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

Our File/N/Réf. **25** RG212-20, RG214-20, RG1032A-20, RG1032B-20
Your File/V/Réf.

DATE 31 October 1996

TO/DEST. Co-ordinator Transportation Committee

FROM/EXP. Director Mobility Services and Corporate Fleet Services
Environment and Transportation Department

SUBJECT/OBJET **HUNT CLUB ROAD (REGIONAL ROAD 32)/WEST HUNT CLUB ROAD - SPEED ZONING**

DEPARTMENTAL RECOMMENDATIONS

That Transportation Committee recommend Council approve:

1. **The implementation of an 80 km/h speed limit on West Hunt Club Road/Hunt Club Road (Regional Road 32) between Cedarview Road (Regional Road 23) and a point 110 metres west of Downpatrick Road;**

2. **The implementation of a 70 km/h speed limit on Hunt Club Road between a point 110 metres west of Downpatrick Road and a point 110 metres east of Cahill Drive;**

3. **The implementation of an 80 km/h speed limit on Hunt Club Road between a point 110 metres east of Cahill Drive and Hawthorne Road (Regional Road 32).**

BACKGROUND

The posted speed limit along Hunt Club Road/West Hunt Club Road currently varies from 50 km/h to 70 km/h. The 60 and 70 km/h speed limits west of Riverside Drive (Regional Road 19) were posted after completion of the new roadway, subject to this speed zone review.

The 50 and 60 km/h speed limits between Riverside Drive and Bank Street within the rebuilt portion of the road reflect historical speed limits implemented when Hunt Club Road was a two-lane roadway.

Regional Council raised the speed limit from 50 km/h to 60 km/h on Hunt Club Road between Bank Street and Hawthorne Road in 1990.

Over the past several years Hunt Club Road/West Hunt Club Road has been reconstructed to a four-lane divided roadway between Cedarview Road and Hawthorne Road. The new construction, as well as numerous requests from the public and Regional Councillors requesting increases in the posted speed limits to 80 km/h, precipitated this speed zone review.

Hunt Club Road/West Hunt Club Road from Cedarview Road to Hawthorne Road has been constructed as a high level four-lane divided urban arterial with average lane widths of 3.6 m. Parking is prohibited along this entire stretch of roadway. It is the principal roadway facility serving the key industrial/business parklands along the southern limit of the urban area. Its main function is to provide a safe high quality link between Highway 416 and Highway 417 for the efficient movement of people and goods. It has been designed to the highest engineering standards.

Existing and proposed speed limits are illustrated in Annex A.

ASSESSMENT OF EXISTING CONDITIONS

An assessment of the speed zoning conditions on this roadway was carried out using the criteria outlined in the Regional Speed Zoning Policy. These criteria include an assessment of the number of private and commercial driveways, lane width, street classification, presence of a median, shoulder type and width, parking activity, roadway geometry (horizontal or vertical curves), pedestrian activity (with special emphasis on children), sidewalk setback, existing operating speeds, and accident rate. The safety of all road users (pedestrians, cyclists, and motorists) is paramount within a speed zone analysis.

The following details existing conditions on Hunt Club Road/West Hunt Club Road that were considered within the speed zoning analysis.

Cedarview Road to Downpatrick Road (Annexes B and C)

Recreational paths, set well back from the travelled portion of the roadway, are located on the north side of West Hunt Club Road between Cedarview Road and Woodroffe Avenue (Regional Road 15). Sidewalks are located only along the roadway between Merivale Road (Regional Road 17) and Antares Drive, from Prince of Wales Drive (Highway 16) to Bowesville Road and from Hunt Club Place to Downpatrick Road. A pedestrian signal has been installed east of Woodroffe Avenue for high school students crossing West Hunt Club Road.

Cycling facilities include 1.5 m bike lanes from Cedarview Road to Greenbank Road (Regional Road 13), 2.0 m lanes from Greenbank Road to Merivale Road and wide curb lanes with bike decals and “share the road” signs from Merivale Road to Bowesville Road (with the exception of the Hunt Club Bridge which has 2.0 m bike lanes). The section of Hunt Club Road between Bowesville Road and Downpatrick Road has 1.5 m bike lanes.

Adjacent land use from Cedarview Road to Woodroffe Avenue consists of greenbelt on the south side and residential development north of the roadway. The residential areas, all of which are reverse frontage, are separated from the roadway by noise attenuation berms or barriers.

