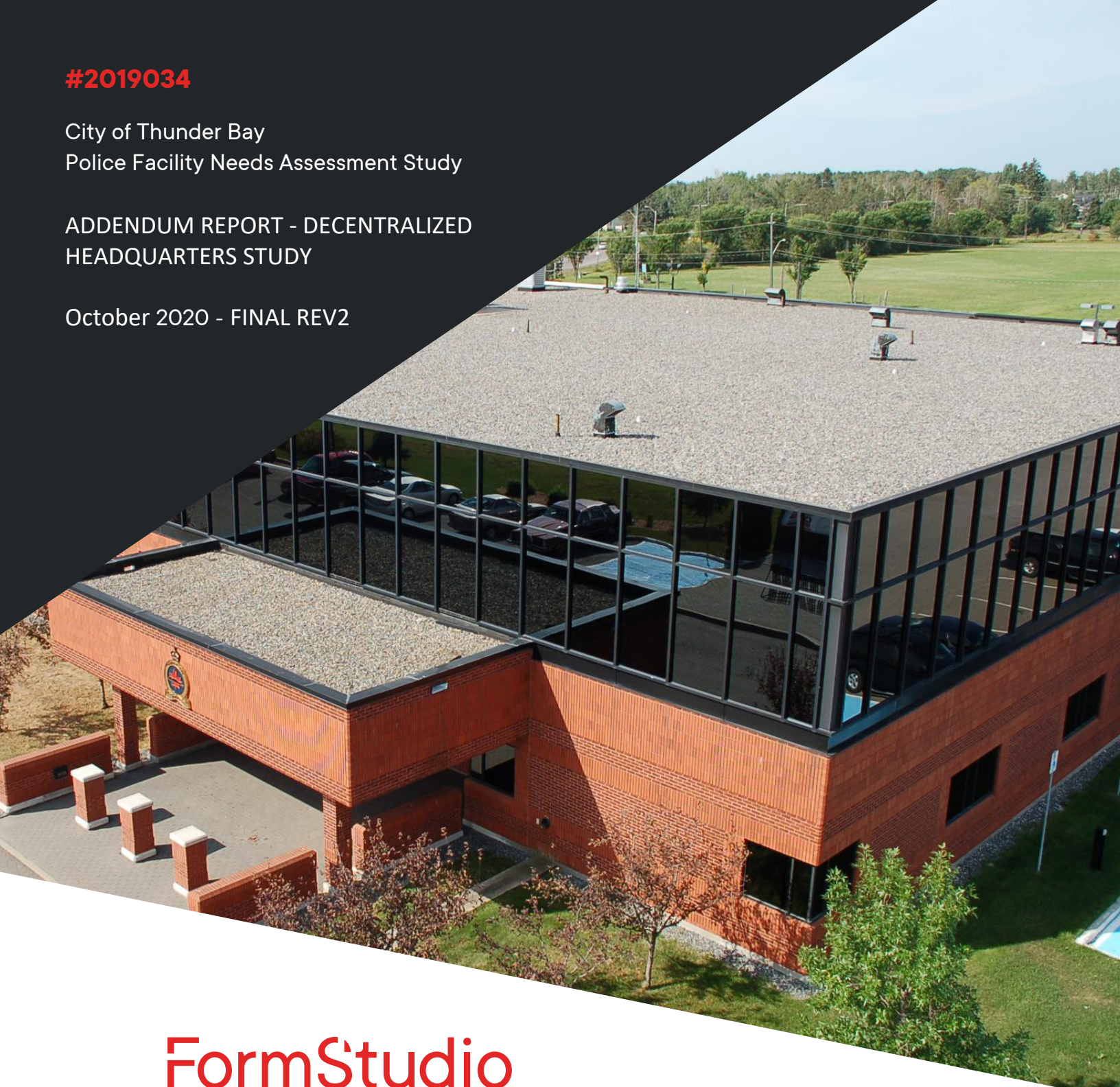


#2019034

City of Thunder Bay
Police Facility Needs Assessment Study

ADDENDUM REPORT - DECENTRALIZED
HEADQUARTERS STUDY

October 2020 - FINAL REV2



FormStudio Architects

Prepared for:



TABLE OF CONTENTS

	PAGES
TABLE OF CONTENTS	1-2
Executive Summary	3
1 PART 1 – INTRODUCTION	6-7
1.1 Purpose of the Report	6
1.2 Operational Needs Assessment and Functional Space Program Development	7
1.3 Development of Options	8
1.4 Minimum Site Area Requirements	8
1.5 Literature Review.....	8
1.6 Comment on Specific Reports	9
2 PART 2 – OPTIONS	13-39
2.1 Summary of Options.....	13
2.2 Option A – Base Case Location Map.....	15
Summary	16
Functional Organization	17
2.3 Option B - Base Case Location Map	18
Summary	19
Functional Organization	20
2.4 Option B1 - Base Case Location Map	21
Summary	22
Functional Organization	23
2.5 Option B2 - Base Case Location Map	24
Summary	25
Functional Organization	26
2.6 Option C - Base Case Location Map	27
Summary	28
Functional Organization	29
2.7 Option C1- Base Case Location Map	30
Summary	31
Functional Organization	32
2.8 Option D - Base Case Location Map	33
Summary	34

	Functional Organization	35
2.9	Option E - Base Case Location Map	36
	Summary	37
	Functional Organization	38
2.10	Summary Chart of Minimum Site Requirements	39
3	PART 3 - COST	40-43
	3.1 General/ Methodology	40
	3.2 Summary Chart of Estimated Construction Costs	42
4	PART 4 – FINANCIAL ANALYSIS	44-46
	4.1 Assumptions	44
	4.2 Annual Operating Cost	45
	4.3 25 Year Total Cost of Ownership.....	45
	4.4 Net Present Value	46
5	PART 5 – CONCLUSIONS	47-49
	5.1 Decentralized HQ Study Conclusions.....	47
	5.2 Option Comparison Chart.....	48
6	PART 6 - APPENDICES	50
	APPENDIX A – LIST OF POTENTIAL SITES	51
	List of potential sites provided by City of Thunder Bay Development Services	51
	Notes.....	52
	APPENDIX B – LITERATURE SEARCH	54
	Reference List	55
	Attached City of Thunder Bay Reference Document:	
	New Police Headquarters Downtown Report - Development Services Input Document.....	57

EXECUTIVE SUMMARY

In response to a request to look at alternate accommodation strategies to meet the space needs of the Thunder Bay Police Service, and to examine the impact of providing police facilities in more than one location, the following options were examined. These were compared to the 'baseline' option of providing a new, fully centralized headquarters at a location that would meet the needs of all areas of Thunder Bay under one roof.

Option A (baseline option)

Construct a new fully centralized headquarters in a generally central location within the municipal boundary. This would require a new building of approximately 12,200 sqm. All policing operations, administration and support functions would be located in a single facility, maximizing space use efficiency, internal communication and optimizing operational costs. All public-access areas and operations would be located at the new headquarters; however, this could be supplemented by neighbourhood offices in select locations to address community needs or special circumstances.

- Under this option all of the future estimated staff complement of 379 people would work out of the new facility.

Options B, B1 and B2

Construct a new central headquarters to accommodate most police operations, all administrative functions and all or most support functions. The new headquarters would be required to have approximately between 11,000 and 12,000 sqm, depending on which operations would be deployed from a secondary location. The secondary location could be constructed in the south core area, but the headquarters would be located to optimize operational efficiency and service benefits to the whole of Thunder Bay.

- Under Option B the secondary location (approx. 1,565 sqm) is proposed to house Community Services, associated public-access areas, Exhibits storage, Quartermaster stores as well as staff amenities and required building service areas. Approximately 34 people would work out of this location. This would not be a 24-hour building.
- Under Option B1 the secondary location (approx. 1,050 sqm) is proposed to house Community Services, associated public-access areas, a portion of Uniform Patrol as well as staff amenities, locker areas and required building service areas. Uniform Patrol operations would be conducted 24-hours a day. Approximately 80 people would work out of this location.

- Under Option B2 the secondary location is proposed to house a portion of Uniform Patrol only, as well as staff amenities, locker areas and required building service areas. Uniform Patrol operations would be conducted 24-hours a day. Approximately 50 people would work out of this location.
- Overall space needs for all the options above would be greater than for a single centralized facility, and additional staffing costs would be incurred for supervisory staff and reception positions, depending on the functions to be located there (particularly with Uniform Patrol).

Options C and C1

Under this scenario the existing 6,160 sqm headquarters would be renovated to accommodate most police operations, all administrative functions and all or most support functions. A small addition would be required to meet the same future space needs as a new headquarters. A total of between 6,810 and 6,850 sqm would be required, depending on which operations would be deployed from the other locations. These options are based on optimizing the space in the existing Balmoral Street headquarters.

- Under Option C new facilities are proposed in both the north and south cores. The south core facility (approx. 4,100 sqm) is proposed to house training, the firing range, exhibits storage, quartermaster stores, Community Services and specialized operations, as well as staff amenities and required building service areas. Approximately 38 people would work out of this location. The smaller north core facility (approx. 1,640 sqm) is proposed to house the intelligence unit and fleet maintenance operations and will have no public access. Approximately 18 people will work out of this location.
- Under Option C1 new facilities are also proposed in both the north and south cores. A 5,420 sqm 'support building' at the north end of the city could accommodate training, the firing range, exhibits storage, quartermaster stores, Community Services, the intelligence unit and specialized operations, as well as staff amenities and required building service areas. Approximately 55 people would work out of this location. The smaller south core facility (approx. 480 sqm) is proposed to house a portion of Uniform Patrol numbering approximately 33 people.
- Overall space needs for the options above would be greater than for a single centralized facility, and additional staffing costs would be incurred for supervisory staff and reception positions, depending on the functions to be located there (particularly with Uniform Patrol).

Option D

Under this scenario a new headquarters is proposed in or near the south core, with a number of support operations housed in a second facility somewhere else in the city. The proposed new 9,440 sqm headquarters would be smaller than a single fully centralized facility which may make available land easier to find in or near the south core. The secondary 'support building' would be approx. 2,910 sqm and would accommodate training, the firing range, the intelligence unit and specialized operations, as well as staff amenities and required building service areas. Approximately 21 people would work out of this secondary location, but it would have no public access and would not be a 24-hour facility.

- Overall space needs for this option would be greater than for a single centralized facility.

Option E

Under this scenario a new headquarters is also proposed in or near the south core, with a number of support operations housed in the north end of the city. The proposed new 11,730 sqm headquarters would only be marginally smaller than a single fully centralized facility which may make available land more difficult to find in or near the south core. The secondary 'support building' would be approx. 870 sqm and would accommodate Community Services, a limited number of public-access spaces, as well as staff amenities and required building service areas. Approximately 31 people would work out of this location, but it would not be a 24-hour facility.

- Overall space needs for this option would be greater than for a single centralized facility.

In summary, all the accommodation options will require more space than a single new fully centralized facility. In some cases, additional supervisory staff and reception personnel would be required, which would add to operational costs over time. Benefits of the options described above are that smaller sites could be utilized to provide a police presence in some areas of the community, but it should be noted that other than Uniform Patrol operations most functions would not operate 24 hours a day, or even have public access.

PART 1 – INTRODUCTION

1.1 PURPOSE OF THIS REPORT

This report was prepared as an Addendum report to the Thunder Bay Police Services (TBPS) Facility Needs Assessment Study issued to Thunder Bay City Council in February 2020. These reports are created to assist the City of Thunder Bay (CTB) in the ongoing process of reviewing options for upgrading and/ or replacement of the existing Thunder Bay Police Services Facility on Balmoral Street.

This report considers the operational and building requirements, including related high-level cost implications, of decentralizing the physical location of the police headquarters. It incorporates operational information gathered from the TBPS, direction received from the TBPS Steering Committee, and input based on specialist consultant experience and expertise in the design of facilities of similar size and function.

As an addendum report to the TBPS Facility Needs Assessment Report, this study utilizes space / functional programming information and data previously developed in the Needs Assessment Report to establish a Base Case Option against which other developed scenarios could be compared to evaluate operational efficiencies and potential costs.

A business case analysis was then completed in which additional operating costs relative to the additional space required to support the operational model were calculated. A summary table comparing the variances between the options has been provided to allow direct comparison.

1.2 OPERATIONAL NEEDS ASSESSMENT AND FUNCTIONAL SPACE PROGRAM DEVELOPMENT

Please refer to the full TBPS Facility Needs Assessment Report for methodology and detailed information supporting conclusions.

Consultants conducted in depth departmental reviews including inventories of non-departmental destinations for the original Facility Needs Assessment Report in order to gain an understanding of the operational needs of the TBPS. Current staff allocations (sworn and non-sworn staff) were assessed relative to current needs and potential, new policing initiatives that may occur over the next 20 -25 years. Future growth was based on trends in policing across the country as opposed to changes in population.

The development of the detailed functional program, broken down by department and staff, determined that the program area available in the existing building on Balmoral Street was insufficient to support current operational requirements. Based on analysis of scenarios that included the renovation and extension of the existing building, it was concluded that the construction of a new facility with a total area of 12,220 m² (131,535 sf) would best support the most efficient and effective operation of the TBPS.

SUMMARY CHART OF STAFF & SPACE (FUNCTIONAL PROGRAM)

Thunder Bay Police Service HQ			
Group	UA	GF	Est. GFA
100-Senior Administration	430	1.25	540
201-223-HQ Administration	390	1.25	490
211-214-Training & Range	1,570	1.25	1,960
224-Court & Records	510	1.25	640
231-Exhibits & QM Stores	670	1.25	840
241-Communications	300	1.25	380
301-302-Uniform Patrol	360	1.25	450
303-Community Services	280	1.25	350
304-ETU/Canine	130	1.25	160
311-Investigations	640	1.25	800
312-Criminal Intelligence	410	1.25	510
401-402-Public Areas	360	1.25	450
403-Community/Multipurpose Rm	160	1.25	200
411-415-Lockers & Common Areas	1,240	1.25	1,550
501-Cell Block	1,090	1.25	1,360
601-Custodial & Building Services	440	1.25	550
701-Fleet & Indoor Parking	790	1.25	990
	9,770		12,220
			(rounded sq.m.)
TBSHQ-Program-R2.xls			
Updated Sep 17, 2020			

1.3 DEVELOPMENT OF OPTIONS

For the purposes of this study, the scenario proposing the construction of a new facility on a new site (in any location) which outlines the most cost efficient and operationally effective arrangement for the TBPS, was used as the base case for analysis. This scenario is called **Option A** in this addendum report.

Other scenarios have been developed to physically divide the TBPS staff and departments into various combinations and compare them to the base case, Option A. These are Options B through E noted in this addendum report.

1.4 MINIMUM SITE AREA REQUIREMENTS

Individual site assessment for recommendations on the viability of specific sites is not within the scope of this addendum study. However, to allow consideration of the impacts of locating police facilities in different geographical areas of the city, minimum required site areas were projected for various combinations of TBPS operational divisions. These site area requirements illustrate the built implications of dividing police services into physically separate buildings.

With input from the TBPS, Form had previously developed a list of site criteria for use in the Facility Needs Assessment Study. The list provided a series of minimum conditions that are critical for the efficient and safe functioning of the police facility. For this addendum study, a list of potential sites fitting these criteria was requested from the City of Thunder Bay Realty Services in order to better understand the operational and cost impacts of decentralized scenarios.

Please refer to the **Area Summary Chart** for a list of minimum areas required for each Option.

Please refer to **Appendix A** for the list of potential sites provided by the City of Thunder Bay Realty Services and related commentary.

1.5 LITERATURE REVIEW

Consultants completed a literature search based on the question “Does locating a police facility (headquarters building or satellite building) in a ‘hot spot’ or high crime area result in a reduction of crime in that area?”

Consultants found a large amount of research and anecdotal evidence supporting the fact that having more of the **general public** living, working and visiting downtown areas typically results in greater overall levels of perceived public safety and general crime prevention. Adding police presence through **foot patrol (“Hot Spot Policing”)**¹ in high crime areas has also been shown to be effective in reducing crime and the perception of crime. However, these strategies are based on police services organizational and operational initiatives (i.e. additional foot patrols), not ‘bricks and mortar’ presence (i.e. additional buildings).

Consultants review of literature found no scientific or academic research that documented statistical crime reduction in a geographic area resulting from the location of a police facility (headquarters or

satellite) in the area. Neither proved nor disproved, just no specific research investigating construction of new police facilities in areas of perceived high crime as a strategy to reduce crime.

Please refer to **Appendix B** for Methodology and document references.

1.6 COMMENT ON SPECIFIC REPORTS

1. Manitoba Police Commissions – Winnipeg Downtown Safety Study Initial Report Nov 2019.

This report was studied as part of the literature review and, while it did not specifically address the question posed, it is considered to be relevant to the overall question of buildings / facilities and crime reduction.

This report provides recommendations that the MPC believes would contribute to improved safety in downtown Winnipeg which has been experiencing a rising crime rate and public concerns for safety. Winnipeg has a downtown police headquarters facility and three existing satellite divisions. (Note: Winnipeg has a significantly larger population than Thunder Bay).

