

Parking Master Plan

Appendix E
Future Parking Demand Analysis

Future Parking Needs

There is significant growth expected in Whitby over the next 20 years. Given the projected growth, long term planning is required to ensure that the parking supply is appropriate to accommodate the future demand.

Future parking demand within the Downtown core, assessed for the 2022, 2027, and 2037 horizon years, is anticipated to be impacted by the following factors:

- Parking demand growth due to population growth outside the Downtown core (calculated to be 1.1% annually);
- Targeted personal vehicle modal split reduction (15% over the 20 year horizon based on the 2010 Whitby Transportation Master Plan);
- New developments within the Downtown study area; and
- Parking supply losses (i.e. Municipal Lot 4).

Increased Activity of Existing Land Uses

The Downtown core’s future parking demand is anticipated to grow even if there are no new developments within the study area. This occurs because the activity drawn by the existing land uses is anticipated to grow as a function of population growth outside the study area. Using the population growth projections based on the Durham Region Monitoring of Growth Trends document, an annual growth rate of 1.1% was calculated. It is assumed that an increase in population will result in a proportional increase in parking demand. Therefore, the observed Downtown parking demand is assumed to grow at the same rate as population (1.1% per year).

While parking demand generated by retail and commercial establishments are known to grow as a function of population, the demand generated by office and residential developments are more resistant. For the purposes of this planning exercise, the estimated growth in demand is considered a conservative forecast. It is recommended that the parking situation be monitored and the parking demand projections adjusted as necessary.

Exhibit E-1 presents the projected parking demand growth due to the increased activity of existing land uses under the 5, 10, and 20 horizon years.

Exhibit E-1: Parking Demand Growth due to Increased Activity (1.1% Growth)

Exhibit E- 1: Parking Demand Growth due to Increased Activity (1.1% Growth)

Location	Parking	Existing Peak Demand	5 Year Demand Growth	10 Year Demand Growth	20 Year Demand Growth
Whitby	On-Street	234	13	27	57
	Off-Street	337	19	39	82

Location	Parking	Existing Peak Demand	5 Year Demand Growth	10 Year Demand Growth	20 Year Demand Growth
	Whitby Total	571	32	66	139
Brooklin	On-Street	80	4	9	20
	Off-Street	9	1	1	2
	Brooklin Total	89	5	10	22

Considering the Downtown Whitby parking system as a whole, parking demand is anticipated to grow by 139 vehicles over the 20 year analysis period due to overall population growth. In Brooklin, parking demand is anticipated to grow by 22 vehicles over the 20 year analysis period.

Modal Split Reduction

Sufficient parking to meet the existing and future demand while promoting alternative modes of transportation (transit, cycling, and pedestrian) is the Town’s objective. Considering this goal, the future single occupant personal vehicle mode share is anticipated to be slightly lower than today, resulting in reduced parking demand.

Based on the Town of Whitby Transportation Master Plan Study (2010), the Town is targeting a personal vehicle mode share reduction of 15% over the 20 year study period. Through interpolation, the personal vehicle mode share is anticipated to decrease by approximately 0.8% annually, resulting in a proportional decrease in future parking demand.

Parking Supply Losses and New Developments

Increased activity of existing land uses and modal split reduction of personal vehicles are anticipated to result in a net growth in parking demand across the entire Downtown study area. The impact of new developments and parking supply changes is also anticipated to impact parking requirements in localized areas within close proximity of the new developments. Therefore, a micro level assessment of each known potential future development and parking supply loss was undertaken to develop an understanding of the parking related impacts.

Through discussions with Town staff, planned/anticipated future developments were identified that are predicted to not be able to provide sufficient onsite parking to accommodate the generated parking demand (as per Town of Whitby Zoning By-Law parking requirements). The proposed developments represent a wide range of land uses with varying periods of peak parking demand. Given that the proposed developments are not anticipated to peak at the same time, the parking supply deficiencies presented in

have been reduced by 10% to ensure the future parking projections are not overly conservative.

Downtown Whitby

The parking supply losses and planned/anticipated future developments and their potential impacts on the Whitby parking system is displayed in

. It is expected that all developments will occur within the near future, and therefore were included as part of the 5 year horizon analysis period.

Note that parking supply lost represents reductions to the municipal parking supply. Deficient developments are anticipated to increase the parking demand placed on the municipal parking system since the proposed development does not meet the by-law requirement.