Wooded areas are located along both sides of the roadway between the pedestrian signal east of Woodroffe Avenue and Cleopatra Drive. A mixture of light commercial/industrial, business and industrial development occurs between Cleopatra Drive and Prince of Wales Drive.

From Riverside Drive to Hunt Club Place the land use on the north side of the road is predominantly recreational turning to reverse frontage residential from Hunt Club Place to Downpatrick Road. The McDonald-Cartier Airport is located along the south side of Hunt Club Road from Riverside Drive to Uplands Drive. From Uplands Drive to Downpatrick Road the south side is reverse frontage residential. The residential areas on both sides of the roadway are separated by noise attenuation barriers.

There are no private accesses to West Hunt Club Road between Cedarview Road and Woodroffe Avenue. Between Woodroffe Avenue and Hunt Club Place, access to the roadway is limited and well separated and all median openings have left turn bays to remove slowing or stopped left turning vehicles from through traffic.

From Hunt Club Place to Uplands Drive access to commercial establishments on the south side of the road is limited to right-in, right-out.

Downpatrick Road to Cahill Drive (Annex C)

Sidewalks are located along both sides of the roadways. Although some of the sidewalks are set back from the travelled portion of the roadway, zero setback (worst case) was used in the analysis as this would have a moderating effect on the recommended speed limit.

Cycling facilities consist of curb lanes with bike decals and “share the road” signs.

Adjacent land use consists of single family homes, light commercial and local shopping facilities. Sound barriers are not provided adjacent to the majority of the residences in this area.

Access to the residences and businesses is limited to right-in and right-out due to the presence of a barrier median.

Cahill Drive to Hawthorne Road (Annex C)

Sidewalks are provided along both sides of Hunt Club Road.

Cycling facilities consist of 1.5 m bicycle lanes on either side of the roadway from Cahill Drive to Esson Street. Shared use lanes continue from Esson Street to Hawthorne Road with bike decals and “share the road” signs.

Adjacent land use is residential, reverse frontage and all homes have been provided with privacy fencing.

There are no private driveways within this portion of Hunt Club Road and only two commercial accesses for a service station situated immediately west of Conroy Road.

Current Operating Speeds

A review of the current operating speeds on the roadway reflect an 85th percentile speed (the speed at or below which 85% of motorists travel) of between 81 and 95 km/h. The results of the speed surveys, including motorist compliance with the currently posted speed limits along Hunt Club Road/West Hunt Club Road, are presented in Table I of Annex D.

DISCUSSION

The speed limit recommended for Hunt Club Road/West Hunt Club Road between Cedarview Road and Downpatrick Road was based on the factors outlined in the Speed Zoning Policy. Specifically, within this section, the very limited number of private or commercial driveways, wide lanes, long distances between intersections, and the presence of a barrier median coupled with very low pedestrian and bicycle activity, were conducive to an increase in the posted speed limit.

An increase in the number of accesses, shorter distances between intersections, horizontal curves, increased pedestrian and bicycle activity, and the presence of commercial activity resulted in a lower recommended speed limit between Downpatrick Road and Cahill Drive.

The recommended speed limit between Cahill Drive and Hawthorne Road was based on the limited access to the roadway, presence of a median and very low pedestrian and bicycle activity.

Analysis of the above conditions indicates a justified speed limit of 100 km/h over several sections of Hunt Club Road/West Hunt Club Road. The Highway Traffic Act permits Municipalities to implement this speed limit; however, it is Regional Policy to not provide speed limits greater than 80 km/h.

Experience and research show that inappropriate speed limits are ignored by the vast majority of motorists and require rigorous and costly police enforcement. The 85th percentile speed usually represents the most appropriate speed limit. With few exceptions, motorists tend to drive at the speed which best reflects the roadway geometry, the adjacent land use, and the prevailing roadway activity. Studies clearly show that introducing lower speed limits does not result in lower average operating speeds, but instead, only serves to increase the variability of speeds, thus increasing collision potential. A properly posted speed limit gives all road users (motorists, pedestrians, and cyclists) an indication of the actual operating conditions on a roadway.

It must be stressed that the provision of a increase posted speed limit will not result in an increase in actual vehicle operating speeds or an increase in the noise level. Regional experience with respect to driver behaviour when a higher posted speed limit was implemented is presented in Table II of Annex D.