All MPC recommendations were operationally based (i.e. increased foot patrols, focus on panhandling reduction, community engagement, etc.) with one exception. The MPC recommended co location of social services (addiction treatment, medical, legal and housing) in a new facility that was specifically recommended to be outside of the police service. This speaks to the larger issue discussed in the report of addressing the causes of crime as a crime prevention strategy, as opposed to directing additional police and law enforcement resources to the symptoms. While the location of a new social services facility in the downtown core area is relevant to the reduction of crime issue, it is outside of the question of the police facility location.

The MPC prime recommendation for additional foot patrols does not address the question of police facility location but proposes increasing police presence as an operational strategy for crime deterrence. **The number and frequency of foot patrols for visibility and perception of safety are a Police Services decision and outside of the question of the police facility location.**

2. New Police Headquarters Downtown Report - Thunder Bay Development Services Input Document

This report was provided as an input document for consultants by the City of Thunder Bay Development Services. Consultants provide the following comments in three specific areas relevant to this study:

a. importance of police facility proximity to Courthouse

In establishing site criteria for the purpose of evaluating potential sites for the Thunder Bay Police Services Facility Needs Assessment Study, the Thunder Bay Police Services (TBPS) placed low emphasis on proximity to the courthouse and critical / high emphasis on proximity to the hospital. This criterion is based on the day to day experience and activities of officers on shift. The increasingly blurred boundaries between law enforcement and social service provision in calls for service results in quick access to the hospital providing greater operational efficiencies than that achieved by proximity to the Courthouse or City Hall. Here are some reasons for this:

- officers attend court only if required to testify - immediate remand is completed by video which does not require trips to the courthouse
- 5-8 officers are required by the Police Services Act to be stationed at the courthouse to provide security; these officers have permanent locker facilities in the courthouse and do not travel back and forth from HQ
- officers are often required to make multiple trips to the hospital (sometimes in a single shift) as a standard part of providing law enforcement services and due to the large increase in Mental Health calls for service. Time spent in travel related to accessing the hospital is a significant element impacting efficiency

Refer to the **TBPS Facility Needs Assessment Report** for other evaluation criteria and weighting.

b. site selection based on CPTED principles

CPTED (Crime Prevention Through Environmental Design) provides guidelines for community-based initiatives (outside of policing) and general urban design for crime prevention. Principles are specifically directed at the physical layout of public spaces to influence human behaviour. CPTED does not provide guidelines for the geographic location, site selection, or sizing and placement of police facilities for the purpose of crime prevention.

CPTED is primarily an approach to planning and development that reduces opportunities for crime and is intended to complement police patrol operations. It does not speak to police facilities.

“Communities, neighbourhoods, individual homes, and other buildings, streets, and parks can all be made safer through the application of design principles that make it more difficult to carry out inappropriate activities.”

Examples of principles:

- Territoriality - fostering residents' interaction, vigilance, and control over their neighbourhood
- Surveillance - maximizing the ability to spot suspicious people and activities
- Activity support - encouraging the intended use of public space by residents
- Hierarchy of space - identifying ownership by delineating private space from public space through real or symbolic boundaries
- Access control/target hardening - using physical barriers, security devices and tamper-resistant materials to restrict entrance
- Environment - a design or location decision that takes into account the surrounding environment and minimizes the use of space by conflicting groups
- Image/Maintenance - ensuring that a building or area is clean, well-maintained, and graffiti-free

sources:

<https://www.cptedontario.com/>

<https://police.uoguelph.ca/police-services/cpted-program>

Links to examples of CPTED guides issued by other police services:

<https://www.torontopolice.on.ca/crimeprevention/environmental.pdf>

<https://www.niagarapolice.ca/en/community/Crime-Prevention-Through-Environmental-Design--CPTED-.aspx#>

c. Strategic core objectives - Increased density through establishment of new Police, Fire and Emergency Medical Services in downtown core areas

Police facilities have specific and critical safety requirements that are significantly different from business and services buildings in mixed use, downtown core developments. Establishment of the priority of needs through site selection criteria is required to support the strategies and targets outlined as core objectives in the Input Document. General and hypothetical strategic objectives for the future of the downtown core must be integrated with the reality of TBPS safety and operational objectives in the determination of appropriate sites. As a basic criterion, all potential downtown sites for police services facilities, regardless of location, must support the safe and efficient operational requirements of the police service, as determined by the police service.

Site design for any police services facility should be divided into three distinct zones:

1. A public zone at the front on the building that projects an image of openness and transparency to the public where visitor parking can be provided and facilitates easy access into the buildings Public Lobby. An open public zone with bollards or other protection is typically required around a policing facility to protect against direct vehicular attack (i.e. driving a car into the building).
2. A secure zone that provides a fenced and gated compound for staff/operational vehicle parking, access to the Sally Port, the Staff Entry and any other areas that have heavily used access points into the building.
3. A semi secure zone should be created for special access points into the building such as at Exhibits, Property, and Quarter Master Stores where the public or outside agencies can make pick-ups/deliveries in a controlled manner. Delineation between all three zones should incorporate barriers, landscaping, medians, signage and fencing to provide a visual delineation between each zone.

Site design must also address safe vehicular access and secure parking. The preferred number of site access/egress points is:

- one access/egress point dedicated exclusively to the visitor parking area
- minimum of two access egress points exclusive to the staff/operational parking area

Given the 24/7 nature of a police facility, any site will be required to accommodate a fleet of operations vehicles including those used for covert and specialized operations. Adequate parking for the personal vehicles of staff, many of whom work shifts, should also be provided.

PART 2 - OPTIONS

2.1 SUMMARY OF OPTIONS

Refer to TBPS Facility Needs Assessment Report for:

- expanded Functional Program
- projected staffing requirements

The following options are examined to illustrate a number of ways to accommodate future policing in Thunder Bay. Recommendations for Option A, (new, fully centralized headquarters constructed on a new site) have been provided in previous reports prepared by **Form Studio Architects** of Thunder Bay and **RPL Architects**, police facility planners.

- Option A – A new fully centralized headquarters in an undetermined location (a number of sites were tested). This would be supported by community offices in selected locations.
- Option B – A new central headquarters in a location to be determined, plus a satellite facility in the south core area.
- Option B1 – Similar to Option B but with a portion of Uniform Patrol operations and Community Services deployed from the south core satellite.
- Option B2 – Similar to Option B1 but with only a portion of Uniform Patrol operations deployed from the south core satellite.
- Option C – Expansion and renovation of the existing headquarters building, plus satellite operations on both the south and north cores.
- Option C1 - Expansion and renovation of the existing headquarters building, plus satellite operations on both the south and north cores (similar to Option C).
- Option D – A new police headquarters constructed in the south core plus a training building located in the north core.
- Option E – A new police headquarters constructed in the south core plus a community services building located in the north core.

NOTES:

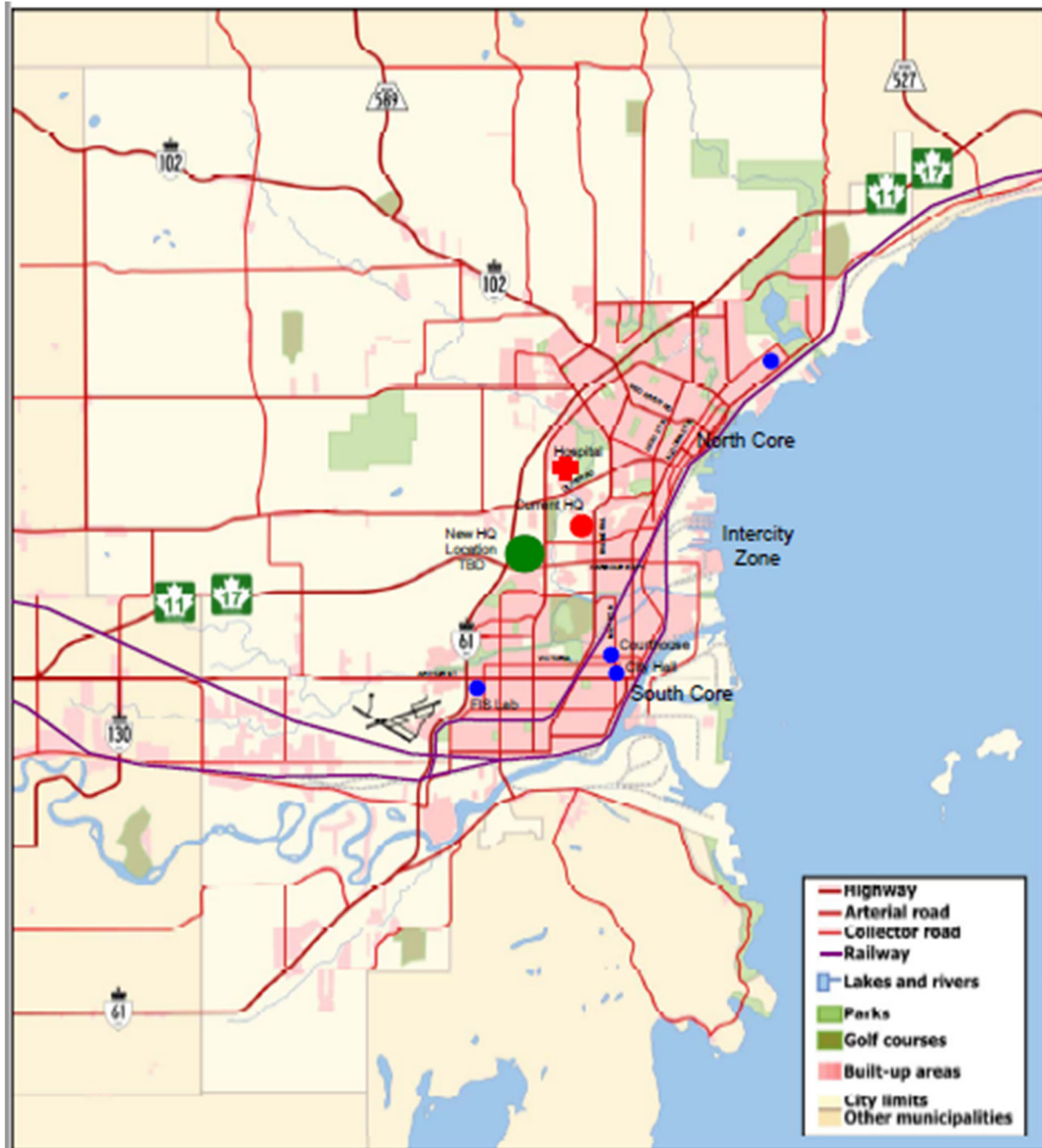
Split operations to be located in two facilities – most police operations to be conducted out of the existing headquarters, renovated to suit, and the remainder to be located in a new building in the south core.

Options B1, B2, and C1 provide a 24/7 police presence in the south core by locating a portion of Uniform Patrol at a south core satellite or locating the new headquarters in the south end.

Options B, B1, C and E locate Community Services in the south core satellite, but this is not a 24/7 operation.

Options B, C, and D locate other police functions in the south core (e.g. training, exhibits storage and specialty units), but these are not 24/7 operations.

2.2 OPTION A LOCATION MAP



Thunder Bay
Police Service
OPTION B1 LOCATION MAP

Option A - New Fully Centralized HQ

OPTION B2 LOCATION MAP

OPTION A – BASE CASE – New Central HQ

OPTION A - SUMMARY

In this option a new fully centralized headquarters would be constructed at an undetermined location (a number of sites were tested under the previous study). This would be supported by community offices in selected locations, including the south downtown core.

This option would require a site with a minimum of 6.3 to 7 acres of usable space. Larger sites would allow future expansion to occur beyond the recommended 25-year planning horizon.

Benefits:

- A single location would result in more efficient building planning and utilization of space
- More efficient communication, operations and collaboration amongst units
- Less travel time incurred

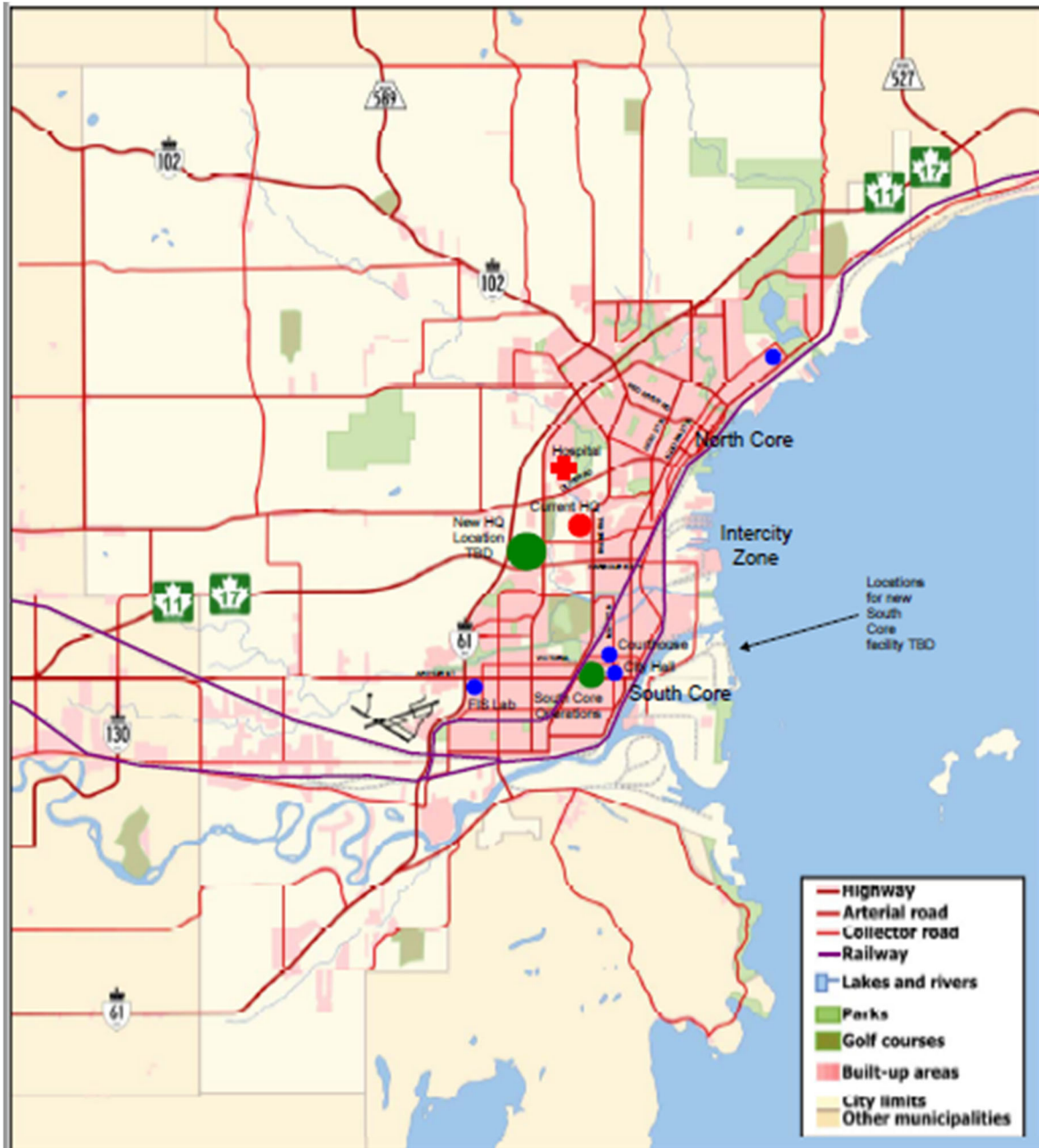
Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Social and economic impact of having a 24/7 police presence
- Land area requirements

OPTION A – FUNCTIONAL ORGANIZATION

Option A - New Fully Centralized HQ		Central HQ							
100-Senior Administration		540							
201-223-HQ Administration		490							
211-214-Training & Range		1,960							
224-Court & Records		640							
231-Exhibits & QM Stores		840							
241-Communications		380							
301-302-Uniform Patrol		450							
303-Community Services		350							
304-ETU/Canine		160							
311-Investigations		800							
312-Criminal Intelligence		510							
401-402-Public Areas		450							
403-Community/Multipurpose Rm		200							
411-415-Lockers & Common Areas		1,550							
501-Cell Block		1,360							
601-Custodial & Building Services		550							
701-Fleet & Indoor Parking		990							
		Est. GFA	12,220	sqm					
<div style="background-color: #4a86e8; color: white; padding: 10px; border: 1px solid white;"> <p>Option A New Fully-Centralized Headquarters (all TBPS operations - approx 379p) 12,220 sqm GFA 2-3 Floors</p> </div>					All administrative & support functions All patrol operations All investigative operations Total 379p				
Site Area Calculations (approx):									
Building footprint		9,000							
On-grade parking		7,000	200 spaces						
Open space, circulation, etc. (60% of above)		9,600							
		25,600	sqm						
		6.3	acres						

2.3 OPTION B LOCATION MAP



Thunder Bay
Police Service

**Option B - New Central HQ +
South Core Facility**

OPTION B - New Central HQ + South Core Satellite

OPTION B SUMMARY

This option consists of new central headquarters in a location to be determined, plus a satellite facility in the south core area to house exhibits and Community Services. The headquarters would comprise approximately 85 to 90 percent of operational space and would house administration and support functions, uniform and investigative operations, emergency communications, short-term detention, training, and all public-access and community-related functions. It would operate 24/7.