Exhibit E- 2: Whitby Future Developments and Parking Supply Losses

LOCATION	DEVELOPMENT	MUNICIPAL PARKING SYSTEM IMPACT*
Municipal Parking Supply Changes		
Lot 4	Lot to be sold with the Fire Hall (201 Brock Street South)	76 parking spaces lost
SUB-TOTAL – Parking Lot Changes		76 parking spaces lost
Planned and Anticipated Future Developments		
215-235 Perry Street, 205 Ash Street	Residential development that will also impact the two vacant adjacent lots to the south	No impact, outside of study area
416 Dundas Street East, 126 Pine Street	7 storey residential apartment building	No impact, outside of study area
401 Reynolds Street	96 detached and townhouse dwellings	No impact, outside of study area
500 Dundas Street East	6 storey condo building	No impact, outside of study area
224 Hickory Street North	5 storey apartment building	No impact, outside of study area
100 Garden Street	Potential 6 storey apartment building	No impact, outside of study area
244 Brock Street South	Brock Street Brewery under construction	59 spaces deficient

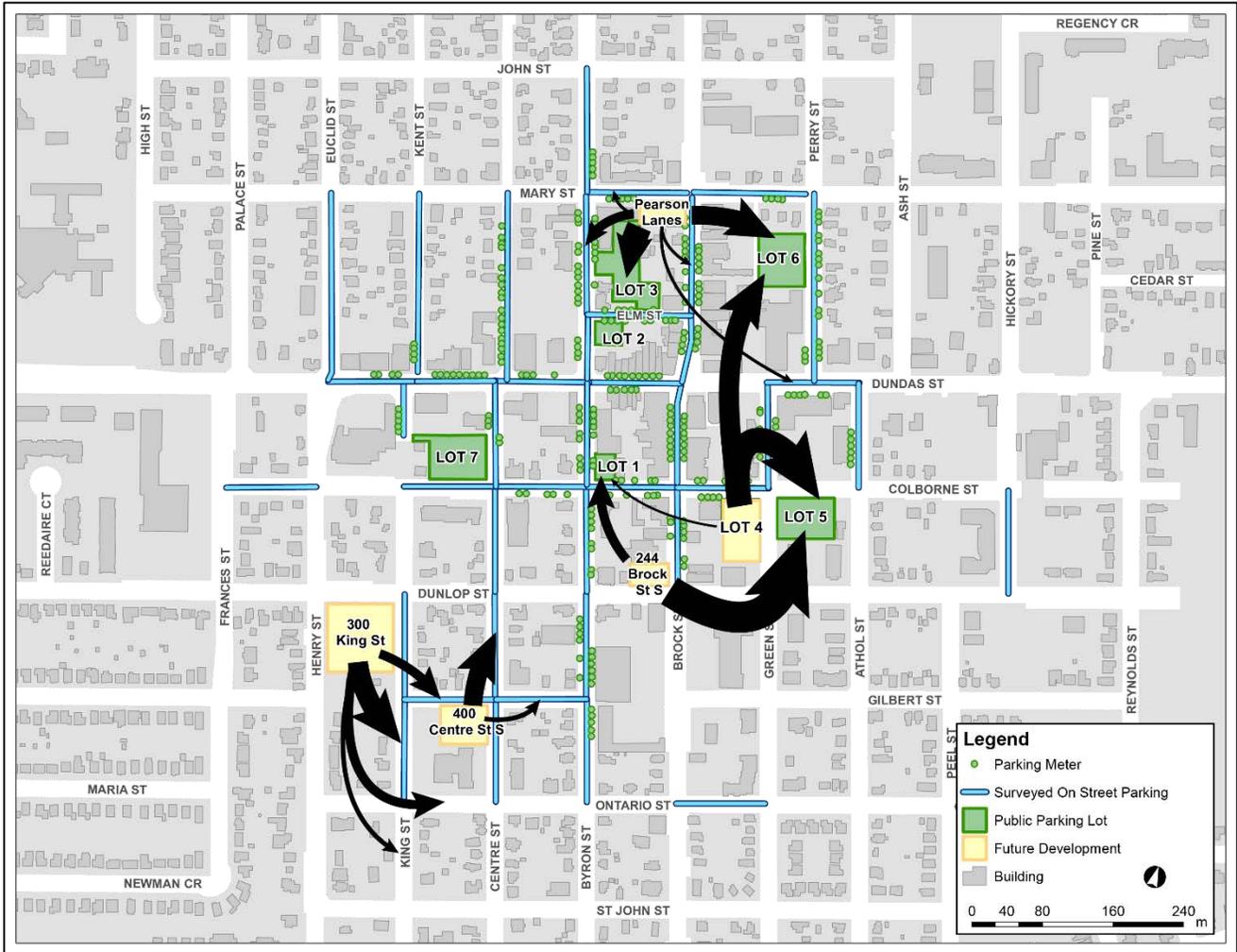
LOCATION	DEVELOPMENT	MUNICIPAL PARKING SYSTEM IMPACT*
300 King Street	Converted office development (360insights)	45 spaces deficient
400 Centre Street South	Wi-Hub Whitby Innovation Hub Accelerator	23 spaces deficient
128 Brock Street	Potential office redevelopment	Impact Unknown
215-234 Perry Street, 205 John Street East	6 storey apartment building	No impact
Pearson Lanes	New development	68 spaces deficient
SUB-TOTAL – Lost to Proposed Developments		195 parking spaces deficient
System Wide Total		195 parking spaces deficient 76 parking spaces lost

*Note: the parking demand increase and deficiencies presented in are current as of May 2018 and are subject to change as project details are finalized.

