

Operations Campus Business Case

03 May 2021

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Introduction and Background

Under review in this process are the facilities that support Transit, Parks Operations, Operations, Corporate Building Maintenance and Solid Waste Resources (operational facilities). The City's current operational facilities were constructed between 1967 and 2006, with the majority constructed pre-1970. The facilities provide 185,400 sq. ft. of indoor space, span 23 acres of land, and house numerous activities that support a variety of City services. These facilities provide the operational hubs for staff related to these services as well as the maintenance and operating support for fleet and facilities of all City services, see Appendix 1 for current facility details.

These facilities are critical to ensuring delivery of the City's services to its current population of 140,000, which is proposed to grow to 203,000 by 2051, see Appendix 2 – City Population for additional details. As the population of the City has increased by 140 per cent since most of these facilities were originally built and it continues to grow, the adequacy of these facilities needs to be reviewed from both an asset management and capacity perspective.

This business case evaluates the options available to address these needs and provides a strategic recommendation and implementation plan for the organization to continue operational functions in alignment with the strategic priority of "Working together to deliver responsible and responsive public service to Guelph's growing and diverse community"

Requirement for Strategic Change

Existing facility conditions

While all of the facilities in use are currently in fair condition, the age and long-term needs substantiate the requirement for a significant investment in the near term to keep them in that state. The exception is the building at 45 Municipal Street which housed the Solid Waste Packers, it was demolished in 2017. This covered storage structure was demolished due to insufficient structural capacity and has not been replaced. Refer to Appendix 3 – Facility condition and forecasted capital investment. The investments identified reflect only the costs to keep the facilities in a state of good repair. They do not address the weaknesses in each facility as identified in the Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, Appendix 4 – Current Facility SWOT. The summary of the SWOT analysis below provides a high level view of the current state of the operations.

With the City's commitment to Asset Management principles and practices these facilities have been identified as a top priority within the overall capital plan. These facilities represent significant assets not only in terms of replacement value, but also in terms of ability to sustain expected levels of service and to provide a safe work environment.

These facilities collectively accommodate the following types of citizen-facing service delivery to our growing community each day:

- Snow clearing and road repair
- Building inspection and bylaw enforcement
- Garbage collection
- Fleet and equipment maintenance of the majority of the City fleet including buses, ambulances, waste packers, inspection vehicles and road maintenance trucks
- Vehicle and equipment fueling
- Over-night and seasonal fleet and equipment storage
- Cleaning bays for readying of buses, waste packers and other equipment for employees to start each day
- Logistics and coordination of staff performing maintenance and upkeep of parks, trails, outdoor recreation facilities, corporate building maintenance, and transportation network maintenance

The ability of staff to carry out the above work directly impacts the level of service that is provided to

citizens. The current facilities do not provide adequate space or proper layout to maximize efficiency in service delivery. The value of this impact is not easily quantified due to the numerous points of impact across a large volume of processes.

Need for expansion

The current facilities were built between 25 and 60 years ago, at a time when the City's population was much smaller, 58,400 in 1971. They were initially constructed for the needs at that time, with some room for expansion. However, they have far exceeded their capacity and are not adequate for the current level of service required. Specifically the Municipal St. fleet facility currently has 11 undersized bays (6 truck and 5 light vehicle) for maintenance and one lane adapted for washing. A fleet of the City's size requires 16 properly sized and outfitted bays at a minimum along with an enclosed wash/cleaning lane and welding/fabrication shop.

The Transit shop at Watson Rd. has six maintenance bays, a bus fleet of our current size requires 10 work bays. In addition the current bays cannot accommodate a bus longer than a conventional 40 foot bus. The Transit facility can park 63 buses inside, while best practice shows that we should be parking all of the City's 95 buses (80 conventional and 15 mobility) inside to ensure maximum operational efficiency and length of useful life. Based on current population, the current facilities require a minimum expansion of 35 per cent to accommodate existing needs.

Planning for future growth to 2051 allows for the design and construction of facilities that can meet the demands of today's needs while also ensuring the City does not face constraints similar to today in the future. Based on population the City is expected to grow by 45% by 2051, which will mean more roads to service, more trails and parks to maintain, more transit routes to deliver and more houses and businesses to collect waste and recycling. This in turns means additional vehicles and equipment for all services which will require maintenance, fueling and storage as well. Each service will have differing growth impacts and the design stage of each facility will ensure that these impacts will be addressed appropriately.