An appropriately posted speed limit will reduce the disparity between the fastest and slowest vehicles on the roadway resulting in less “tail-gating” and fewer lane change manoeuvres.

Historical studies have concluded that the number of collisions increases as drivers deviate from the 85th percentile speed. Motorist compliance with the implementation of an appropriate speed limit will increase thereby enabling police enforcement activities to target those drivers travelling at hazardous speeds.

CONSULTATION

Comments have been received from the Ottawa-Carleton Regional Police Service, the Public Works Committee of the City of Nepean, City of Ottawa staff, and the Regional Cycling Advisory Group (RCAG). As well, the Department has received several letters from the public on this matter. All of the correspondence received is on file in the Clerk's Department. The following is an attempt to summarize the comments.

The Ottawa-Carleton Regional Police Service concur with the recommended increase in the posted speed limit. Concerns were, however, expressed over the section with a proposed 70 km/h speed zone being viewed as a speed trap and the possible increase in traffic on adjacent streets as more traffic is attracted to Hunt Club Road.

Staff from the City of Ottawa, although concurring that posting speeds at or close to the 85th percentile speed may provide a "potentially safer traffic flow", are concerned how the proposed speed limits relate to cycling safety. Specifically, the City of Ottawa's Comprehensive Cycling Plan outlines specific guidelines for bicycle lanes and paved shoulders based on speed and volume of traffic. City staff contend that posting the increased speed limits, as proposed, will cause the cycling facilities to fall below these guidelines. City staff summarized their comments as follows:

> "In summary, while the Region's technical warrants for establishing 70 km/h and 80 km/h speed limits on Hunt Club Road may be satisfied, the designation of this roadway as a primary cycling route may not have been given enough consideration. With signage indicating a speed limit of 80 km/h, Hunt Club Road may be perceived by drivers as a "highway". Posting limits of 60 km/h and/or 70 km/h may serve to indicate that a certain level of caution is necessary, and additional bicycle route signs and pavement markings may be appropriate."

The City of Nepean does not support the proposal and passed a motion requesting that the Region maintain the existing speeds limits on West Hunt Club Road. Concern was expressed over the construction of noise attenuation berms along West Hunt Club Road, specifically that they were not constructed as per the Environmental Study Report and therefore were not providing the intended noise reduction/protection. A request was also made regarding the timing of the traffic lights along West Hunt Club Road and whether they could be timed so as to reduce traffic speed.

RCAG does not support the provision of an 80 km/h speed limit on any portion of Hunt Club Road/West Hunt Club Road and feels that increasing the limit would defeat the goal of making Hunt Club Road a preferred cyclist route. It recommends that speed limits be no more than 70 km/h in sections with bicycle lanes and 60 km/h in sections without bicycle lanes with lower speeds if community interests warrant.

Four letters have been received from the public. Three are in favour of the increasing the speed limit to 80 km/h throughout Hunt Club Road, one is in favour of 70 km/h and 80 km/h speed limits.

A recent letter to the editor of the Ottawa Citizen supports an increase of the existing speed limits. Many similar views have been expressed to staff over the phone.

RESPONSES TO EXPRESSED CONCERNS

In response to the Ottawa-Carleton Regional Police Service, the rationale for recommending the 70 km/h speed zone has been covered previously in the report. The analysis did not account for public perception of enforcement activity. Since a change in the posted speed limit is not expected to have an effect on operating speeds, the impact of attracting additional traffic on surrounding streets should be minimal.

In response to the City of Nepean, the noise attenuation berms constructed north of West Hunt Club Road from Cedarview Road to approximately 700 m east of Woodroffe Avenue have been constructed in accordance with the Environmental Study Report and are providing the intended protection. With no significant change in actual operating speeds expected there will be no change in existing noise levels.

The response to City of Nepean's request regarding using traffic signal synchronization to control traffic speeds is contained in Annex E.

In response to the City of Ottawa staff and RCAG, the Regional Cycling Transportation Network Study contains the same guidelines for cycling facility lane widths as the Comprehensive Cycling Plan. It must be stressed that these are guidelines only. It must also be stressed that the guidelines are based on "roadway speeds" which have been interpreted by City staff as posted speeds.