The satellite, which would house exhibits, quartermaster stores, the Community Services unit would not be operated as a 24-hour facility. Approximately 30-40 people would work out of the satellite.

This option would require a site with a minimum of 5.6 to 6 acres of usable space for the headquarters. Larger sites would allow future expansion to occur beyond the recommended 25-year planning horizon. The satellite facility would require a site with a minimum of 1.3 to 1.5 acres of usable area.

Benefits:

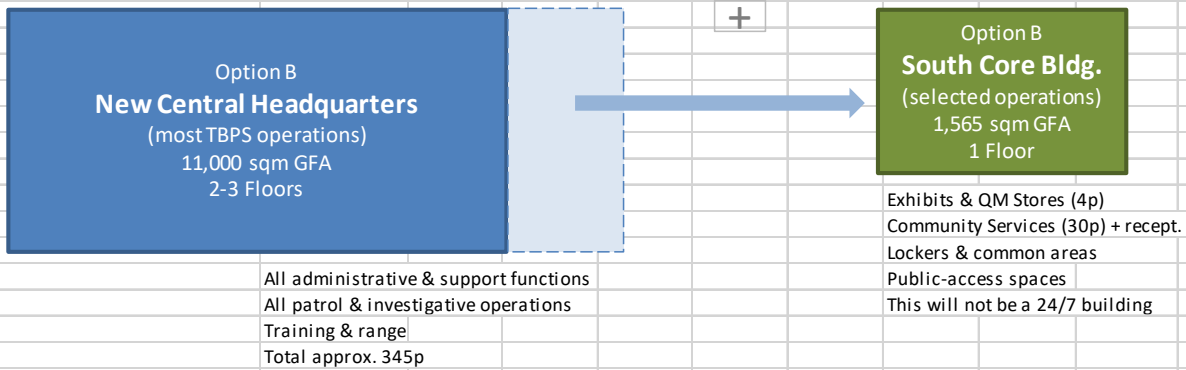
- Most police operations, administration and support located at a central headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the south core area

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Communication, operations and collaboration amongst units would suffer
- Increased travel time
- Limited public interaction at the satellite location
- Security concerns with a satellite facility not occupied 24/7
- Land area requirements
- Two facilities would require more space, and would be more costly, than a single centralized building

OPTION B – FUNCTIONAL ORGANIZATION

Option B - New Central HQ + South Core Facility	New HQ	South Core Facility	Added Area Compared to Option A
100-Senior Administration	540		
201-223-HQ Administration	490		
211-214-Training & Range	1,960		
224-Court & Records	640		
231-Exhibits & QM Stores		840	
241-Communications	380		
301-302-Uniform Patrol	450		
303-Community Services		500	150
304-ETU/Canine	160		
311-Investigations	800		
312-Criminal Intelligence	510		
401-402-Public Areas	450	50	50
403-Community/Multipurpose Rm	200		
411-415-Lockers & Common Areas	1,520	75	45
501-Cell Block	1,360		
601-Custodial & Building Services	550	100	100
701-Fleet & Indoor Parking	990		
	Est. GFA 11,000 sqm	1,565 sqm	345
	Total Est. GFA 12,565 sqm (rounded)		



Site Area Calculations (approx):

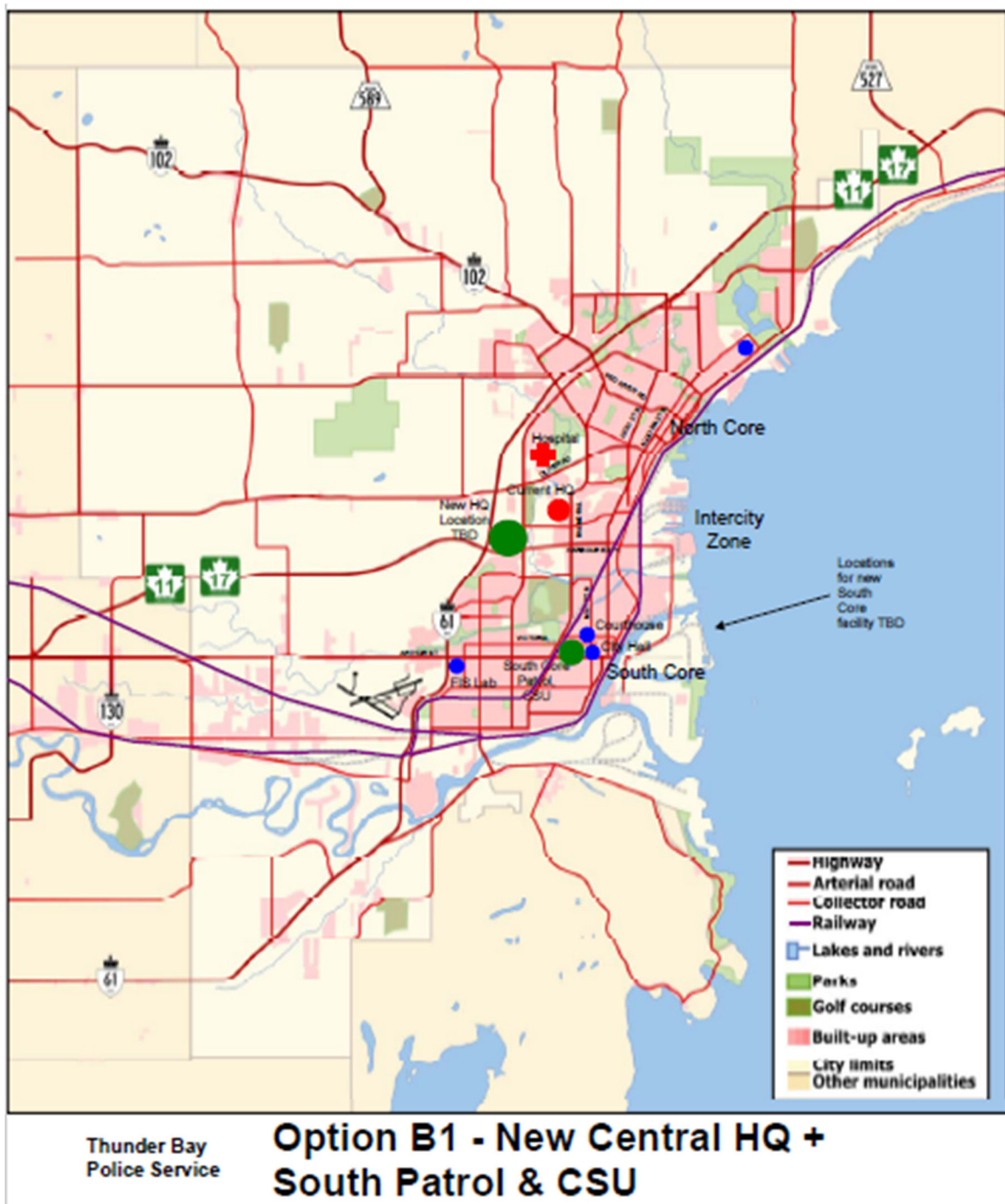
Building footprint	8,000
On-grade parking	6,200 170 spaces
Open space, circulation, etc. (60% of above)	8,520
	22,720 sqm
	5.6 acres

Site Area Calculations (approx):

	1,500
	1,700 45 spaces
	1,920
	5,120 sqm
	1.3 acres

Risks & Disadvantages:
 Building vulnerable not occupied 24/7 (exhibits)
 Loss of time spent travelling between facilities
 Loss of communication amongst units
 Total space required is more than central HQ

2.4 OPTION B1 LOCATION MAP



OPTION B1 - New Central HQ + South Core Patrol

OPTION B1 SUMMARY

This option consists of new central headquarters in a location to be determined, plus a satellite facility in the south core area to accommodate a portion of the Uniform Patrol branch and Community Services. The headquarters would comprise approximately 85 to 90 percent of operational space and would house administration and support functions, uniform and investigative operations, emergency communications, short-term detention, training, and all public-access and community-related functions. It would operate 24/7.

The satellite would house a portion of the Uniform Patrol branch and Community Services. Approximately 75 people would work out of the satellite.

This option would require a site with a minimum of 5.6 to 6 acres of usable space for the headquarters. Larger sites would allow future expansion to occur beyond the recommended 25-year planning horizon. The satellite facility would require a site with a minimum of 1.3 to 1.5 acres of usable area.

Benefits:

- Most police operations, administration and support located at a central headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the south core area

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Communication, operations and collaboration amongst units would suffer
- Additional staffing requirements and supervisory personnel
- Increased travel time
- Land area requirements
- Two facilities would require more space, and would be more costly, than a single centralized building

OPTION B1 – FUNCTIONAL ORGANIZATION

Option B1 - New Central HQ + S. Core Patrol/CS		New HQ		South Core Facility		Added Area Compared to Option A
100-Senior Administration		540				
201-223-HQ Administration		490				
211-214-Training & Range		1,960				
224-Court & Records		640				
231-Exhibits & QM Stores		840				
241-Communications		380				
301-302-Uniform Patrol		405		110		65
303-Community Services				500		150
304-ETU/Canine		160				
311-Investigations		800				
312-Criminal Intelligence		510				
401-402-Public Areas		450		150		150
403-Community/Multipurpose Rm		200				
411-415-Lockers & Common Areas		1,475		175		100
501-Cell Block		1,360		15		15
601-Custodial & Building Services		550		100		100
701-Fleet & Indoor Parking		990				
	Est. GFA	11,750	sqm	1,050	sqm	580
	Total Est. GFA	12,800	sqm (rounded)			

Option B1
New Central Headquarters
(most TBPS operations)
11,750 sqm GFA
2-3 Floors

+

Option B1
South Core Bldg.
(Patrol & CSU)
1,050 sqm GFA
1 Floor

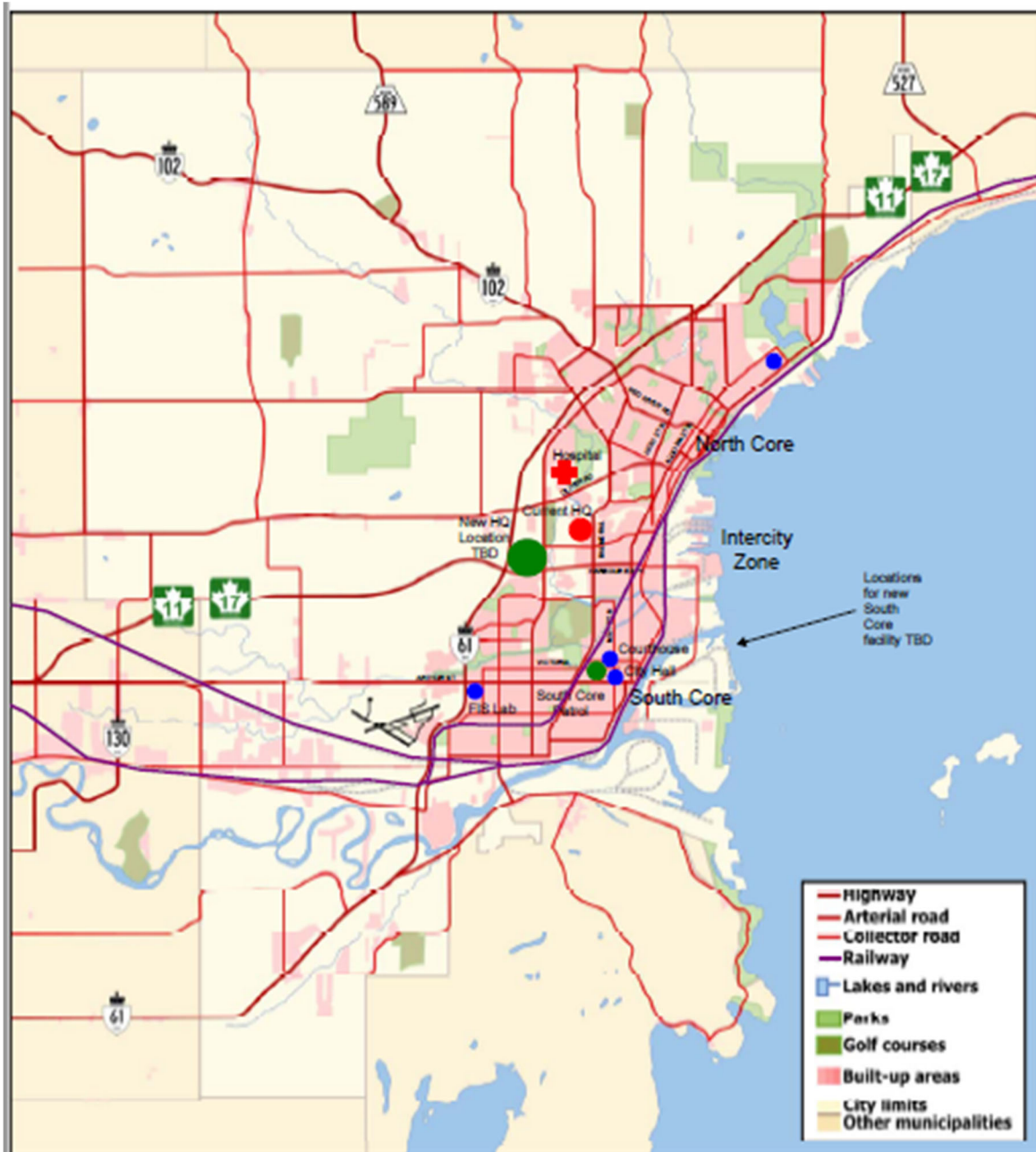
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<p>All administrative & support functions All patrol & investigative operations Training & range Total approx. 304p</p>	<p>Uniform Patrol for South Core (45p) Additional supervisors required (S/Sgt, Sgts) Community Services (30p) Lockers & common areas Public-access spaces (incl. community room) No detention area (secure interview room) No investigative functions (interview room only)</p>
---	---

Site Area Calculations (approx):		Site Area Calculations (approx):	
Building footprint	8,000		1,100
On-grade parking	6,200	170 spaces	2,500
Open space, circulation, etc. (60% of above)	8,520		2,160
	22,720	sqm	5,760
	5.6	acres	1.4

Risks & Disadvantages:
Additional supervisory staff required
Add'l clerical/reception position (1p)
Loss of operational efficiency, effectiveness & flexibility
Loss of time spent travelling between facilities
Loss of communication amongst units
Total space required is more than central HQ
Additional uniform supervisors & commander (S/Sgt)

2.5 OPTION B2 LOCATION MAP



Thunder Bay
Police Service

Option B2 - New Central HQ + South Core Patrol

OPTION B2 - New Central HQ + South Core Patrol

OPTION B2 SUMMARY

Option B2 has been developed to show what a facility that would only accommodate Uniform Patrol might look like (e.g. in the south core, on a small site such as May St).

This option consists of new central headquarters in a location to be determined, plus a small satellite facility in the south core area to accommodate a portion of the Uniform Patrol branch. The headquarters would comprise approximately 96 percent of operational space and would house administration and support functions, uniform and investigative operations, emergency communications, short-term detention, training, and all public-access and community-related functions. It would operate 24/7.

This option would require a site with a minimum of 5.6 to 6 acres of usable space for the headquarters. Larger sites would allow future expansion to occur beyond the recommended 25-year planning horizon.

The satellite would house a portion of the Uniform Patrol branch. Approximately 45 people would work out of the satellite. The satellite facility would require a site with somewhat less than 1 acre of usable area, including parking for up to 30 vehicles.

