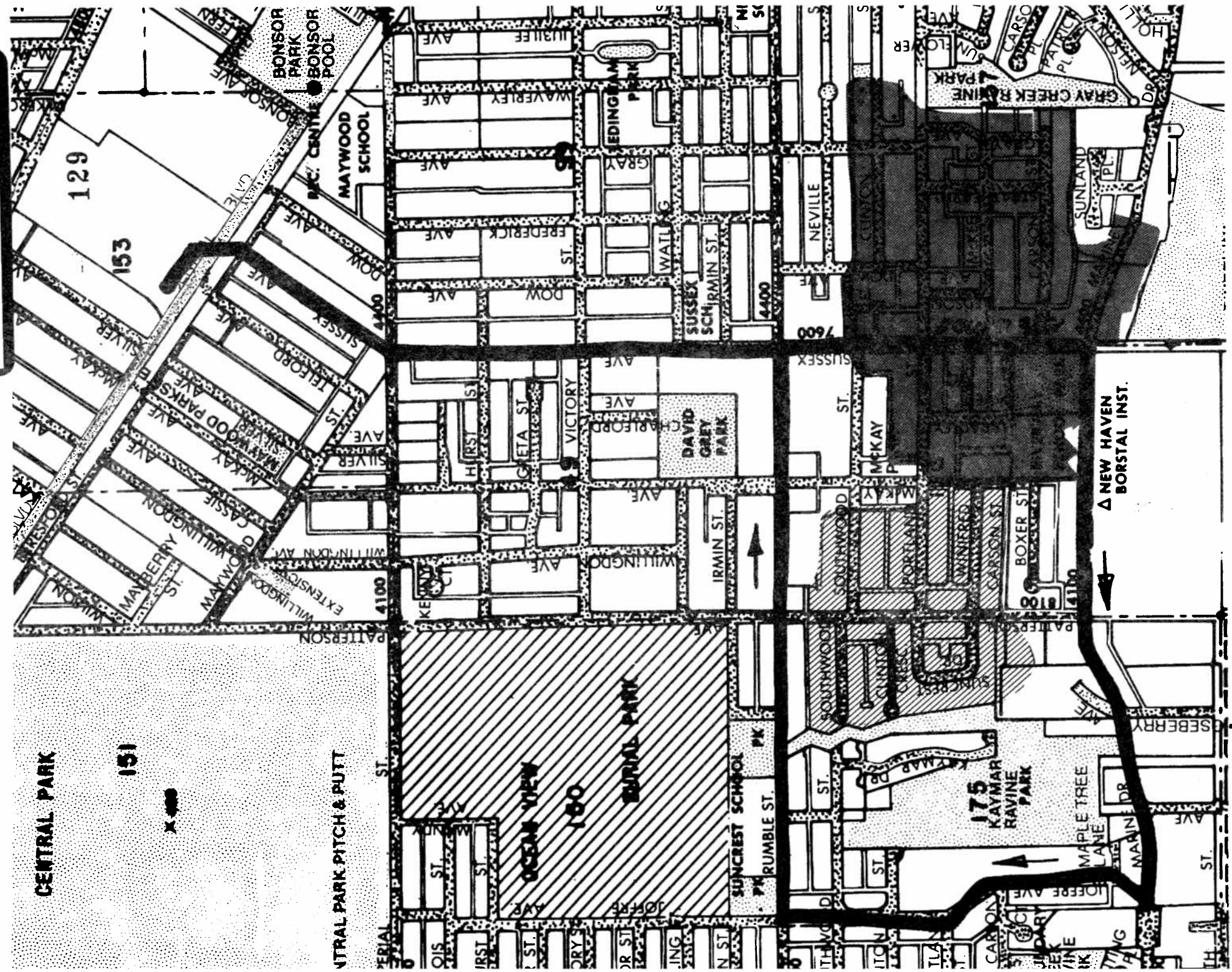
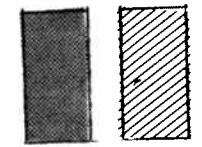


Fig. 3 Considered (and Rejected) Suncrest Routing



Area benefitting from reduced walking distance to transit
 Area with walking distance to transit increased