Regional staff contend that a dangerous situation is created by maintaining artificially low posted speed limits, in order to ensure that constructed cycling facilities fall within "guidelines". Implementing artificially low posted speeds does not send a clear message to the users of the roadway as to the actual operating conditions of the roadway. As noted above, the prevailing speed of traffic is currently well above the posted limits. Experience has shown that increasing the posted speed limit will have little to no effect on the speed of traffic, but will serve to decrease the variability of speeds and provide all those who use Hunt Club Road/West Hunt Club Road with an indication of the true operating characteristics of the roadway.

FINANCIAL IMPLICATIONS

Financial implications will be restricted to signing changes and minor signal timing changes only.

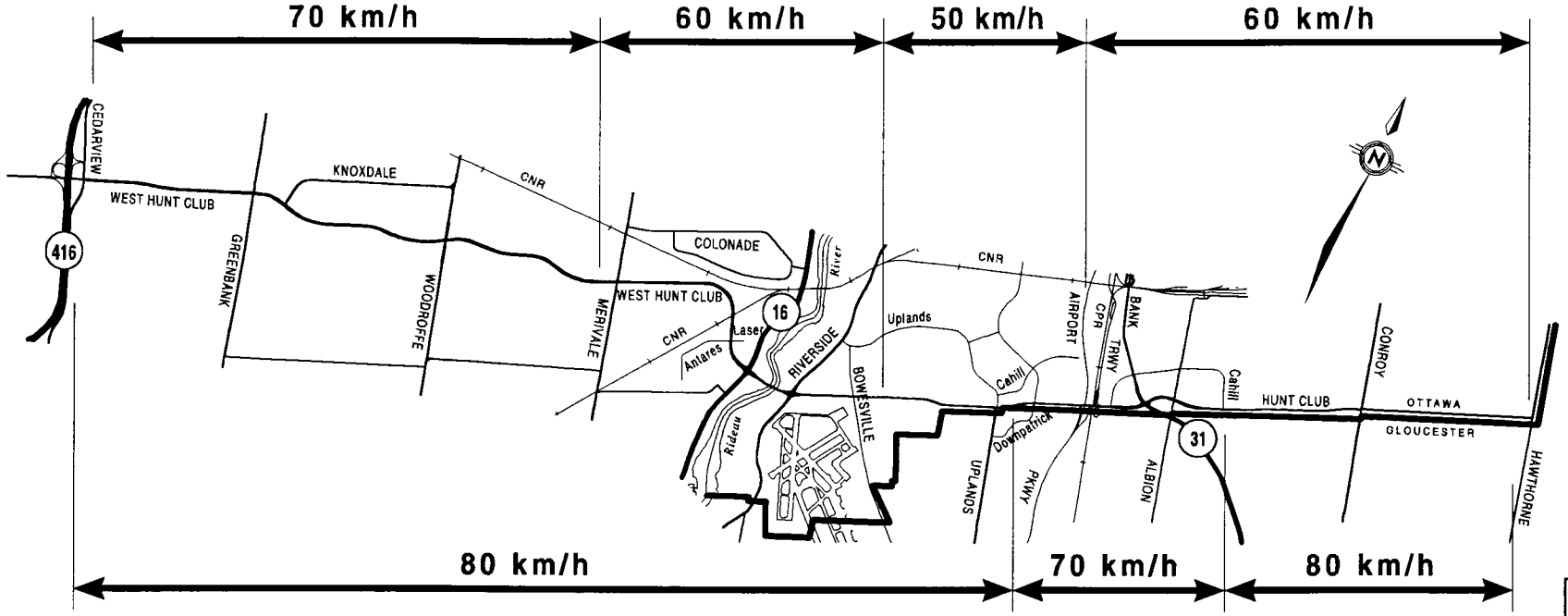
Approved by
G. Malinsky on behalf of
Doug Brousseau

TWC/sc

Attach. (5)

(Hunt Club Road)

EXISTING SPEED LIMITS



PROPOSED SPEED LIMITS

ANNEX 'A'