The Transit Growth Plan, as presented in 2018, had envisioned service expansion to achieve the City's target model split, required an additional 30 conventional and 5 mobility buses by 2031. This level of service expansion in addition to baseline population growth requires construction of a facility capable of managing 125 to 150 buses by 2051.

Situational Analysis

Strengths, Weaknesses, Opportunities and Threats (SWOT)

The most notable strength is that the current Transit facility at Watson Road has had recent additions and renovations that make it a good fit to repurpose, as the main limitation there is the size compared to Transit's current and future needs and the ability to accommodate the future bus electrification.

As previously described, the most significant weakness is that all of the current facilities are undersized for the service delivery needs of today, which will only continue to become more of a constraint as the City grows. As the current facilities are beyond capacity, the design and layout of the spaces is not optimal for the work being carried out. This results in inefficiency and in some cases prevents work from being accommodated and therefore it must be outsourced. As part of the 2021 budget, Council approved funding for the lease of extra garage space on York Road as a temporary stop gap measure because of the space challenges at Municipal Street.

Prior to the ICIP: Transit Stream funding announcement in 2018, the proposed plan for facility replacement and expansion focused on 45 Municipal St., as these are the facilities in most need of renewal and expansion. The funding scenarios available at that time dictated that no major expansion or renovation/replacement was viable until 2025 at the earliest, with complete replacement of all identified facilities taking until 2035. As the Watson Road facility is the newest, it was planned to be the

second last facility replaced. With the announcement of the Investing in Canada Infrastructure Program (ICIP) Transit funding stream by the Federal and Provincial governments in 2018, the opportunity to alter the planned facility sequence in order to leverage the additional funding on the construction of a new Transit facility became available. The City's application for funding to support this construction was approved in 2020 which allows for the construction of this critical facility using Federal and Provincial funds to offset the need for this tax funded investment. This funding has the secondary impact of reducing overall pressure on tax funded infrastructure renewal funding and allows funding to be used for the other facilities identified in this business case.

The biggest threat to the current facilities is the ever increasing age of the facilities coupled with the continued population growth and the lack of room to grow at current sites. There is no space at any of the current facilities for the level of expansion required to accommodate future growth to 2051, with the exception of Solid Waste at Dunlop Drive.

See Appendix 4 SWOT Analysis for a detailed list.

Key Success Factors

The overall success of the recommended alternative will address the following key success factors directly, providing the overall best outcome for the City.

Critical to the success and efficiency of any operating facility is the design and layout of workflow. In relation to the equipment and vehicles in use at the operating facilities being renewed, it is extremely important, as decisions made at the initial planning phase will be difficult to change in future due to the scale of impact to the overall facility. Decisions regarding traffic flow on the site, placement of facility doors and service/wash lanes and bays, placement of equipment such as hoists and fueling equipment must be carefully considered to ensure maximum utilization of space and efficiency of work flow.

Integral to the design of work flow for equipment and vehicles is the health and safety of staff. The design must consider that several hundred people may be onsite at any given time. Ensuring adequate parking, proper layout, including barriers and appropriate separation of staff and equipment, will ensure a safe work environment.

Environmental practices and awareness have evolved significantly since the current facilities were constructed. Any new facility must not only meet current regulatory standards, but also consider future changes.

The value of the equipment and vehicles maintained and stored on the site requires proper security and storage. Ensuring these valuable public assets are properly secured and protected facilitate their continued availability to provide necessary public services.

As the transition to electric powered vehicles and equipment continues, sufficient capacity for electricity supply to the site is required. As well, appropriate water/wastewater infrastructure is critical to ensuring current needs and future growth can be accommodated. Access to and from the site is important for both efficiency and overall community safety as City equipment and vehicles enter and exit public roadways.

The recommended alternative should address the potential for future expansion. While growth to 2051 will be factored into the overall requirements, the ability to develop in incremental stages or even accommodate growth beyond 2051 is a key factor in overall site preference.

Assumptions

In each of the alternatives evaluated, there is a core set of assumptions that are consistently applied. This includes design decisions related to space, functionality of space and energy and environmental standards. Each alternative is described below and focuses on overall site size and configuration, cost of

construction and potential for operational efficiency.