Benefits:

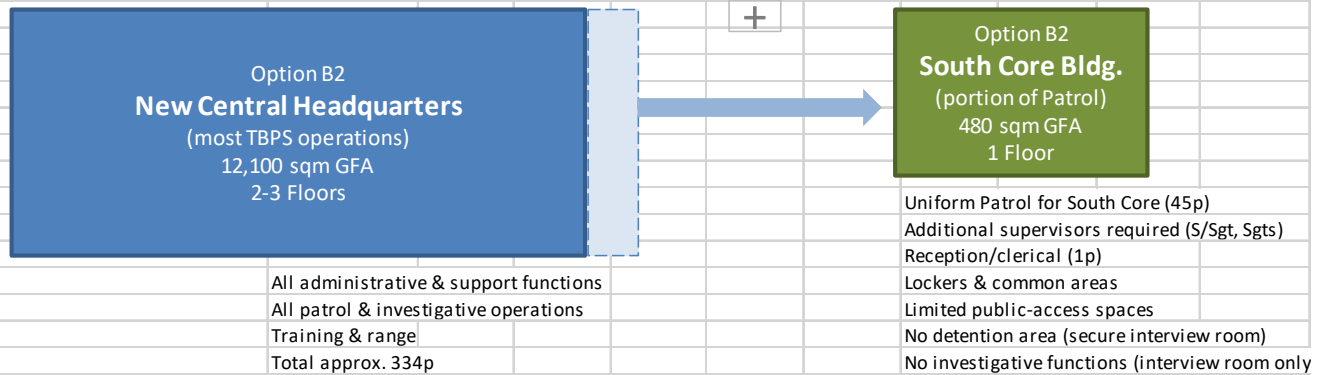
- Most police operations, administration and support located at a central headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the south core area

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Communication, operations and collaboration amongst units would suffer
- Additional staffing requirements and supervisory personnel
- Increased travel time
- Land area requirements
- Two facilities would require more space, and would be more costly, than a single centralized building

OPTION B2 – FUNCTIONAL ORGANIZATION

Option B2 - New Central HQ + S. Core Patrol		New HQ	South Core Facility	Added Area Compared to Option A
100-Senior Administration		540		
201-223-HQ Administration		490		
211-214-Training & Range		1,960		
224-Court & Records		640		
231-Exhibits & QM Stores		840		
241-Communications		380		
301-302-Uniform Patrol		405	110	65
303-Community Services		350		
304-ETU/Canine		160		
311-Investigations		800		
312-Criminal Intelligence		510		
401-402-Public Areas		450	80	80
403-Community/Multipurpose Rm		200		
411-415-Lockers & Common Areas		1,475	175	100
501-Cell Block		1,360	15	15
601-Custodial & Building Services		550	100	100
701-Fleet & Indoor Parking		990		
	Est. GFA	12,100 sqm	480 sqm	360
	Total Est. GFA	12,580 sqm (rounded)		



Site Area Calculations (approx):

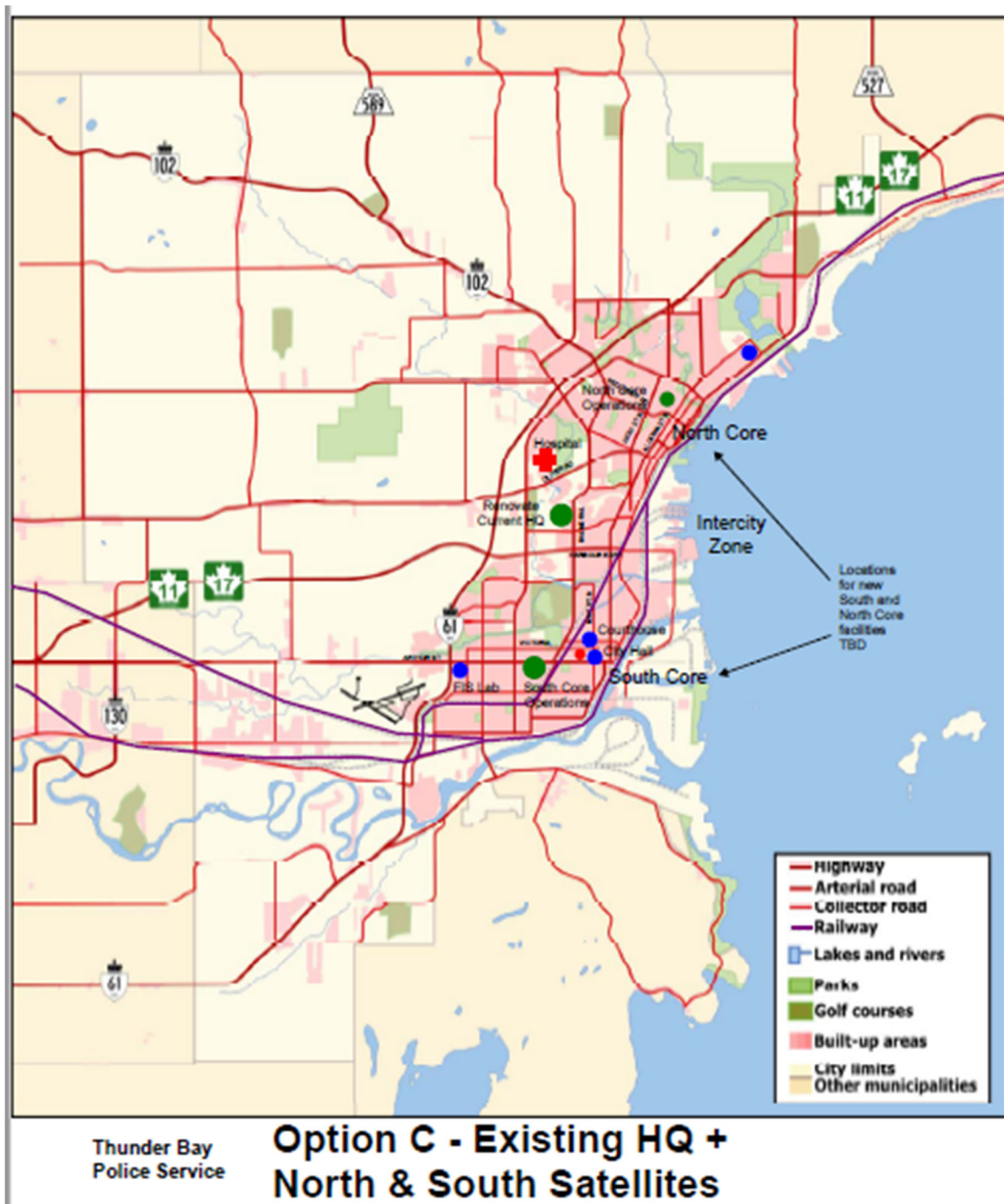
Building footprint	8,000	
On-grade parking	6,200	170 spaces
Open space, circulation, etc. (60% of above)	8,520	
	22,720 sqm	
	5.6 acres	

Site Area Calculations (approx):

	500	
	1,200	30 spaces
	1,020	
	2,720 sqm	
	0.7 acres	

- Risks & Disadvantages:**
- Additional supervisory staff required
 - Add'l clerical/reception position
 - Loss of operational efficiency, effectiveness & flexibility
 - Loss of time spent travelling between facilities
 - Loss of communication amongst units
 - Total space required is more than central HQ
 - Additional uniform supervisors & commander (S/Sgt)

2.6 OPTION C LOCATION MAP



OPTION C - Existing HQ + North / South Core Facilities

OPTION C SUMMARY

Option C has been developed to show what functions could remain at the existing HQ (without expansion), locating a portion of Uniform Patrol in the south core, and providing a third support building for the remainder, possible in or near the north core.

Site requirements have been increased to allow for collision reporting activities. This may be excessive on locations other than Community Services/Traffic but is still a realistic number at this stage.

This option consists of new central headquarters in a location to be determined, plus satellite facilities in the south and north core area. The headquarters, which would be extensively renovated to support activities to remain there, would comprise nearly half of the operational space required. It would house administration and support functions, uniform and investigative operations, emergency communications, short-term detention, and most public-access and community-related functions. It would operate 24/7.

The south core satellite would house training (including a new indoor firing range), exhibits, Community Services and several specialty units. It would require a site with a minimum usable area of between 2.2 and 2.5 acres.

Benefits:

- Most police operations, administration and support located at a central headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the north core area (Uniform Patrol)

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Loss of operational efficiency
- Communication, operations and collaboration amongst units would suffer
- Additional staffing requirements and supervisory personnel
- Increased travel time
- Security concerns with a satellite facility not occupied 24/7
- Land area requirements
- Three facilities would require more space, and would be more costly, than a single centralized building

OPTION C – FUNCTIONAL ORGANIZATION

Option C - Existing HQ + N/S Core Facilities		Existing HQ		South Core Facility		North Core Facility	Added Area
100-Senior Administration		540					
201-223-HQ Administration		490					
211-214-Training & Range				1,960			
224-Court & Records		640					
231-Exhibits & QM Stores				840			
241-Communications		380					
301-302-Uniform Patrol		450					
303-Community Services				500			
304-ETU/Canine				160			
311-Investigations		800					
312-Criminal Intelligence						510	
401-402-Public Areas		300		180			30
403-Community/Multipurpose Rm				200			
411-415-Lockers & Common Areas		1,490		100		60	100
501-Cell Block		1,360		20			20
601-Custodial & Building Services		400		150		80	
701-Fleet & Indoor Parking						990	
	Est. GFA	6,850	sqm	4,110	sqm	1,640	150
	Total Est. GFA	12,600	sqm (rounded)				

**Option C
Existing Headquarters**
(selected TBPS operations)
6,850 sqm GFA
2 Floors

+

**Option C
South Core Bldg.**
(selected operations)
4,110 sqm GFA
1-2 Floors
(large footprint)

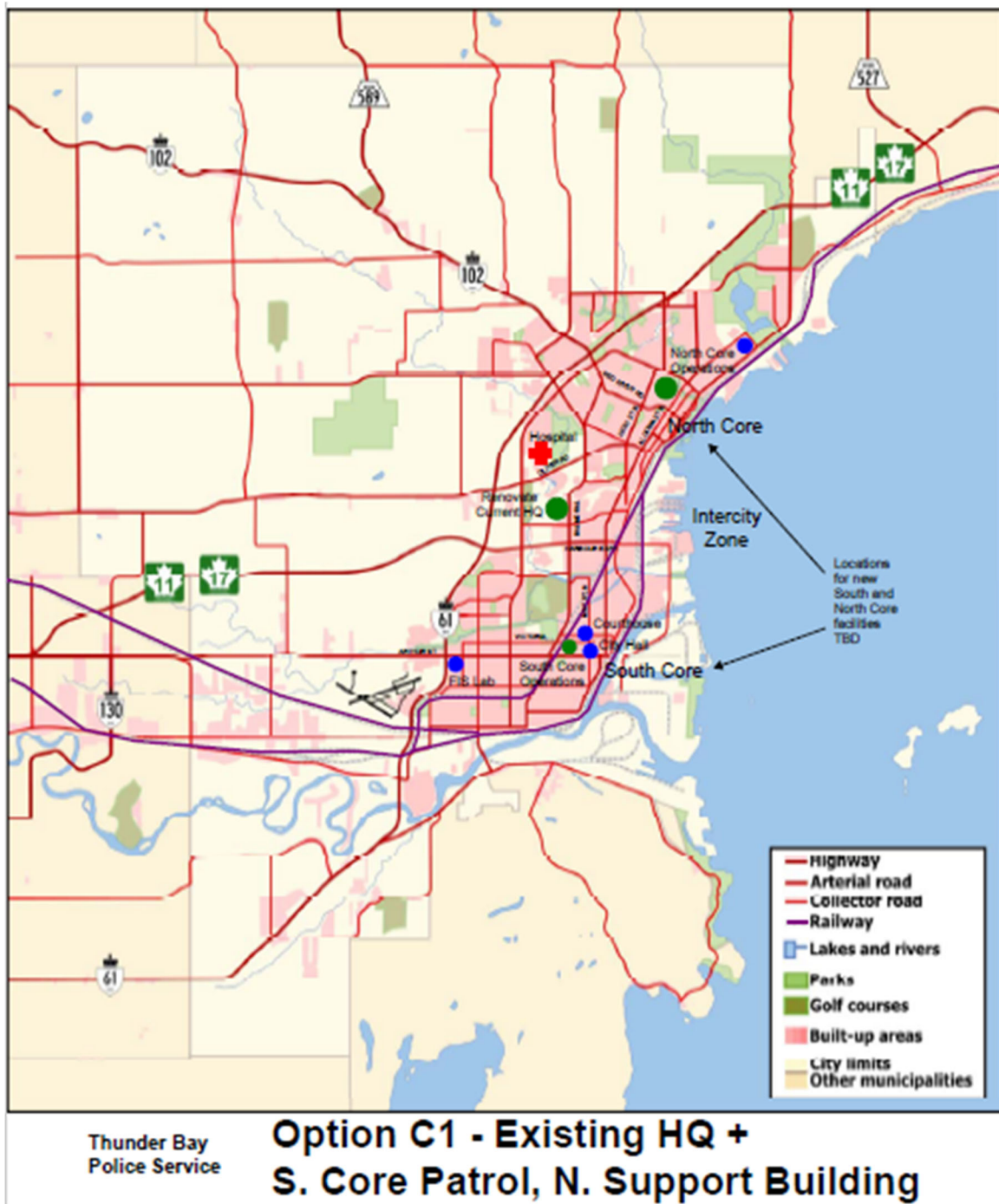
**Option C
North Core
Bldg.**
(selected)

<p>All administrative functions Majority of support functions All patrol & investigative operations Total approx. 324p</p>	<p>Training & range (2p + attendees) Exhibits & QM Stores (4p) Community Services (30p) ETU/Canine (net 1p) Lockers & common areas Public-access spaces This will not be a 24/7 building</p>	<p>Criminal Intelligence (18p) Lockers & common areas Fleet & indoor parking No public access This will not be a 24/7 building</p>
--	--	--

Site Area Calculations (approx):		Site Area Calculations:		Site Area Calculations:	
Building footprint	4,000		3,500		1,700
On-grade parking	5,000	140 spaces	2,000	55 spaces	1,000
Open space, circulation, etc. (60% of above)	5,400		3,300		1,620
	14,400	sqm	8,800	sqm	4,320
		3.6 acres		2.2 acres	1.1 acres

Risks & Disadvantages:
Buildings vulnerable not occupied 24/7 (exhibits, weapons, ammunition)
Off-site fleet operations will result in loss of efficiency and time
Loss of time spent travelling between facilities
Loss of communication amongst units
Total space required is more than central HQ

2.7 OPTION C1 LOCATION MAP



OPTION C1 - Existing HQ + North /South Core Facilities

OPTION C1 SUMMARY

Option C1 has been developed to show what functions could remain at the existing HQ (without expansion), locating a portion of Uniform Patrol in the south core, and providing a third support building for the remainder, possible in or near the north core.

Site requirements have been increased to allow for collision reporting activities. This may be excessive on locations other than Community Services/Traffic but is still a realistic number at this stage.

This option consists of new central headquarters in a location to be determined, plus satellite facilities in the south and north core area. The headquarters, which would be extensively renovated to support activities to remain there, would comprise nearly half of the operational space required. It would house administration and support functions, uniform and investigative operations, emergency communications, short-term detention, and most public-access and community-related functions. It would operate 24/7.

The south core satellite would house a portion of Uniform Patrol (similar to Option B2). Approximately 45 people would work out of the satellite, which would require a site with somewhat less than 1 acre of usable area, including parking for up to 30 vehicles.

The north satellite would house training (including a new indoor firing range), exhibits, Community Services and several specialty units. It would require a site with a minimum usable area of around 2.9 to 3 acres. It would not be occupied 24/7.

Benefits:

- Most police operations, administration and support located at a central headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the north core area (Uniform Patrol)

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Loss of operational efficiency
- Communication, operations and collaboration amongst units would suffer
- Additional staffing requirements and supervisory personnel
- Increased travel time
- Security concerns with a satellite facility not occupied 24/7
- Land area requirements
- Three facilities would require more space, and would be more costly, than a single centralized building

OPTION C1 – FUNCTIONAL ORGANIZATION

Option C1 - Existing HQ + N/S Facilities	Existing HQ	South Core Patrol	Support Building	Added Area
100-Senior Administration	540			
201-223-HQ Administration	490			
211-214-Training & Range			1,960	
224-Court & Records	640			
231-Exhibits & QM Stores			840	
241-Communications	380			
301-302-Uniform Patrol	410	110		65
303-Community Services			500	
304-ETU/Canine			160	
311-Investigations	800			
312-Criminal Intelligence			510	
401-402-Public Areas	300	80	100	30
403-Community/Multipurpose Rm			200	
411-415-Lockers & Common Areas	1,490	175	60	175
501-Cell Block	1,360	15	20	35
601-Custodial & Building Services	400	100	80	
701-Fleet & Indoor Parking			990	
	Est. GFA	6,810 sqm	480 sqm	5,420
	Total Est. GFA	12,710 sqm (rounded)		305

Option C1
Existing Headquarters
(selected TBPS operations)
6,810 sqm GFA
2 Floors

+

Option C1
S. Core Patrol
(Patrol only)
480 sqm GFA
1 Floor

+

Option C1
Support Bldg.
(selected operations)
5,420 sqm GFA
1-2 Floors
(large footprint)