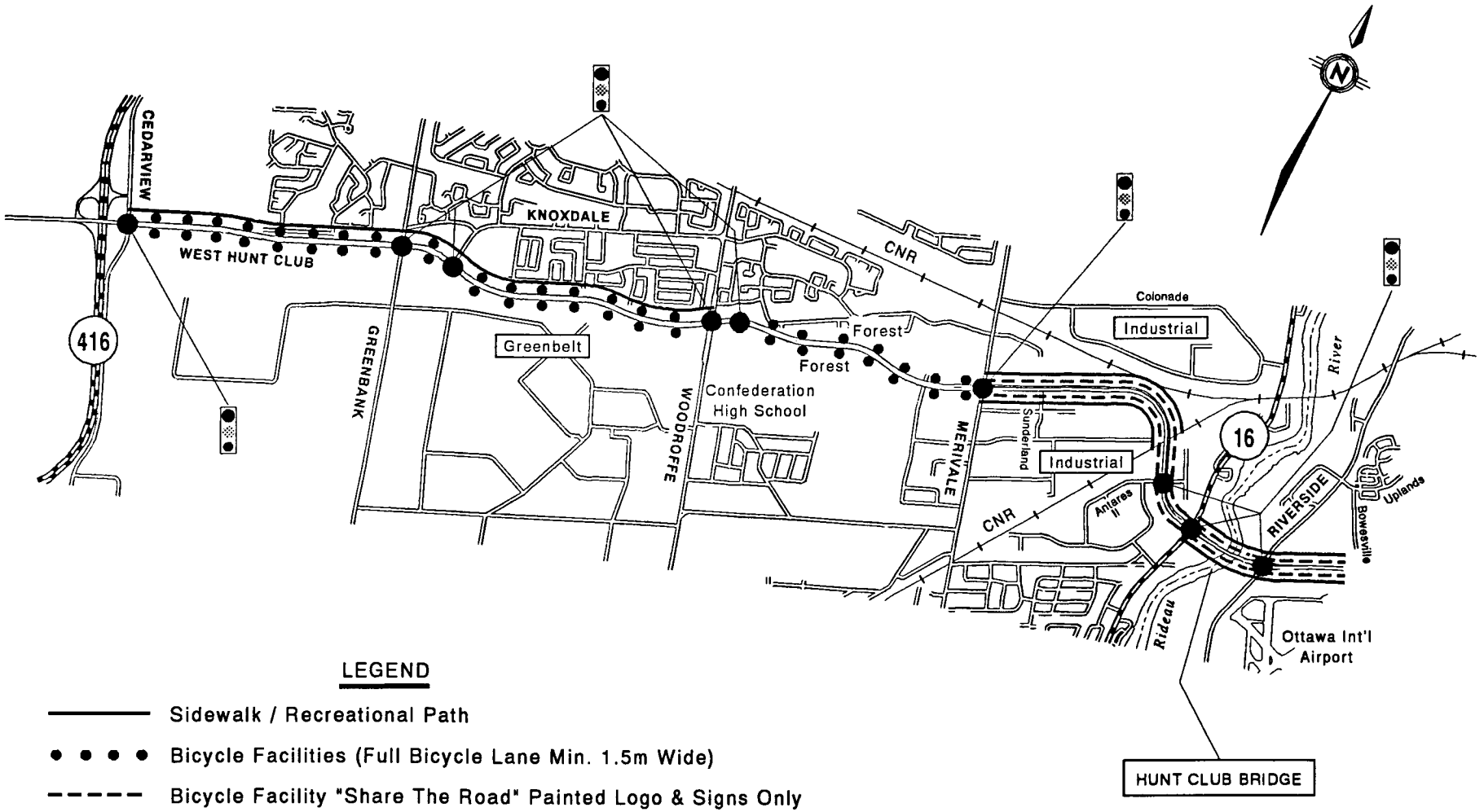
HUNT CLUB / WEST HUNT CLUB ROAD
(REGIONAL ROAD 32)
EXISTING AND PROPOSED SPEED LIMITS

SCALE	DRAWN BY	CHECKED BY
N.T.S.	G.P.	
3479s1	DATE OCT. '96	APPROVED BY

Ottawa-Carleton

MOBILITY SERVICES
Environment & Transportation Department

ANNEX A



LEGEND

- Sidewalk / Recreational Path
- Bicycle Facilities (Full Bicycle Lane Min. 1.5m Wide)
- Bicycle Facility "Share The Road" Painted Logo & Signs Only
- Traffic Signal

ANNEX 'B'