In alternatives two and three, the existing facilities would become surplus and therefore sold. Given the known levels of contamination at the sites, and the work required to prepare them for redevelopment, neither remediation of the existing sites or potential proceeds of sale have been factored into the cost assumptions. This is due to the unknown nature of the ultimate end use of the site, which will dictate the level of remediation and the potential revenue from sale.

Additional City operations (Fire and Paramedic Services) are being evaluated currently to determine their future facility requirements, however, based on the current information an, assessment of their fit in the alternatives is not possible at this time.

Constraints

When assessing potential options for meeting the need for renewed and expanded facilities, purchasing land outside the current City limits was not evaluated. This was due to staff's determination that the geographic distance would make any site inefficient to overall City operations. Further, the cost and logistics of this land identification exercise would require an additional level of consulting work that was beyond the scope of this assessment.

Alternative Evaluation

Alternative 1

The existing facilities will be rehabilitated and renovated, to improve both operational design and building energy and environmental impacts. New additional locations will be developed and constructed for expansion purposes to meet requirement for additional space on land to be identified and purchased.

Advantages

- New facilities would be designed and constructed to accommodate future needs, and incorporate best practice in work flow and efficiency of space use.
- All current facilities would have improved operations efficiencies in terms of energy use and environmental impacts.

Disadvantages

- The availability of land suitable for the required additional space is limited, and the costs of purchasing the land will add to the overall cost of expanding.
- Renovation of these facilities is difficult as the majority are in operation between 12 and 18 hours per day, and will require shifting of equipment and work throughout the site if possible while contractors carry out work over a period of 2-3 years. In most cases relocating the entire operation to a temporary alternate location for the duration of construction will be necessary.
- The underlying facilities in most cases are 50 plus years old, having reached their expected end of life, and renovations would involve significant work to the underlying structures to ensure the extended useful life is significant enough to warrant the investment.
- The ability to significantly improve the energy and environmental efficiency of the existing buildings would be limited without a large investment to redesign and modify the core structure of each facility.
- The disconnected nature of the various facilities for each service will make it difficult to optimize work flow and ensure the most efficient use of staff and resources.

Alternative 2

New locations will be developed and constructed to meet current and future space requirements. Land

will purchased where available in a decentralized arrangement. Following the relocation to the new facilities, existing facilities are to no longer be used.

Advantages

- There would be no interruption to current sites due to construction, allowing work to continue as is.
- New facilities would be designed and constructed to meet current and future needs, and incorporate best practice in work flow and efficiency of space use.
- All facilities would have improved operational efficiencies in terms of energy use and environmental impacts.

Disadvantages

- The availability of land throughout the City for sites of this size is limited and would be expensive to acquire, if feasible.
- As the sites would be decentralized, any efficiency of co-locating would depend on the relative location, which is unknown at this time.

Alternative 3

New centralized facilities will be constructed at Dunlop site for Transit, Operations, Fleet and Corporate Building Maintenance Facilities. The current Transit facility at Watson Road will be renovated to accommodate Parks Operations. Following the relocation to the new facilities, existing facilities are to no longer be used.

Advantages

- The land is currently owned by the City, reducing the overall project cost and uncertainty.
- There would be no interruption to current sites due to construction, allowing work to continue as is.
- New facilities would be designed and constructed to meet current and future needs.
- All facilities would have improved operational efficiencies in terms of energy use and environmental impacts.
- The facilities would be able to be designed and constructed in a layout and manner that maximizes the efficiencies between and within each site.
- As Solid Waste is one of the key clients for fleet in relation to packer maintenance and fueling, locating the Fleet service shop and fueling depot within close proximity of the Collections Operations Facility will enhance overall operational logistics and efficiencies.
- Electrical supply to the site can be upgraded to accommodate all future requirements for electrification of both the transit fleet and the balance of City fleet.
- Repurposing of the Watson Road facility to meet the needs of Park Operations reduces the need for additional land as well as utilizes a building that has a reasonable amount of useful life remaining.

Disadvantages

- The site at Dunlop Drive is not the optimal size for the anticipated long-term needs of the City.
- The site at Dunlop Drive requires work to prepare for construction, which will take two to three years to complete.