The available parking supply within an acceptable walking distance was assessed to determine whether sufficient parking supply is available nearby to accommodate the increased parking demand. Based on best practices, the publically accepted walking distance generally ranges between 300 – 400 metres or approximately 5 minutes.

Considering the parking demand increases and new developments presented in and the parking facilities in close proximity, parking demand was redistributed as illustrated in Error! Reference source not found.. Note that this redistribution is strictly a planning exercise to evaluate whether sufficient parking supply is available in close proximity to municipal lots operating near or at capacity, and to confirm if a parking supply expansion is required. Larger arrow thickness represents larger volume of vehicles redistributed. On-street parking demand would also redistributed. However, given the relatively small amount of demand Error! Reference source not found. only illustrates the municipal lot redistribution.

Exhibit E- 3: Off-street Parking Demand Redistribution



The office developments at 300 King Street and 400 Centre Street are deficient in parking spaces. For the purposes of this assessment, these developments are assumed to pay cash-in-lieu of providing the number of parking spaces required by the Whitby Zoning By-laws. As a result, parking demand not accommodate on-site is assumed to be accommodated by the municipal parking system. Alternatively, the developments can reduce their parking requirements through the application of TDM strategies.

Downtown Brooklin

The parking supply losses from planned/anticipated future developments and their potential impacts on the Brooklin parking system is displayed in Error! Reference source not found.. Similar to Downtown Whitby, all developments were included in the 5 year analysis period.

Exhibit E- 4: Brooklin Future Developments and Parking Supply Losses

LOCATION	DEVELOPMENT	MUNICIPAL PARKING SYSTEM IMPACT*
Planned and Anticipated Future Developments		
28 Winchester Road East	Addition to existing building for dentist and office use	No impact
1-5 Cassels Road West	3 storey mixed use residential development	No impact
24 Princess Street	2 storey mixed use development	13 spaces deficient
72-76 Baldwin & 15 Price Street	2 storey multi-unit commercial building	18 spaces deficient
91-99 Baldwin Street	3 residential blocks with commercial units	No impact
2 Campbell Street	2 storey mixed use development	23 spaces deficient
5550 Baldwin Street South	Potential subdivision containing residential and commercial uses	No impact
System Wide Total		54 parking spaces lost

*Note: the parking supply loss estimates presented in Error! Reference source not found. are current as of May 2018 and are subject to change as project details are finalized.

Considering the parking supply losses and new developments presented in Error! Reference source not found. and the parking facilities in close proximity, parking demand was redistributed to Municipal Lot 9 or available on-street parking in the area.

5 Year Projected Parking Situation (2022)

This section consolidates all parking supply and demand changes outlined previously and examines the Downtown parking system's projected future performance over a 5 year horizon period.

The parking projections in the following sections are based on all known and potential redevelopment projects identified at the time this report was prepared. The results are subject to change as the details of these projects are finalized.

Downtown Whitby

Error! Reference source not found. illustrates the projected future parking utilization during the period of peak demand in Whitby.

In summary, the assessment of Whitby's future 5 year parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to operate above effective capacity (95% utilization);
- With the Lot 4 closure, 76 off-street spaces are lost (17% of the existing supply), resulting in the off-street system operating above capacity (136%); and
- While the on-street system is projected to operate with available capacity (59% utilization), Ontario Street between Brock Street and Green Street operated above 85% capacity.

Based on these results, the Whitby parking system is anticipated to need a parking expansion in the order of 200 vehicles to accommodate the projected parking demand.

With a parking supply expansion, excess demand from municipal lots projected to operate above capacity is anticipated to migrate to the new parking facility. Parking technologies, such as dynamic wayfinding signs, will further improve parking wayfinding and improve the distribution of parking demand throughout the Downtown parking system.

Downtown Brooklin

Brooklin's projected 5 year parking situation during the period of peak demand is illustrated in Error! Reference source not found..

Exhibit E- 5: Whitby 5 Year Projected Future Parking Situation (2022)