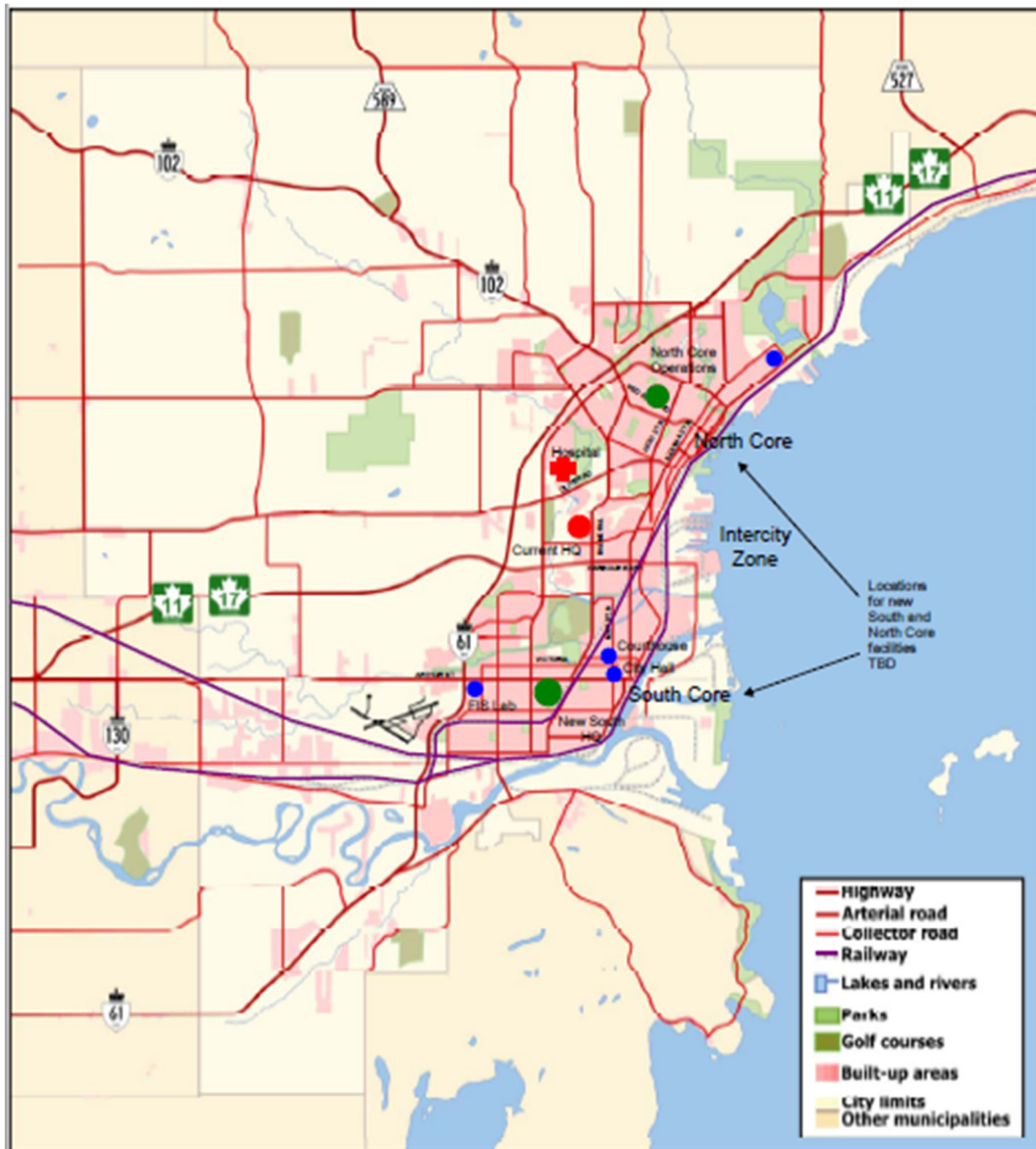
<p>No expansion to existing HQ All administrative functions Majority of support functions Majority of patrol operations All investigative operations Total approx. 296p</p>	<p>Uniform Patrol (part, 33p) Lockers & common areas No public access</p> <p>Training & range (2p + attendees) Exhibits & QM Stores (4p) Criminal Intelligence (18p) Community Services (30p) ETU/Canine (1p) Lockers & common areas Fleet & indoor parking Public-access spaces This will not be a 24/7 building</p>
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Site Area Calculations (approx):		Site Area Calculations:		Site Area Calculations:	
Building footprint	4,500		500		5,000
On-grade parking	5,000	140 spaces	1,200	30 spaces	2,300
Open space, circulation, etc. (60% of above)	5,700		1,020		4,380
	15,200 sqm		2,720 sqm		11,680 sqm
	3.8 acres		0.7 acres		2.9 acres

Risks & Disadvantages:

- Buildings vulnerable not occupied 24/7 (exhibits, weapons, ammunition)
- Additional supervisory & support staff req'd
- Off-site fleet operations will result in loss of efficiency and time
- Loss of time spent travelling between facilities
- Loss of communication amongst units
- Total space required is more than central HQ

2.8 OPTION D LOCATION MAP



Thunder Bay
Police Service

Option D - New South Core HQ + N. Training/Special Ops

OPTION D - New South HQ + Satellite

OPTION D SUMMARY

In this option it is proposed that a new headquarters be constructed in or near the south core. It would contain all police operations, administration and support activities, except for training (including a new indoor firing range). The new headquarters would provide approximately 75 percent of space needs. Training and a number of specialty units would be accommodated at a second location.

The headquarters would require a site with a minimum usable area of between 5 and 5.5 acres. A larger site would allow future expansion to occur beyond the recommended 25-year planning horizon. The satellite training and specialty units building would require a site with a minimum usable area of between 1.5 and 2 acres.

Benefits:

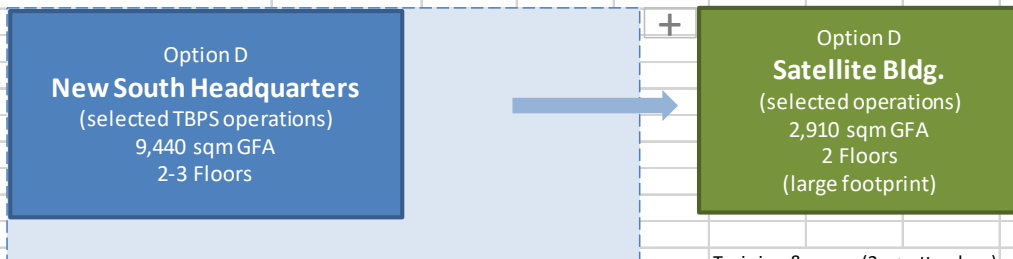
- Most police operations, administration and support located at a single headquarters would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the south core area and accessibility to community-related activities

Other Considerations:

- Increased travel time to attend training, and loss of opportunity to practice before or after shifts
- Security concerns with a training facility not occupied 24/7
- Land area requirements for a large headquarters in the south core area (an expensive parking deck may be required)
- Two facilities would require more space, and would be more costly, than a single centralized building

OPTION D – FUNCTIONAL ORGANIZATION

Option D - New S. HQ + Training/Special Ops		New South HQ	North Core Operations	Added Area Compared to Option A
100-Senior Administration		540		
201-223-HQ Administration		490		
211-214-Training & Range			1,960	
224-Court & Records		640		
231-Exhibits & QM Stores		840		
241-Communications		380		
301-302-Uniform Patrol		450		
303-Community Services		350		
304-ETU/Canine			160	
311-Investigations		800		
312-Criminal Intelligence			510	
401-402-Public Areas		450		
403-Community/Multipurpose Rm		200		
411-415-Lockers & Common Areas		1,550	80	80
501-Cell Block		1,360		
601-Custodial & Building Services		400	200	50
701-Fleet & Indoor Parking		990		
	Est. GFA	9,440 sqm	2,910 sqm	130
	Total Est. GFA	12,350 sqm (rounded)		



All administrative functions
Majority of support functions
All patrol operations
All investigative operations
Fleet
Total approx. 358p

Training & range (2p + attendees)
ETU/Canine (1p)
Criminal Intelligence (18p)
Lockers & common areas
No public access
This will not be a 24/7 building

Site Area Calculations (approx):

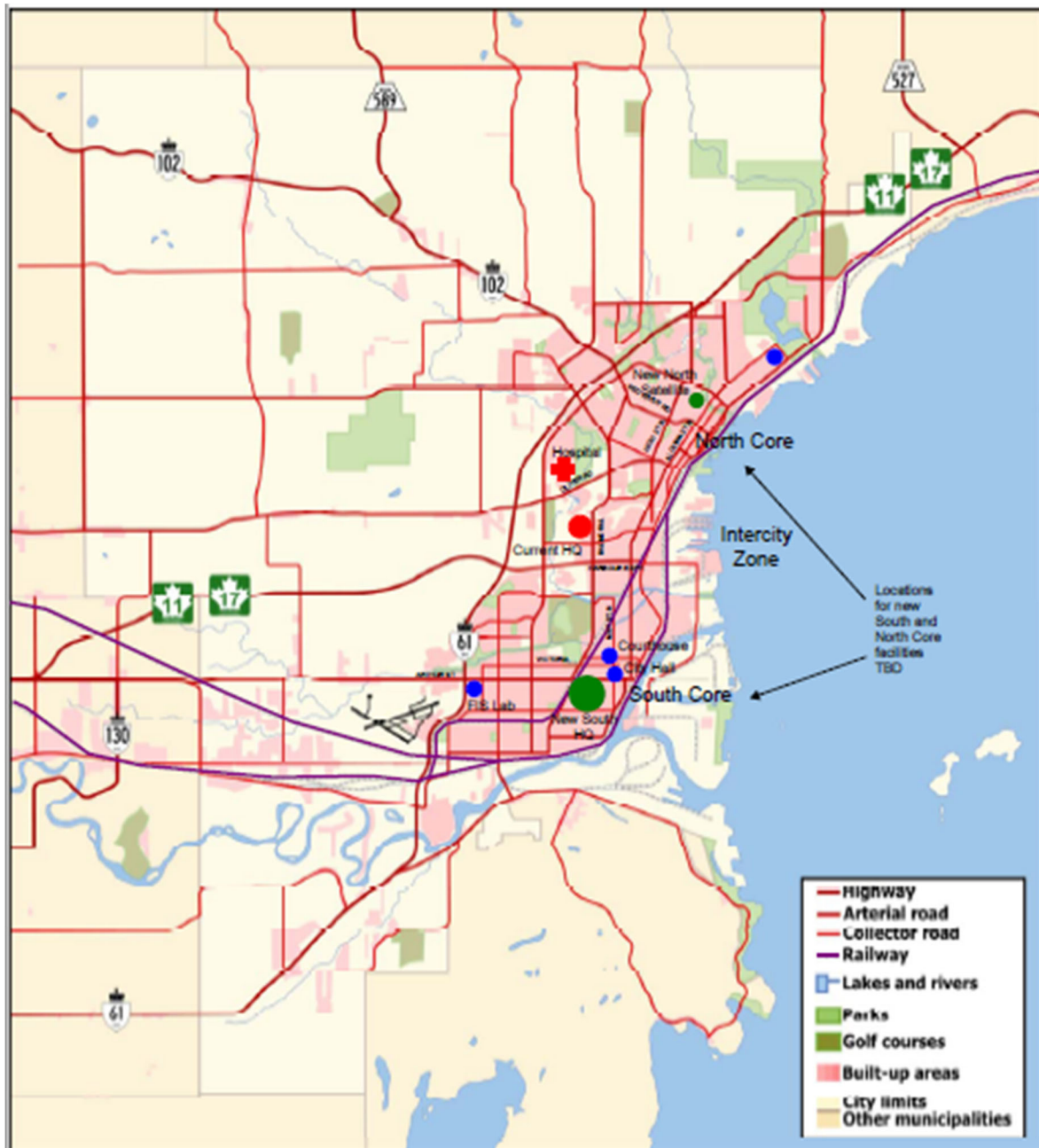
Building footprint	6,000	
On-grade parking	6,700	190 spaces
Open space, circulation, etc. (60% of above)	7,620	
	20,320 sqm	
	5.0 acres	

Site Area Calculations (approx):

	2,700	
	1,000	25 spaces
	2,220	
	5,920 sqm	
	1.5 acres	

Risks & Disadvantages:
Building vulnerable not occupied 24/7 (weapons, ammunition)
Loss of time spent travelling between facilities
Loss of communication amongst units
Total space required is more than central HQ

2.9 OPTION E LOCATION MAP



Thunder Bay
Police Service

Option E - New South Core HQ + Community Satellite

OPTION E - South HQ + Community Satellite

OPTION E SUMMARY

In this option it is proposed that a new headquarters be constructed in or near the south core. It would contain all police operations, administration and support activities, except for Community Services. The new headquarters would provide approximately 90-95 percent of space needs. It would operate 24/7.

The north-end satellite would house the Community Services unit. Approximately 30 people would work out of the satellite, but it would not be operational 24 hours a day.

This option would require a site with a minimum of 5.2 to 5.5 acres of usable space for the headquarters. Larger sites would allow future expansion to occur beyond the recommended 25-year planning horizon. The satellite facility would require a site with a minimum of 1 acre of usable area.

Benefits:

- Most police operations, administration and support located at a central headquarters in or near the south core would result in reasonably efficient building planning and utilization of space
- Provides a daytime police presence in the south core area

Other Considerations:

- Proximity to areas of highest service demand and deployment patterns
- Communication, operations and collaboration amongst units (e.g. between Community Services and patrol and investigative branches) would suffer
- Additional staffing requirements and supervisory personnel
- Increased travel time
- Land area requirements (large site required in the south core)
- Two facilities would require more space, and would be more costly, than a single centralized building

OPTION E – FUNCTIONAL ORGANIZATION

Option E - South HQ + Community Satellite		New HQ		North Satellite		Added Area Compared to Option A
100-Senior Administration		540				
201-223-HQ Administration		490				
211-214-Training & Range		1,960				
224-Court & Records		640				
231-Exhibits & QM Stores		840				
241-Communications		380				
301-302-Uniform Patrol		450				
303-Community Services				350		
304-ETU/Canine		160				
311-Investigations		800				
312-Criminal Intelligence		510				
401-402-Public Areas		370		150		70
403-Community/Multipurpose Rm		200				
411-415-Lockers & Common Areas		1,490		120		60
501-Cell Block		1,360				
601-Custodial & Building Services		550		250		250
701-Fleet & Indoor Parking		990				
	Est. GFA	11,730	sqm	870	sqm	380
	Total Est. GFA	12,600	sqm (rounded)			

Option E
New South Headquarters
(most TBPS operations)
11,730 sqm GFA
2-3 Floors

+

Option E
N. Satellite Bldg.
(CSU only)
870 sqm GFA
1 Floor
(repurpose exist bldg?)

<p>All administrative functions Majority of support functions All patrol operations Training & range (2p + attendees) Exhibits & QM Stores (4p) All investigative operations Total approx. 349p</p>	<p>Community Services (30p) Add'l reception/clerical (1p) Lockers & common areas Public-access Areas This will not be a 24/7 building</p>
---	---

Site Area Calculations (approx):	Site Area Calculations (approx):
Building footprint	6,800
On-grade parking	6,300 175 spaces
Open space, circulation, etc. (60% of above)	7,860
	20,960 sqm
	5.2 acres
	1,000
	1,200 35 spaces
	1,320
	3,520 sqm
	0.9 acres

Risks & Disadvantages:
Building vulnerable not occupied 24/7
Loss of time spent travelling between facilities
Loss of communication amongst units
Total space required is more than central HQ

2.10 SUMMARY CHART OF MINIMUM SITE REQUIREMENTS FOR EACH OPTION

This chart summarizes the projected minimum site areas required for Options with various combinations of TBPS operational divisions. These area requirements illustrate the building implications of the physical separation of the police services into separate buildings in different areas of the city (south core, north core, intercity).

OPTION	MIN. HQ SITE AREA	MIN. SATELLITE AREA	NOTES
OPTION A Base Case New HQ any location	6.3 acres (2.5ha)	none	Applies to any new location
OPTION B New Central HQ with South Satellite	5.6 acres (2.3ha)	1.3 acres (0.5ha)	south core satellite includes Exhibits, Comm Services
OPTION B1 New Central HQ with South Satellite	5.6 acres (2.3ha)	1.4 acres (0.6 ha)	south core satellite includes Patrol & Comm Services
OPTION B2 New Central HQ with South Satellite	5.6 acres (2.3ha)	0.7 acres (0.3 ha)	South core satellite includes Patrol
OPTION C Existing HQ with South & North Satellites	3.6 acres (1.5 ha)	South – 2.2 acres (0.9 ha) North – 1.1 acre (0.4 ha)	South core satellite includes Exhibits, Range North core satellite is covert (no public access)
OPTION C1 Existing HQ with South & North Satellites	3.8 acres (1.6 ha)	South - 0.7 acres (0.3 ha) Support Building - 2.9 acres (1.2 ha)	south core satellite includes Comm Services Support Bldg includes Exhibits, Range, Comm Services
OPTION D New South HQ with North Satellite	5.0 acres (2.0 ha)	1.5 acres (0.6 ha)	satellite is covert (no public access) includes Range
OPTION E New South HQ with North Satellite	5.2 acres (2.1 ha)	0.9 acres (0.4 ha)	north satellite includes Comm Services

PART 3 – COST

3.1 METHODOLOGY

For the estimating methodology used to determine construction cost magnitude for the options in this study, refer to section 4 of the “Thunder Bay Police Services Facility Needs Assessment Report”, February 2020, prepared by Form Studio Architects of Thunder Bay and RPL Architects, police facility planners. Option 2 - New Centralized Facility from the original report is used as the Base Case in this Addendum study for purposes of comparison with the proposed decentralized options. The Base Case in this study is called Option A – Base Case.

Construction (hard) costs per square meter were developed for Option 2 in the TBPS Facility Needs Assessment Study (Appendix F Class D estimates). This baseline cost per square meter reflects the average cost per square meter for the construction of a single centralized police facility.

- **GFA / Gross Square Metres required in HQ building:** **12,200 sm**
- **Class D estimate of probable construction costs (rounded):** **\$45,026,000**
- **Base Case construction costs per square meter:** **\$3,691 / sm**

The cost per square meter for Renovations to the existing HQ building taken from the Class D Cost Estimate in Appendix F of the original report.

- **Renovation of existing HQ building:** **\$3,630 / sm**

This cost per square meter was then applied to Options A through E in this Addendum study to allow for direct comparison. A Complexity / Economy of Scale Factor was applied to adjust the baseline cost per square meter to reflect the impact of differences resulting from building construction / occupancy type and economies of scale in multi-site options.