Financial Comparison

In reviewing the financial costs of each alternative an evaluation of construction costs and land acquisition was completed. In terms of facility operating costs, it is expected that Alternatives two and three would have similar costs, which would be lower than that of Alternative one. For a more detailed breakdown of capital costs see Appendix 5 – Costing Breakdown.

Table 1 Summary of Alternative Capital Costs

Cost Component	Alternative 1	Alternative 2	Alternative 3
Cost of renewal of existing Facilities	\$57,546,000	\$0	\$0
Cost of Land	\$20,689,000	\$29,919,000	\$0
Cost of Site Preparation	\$8,480,000	\$12,187,000	\$5,500,000
Cost of Construction	\$147,067,000	\$201,413,000	\$201,413,000
Total Cost	\$233,782,000	\$243,519,000	\$206,913,000

Social Benefit Analysis

A complete social benefit analysis was completed, see Appendix 6 – Social Benefit, for each of the three alternatives as well as the current state. The City’s Social Benefit index scores each alternative on five categories;

- Organizational Culture
- Organizational Performance
- Organizational Sustainability
- Organizational Accountability
- Well-being

Each category is rated for impact (scale of 1 to 3) and likelihood (scale of 1 to 5), the range of total scores is from a low of 5 to a high of 75.

All three alternatives provide significant social benefit compared to the current do nothing state, with both alternative 2 and 3 providing a score of 65 or higher. These two alternatives outweigh the other based on the impact and likelihood of both improved organizational culture and performance. Improvements in these two categories will lead to overall operating efficiency and effectiveness improvements. The category that puts alternative 3 to the top is Well-Being, this is due to the benefits of the integrated campus on overall use of staff time, reduced environmental impact to surrounding neighborhoods of the other two options and ability to optimize energy consumption on one site.

Risk Analysis

A complete risk analysis was completed, see Appendix 7 – Risk Analysis, for each of the three alternatives as well as the current state. The City’s Risk Analysis index scores each alternative on seven categories;

- Service Delivery
- Employees
- Public
- Physical Environment
- Reputation
- Financial
- Regulatory

Each category is rated for impact (scale of 1 to 4) and likelihood (scale of 1 to 5), the range of total scores is from a low of 7 to a high of 140.

Each of the three alternatives reduces the current risk score, with Alternative 3 reducing it by over 60 per cent, the main factor in reducing the score is the likelihood of any negative impacts to the seven categories. Based on the impacts of these assets on the City’s ability to deliver service the lowest score attainable, via reducing the likelihood of each category to 1 would be an 18.

By combining the Social Benefit and Risk analysis scores together, it is clear that Alternative 3 is the best option in terms of both measures. Figure 1 below shows that the level of risk is reduced the most by alternative 3 as well as it achieving the highest social benefit score.