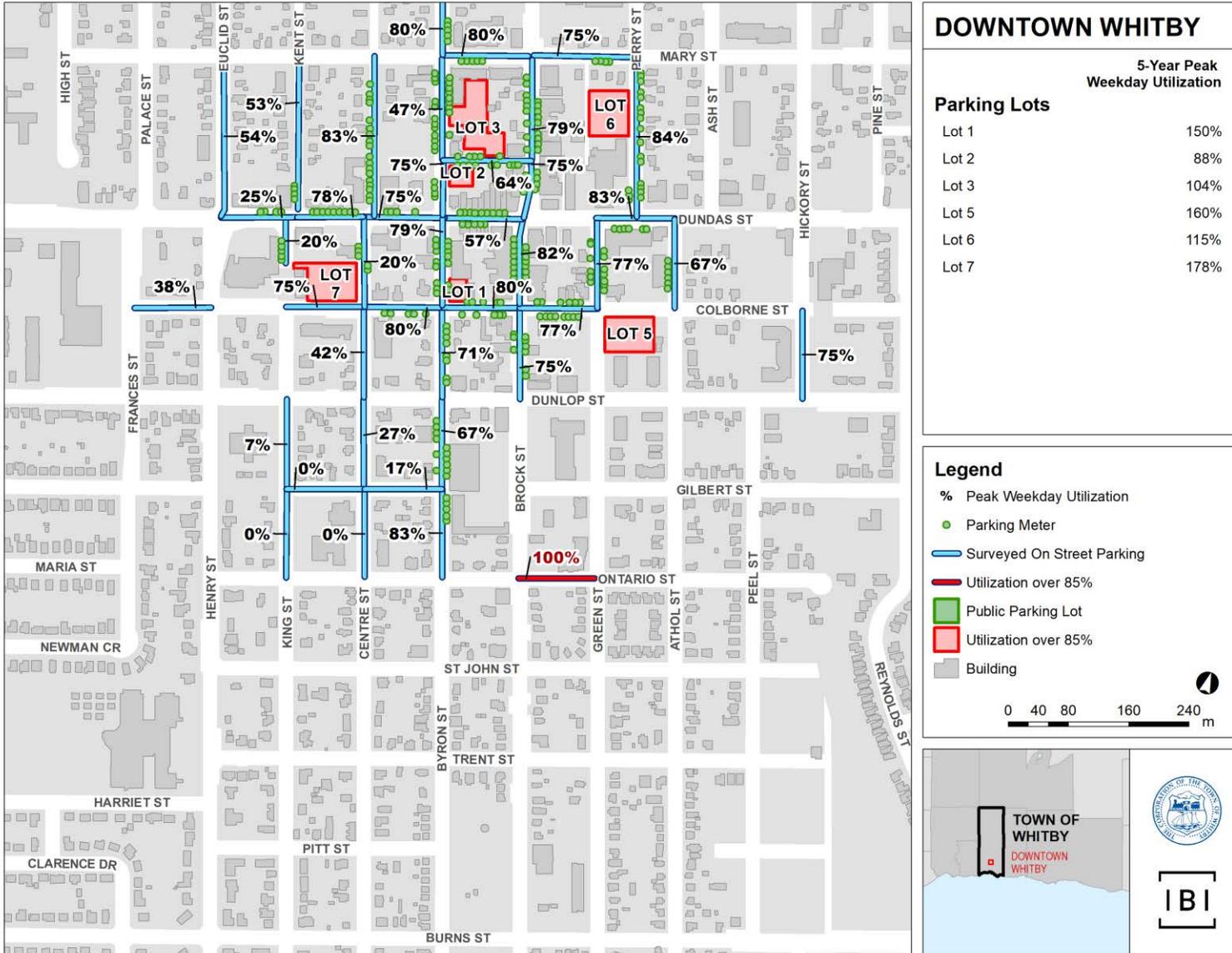
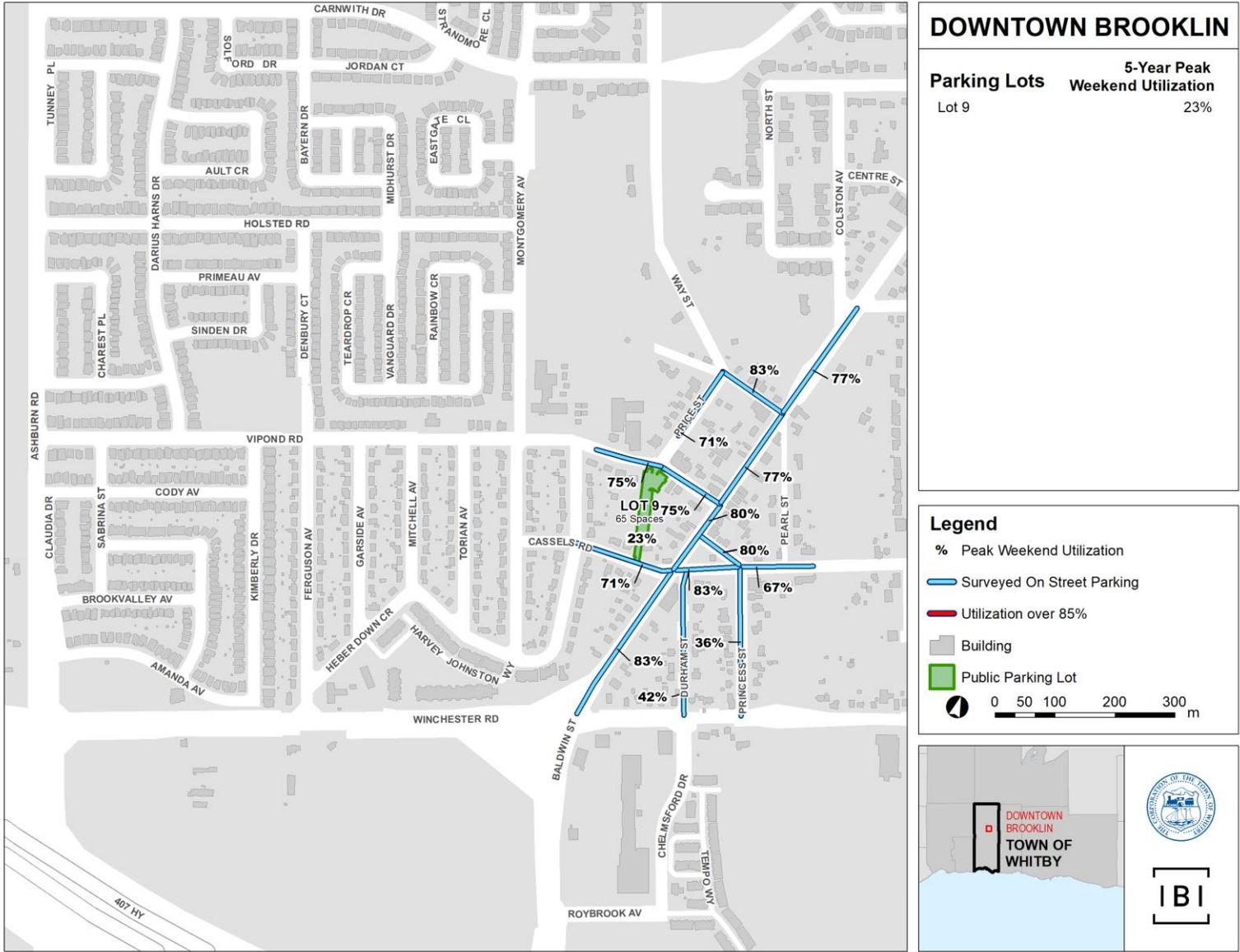