1. Complex construction
 - a. all headquarters facilities
 - b. facility containing exhibit storage
 - c. facility containing training and firing range
 - d. phased construction
 - e. multiple sites
 - f. multiple tenders

2. Standard construction
 - a. satellite facilities / offices
 - b. patrol and / or community services

Formula for the Estimated Probable Construction Costs:

- **Estimated Construction Cost = Gross Square Meters x Baseline \$/sm x Complexity/Scale Factor**

General Notes on Costs:

- GFA = Gross Floor Area
- construction costs per square meter include site development costs that assume a site of the minimum required area
- construction costs do not include HST or other project soft costs for consulting, etc.
- the site is unknown at the time of this report therefore site development costs are generic for a new greenfield site and do not include costs for:
 - a. site procurement
 - b. demolition of existing structures on the site
 - c. brown field (hazardous materials) site remediation
 - d. extension of servicing to the site
- This study looks at comparative costs only for various identified options and should not be relied for likely total costs

3.2 SUMMARY CHART OF ESTIMATED CONSTRUCTION COSTS

OPTION DESCRIPTION	Gross Square Metres	Construction Baseline \$/SM	Complexity / Scale Factor	Estimated Construction \$
Summary Chart Explanatory Note		1	2	3
Option A Baseline - New Centralized HQ Facility				
OPTION A TOTALS	12,220	3,691	1.00	\$45,025,668
Option B				
S. Core Satellite housing Community Services, Exhibits Storage and Quartermaster	1,565	3,691	1.04	\$ 6,007,472
Centralized HQ New-Build for remainder	11,000	3,691	1.05	\$42,631,050
OPTION B Totals	12,565			\$48,638,522
Option B1				
S. Core Satellite housing Community Services and portion of Uniform Patrol	1,050	3,691	1.04	\$4,030,572
Centralized HQ New-Build for remainder	11,750	3,691	1.05	\$45,537,713
OPTION B1 Totals	12,800			\$49,568,285
Option B2				
S. Core Satellite housing portion of Uniform Patrol only	480	3,691	1.04	\$1,842,547
Centralized HQ New-Build for remainder	12,100	3,691	1.05	\$46,894,155
OPTION B2 Totals	12,580			\$48,736,702
Option C				
S. Core Satellite housing Training, Firing Range, Exhibits Storage, Quartermaster, Community Services and Specialized Ops	4,110	3,691	1.17	\$17,748,912
N. Core Satellite housing Intelligence Unit and Fleet Operations	1,640	3,691	1.17	\$7,082,291

	Renovate and expand Existing HQ for remainder	6,850	3,630	1.05	\$26,108,775
	OPTION C Totals	12,600			\$50,939,978
Option C1					
	S. Core Satellite housing a portion of Uniform Patrol	480	3,691	0.98	\$1,736,246
	N. Core Satellite housing Training, Firing Range, Exhibits Storage, Quartermaster Stores, Community Services, Intelligence Unit and Specialized Ops	5,420	3,691	1.04	\$20,705,403
	Renovate and expand Existing HQ for remainder	6,810	3,630	1.15	\$28,428,345
	OPTION C1 Totals	12,710			\$49,133,748
Option D					
	Satellite in location tbd housing Training, Firing Range, Intelligence Unit and Specialized Ops	2,810	3,691	1.17	\$12,134,901
	S. Core HQ New-build housing the remainder	9,440	3,691	1.04	\$36,236,762
	OPTION D Totals	12,250			\$48,371,662
Option E					
	Satellite in N.Core housing Community Services	870	3,691	1.04	\$3,339,617
	S. Core HQ New-build housing the remainder	11,730	3,691	1.00	\$43,295,430
	OPTION E Totals	12,600			\$46,635,047

Cost estimate summary chart - explanatory notes:

1. Baseline \$/sm reflect the average cost /sm of a single centralized police facility new-build or renovation as applicable.
2. The Complexity / Scale Factor adjusts the baseline cost per sf to reflect the impact of differences in complexity and economies of scale in a multi-site option.
3. Estimated Construction Cost is GSM x Baseline \$/sm x Complexity/Scale Factor.

PART 4 – FINANCIAL ANALYSIS

4.1 ASSUMPTIONS

As explained in the previous section, the Base Case (Option A – Base Case), which is the New Centralized Facility from the original report, is used as the basis for comparison to various options for the facility which includes several variables which are detailed in Part 3. From this basis, all of the seven options are compared. The Net Present Value has been calculated for each of the options.

A few assumptions have been made to simplify the comparative analysis.

Assumptions	
Wages	<ul style="list-style-type: none"> • Wage increase - FTEs would be added depending on the option for the facility. Should a second satellite facility be constructed, in some instances additional personnel is required as follows: <ul style="list-style-type: none"> ○ When a Patrol Unit is located in the satellite site, Additional Staff Sergeant position is required – this has been estimated at \$140,000 x two shifts = \$280,000 ○ When the satellite site includes Community Services a Support Staff/Receptionist is added at 1 FTE at \$50,000
Discount Rate (Borrowing Rate)	<ul style="list-style-type: none"> • The Net Present Value has been calculated with a discount rate of 4%
Year of Start of Construction	<ul style="list-style-type: none"> • It is estimated that all sites in every scenario/option is constructed in Year 1.
Construction Period	<ul style="list-style-type: none"> • 20 Months
Inflation	<ul style="list-style-type: none"> • 2% the Bank of Canada’s target rate
Time Frame	<ul style="list-style-type: none"> • The analysis was developed over a 25-year time horizon
Escalation	<ul style="list-style-type: none"> • 3% per year was used to escalate the capital costs
Soft Costs	<ul style="list-style-type: none"> • In addition to the previously included soft costs allowances for move costs, inefficiencies and the revenue from the sale of the old building were added
Debt Funding	<ul style="list-style-type: none"> • The assumption was that 100% of the capital project will be financed through debt
Interest Rate	<ul style="list-style-type: none"> • 4% provided by the COTB as their current rate of long-term borrowing
Term	<ul style="list-style-type: none"> • 20 years, typically a 10-30-year term is used for similar infrastructure projects, 20 was used as the middle point
Energy Efficiency	<ul style="list-style-type: none"> • 60% improvement compared to current efficiency

From these assumptions the following comparative analysis has been completed.

4.2 ANNUAL OPERATING COST TABLE

The following table shows a detailed breakdown of the anticipated annual operating costs for each of the options as well as the variance in total operating costs compared to Option A. The header for each option also converts the total value to a per square foot cost to account for the difference in total building(s) footprint between the eight options.

	Option A (\$25.92/sqft)	Option B (\$27.58/sqft)	Option B1 (\$29.39/sqft)	Option B2 (\$29.19/sqft)	Option C (\$29.89/sqft)	Option C1 (\$31.59/sqft)	Option D (\$27.55/sqft)	Option E (\$26.86/sqft)
Marketing	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Parking	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communications	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Utilities	\$181,008	\$202,873	\$206,667	\$203,115	\$203,438	\$205,214	\$199,401	\$203,438
Gasoline	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000
Repairs and Maintenance	\$30,168	\$33,812	\$34,445	\$33,852	\$33,906	\$34,202	\$33,234	\$33,906
Computer	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
Office Supplies	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
General	\$181,008	\$202,873	\$206,667	\$203,115	\$203,438	\$205,214	\$199,401	\$203,438
Miscellaneous	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Materials and Services	\$7,240	\$8,115	\$8,267	\$8,125	\$8,138	\$8,209	\$7,976	\$8,138
Contracted Services	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Rent	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Range Cost (Revenue)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest	\$1,609,777	\$1,832,308	\$1,665,254	\$1,632,299	\$1,734,301	\$1,708,531	\$1,634,182	\$1,559,220
Additional Staffing	\$0	\$50,000	\$330,000	\$280,000	\$50,000	\$330,000	\$0	\$50,000
Total	\$3,409,201	\$3,729,981	\$4,049,103	\$3,952,186	\$4,054,454	\$4,321,740	\$3,662,644	\$3,643,493
Variance vs. Option A	\$0	\$320,780	\$639,902	\$542,985	\$645,253	\$912,539	\$253,443	\$234,292

4.3 25 YEAR TOTAL COST OF OWNERSHIP TABLE

The following table shows a breakdown of the total operating, capital and capital renewal costs for each of the options as well as the variance in total costs compared to Option A. The table highlights the total cost of ownership for each option over a 25-year period.

Operating 25-year Lifetime						
	Facility Size (Sqft)	Operating	Capital	Capital Renewal	Total	Variance vs. Option A
Option A	131,535	\$80,467,606	\$35,903,668	\$11,338,000	\$127,709,275	\$0
Option B	135,249	\$86,881,075	\$58,071,567	\$12,988,196	\$157,940,838	\$30,231,564
Option B1	137,778	\$97,020,273	\$59,022,395	\$13,216,395	\$169,259,062	\$41,549,788
Option B2	135,410	\$94,625,576	\$58,032,151	\$12,978,736	\$165,636,463	\$37,927,189
Option C	135,625	\$90,766,009	\$66,580,532	\$15,030,347	\$172,376,889	\$44,667,614
Option C1	136,809	\$100,439,477	\$66,832,181	\$15,090,743	\$182,362,401	\$54,653,126
Option D	132,934	\$84,697,575	\$57,535,667	\$12,859,580	\$155,092,821	\$27,383,546
Option E	135,625	\$85,872,571	\$55,745,592	\$12,429,962	\$154,048,124	\$26,338,850

4.4 NET PRESENT VALUE

To more accurately represent the ‘time value’ of money a Net Present Value (NPV) comparison of the three options has been prepared. Parallel financial models were prepared over a period of twenty-five (25) years which then allowed for a Net Present Value (NPV) cost-benefit analysis for each facility option. The NPV is based on three components including capital costs, facility operating costs and facility repairs and maintenance costs (capital renewal). The NPV analysis was conducted with capital costs and soft cost assumptions provided by FORM.

The following key assumptions were used in the NPV analysis:

- A cost escalation rate of 3% per year
- A discount rate of 4% over 25 years
- A time period of 25 years

The following table shows the Net Present Value results for each option.

Operating 25-year Lifetime Present Value						
	Facility Size (Sqft)	Operating	Capital	Capital Renewal	Total	Variance vs. Option A
Option A	131,535	\$55,966,697	\$53,805,658	\$8,103,206	\$117,875,562	\$0
Option B	135,249	\$58,700,100	\$57,782,752	\$8,272,087	\$124,754,939	\$6,879,377
Option B1	137,778	\$65,301,782	\$58,820,845	\$8,417,425	\$132,540,052	\$14,664,490
Option B2	135,410	\$63,738,663	\$57,926,477	\$8,266,062	\$129,931,202	\$12,055,640
Option C	135,625	\$61,520,265	\$65,800,726	\$9,572,718	\$136,893,709	\$19,018,147
Option C1	136,809	\$67,988,100	\$66,731,240	\$9,611,184	\$144,330,524	\$26,454,963
Option D	132,934	\$57,177,991	\$56,995,040	\$8,190,172	\$122,363,204	\$4,487,642
Option E	135,625	\$57,957,821	\$55,574,542	\$7,916,552	\$121,448,915	\$3,573,353

PART 5 – DECENTRALIZED HEAD QUARTERS STUDY CONCLUSIONS

A range of decentralized options for the accommodation of TBPS facility needs were developed and evaluated. All the identified options will require changes to police operational models that introduce varying degrees of inefficiencies especially for evidence deposit and retrieval, prisoner interview and transport and dispatch, supervision, and travel time for patrol forces. The operational cost premium associated with the decentralized options range from a low of \$234,000 per annum for Option E to a high of \$913,000 per annum for Option C1. All multi-site options introduce varying complexities and recued economies of scale for project development which will increase construction and soft costs. The construction cost premium for decentralized police facilities ranges from a low of \$1.6 million for Option E to a high of \$5.9 million for Option C. Soft costs and the net present value of 25-year costs are all proportionately higher.

The desired benefit of a 24/7 'boots on the ground' police presence in the south core is not fully achieved by any the decentralized options and only partially achieved by Options B1, C1, C2, D & E. Research does not establish an evidence-based case either for or against the crime prevention benefit of a police facility in high crime areas. The economic benefit for core area businesses of locating police facilities there will be proportionate to the number of staff who will operate out of these facilities.

The Option A - Base Case (New Centralized Police HQ) used in this study provides an optimized departmental layout in a purpose-built environment that fully matches the operational requirements of the TBPS. This option supports the most efficient and effective policing workflows and allows safe and improved interaction with the public and is the most cost effective option in terms of both initial capital cost and ongoing operational costs and is the least costly option considering the cost of capital and operations over 25 years expressed as a net present value.

Decentralized options that propose the development of a large south core facility will present challenges in identifying a suitable site (refer to Appendix A). Note that actual site acquisition costs are unknown and therefore have been excluded from this options comparison and analysis. The actual total project costs for any option included in this study will be increased by the addition of site acquisition and development costs. This study looks at comparative costs only for various identified options and should not be relied for likely total costs.

Please refer to the original TBPS Needs Assessment Report for additional costing methodology, analysis, and projections.

OPTION COMPARISON SUMMARY CHART											PROS		CONS							
OPTION DESCRIPTION	Gross Square Metres	Construction Baseline \$/SM	Complexity / Scale Factor	Estimated Construction \$	Soft Cost Uplift	Estimated Total Project \$	Staffing	Annual Operating \$	Net Present Value \$			24/7 Ops in Core Area	no 24/7 Ops in Core Areas							
Notes	1	2	3	4	5	8	6	7			South Core Site Size	Operational Inefficiencies	Lower Land Costs	Cost Effective	South Core Site Size	Operational Inefficiencies	Higher Land Costs	Cost Ineffective	Additional Project Mngmt Costs	High Operational Disruption
Option A Baseline - New Centralized HQ Facility																				
Option A Totals	12,220	\$ 3,691	1.00	\$ 45,025,668	110.77%	\$ 49,875,204	379	\$ 3,409,201	\$ 111,461,973		✓	✓	✓	✓	✗					
Option B																				
S. Core Satellite housing Community Services, Exhibits Storage and Quartermaster	1,565	\$ 3,691	1.04	\$ 6,007,472	114.77%	\$ 6,894,811	35													
Centralized HQ New-Build for remainder	11,000	\$ 3,691	1.05	\$ 42,631,050	110.77%	\$ 47,222,671	345													
OPTION B Totals	12,565			\$ 48,638,522		\$ 54,117,483	380	\$ 3,729,981	\$ 124,754,939		✓	✓			✗	✗	✗	✗		
Option B1																				
S. Core Satellite housing Community Services and portion of Uniform Patrol	1,050	\$ 3,691	1.04	\$ 4,030,572	114.77%	\$ 4,625,912	80													
Centralized HQ New-Build for remainder	11,750	\$ 3,691	1.05	\$ 45,537,713	110.77%	\$ 50,442,399	304													
OPTION B1 Totals	12,800			\$ 49,568,285		\$ 55,068,311	384	\$ 4,049,103	\$ 132,540,052		✓	✓	✓			✗	✗	✗		
Option B2																				
S. Core Satellite housing portion of Uniform Patrol only	480	\$ 3,691	1.04	\$ 1,842,547	115.77%	\$ 2,133,128	50													
Centralized HQ New-Build for remainder	12,100	\$ 3,691	1.05	\$ 46,894,155	110.77%	\$ 51,944,938	334													
OPTION B2 Totals	12,580			\$ 48,736,702		\$ 54,078,066	384	\$ 3,952,186	\$ 129,931,202		✓	✓	✓			✗	✗	✗		
Option C																				
S. Core Satellite housing Training, Firing Range, Exhibits Storage, Quartermaster, Community Services and Specialized Ops	4,110	\$ 3,691	1.17	\$ 17,748,912	110.77%	\$ 19,660,577	38													
N. Core Satellite housing Intelligence Unit and Fleet Operations	1,640	\$ 3,691	1.17	\$ 7,082,291	114.77%	\$ 8,128,388	18													
Renovate and expand Existing HQ for remainder	6,850	\$ 3,630	1.05	\$ 26,108,775	133.43%	\$ 34,837,483	324													
OPTION C Totals	12,600			\$ 50,939,978		\$ 62,626,447	380	\$ 4,054,454	\$ 136,893,709						✗	✗	✗	✗	✗	✗
Option C1																				
S. Core Satellite housing a portion of Uniform Patrol	480	\$ 3,691	0.98	\$ 1,736,246	115.77%	\$ 2,010,063	33													
N. Core Satellite housing Training, Firing Range, Exhibits Storage, Quartermaster Stores, Community Services, Intelligence Unit and Specialized Ops	5,420	\$ 3,691	1.04	\$ 20,705,403	110.77%	\$ 22,935,499	55													
Renovate and expand Existing HQ for remainder	6,810	\$ 3,630	1.15	\$ 28,428,345	133.43%	\$ 37,932,534	296													
OPTION C1 Totals	12,710			\$ 49,133,748		\$ 62,878,096	384	\$ 4,321,740	\$ 144,330,524		✓	✓				✗	✗	✗	✗	✗
Option D																				
Satellite in location tbd housing Training, Firing Range, Intelligence Unit and Specialized Ops	2,810	\$ 3,691	1.17	\$ 12,134,901	110.77%	\$ 13,441,903	21													
S. Core HQ New-build housing the remainder	9,440	\$ 3,691	1.04	\$ 36,236,762	110.77%	\$ 40,139,679	358													
OPTION D Totals	12,250			\$ 48,371,662		\$ 53,581,582	379	\$ 3,662,644	\$ 122,363,204		✓					✗	✗	✗	✗	✗
Option E																				
Satellite in N.Core housing Community Services	870	\$ 3,691	1.04	\$ 3,339,617	114.77%	\$ 3,832,898	31													
S. Core HQ New-build housing the remainder	11,730	\$ 3,691	1	\$ 43,295,430	110.77%	\$ 47,958,609	349													
OPTION E Totals	12,600			\$ 46,635,047		\$ 51,791,507	380	\$ 3,643,493	\$ 121,448,915		✓					✗	✗	✗	✗	✗

NOTES

- 1 Baseline \$/sm reflect the average cost /sm of a single centralized police facility new-build or renovation as applicable.
- 2 The Complexity / Scale Factor adjusts the baseline cost per sf to reflect the impact of differences in complexity and economies of scale in a multi-site option.
- 3 Estimated Construction Cost is GSM x Baseline \$/sm x Complexity/Scale Factor.
- 4 Soft Cost Uplift is the impact of soft costs expressed as a multiplier of Construction Costs and includes all soft cost components except land acquisition and remediation cost.
- 5 Estimated Total Project Cost is Estimated Construction \$ x Soft Cost Uplift not incl land costs.
- 6 Annual Operating Cost is Baseline Operating Cost plus staffing related cost increases and an allowance for the wage related overhead of a multi-site campus.
- 7 Net Present Value Cost is the total capital and operating cost over 25 years expressed as the present value of total costs to be spent over time.
- 8 Staffing increases reflect added supervisory and front-line staff required for a multi-site campus.