WEST HUNT CLUB ROAD (REGIONAL ROAD 32) BETWEEN CEDARVIEW ROAD AND RIDEAU RIVER

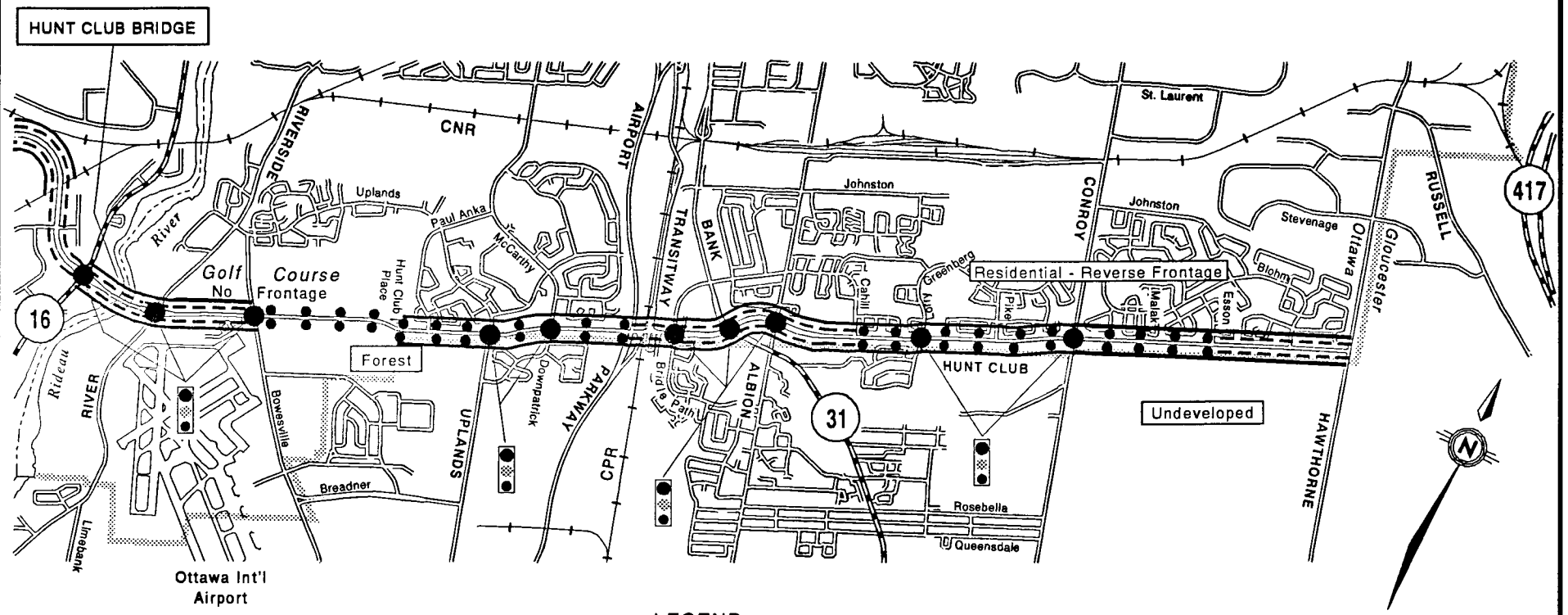
SCALE	DRAWN BY	CHECKED BY
N.T.S.	G.P.	
# 3479s2	DATE OCT. '96	APPROVED BY

Ottawa-Carleton

MOBILITY SERVICES

Environment & Transportation Department

ANNEX B



LEGEND

- Sidewalk / Recreational Path
- Bicycle Facilities (Full Bicycle Lane Min. 1.5m Wide)
- Bicycle Facility "Share The Road" Painted Logo & Signs Only
- Traffic Signal

ANNEX 'C'

HUNT CLUB ROAD (REGIONAL ROAD 32) BETWEEN RIDEAU RIVER AND HAWTHORNE ROAD

SCALE	DRAWN BY	CHECKED BY
N.T.S.	G.P.	
# 3479s3	DATE OCT. '96	APPROVED BY

Ottawa-Carleton

MOBILITY SERVICES

Environment & Transportation Department

ANNEX C

ANNEX D

Speed Survey Location (East to West along Hunt Club/West Hunt Club Road)	Posted Speed Limit (km/h)	Average Speed (km/h)	85th Percentile Speed (km/h)	% of Motorists Complying with Posted Speed Limit
Immediately west of Blohm	60	78	89	1.7%
Between Conroy and Malaak	60	76	86	2.6%
Between Albion and Cahill	60	79	88	1.5%
Immediately west of Airport Pkwy	50	72	81	0.0%
Immediately west of Paul Anka	50	79	88	0.0%
Between Lindberg and Riverside	60	75	84	5.7%
West of Antares (crest of hill)	60	71	81	11.0%
Immediately east of Sunderland	60	77	85	3.9%
Immediately east of Pedestrian Sig.	70	78	87	16.0%
Between Knoxdale and Woodroffe	70	81	90	9.2%
Between Cedarview and Greenbank	70	83	95	13.4%