Exhibit E- 6: Brooklin 5 Year Projected Future Parking Situation (2022)



In summary, the assessment of Brooklin’s future parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to continue to operate below capacity (54% utilization);
- While some segments on Baldwin Street are projected to approach capacity, all on-street segments are projected to operate below effective capacity;
- Lot 9 remains underutilized, operating at 23% capacity during the system peak; and
- Pedestrian crossing opportunities must be increased to increase usage of Municipal Lot 9.

Based on these results, the Brooklin parking system is considered sufficient to accommodate the projected parking demand.

The projected demand assumes that on-street parking in Brooklin remains free. If pay parking operations are adopted in Brooklin, a significant portion of on-street demand is expected to shift to off-street facilities. This will result in a more balanced distribution of parking between on- and off-street facilities.

10 Year Projected Parking (2027)

To project parking demand, the 5 year parking demand projections were further increased as a function of population growth and modal split reduction. Given the projected 2022 parking needs assessment findings, a parking structure is anticipated to be complete by 2027.

Downtown Whitby

The assessment of Whitby’s future 10 year parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to operate above capacity (95% utilization);
- The off-street parking system is expected to operate at 137% capacity;
- While the on-street system is projected to operate with available capacity (59% utilization), Ontario Street from Brock Street to Green Street operated above 85% capacity; and
- 201 excess vehicles are anticipated above the 85% effective capacity threshold across the Downtown Whitby parking system.

Based on these results, the Whitby parking system is anticipated to need a parking supply expansion in order to accommodate the projected parking demand growth. Additional off-street parking supply is projected to be required to achieve the targeted 85% utilization.

Downtown Brooklin

The assessment of Brooklin’s future 10 year parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to operate below capacity (54% utilization);

- All on-street segments are projected to operate below effective capacity, with some segments on Baldwin Street approaching effective capacity. The on-street parking system is anticipated to operate at 66% capacity; and
- Lot 9 remains underutilized, operating at 23% capacity during the system peak. Note that Lot 9 utilization is anticipated to increase if on-street pay parking opportunities are successfully adopted.

Based on these results, the Brooklin parking system is considered sufficient to accommodate the projected parking demand.

20 Year Projected Parking (2037)

This section assesses the parking situation under the 20 year horizon. To project parking demand, the 10 year parking demand projections were further growth as a function of population growth and modal split reduction.

Downtown Whitby

The assessment of Whitby's future 20 year parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to operate above capacity (98% utilization);
- The off-street parking system is expected to operate at 140% capacity;
- While the on-street system is projected to operate with available capacity (60% utilization), Ontario Street between Brock Street and Green Street operated above 85% capacity; and
- Approximately 213 excess vehicles are anticipated above the 85% effective capacity threshold across the Downtown Whitby parking system.

Based on these results, the Whitby parking system is anticipated to need a parking supply expansion in order to accommodate the projected parking demand growth. Up to 250 additional parking spaces are projected to be required to achieve the targeted 85% utilization. To provide additional parking supply for future growth, a parking supply expansion of 250-300 parking spaces is recommended.

Downtown Brooklin

The assessment of Brooklin's future 20 year parking situation revealed the following:

- During the period of peak demand, the Downtown parking system is projected to operate below capacity (56% utilization);
- All on-street segments are projected to operate below effective capacity, with some segments on Baldwin Street approaching effective capacity. The on-street parking system is anticipated to operate at 68% capacity; and
- Lot 9 remains underutilized, operating at 24% capacity during the system peak.