Figure 1 Risk and Social Benefit Score

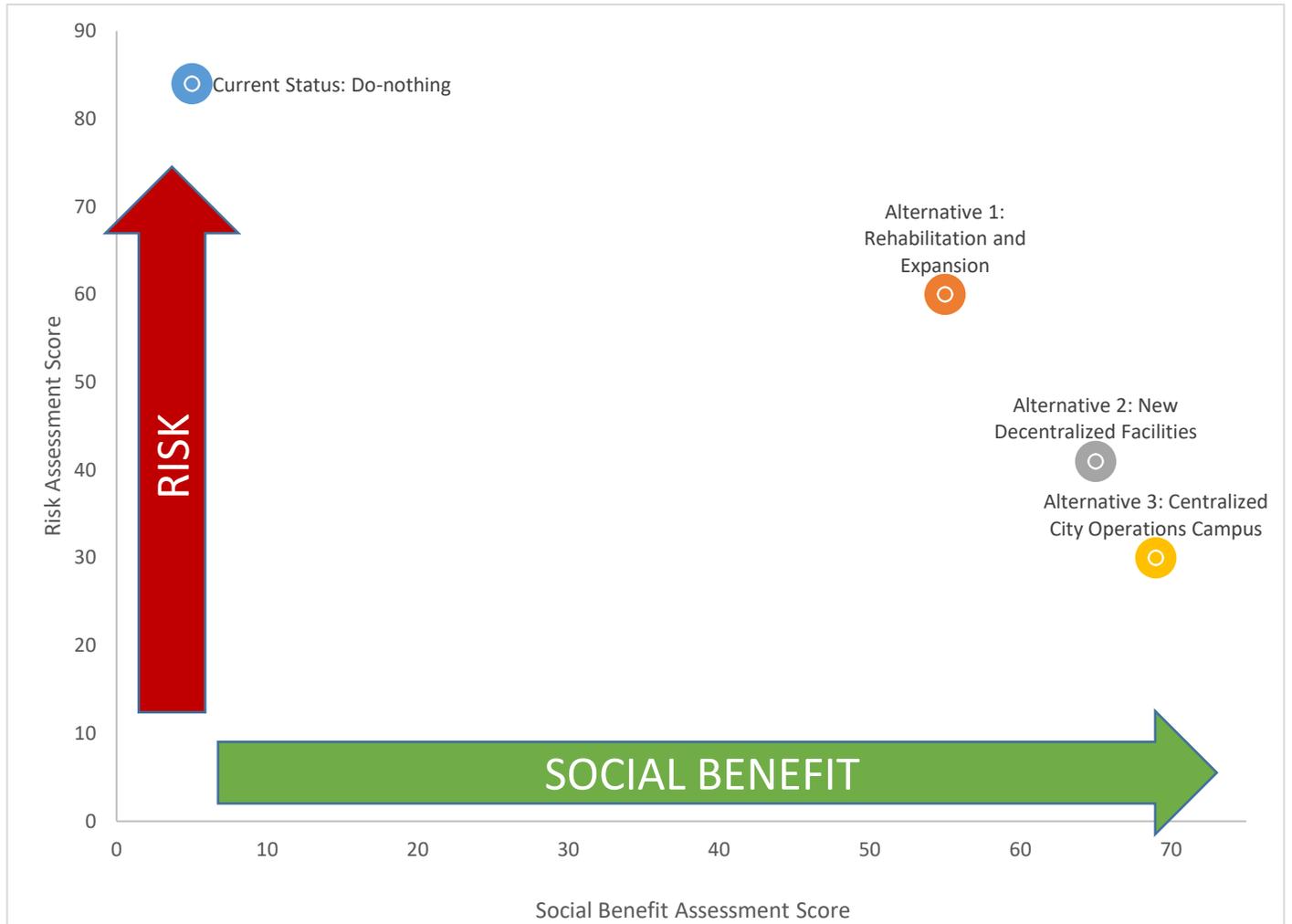


Figure 2 Risk and Social Benefit Score

Energy Efficiency

As all of the current facilities were built primarily prior to modern building sciences, focused on energy efficiency and environmental impact, the opportunity to greatly reduce the relative energy usage is applicable to all three alternatives. Appendix 8 – Energy efficiency opportunities, compares the energy usage of current facilities to industry standards currently in place.

To illustrate the relatively poor energy performance of aged existing facilities, an energy benchmarking review was conducted. It was determined that the energy use intensity, or energy consumption per unit of conditioned space, of these existing facilities perform worse than the national median of similar properties¹. This analysis considered the current 160,000 sq. ft. of conditioned space, showing that based on current construction and operating standards a savings of 62 per cent in annual energy.

Item Measured	Existing	Benchmark	Percent Reduction
Total Energy Consumption (GJ)	21,073	12,457	59%
Total Cost (\$)	\$319,147	\$196,726	62%
Carbon Emissions (kgCO2e)	805,564	467,115	58%

¹Energy Star Portfolio Manager Technical Reference Canadian Energy Use Intensity by Property Type

By designing and constructing to meet or exceed current building standards, energy consumption, energy cost and related greenhouse gas (GHG) emissions can be reduced. Renovating the existing facilities to achieve this level of efficiency and reductions would be more costly than new construction due to existing conditions, as well achieving these levels would not be likely as not all current issues would be able to be mitigated.

The proposed alternatives present construction/renovation of approximately three times the current space, enabling proper space for current service levels and allowing for future growth and expansion. This level of space will require increased operating budgets for energy usage regardless of efficiencies or technologies used. The focus of design for all facilities will be to meet the Council objective of achieving 100 Renewable Energy use by the City, as well as the City wide goal of achieving a Net Zero Carbon by 2050.