APPENDIX

PART 6 - APPENDICES

APPENDIX A –CITY OF THUNDER BAY PROPOSED SITES

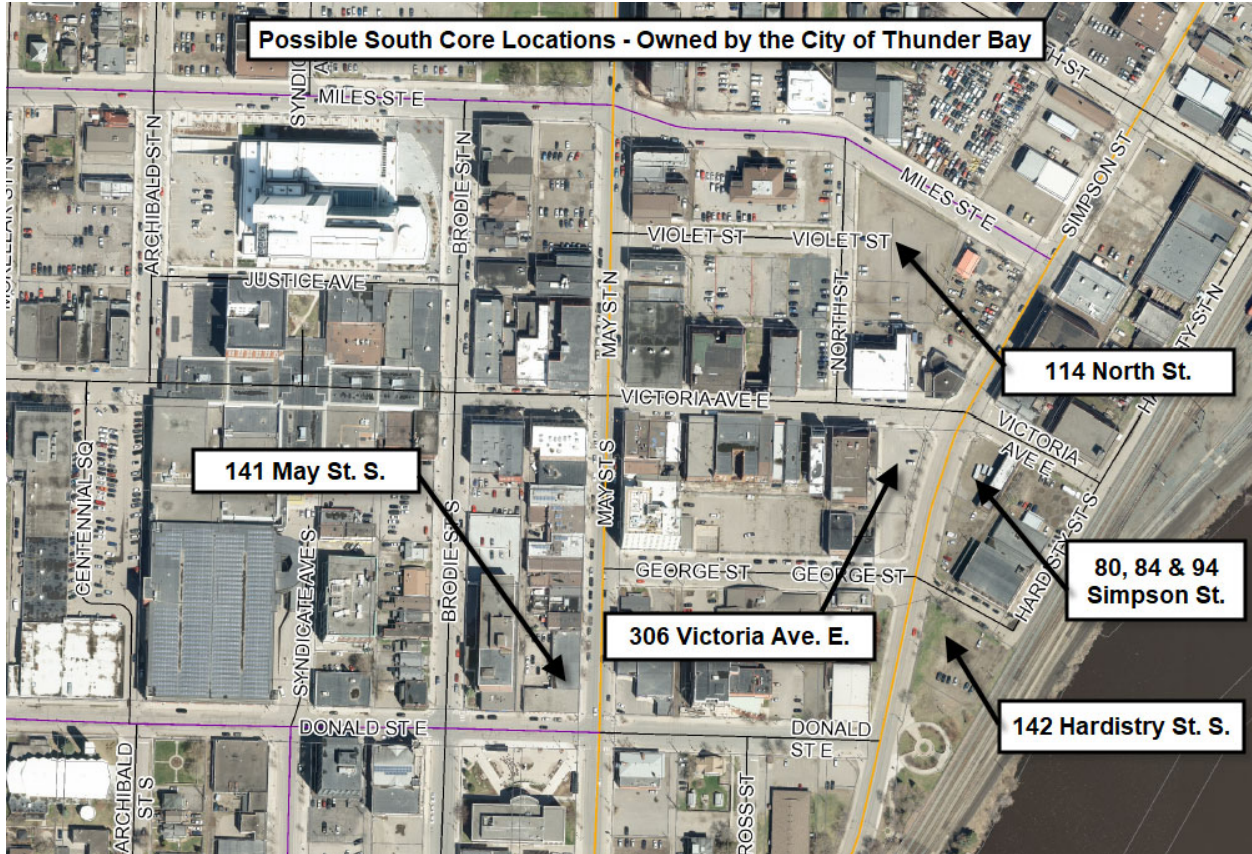
Refer to section 3.5 General Planning and Design Requirements in the TBPS Facility Needs Assessment Study and the functional narratives in Appendix D for site design requirements including safety zones, access, and secure parking for both staff and operational vehicles based on staffing numbers.

NOTES RE: proximity to rail lines used for hazardous goods transport

- Rail lines in close proximity to the Police Services Facility have the potential to severely impact and possibly incapacitate the operation of the facility in the event of an accident or derailment, particularly involving dangerous goods.
- Ontario Building Code Post Disaster Compliance regulates construction types to enable a critical facility to remain operational in the unlikely case of an unprecedented snowfall event, wind event or earthquake event. While this does not speak to location, it can be reasonably inferred that a police facility must remain operational during a critical event such as derailments and hazardous materials spills. (Reference: Post Disaster Analysis Report on the existing HQ building on Balmoral Street was completed by KGS Group in 2018 and is included in the original TBPS Facility Needs Assessment Report.)
- Thunder Bay Fire Rescue (Tim Langille email 2020.05.11) provided the following references to the 2016 ERG (Emergency Response Guidebook):
 - Page – 289 – Green Pages – Protective Action Distances with known name of material based on small or large spills.
 - Page – 355 – Green Pages – Table 3 Initial Isolation and Protective Action Distances for large spills of 6 common gases based on transport container.
 - Page – 374 – Improvised Explosive Device (IED) – Safe Stand Off Distance

Exclusion zone distances are highly impacted by type of hazardous material, size of spill and wind direction, making it difficult to interpret a single specific value for a police facility offset from potential spill locations. It would therefore be prudent to take a conservative approach when considering locating critical services in proximity to rail transport lines. It is not recommended that critical police services facilities be located within a 0.5km range of a railway corridor.

SITES PROPOSED BY THE CITY OF THUNDER BAY DEVELOPMENT SERVICES



(image: Peder Olsen email 2020.10.13)

Additional site information supplied by the City of Thunder Bay

Preferred locations:

- 114 North Street
- Size: 1.44 Acres (City owned land), plus numerous adjacent privately held properties that could be acquired for land assembly

Additional Potential City Owned Sites:

- 141 May Street (former HR building)- 0.33 Acres
- 80, 84, & 90 Simpson St. S. - 0.31 Acres
- 306 Victoria Ave E.- 0.38 Acres
- 142 Hardisty St. S. - 0.49 Acres

Notes on Additional Potential City Owned Sites:

SITE	ISSUE	NOTES
114 North Street	See Facility Needs Assessment Report for evaluation Min site area for satellite Proximity to rail line – HQ to be outside exclusion zone	See Report for HQ site evaluation Meets area requirement Location is within exclusion zone
141 May St (HR Building)	Min. site area for HQ Min site area for satellite Proximity to rail line – HQ to be outside exclusion zone	Requirement not met Requirement not met Location is within exclusion zone
80,84,90 Simpson St	Min. site area for HQ Min site area for satellite Proximity to rail line – HQ to be outside exclusion zone	Requirement not met Requirement not met Location is within exclusion zone
306 Victoria Ave E	Min. site area for HQ Min site area for satellite Proximity to rail line – HQ to be outside exclusion zone	Requirement not met Requirement not met Location is within exclusion zone
142 Hardisty St. S	Min. site area for HQ Min site area for satellite Proximity to rail line – HQ to be outside exclusion zone	Requirement not met Requirement not met Location is within exclusion zone

It should be noted that other site development options exist beyond the concepts evaluated in this study however, the TBPS considers the proximity of rail lines to be a significant potential risk to the operations of the police services. Proximity to rail lines effectively eliminates an area of the south core from consideration as a viable location for a large police services facility. Refer to the original TBPS Facility Needs Assessment Study for discussion of the threat posed by rail lines and level crossings.

APPENDIX B - LITERATURE SEARCH

SUMMARY OF LITERATURE SEARCH

Question: “Does locating a police facility (headquarters building or satellite building) in a ‘hot spot’ or high crime area result in a reduction of crime in that area?”

Also reviewed: literature that does not specifically address the question but can be considered to be relevant to the question (see methodology for search terms below).

METHODOLOGY

A Keyword search was conducted using the following terms:

- “Decentralized police stations and safety”
- “Hot Spot Policing”
 - o <https://www.publicsafety.gc.ca/lbrr/archives/cnmcs-plcng/cn33013-eng.pdf>
- “Satellite police station + crime deterrent”
- “Crime Prevention through Environmental Design” CPTED
- “Urban Planning and Crime Prevention”

NOTE: the majority of searches involving “Decentralized” and “Police” end in organizational / operational type results

LIST OF LITERATURE

Articles relating to Canadian cities that have decentralized police facilities:

1. Edmonton (population: 981,280 (2017))

Downtown Police Headquarters & four stations; one community station, each located in one of the operational divisions.

<https://www.edmontonpolice.ca/ContactEPS/EPSPoliceStations>

3. Calgary (population: 1,336,000 (2017))

Police headquarters plus 8 District offices

<https://calgaryherald.com/news/local-news/renewed-call-for-calgary-police-to-reopen-shuttered-downtown-station-as-crime-rate-spikes/>
<https://www.cbc.ca/news/canada/calgary/crime-increase-police-downtown-victoria-park-supervised-consumption-1.5295355>

Report: COMMUNITY POLICING IN CALGARY – A REVIEW OF FOUR INNOVATIVE PROGRAMS
(organizational report)
<http://dtpr.lib.athabascau.ca/action/download.php?filename=mais/JohnGuigonProject.pdf>

4. Sault Ste. Marie (population: 73,368 (2016)):

<https://www.sootoday.com/local-news/do-we-need-a-second-police-station-downtown-2-photos-170481>
<https://saultonline.com/2018/10/police-closer-to-downtown-with-new-satellite-office/>

NOTE: Anecdotal / opinion based; potentially biased observer; no source or data listed

5. Sudbury (population 161,531 (2019))

<https://www.cbc.ca/news/canada/sudbury/sudbury-police-downtown-strategy-1.5393214>
<https://www.gspcs.ca/en/about-gspcs/resources/Documents/Police-Services-Board-Documents-2019/Downtown-Strategy-2019.pdf>

NOTE: operational strategy, not bricks and mortar

Related Reports:

A) Manitoba Police Commission (MPC) Winnipeg Downtown Safety Report 2019:

http://www.manitoba.ca/asset_library/en/proactive/winnipeg-downtown-safety-report-2019.pdf

NOTE: operational strategy, not bricks and mortar

The general findings of this study do not point to a policing issue - more of a police service role in a downtown safety strategy, but not as the lead agency. Recommendation to create a safety strategy focusing on community health and wellness to improve both the perception and actual public safety in downtown areas “Focus on getting people well and cared for and safety will follow”.

Reference:

1. Hot spot policing effects on Crime
(Braga et al., 2012)
Braga, A., Papachristos, A., & Hureau, D. (2012). Hot spots policing effects on crime. Campbell Systematic Reviews, 8. doi: 10.4073/csr.2012.8.

<https://onlinelibrary.wiley.com/doi/full/10.4073/csr.2012.8>

B) Policing Canada in the 21st Century: New Policing for New Challenges

C) New Police Headquarters Downtown Report - Thunder Bay Development Services Document, provided by email to consultants 2020.08.05, no page numbers, no issue date, no author

D) The Value of Investing in Northern Ontario Downtowns – Canadian Urban Institute Research Report October 2016, Page 12

NOTE: No source provided for statistics

E) Criminology, Routine Activity, and Rational Choice (From Routine Activity and Rational Choice: Advances in Criminological Theory, Volume 5, P 1-14, 1993

<http://www.ncjrs.gov/App/publications/abstract.aspx?ID=159999>

F) Design Out Crime: Creating Safe and Sustainable Communities

Colquhoun, I. Design Out Crime: Creating Safe and Sustainable Communities. Crime Prev Community Saf 6, 57–70 (2004). <https://doi.org/10.1057/palgrave.cpcs.8140201>

G) Crime prevention through environmental design (CPTED): a review and modern bibliography

Source: Michael Cozens, Saville, Hillier) Property Management, Volume 23, Number 5, 2005, pp. 328-356(29)

<https://www.ingentaconnect.com/content/mcb/113/2005/00000023/00000005/art00002#Refs>

Introduction

We understand that various locations for the Thunder Bay Police Headquarters (the Headquarters) are currently being evaluated. We suggest that it is important that this evaluation fully consider the broad City and community interest.

It is our position that large social service facilities should be located in the Strategic Core Areas, with special attention given to the South Core for large government facilities. This aligns with past public service investments including City Hall, Victoriaville Civic Centre, The District of Thunder Bay Social Services Administration Board, and the Consolidated Courthouse. These services have been identified as contributing positively to community safety by being visible and contributing to the active population of the area (Canadian Urban Institute, 2014). The Police Headquarters would greatly contribute to the South Core community and City as a whole by being located in the Downtown South Core area.

There are numerous benefits that would come with locating the Headquarters in the South Core. These include improving real and perceived safety for residents and visitors in the South Core area, increased efficiency due to proximity to other government and public agencies, and direct and indirect economic benefits to South Core businesses.

Social Benefits - Safety

In 2014, the Canadian Urban Institute completed a case study assessing the value of investing in Thunder Bay downtowns. Through this study, it was identified that the perception of safety was the primary weakness in the South Core, with 80% of residents indicating they were “unsatisfied or very unsatisfied” with safety as a quality of life factor in the South Core. This creates an environment where people and businesses are reluctant to locate in the South Core, further contributing to the economic stagnation of the area. The Study identifies that it is likely that the safety issue in Thunder Bay’s downtowns is one of the major contributors to the decrease in population over the past decade as it has deterred people from staying and moving into these area, and that it is one of the biggest drawbacks to investment in the area. Locating the Headquarters in the South Core will directly contribute to the perception of safety, which would contribute to long-term positive social and economic improvements in the South Core. It is believed by residents that an increased police presence downtown is one of the best valued investment options for the City to make. [All metrics from Canadian Urban Institute, 2014]

CPTED – Eyes on the Street

“Eyes on the street” is a well understood concept in land use planning as being the most effective form of crime prevention, as there are witnesses to any potential crimes, as well as potential residents who can intervene when crime is occurring, which discourages crime activities. The City should aim to support any initiatives that would contribute to the physical number of people in the downtown, and especially outside normal business hours. The CUI, 2014 notes “the importance of encouraging people to come to the South Core in the evening cannot be overstated”. The South Core feels largely vacant once the major employment facilities close for the evening and weekends, so there is a time gap where there are virtually no eyes on the street. The Police Headquarters is a day and nighttime use which

would inject much-needed after-hours activity to the South Core. Survey respondents identified the potential for a better police presence as a key opportunity for the South Core, and this can be achieved on a 24/7 basis by locating the Headquarters in this area.

Visibility is the key pillar of crime prevention through environmental design (CPTED). In fact, virtually all measures revolve around increasing visibility through and between spaces, and decreasing blind-spots where crime can occur unnoticed. While CPTED principles are typically reviewed on a site-specific basis, the same concepts can be applied to whole neighbourhoods. In this sense, the South Core can become much more visible by locating the Headquarters here, which would increase the frequency of police cruisers traveling through the area. The City has taken an active role to utilize CPTED principles to improve safety, and this is an opportunity to do so.

The City is faced with a situation where people and businesses are reluctant to locate in the South Core due to safety concerns, which in turn further contributes to issues of safety as the crucial “eyes on the street” are not present. The issue is self-perpetuating, and will likely only reverse with large scale investment into local community safety initiatives. Therefore, if the City is considering where to locate the new Headquarters, this is a once-in-a-generation opportunity to substantially improve the South Core by addressing the key issue in this area.