Based on these results, the Brooklin parking system is considered sufficient to accommodate the projected parking demand.

Impacts of Recommended Parking Structure

The recommended parking price plan includes a \$0.50 increase in off-street hourly rates in 2023 followed by a \$0.25 increase every 5 years for both on- and off-street hourly parking. Parking permit prices are increased proportionally to the on-street parking price increases. Note that these increases are considered in present day dollars. Given the parking demand / price elasticity of -0.37 and the recommended price increases, the following parking demand changes are anticipated between 2017 and 2037:

- Hourly on-street parking: 5.6% reduced demand;
- Hourly off-street parking: 23.1% reduced demand; and
- Monthly parking: 5.6% reduced demand.

In the event Whitby adopts the Scenario 3 parking price plan, a smaller parking supply increase is anticipated to be required to maintain under effective capacity parking operations. A parking supply expansion of approximately 250-300 parking spaces is considered appropriate.

Summary of Parking Needs

Based on the existing and future parking supply and demand assessment, the following conclusions can be drawn regarding Downtown Whitby and Brooklin parking needs:

- Overall, both Whitby and Brooklin parking systems are currently operating below the 85-90% effective capacity threshold;
- Given that Lot 7 (Library Lot) currently operates above effective capacity during the period of peak parking demand and that there are no additional available parking opportunities within 300-400 metres, an off-street parking supply expansion is considered beneficial;
- When accounting for background population growth, modal split changes, new developments within the study area, and parking supply losses, the overall Whitby and Brooklin parking systems are projected to operate at 96% and 56% occupancy by 2037, respectively;
- By the 2037 horizon year, an additional 225-275 off-street parking spaces are anticipated to be required in Whitby to maintain the targeted 85% utilization; and
- Brooklin's existing parking system is considered sufficient to accommodate the existing and future parking demand.

Future Parking Structure

Based on the future parking needs assessment Downtown Whitby is estimated to require an additional 225 to 275 new parking spaces within 5 years. Note that the future parking needs assessment is a forecast based on current population, employment, and mode split projections as well as potential new developments. Future growth may not occur exactly as planned.

As part of this analysis, a high level review of the planning permissions within the Downtown, including the Downtown Secondary Plan Building Heights (Schedule I) and Land Use Plan (Schedule H), was completed. The majority of the sites were designated Commercial, with only Lot 5 designated Mixed Use. In the Commercial designation, associated parking is to be underground, or restricted from view from the streets (Sec. 11.3.4). Mixed Use areas may have public or private parking as temporary uses prior to redevelopment (Sec. 11.3.5.5).

It must be noted that the current Downtown Whitby Secondary Plan does not permit new automobile uses, including public garages:

No new automotive uses, including car lots, public garages, and service stations shall be permitted within the area affected by this Plan. Such existing uses will be encouraged to relocate. However, existing automobile service stations may be recognized as permitted uses in the implementing Zoning By-law (Sec. 11.3.3.5)

It is noted in the Official Plan that within the Downtown Whitby Secondary Plan Area:

The Municipality shall prepare a short and long-term strategy for Downtown parking to accommodate the need for the increased number of parking spaces as commercial development occurs. Such a strategy will consider the use of surface parking and parking structures.

The Municipality shall work with property owners to provide for more efficient use of present private parking areas for existing commercial development. (Sec. 11.6.10.8 & 11.3.10.9)

Downtown Whitby Parking Opportunities

A high level review using aerial photography reveals that the majority of the study area is already occupied by a variety of buildings and associated surface parking. It would be costly to acquire these privately owned and occupied sites to convert them to provide municipal parking. Additionally, there is a Heritage Conservation District that traverses the Downtown, further limiting options in the study area. However, opportunities should be considered as they become available.

Future parking demand accommodated on existing surface lot intensification was therefore investigated. The following two scenarios were considered:

- Three storey parking structures with 60 spaces per floor;
- Four storey parking structures with 60 spaces per floor.¹

Lot 1 and 2 were omitted as they were less than 2,000 m² in area and would provide limited additional parking. Lot 4 is planned to be decommissioned and has been excluded as well. The additional parking supply gained through the redevelopment of Lots 3, 5, 6, and 7 under the two intensification scenarios is outlined in Error! Reference source not found..

¹ This analysis assumed above-ground parking structures as they are 60% less expensive, and the ground conditions of the existing sites are not known. Future analysis would be required to determine if underground parking was a viable option for the sites. Financial feasibility has not been considered as part of this analysis.

Exhibit E- 7: Parking Intensification Yield

Lot	Current Supply	Additional Supply (3 storey scenario)	Total Supply (3 storey scenario)	Additional Supply (4 storey scenario)	Total Supply (4 storey scenario)
3	88	92	180	152	240
5	83	97	180	157	240
6	80	100	180	160	240
7	79	101	180	161	240
Total	448	390	720	630	960

The analysis of the two scenarios resulted in the opportunity to accommodate additional spaces through the redevelopment of Municipal Lots 3, 5, 6, or 7. Note that the total parking supply yield will depend on the structure’s final design. The estimates presented in Error! Reference source not found. are for information purposes only and will need to be refined.