Analysis Conclusion:

Strategic Recommendation

The optimal alternative is number three, the Centralized City Operations Campus. This alternative is the most cost effective of the viable options, and provides the greatest social benefit with the lowest risk exposure. This alternative employs sustainable asset management plans and builds capacity to address increasing city demands by leveraging municipal-owned land. By doing so, health and safety risks are effectively mitigated and brings service area groups together to enhance operational efficiencies. The centralized campus model aligns with the Guelph Innovation District (GID) Secondary Plan and initiates responsible development in this natural and cultural rich area. The centralized campus further enables transit electrification by providing a new location for a purpose-built facility and will significantly reduce GHG emissions.

Staging Plan

A preliminary staging plan has been prepared based on the information available to date. Short to medium term tasks are listed with greater certainty. Longer term forecasts are estimated and will be revised as studies and design work progresses. As illustrated in the staging plan, the program of work is multi-phased and includes Council connection points at key program milestones. Investigations are currently underway to determine the environmental constraints that will be used to further inform the overall campus site plan design. The overall campus site plan design will designate building land use and servicing. Specific facility designs (i.e. transit, fleet, public works, etc.) will be completed in subsequent phases.

Refer to Appendix 9 for the detailed staging plan.

Appendix 1 – Current Facility Details

Table 2 Transit Operations

Items	Details
Address	170 Watson Road South
Age	31 Years
Size	78,000 sq. ft. indoor
Area	8.18 acres
Functions	Administrative Office
	Bus Storage Area
	Maintenance Garage
	Re-fueling and Wash Facility

Table 3 Operations Department

Items	Details
Address	45 Municipal Street
Age	53 years
Size	67,116 sq. ft. indoor
Area	6.25 acres
Functions	Administrative Office
	Equipment and Vehicle Storage
	Fleet Vehicle Maintenance
	Materials Storage
	Summer Roads Maintenance
	Winter Roads Maintenance

Table 4 Parks Operations

Items	Details
Address	50 Municipal Street & 69 Marylin Drive

Items	Details
Age	50 years
Size	37,000 sq. ft. indoor
Area	3.49 acres
Functions	Equipment and Vehicle Storage
	Horticulture Maintenance
	Sports Fields Maintenance
	Summer Parks Maintenance
	Winter Parks Maintenance

Table 5 Corporate Building Maintenance

Items	Details
Address	186 Eastview Road
Age	30 years
Size	3,285 sq. ft. indoor
Area	5 acres
Functions	Administrative Office
	Equipment and Vehicle Storage
	Workshop

Table 6 Solid Waste Collections

Items	Details
Address	Formerly 45 Municipal Street
Age	Demolished 2017
Size	12,000 sq. ft. indoor
Area	N/A
Functions (Proposed)	Administrative Office
	Equipment and Vehicle Storage
	Workshop

Appendix 2 – City Population

Year	Population	Cumulative Growth per cent
1971	58,400	N/A
1981	71,210	22%
1991	88,440	51%
2001	106,170	82%
2011	121,690	108%
2021 (estimate)	140,000	140%
2031 (estimate)	159,600	173%
2041 (estimate)	181,944	212%
2051 (estimate)	203,000	248%

Appendix 3 – Facility Condition and forecasted capital investment

General Notes:

BCA reports completed by McIntosh Perry Limited (Consultant) in 2017 and delivered to the City in 2018 were reviewed in order to determine the condition of and estimated forecast costs for the properties that may be consolidated to a new Central Operations Centre.

Analysis

This review consisted of performing a cumulative Facility Condition Index (FCI) analysis. FCI is calculated as follows:

$$FCI = (\$ \text{ deficiencies and required work}) \text{ divided by } \$ \text{ facility replacement value}$$

A cumulative FCI review assumes that none of the identified actions to correct existing or predicted deficiencies will be done and so the backlog of required work accumulates over time.

Example: in year 1 (2018) the annual forecast action costs are summed and divided by the estimated replacement cost. In year 2 (2019) and all following years the cost of the actions in year 1 are added to the cost of actions identified for year 2. This analysis continued until year 25 (2042).