Policy Support

Growth Plan for Northern Ontario

The Growth Plan for Northern Ontario (the Growth Plan) is prepared under the Places to Grow Act, 2005. The purpose of the Growth Plan is to provide direction for decisions about growth and development in Northern Ontario. According to the Growth Plan, decisions should be made in ways that sustain a robust economy, build strong communities and promote a healthy environment and a culture of conservation. The Growth Plan promotes a rational and balanced approach to decisions about growth that builds on community priorities, strengths and opportunities to make efficient use of infrastructure. It is important that a long-term vision and long-term goals guide decision making about growth.

The GPNO encourages municipalities to locate social and cultural services in their strategic core areas (SCA). Also, SCAs are identified as the preferred location for major capital investments in major redevelopment projects and major cultural institutions among other large scale public infrastructure. It is also encouraged that economic and service hubs shall develop strategies for improving access to public services by local residents and by residents of surrounding communities. The South Core Area would provide greater access for community members due to transit availability and comparable walkability.

Planning decisions in Ontario are required to conform to or not conflict with the applicable Growth Plan. The Growth Plan specifically identifies downtowns as the preferred location for major capital investments in public infrastructure. Therefore, in order to conform to the Growth Plan, a downtown location should be the ultimate location for the new Police Headquarters.

Provincial Policy Statement, 2014

The Provincial Policy Statement 2014 (PPS) provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the PPS sets the policy foundation for regulating the development and use of land. Policies in the PPS are designed to support a form of development that promotes long term economic, ecological, and social sustainability of municipalities and the province overall. Land use decisions in Ontario are required to be consistent and not conflict with the PPS. Policies are based on long-term prosperity, and the PPS frequently supports decisions that are more costly in the short term due to associated long-term broad benefits that are cost-effective in the long term.

The PPS states that efficient development patterns optimize the use of land, resources and public investment in infrastructure and public service facilities. Optimizing land means securing as many direct and indirect benefits as possible from developments. In this case, the South Core is the optimal location for the Headquarters due to potential benefits to the local economy, improved community safety, access to public transportation, and efficiencies due to proximity of other large public service facilities.

The PPS states that public service facilities should be co-located in community hubs to promote cost effectiveness and facilitate service integration, access to transit and active transportation. The PPS would support the selection of the South Core as the preferred location for the Headquarters. Decisions around land use must consider a broad context as well as long-term potential impacts, positive and negative, of proposed locations. The South Core is the optimal location due to the myriad potential co-benefits in the long term, and is consistent with the PPS.

The Official Plan

The Official Plan (OP) is the municipality's principal land use policy document. It describes the kind of community that we wish to evolve into with goals, objectives and policies that function as a guide for land use planning decisions within the City of Thunder Bay. The OP provides direction on how to implement the Provincial Policy Statement, advance Council's strategic goals, and adapt to the changing needs of the community. The OP is written with long-term general goals and shorter term targeted objectives. Goals of the OP that are advanced by locating the Police Headquarters in the South Core include:

- Promoting a pattern of land use, and the provision of services and facilities that will enhance the health, safety, and well-being of all present and future residents of the City;
- Directing development so that it occurs in an efficient and cost-effective manner;
- Creating a physical environment that encourages social interaction, promotes social capital, enhances culture, and sustains the well-being of all residents
- Creating a physical environment that is attractive, accessible, safe, functional, vibrant, and a source of community pride;

As was discussed in the Provincial Policy Section, efficient and cost-effective does not mean what is cheapest in the short term, as the OP is based on long-term outcomes. This can mean investing larger sums up-front with the aim of future returns; financial, social, and environmental. The locations examined outside of the South Core do not advance these goals to the same capacity. Therefore, the Goals of the Official Plan would primarily align with the South Core location.

The Official Plan contains a section on Community Services, Facilities, and Recreation. The Objectives of this section that are advanced by the South Core location include:

- Providing for areas, services, and facilities that address the community, recreational, and cultural needs of the City's residents and the visiting public
- Promoting site selection and designs which incorporate Crime Prevention Through Environmental Design (CPTED) principles to facilitate the visibility of public open spaces and reduce opportunity for crime.

The above objectives are best advanced with the South Core location.

The OP echoes the PPS by stating the City will encourage the co-location of public service facilities in community hubs, where appropriate, to promote cost effectiveness and to facilitate service integration, access to food, transit, and active transportation.

The Official Plan directly addressed the Strategic Core Areas (downtowns) with objectives relating to bolstering the business and social activity within these areas. The two downtowns are viewed as significant assets important to the City as a whole, and shall function as identifiable, walkable, mixed-use districts of symbolic and physical interest. Objectives for the Strategic Core Areas that relate to the South Core location include:

- enhancing public safety and security
- strengthening the vibrancy and economic viability of these areas through the integration of retail, office, and service commercial uses with other uses such as housing, social and health services, recreational opportunities, cultural activities and events, and government and business uses;
- attracting new development, employment, and housing to revitalize these areas;
- encouraging intensification by accommodating higher densities

The Strategic Cores are viewed as the preferred location for major capital investments in post secondary education and training, specialized health care, major redevelopment projects, major cultural institutions and entertainment facilities. This list is not intended to be an exhaustive list, rather a demonstration of the intent for the Cores. Large public service facilities have been strategically located in the South Core, and this continues to be supported by the Official Plan.

Finally, this section of the OP specially addresses development that will animate the street level, promote safety, and contribute to the streetscape beyond normal office hours are encouraged.

Overall, the Official Plan would view the Strategic Cores as the preferred location for the new Headquarters. The South Core in particular would be supported due to potential to catalyse economic and social improvements.

Economic Argument

In 2013, the Canadian Urban Institute produced a research paper evaluating the importance of investing in downtowns across Canada. The findings of this research indicated that although downtowns generally occupy less than 1% of citywide land area, they attracted on average one fifth city-wide construction value between 2003 and 2011¹. Downtowns are also responsible for generating one tenth to a quarter of the cities' tax revenue¹. In the City of Thunder Bay, development in both the north and south cores combined accounted for only approximately 5% of building permit value between 2003 and 2013².

When municipal investments can be coordinated with contributions from other orders of government or the private sector, the value to the community is not only reflected in the tax base, but also in the increased business activity resulting from increasing the critical mass of people and development attracted to the downtown³. An online survey conducted by the Canadian Urban Institute, stated that 67% of 1,200 respondents from the City of Thunder Bay indicated "strongly agree" that downtown (North and South Core) should be a high priority for the city's economic and social development².

The City of Thunder Bay has comparatively under invested in the downtown areas, however in the past decade, in collaboration with other levels of governments, has made some public investments to revitalize the downtowns which have shown returns. The Canadian Urban Institute notes that one of the highlighted investments by the City was the construction of the new consolidated courthouse and changes made to Syndicate Avenue. In addition to the construction of the courthouse, the City also relocated the South Core bus terminal to a more prominent location at City Hall (with substantial improvements), improved access to Victoriaville Centre and created an improved pedestrian and driving experience along the thoroughfare. Residents responded to an online survey saying that the new courthouse would bring more investment into the area, thus attracting new businesses and people to the South Core².

The Downtown Cores in the City of Thunder Bay represent strategic assets to the community that can and do provide substantial returns on investment in these areas. However, sustained investment is required to allow these areas to reach their full potential. Public investments such as the courthouse compound over time to create long term positive returns for the neighbourhood and city. Planning Services is of the opinion that the relocation of the police headquarters to the downtown (South Core preferred) will not only lead to greater safety, but also contribute to increased private investment, higher tax revenues, and more people and businesses choosing to locate downtown.

¹ Canadian Urban Institute (2013-10-22) "The Value of Investing in Canadian Downtowns"

² Canadian Urban Institute (2014-09-22) "The Value of Investing in North Ontario Downtowns – Thunder Bay Case Study"

³ Canadian Urban Institute (2014-08-16) "The Value of Investing in Northern Ontario Downtowns"

Main Police Headquarters Located Downtown

Planning Services together with Realty Services have also conducted research into new and pre-existing police headquarters in Canada, in order to gather spatial data on where these facilities are located in proximity to downtown. Results indicate that of Canada's ten largest cities, only two cities have their police headquarters located outside of downtown (Calgary and Vancouver). Various other Canadian cities were also researched, with similar findings. It was also noted that a strong correlation was also found with police headquarters and courthouses locating in close proximity of each other.

- Toronto Police Headquarters (1.1 KM to Courthouse)
- Winnipeg Police Headquarters (1.5 KM to Courthouse)
- Edmonton Police Headquarters (260 M to Courthouse)
- Ottawa Police Services (2.2 KM to Courthouse)
- Guelph Police Headquarters (400 M to Courthouse)
- Greater Sudbury Police Service (1.1 KM to Courthouse)
- London Police Services Headquarters (1.9 KM to Courthouse)
- Hamilton Police Headquarters (600 M to Courthouse)
- Montreal Police Headquarters (1 KM to Courthouse)
- Various other Canadian cities have chosen to location their police headquarters in downtown or close to.

New Police Headquarters in Canada – Metrics at a Glance

A growing trend of consolidating or relocating city police services downtown was also identified within our research. Within the past 10 years, three Canadian cities have constructed or are constructing new police headquarters downtown or adjacent to.

- **Guelph (Located Downtown)** – Construction completed in November, 2019
 - Renovated old police station
 - 152,000 Sq. Ft.
 - 4 storeys
 - Includes: indoor parking, office space, vacant space for future uses, community room, private interview rooms
 - 34.1 Million
- **Saskatoon (Located Downtown)** – Construction completed in July, 2014
 - New construction (brownfield site)
 - 4 storeys
 - 350,000 Sq. Ft.
 - Includes: detention centre, a communications call centre, a firearms range, secure parking below and above ground, service Centre, criminal record checks, victim services, gymnasium, and a community room and a cultural Room built for smudging and other ceremonies.
 - Awarded "Silver" status in Leadership in Energy and Environment Design (LEED) certification.
 - 101 Million

- **Kingston (2.8 KM To Downtown)** – Construction completed in October, 2007
 - New construction (brownfield site)
 - 2 storeys
 - 121,000 Sq. Ft.
 - Includes: administrative space, detention facilities, forensic identification laboratories, police vehicle storage and maintenance, firing range and firearms training centre, communications centre, multi-purpose room/emergency operations centre
 - Awarded “Gold” status in Leadership in Energy and Environment Design (LEED)
 - 37 Million

- **St. Catherine’s (550 M To Downtown)** – Under construction (Fall 2020)
 - New construction (brownfield site)
 - 31,000 Sq. Ft.
 - Includes: patrol units, detective and administration offices, public areas including front desk functions, a community room and a collision reporting centre, as well as visitor parking.

Conclusion

A central component of land use planning is grouping similar and complementary uses with the intent of sparking synergies and building relationships. The Police are actively involved with other departments and agencies within the city. It would serve to benefit these relationships by locating the Headquarters in close proximity to these other facilities. The Courthouse would be in a short walking distance, and City Hall just a 5 minute walk. This would also improve the efficiency of these working relationships by decreasing travel distances between offices. The concentration of City Departments and Divisions within Victoriaville Civic Centre and City Hall, as well as the proximity of these two buildings directly contributes to the working relationships fostered between workers. This is a strength of the City of Thunder Bay Administration, and should be supported by the Police Headquarters as well.

Provincial Planning Framework

Policies from the **PPS, 2014** that relate to the location of large public facilities include the following:

1.1.3.2 Land use patterns within settlement areas shall be based on:

- a) densities and a mix of land uses which:
 1. efficiently use land and resources;
 2. are appropriate for, and efficiently use, the infrastructure and public service facilities which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion

- 1.1.3.3 Planning authorities shall identify appropriate locations and promote opportunities for intensification and redevelopment where this can be accommodated taking into account existing building stock or areas, including brownfield sites, and the availability of suitable existing or planned infrastructure and public service facilities required to accommodate projected needs.
- 1.1.3.4 Appropriate development standards should be promoted which facilitate intensification, redevelopment and compact form, while avoiding or mitigating risks to public health and safety.
- 1.2.1 A coordinated, integrated and comprehensive approach should be used when dealing with planning matters within municipalities, across lower, single and/or upper-tier municipal boundaries, and with other orders of government, agencies and boards including:
- d) infrastructure, electricity generation facilities and transmission and distribution systems, multimodal transportation systems, **public service facilities** and waste management systems;
- 1.3.1 Planning authorities shall promote economic development and competitiveness by:
- c) encouraging compact, mixed-use development that incorporates compatible employment uses to support liveable and resilient communities
- 1.6.5. Public service facilities should be strategically located in community hubs, where appropriate, to promote cost effectiveness and facilitate service integration, access to transit, and active transportation.
- 1.7.1 Long term economic prosperity should be supported by
- c) maintaining and, where possible, enhancing the vitality and viability of downtowns and mainstreets;
 - e) promoting the redevelopment of brownfield sites;
- 1.8.1 Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns which:
- a) promote compact form and a structure of nodes and corridors;
 - c) focus major employment, commercial and other travel-intensive land uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future;

The Provincial Policy Statement, 2014, provides overall support for locating the Police Headquarters in a downtown location.

Growth Plan for Northern Ontario

This Plan has been prepared under the Places to Grow Act, 2005. The Act sets out the following purposes:

- a) to enable decisions about growth to be made in ways that sustain a robust economy, build strong communities and promote a healthy environment and a culture of conservation;
- b) to promote a rational and balanced approach to decisions about growth that builds on community priorities, strengths and opportunities and makes efficient use of infrastructure;
- c) to enable planning for growth in a manner that reflects a broad geographical perspective and is integrated across natural and municipal boundaries;
- d) to ensure that a long-term vision and long-term goals guide decision-making about growth and provide for the co-ordination of growth policies among all levels of government.

The **Growth Plan for Northern Ontario** encourages municipalities to locate social and cultural services in their strategic core areas (SCA). Also, SCAs are identified as the preferred location for major capital investments in major redevelopment projects and major cultural institutions among other large scale public infrastructure. It is also encouraged that *economic and service hubs* shall develop strategies for improving access to public services by local residents and by residents of surrounding communities. Locating the Station in the South Core Area provides greater access for service users due to transit availability and comparable walkability.

The Official Plan

General Goals that are advanced by locating the Headquarters in the South Core include:

- Promote a pattern of land use, and the provision of services and facilities that will enhance the health, safety, and well-being of all present and future residents of the City;
- Direct development so that it occurs in an efficient and cost-effective manner;
 - Further to this point: efficient and cost-effective does not mean cheap, rather it relates to the long term impact of investments. If developing downtown is more expensive, but leads to lower levels of crime and higher levels of private investment, then the expense can be seen as being cost-effective and efficient in the long term
- Create a physical environment that encourages social interaction, promotes social capital, enhances culture, and sustains the well-being of all residents
- Create a physical environment that is attractive, accessible, **safe**, functional, vibrant, and a source of community pride; [...]

Part 7: Community Services, Facilities and Recreation

“it is intended that these services and facilities be physical accessible, affordable, sustainable, and continue to evolve to meet the changing needs of the community.”

General Objectives

- provide for areas, services, and facilities that address the community, recreational, and cultural needs of the City's residents and the visiting public
- promote site selection and designs which incorporate Crime Prevention Through Environmental Design principles to facilitate the visibility of public open spaces and **reduce opportunity for crime**.

Community Hubs: The City will encourage the co-location of public service facilities in community hubs, where appropriate, to promote cost effectiveness and to facilitate service integration, access to food, transit, and active transportation. The shared use of community centres, schools, parks, and public open spaces will be promoted.

Police, Fire and Emergency Medical Services: When establishing new police, fire and EMS facilities, the City shall consider the compatibility of these facilities with adjacent land uses in terms of height and scale, setbacks, buffering, signage, and the provision of sufficient on-site parking.

Part 10: Urban Settlement Area

Employment General Objectives

- support the creation of a positive climate for institutions, businesses, industries, and employees in order to develop a diversified and growing economy
- promote the intensification and revitalization of institutional, commercial, and industrial areas
- encourage private sector investment in the appropriate redevelopment of brownfield sites for institutional, commercial, and industrial use and

Business Development: Through the Community Economic Development Corporation the City shall endeavor to:

- promote a business climate that supports entrepreneurship and business development
- promote synergies between existing uses, such as medical, educational and telecommunications uses, and food sources and transit

Commercial Area Objectives

- promote concentrated commercial development and where appropriate, mixed land use

Strategic Core

These areas are viewed as significant assets, important to the City as a whole, and shall function as identifiable, walkable, mixed-use districts of symbolic and physical interest.

Strategic Core Objectives

- strengthen the vibrancy and economic viability of these areas through the integration of retail, office, and service commercial uses with other uses such as housing, social and health services, recreational opportunities, cultural activities and events, and government and business uses;

- attract new development, employment, and housing to revitalize these areas;
- encourage intensification by accommodating higher densities
- **enhance public safety and security**

Focus of Investment

Lands within the Strategic Core are viewed as the preferred location for major capital investments in:

- Post secondary education and training
- Specialized health care
- **Major redevelopment projects**
- Major cultural institutions and entertainment facilities

The above list is not intended to be an exhaustive list, rather a demonstration of intent

“Development that includes uses, facilities, or activities that will animate the street level, promote safety, and contribute to the streetscape beyond normal office hours are encouraged”

Overall, the Official Plan would view the Strategic Cores as the preferred location for the new Headquarters. The South Core in particular would be supported due to potential to catalyse economic and social improvements.