Table I
Results of Speed Surveys Undertaken on Hunt Club/West Hunt Club Road

Location	Speed Limit BEFORE	Speed Limit AFTER	Average Speed BEFORE	Average Speed AFTER	Compliance BEFORE	Compliance AFTER
Sussex	50 km/h	60 km/h	63 km/h	60 km/h	3.3%	53.8%
Cedarview	60 km/h	80 km/h	74 km/h	77 km/h	9.5%	64.7%
Nicholas	50 km/h	80 km/h	79 km/h	80 km/h	0.1%	54.6%

Table II
Before/After Speed Surveys Undertaken at Locations with Approved Speed Limit Increases

REGIONAL MUNICIPALITY OF OTTAWA CARLETON
MUNICIPALITÉ RÉGIONALE D'OTTAWA CARLETON

MEMORANDUM
NOTE DE SERVICE

Our File/N/Réf. **25** T65-116
Your File/V/Réf.

DATE 16 October 1996

TO/DEST. John Fraser
Operational Studies Engineer
Safety and Traffic Studies Branch

FROM/EXP. Traffic Control Engineer
Traffic Operations Branch

SUBJECT/OBJET **WEST HUNT CLUB ROAD SPEED LIMIT**

Your memo of 8 October 1996 requested comments raised in point 1. of the City of Nepean's correspondence regarding the use of traffic signal synchronization as a means of controlling vehicle speeds along West Hunt Club Road. The following can be incorporated into your reply.

"Are the traffic signals on West Hunt Club Road timed to facilitate the continuous flow of traffic?"

Traffic signals along West Hunt Club Road are presently not coordinated for either eastbound or westbound traffic. Any perceived coordination in these directions is purely coincidental.

The traffic signals along Hunt Club Road are, in some sections more than 2 km apart. Over this distance the dispersion of vehicles within a platoon or group increases considerably. As the distance between vehicles increases, the likelihood of a platoon or group of vehicles arriving at successive green displays decreases. Synchronization of signals is only beneficial when platoons of vehicles can be predicted to arrive at a specific point in the signal cycle. For this reason, the signals along Hunt Club Road at the intersections of Merivale Road, Woodroffe Avenue, and Greenbank Road are currently synchronized for north-south traffic since the closer spacing of signals is more conducive to maintaining vehicle platoons.

"Is it possible that they be timed so as to reduce speed?"

It is very difficult, if not impossible, to design signal timing to control speeding. Variations in distance between signals, differences in crossing street green times, fluctuations introduced by pedestrian sequences, and the need to consider multiple directions of traffic flow make it impossible to design synchronization to maintain uniform traffic flow at a specific speed. This combined with the desire of motorists to travel at different speeds means that signal timing is not an effective tool to control speeding.

Designing synchronization to discourage speeding is likely to have exactly the opposite effect on some drivers. Purposely introducing stops and delays would lead to driver frustration. This could encourage some motorists to speed excessively in order to catch consecutive green signal indications. Poor synchronization also results in unnecessary fuel consumption and emission of vehicle generated pollutants. Transit vehicles would suffer the same delays as private automobiles.

Motorists are very aware of unnecessary delays at traffic signals. This type of design would generate many complaints thereby consuming large quantities of staff time. There is also an important safety issue which must be considered. Studies conducted by this Department have revealed a strong correlation between poor synchronization and accident frequency.

It is our opinion that the best way to control speeding is through police enforcement.

"What speed assumptions are utilized in determining the timing?"

If it is determined that traffic signals are to be synchronized along a particular section of roadway, the posted speed limit is used for purposes of design.

Please call me at ext 3187 should you have any additional questions.

C. Brinkmann

C. F. Brinkmann, P.Eng.

CFB/ml