Conclusions and Opportunities

- As the municipal lots in the three and four storey scenario would not provide sufficient parking spaces to meet the anticipated demand alone, more than one site may need to be redeveloped. However, this multi-development scenario would allow the Town to phase the redevelopment to meet demand over time and minimize disruption to the Downtown parking and local businesses. This would be beneficial in the event that parking demand or population projections are lower than anticipated.
- Depending on the timing of the future parking demand Downtown, a combination of the two scenarios could be considered in order to both avoid oversupply and limit disruption to the Downtown.
- The Town is recommended to consider a number of other options to provide additional parking in the Downtown, including:
 - Private public partnership;
 - Monitoring of any development applications within the Downtown for opportunities to develop a shared parking facility;
 - Providing incentives to new developments to build additional underground parking for public use; and

- Assessing if potential vacant/underutilized sites might be appropriate opportunities for acquisition/lease to provide short or medium term parking solutions.

As an alternative to a loan, a potential strategy that Whitby could adopt to help fund an expensive capital project is the Built-Operate-Own-Transfer (BOOT) strategy. The BOOT strategy is a private-public partnership intended to facilitate the development of large public infrastructure through private funding. This strategy involves a government agency entering into an agreement with a private entity to design and build a development such as a highway (i.e. Highway 407 ETR), or in Whitby's case a parking structure. Upon construction completion, the private entity owns, operates, and maintains the development for a predefined period with the intent of recovering the costs and generating a profit through customer charges. Once the pre-agreed upon period has passed, the private entity transfers the development's ownership to the government agency (i.e. municipality). BOOT contracts are typically long term (40+ years).

Case Study: Toronto Parking Authority, 37 Yorkville Avenue

In early 2012, an offer to purchase a Green P parking garage that had been owned and operated by the Toronto Parking Authority (TPA) since the mid-1950s was put forward by a private condo developer, the Minto Group. The site is situated in Yorkville, one of Toronto's most attractive shopping and dining destinations, located at 37 Yorkville Avenue. Ten offers were received by the TPA to acquire the site before selecting Minto Group. Given the desirable location of the garage, and the fact that it fronts onto both Yorkville and Cumberland Avenue, the original offer was for \$76 million².

Rather than Minto Group paying the TPA the full purchase price in cash, a public-private partnership was structured to allow the TPA to replace the garage. As part of the Agreement of Purchase and Sale, Minto Group agreed to pay a share of the total purchase price in cash, with a condition to construct an 800 space parking garage on strata lands retained by the City.³ Minto Group also agreed to pay an assignment fee of \$250,000 to cover all legal costs carried by the City of Toronto. In addition, the Agreement of Purchase was later amended to be contingent on Minto Group receiving density bonus compensation, closing date revisions, and approved plans related to the proposed parking garage.⁴ The sale of the property was completed on December 18, 2015.

In early 2018, a development application was submitted to the City of Toronto for 37 Yorkville Avenue. The application is for two linked towers, at a height of 64 and 47 storeys, with a total of 1,228 parking spaces, 810 of which will be owned and operated by the TPA and 418 residential spaces.⁵ Residential parking spots will be situated on levels 3-6 of the podium, with the TPA spaces located in the below-grade garage, which are accessible from both Yorkville Avenue and Cumberland Street. Upon completing construction of the parking garage, the TPA will take possession and begin operation.

² Toronto Parking Authority site in Yorkville sells for \$76 million, Toronto Star.

https://www.thestar.com/news/gta/2012/02/23/toronto_parking_authority_site_in_yorkville_sells_for_76_million.html

³ Consent and Assumption Agreement between Toronto Parking Authority, KingSett Real Estate Growth LP No.4 and Cresford Capital Corporation: 50 Cumberland Street/37 Yorkville Avenue (Municipal Carpark 15).

<https://www.toronto.ca/legdocs/mmis/2017/pa/bgrd/backgroundfile-108859.pdf>

⁴ Ibid.

⁵ City of Toronto Development Application Website.

<http://app.toronto.ca/DevelopmentApplications/associatedApplicationsList.do?action=init&folderRsn=3152985&isCofASearch=false&isTlabSearch=false>

A number of factors are believed to potentially present barriers for private and public entities considering to enter into an agreements for the purpose of constructing parking. The most significant of these factors is risk, and the ability for the private entity to have a return on investment that is sizable enough to justify carrying that risk.

Temporary Parking Structure

Considering the future parking needs assessment results, a long term structured parking supply expansion is recommended, assuming the parking demand and population growth projections are met as anticipated. However, given the upcoming decommissioning of Lot 4, and the new near future developments, there is a need for increased parking supply in the next 5 years. To meet Whitby's interim parking supply needs until a permanent parking structure is completed, the installation of a temporary parking structure was investigated.

Temporary parking structures can meet short term parking supply needs. The structures are made from prefabricated elements, including a steel frame and a steel or concrete deck. The prefabricated parts can be assembled on site in a few days to weeks. Temporary parking structures are most commonly built over existing parking lots. Most temporary parking structures provide one additional level of parking, though some are able to provide additional levels. Single-level structures can increase parking capacity by up to 100%, and typically do not require foundations. However, multi-level structures do require foundations due to the increased load expected from the additional levels of parked cars. Temporary structures include a ramp for motor vehicles to enter and exit the facility, and stairs for pedestrians.

A geotechnical study is usually required before a temporary parking structure can be erected on an existing parking lot. Modifications to the existing parking lot may be required including holes drilled into the existing parking lot to secure the temporary structure. Vehicle weight restrictions may apply preventing heavy vehicles, such as pick-up trucks, from using the structures. However, height clearances are designed to allow these vehicles to park on the existing parking lot on the ground level. Care should be taken in winter months to remove snow from the structure. Additionally, depending on the type of decking used, special snow removal equipment may be required to prevent damage to the deck.

These structures are usually priced on a per parking stall basis. IBI Group contacted several potential vendors and obtained price estimates ranging between \$13,000 and \$17,000 per parking space. Some vendors lease temporary structures, for a minimum of 2 years, while others sell the structures to the client. The structures have a service life up to 50 years, and can be transported between sites as needed. Minimal maintenance is required during the structure's life time based on vendor claims. Error! Reference source not found. illustrates a temporary parking structure installed in St. Lambert, United States.

These systems are not widely used in Ontario.

Although a temporary structure can be constructed quickly it is not recommended at this time due to the heritage character of Downtown Whitby.

Exhibit E-7: Temporary Parking Structure



Parking Structure Design Guidelines

The architecture in Downtown Whitby highlights its unique charm, and the historic buildings host an extensive mix of businesses and services. The conservation of Whitby's heritage is an important part of the Town's commitment to creating a sustainable community. As such, it is important to locate a future parking structure in an appropriate location and design it in such a way that it fits into the environment. The future structure should incorporate other land uses. Additionally, the ultimate design should be flexible with future redevelopment potential as the future of vehicle ownership and parking is unknown with the onset of autonomous and connected vehicles.

When designing a parking structure it is important to remember that the structure is being built for people. Designing to accommodate all users and abilities will result in a better structure. Guidelines that would be considered when planning for a parking structure are as follows:

- Sustainable design including such initiatives as green roofs, bicycle storage lockers, electric vehicle charging, etc.;
- Pedestrian safety and comfort is fundamental;
- Good lighting is essential;
- Signage and wayfinding must be well designed and must be provided for both drivers and pedestrians;
- Consider technology to improve the user experience such as illuminated signage, automated vehicle identification, etc.; and
- Aesthetics.

Alternative Parking Supply and Demand Strategies

Downtown Whitby is estimated to require an additional 225 to 275 new parking spaces within the next 5 years. This section identifies alternative strategies that are intended to assist with meeting the project parking demand growth. In conjunction with protecting for a parking supply expansion the following is recommended:

Aggressive Transportation Demand Management: In an attempt to achieve a larger personal vehicle mode share reduction than the 15% over a 20 year period targeted by the Transportation Master Plan, aggressive TDM initiatives are recommended. With a larger reduction in personal vehicle mode share, a larger parking demand reduction is also anticipated.

- Accelerate the cycling network expansion outlined in the Active Transportation Plan;
- Complete a commuter origin study to determine from where Downtown commuters are originating, and improve transit service to the top locations;
- Request new/improved transit routes between the Whitby GO station and the Downtown core; and
- Create a TDM checklist that allows development applicants to reduce the by-law parking requirements through the provision of various TDM measures such as shared parking, carshare spaces, bicycle parking, and subsidized transit passes.

On-Street Permit Parking: Long term parking demand can be accommodated along residential streets in close proximity to the commercial core. As distance from the commercial core increases, so does the availability of on-street parking opportunities. The available on-street capacity can be sold as monthly commercial permits to increase the Downtown core's long term parking supply. When deciding how many permits to provide, a street-by-street assessment of parking demand is recommended. Permits are recommended to be sold in a phased manner to ensure permits are not oversold and that sufficient parking opportunities remain available for local residents. On-street permits can be sold at prices equivalent to the off-street lot permits, or at discounted prices if located farther from the commercial core. Commercial permits are intended to be sold along streets where parking is currently allowed.

Monitor Population and Parking Demand Growth: Whitby is projecting significant population growth over the next 20 years, resulting in increased parking demand. Additionally, significant new developments are planned for the Downtown core. To ensure the projected population and parking demand growth is achieved, Whitby is recommended to collect comprehensive parking demand data annually or every two years. Hourly parking demand data collected on two weekdays (Tuesday, Wednesday, or Thursday) between 8:00 a.m. and 8:00 p.m. and one Saturday between 10:00 a.m. and 8:00 p.m. is recommended to capture the true peak demand.

Peripheral parking supply expansion: Given the above strategies, the parking supply expansion requirement may be less than the previously estimated. With development density decreasing as distance from the commercial core increases, appropriate sites are anticipated to be easier to identify and less expensive to procure.