While this may not be a realistic exercise, experience shows that rarely do all identified actions for a given facility get completed, and so the analysis does provide an example of a “worst case” scenario showing the deteriorating condition of the facilities and increasing annual costs when no actions are completed.

A further analysis that examines the effects on the condition of a facility if some percentage of the annual total actions are completed can be done if desired. This may present a more realistic prediction of the rate of deterioration of the facilities.

All cost values are in 2018 dollar values. No adjustments for inflation were made. No assumptions or corrections were made to account for any of the identified actions that may have been completed since the BCA reports were delivered to the City. Future actual costs will be greater than indicated in the reports.

Estimated replacement costs do not include extras like professional design fees, or project contingencies. The replacement costs also do not include potential land purchase values or preliminary site development costs.

Table 7 Facility Investment and Condition Forecast

Facility	Location	25 Year average Investment	Reaches Poor	Reaches Critical
Transit Operations	170 Watson Road	\$4,806,490	2022	2035
Operations	45 Municipal St	\$3,245,717	2022	2042
Parks Operations	50 Municipal St	\$1,805,353	2022	2042
Parks Operations	Riverside Park	\$2,005,496	2025	2029
Corporate Building maintenance	Eastview	\$764,288	2020	2022

Appendix 4 - Current facility SWOT

Table 8 Internal Factors

Strengths	Service	Weaknesses	Service
Buildings in fair condition	All	Beyond capacity for current requirements	All
Majority of facilities are barrier-free in terms of accessibility	All	Building layout and size negatively impact productivity	All
Close to proposed new Ops Hub	Transit	An environmental compliance review required (DSS)	All
Green houses in fair condition	Parks	Escalating maintenance costs associate with end of life facilities	All
Space within existing footprint	Solid Waste	Environmental issues within buildings and on site	All
		Insufficient wash bays - current	Operations
		Facility condemned and torn down in 2017	Solid Waste
		Mobile Office being used as overflow	Parks
		No onsite materials storage	Parks
		No indoor vehicle storage	Parks
		Limited ability to adapt to electrification	Transit

Table 9 External Factors

Opportunities	Service	Threats	Service
Federal/Provincial ICIP Funding	Transit	No room for expansion	All*
Aligns with opportunity to convert to Electric	Transit	Project 2051 population +205K	All
Federal focus on Public Transit expansion	Transit	Increased urban density will impact type of equipment, speed of travel	Operations
Provincial focus on transit development in Greater Golden Horseshoe	Transit		
Ability to leverage federal funding	All		

All facilities have no room for expansion except for Solid Waste, which is located on the Dunlop site.

Appendix 5 – Financial Details

Table 10 Breakdown of capital costs

Facility	Alternative 1	Alternative 2	Alternative 3
50 Municipal St. Renewal	5,152,801		
New Parks Ops	26,630,744	20,000,000	20,000,000
Subtotal - Parks Ops	31,783,545	20,000,000	20,000,000
45 Municipal St. / 50 Municipal St.	19,554,989		
New Public Works	22,547,163	44,524,504	33,143,769
Subtotal - Public Works	42,102,152	44,524,504	33,143,769
45 Municipal St.	4,644,718		
New Fleet Services	59,676,775	63,603,750	50,242,215
Subtotal - Fleet	64,321,493	63,603,750	50,242,215
170 Watson Rd. S.	27,481,241		
New Transit	64,156,933	100,086,438	88,486,196
Subtotal - Transit	91,638,174	100,086,438	88,486,196
186 Eastview Rd.	711,985		
New CBM	4,660,417	5,792,035	5,527,820
Subtotal - CBM	5,372,402	5,792,035	5,527,820
Renovate current	0		
110 Dunlop Dr.	9,513,000	9,513,000	9,513,000
Subtotal - Solid Waste	9,513,000	9,513,000	9,513,000
Subtotal Renewal	57,545,734	0	0
Subtotal New Construction	187,185,032	243,519,727	206,913,000
Total	244,730,765	243,519,726	206,913,000

Appendix 6 – Social Benefit Analysis

Table 11 Social Benefit Analysis Summary

Alternative	Description	Total Social Benefit Score
Existing Condition: Do Nothing	Facilities remain as they exist.	5
Alternative 1: Rehabilitation and Expansion	Existing facilities are rehabilitated and renovated. Additional locations are developed and constructed for expansion purposes to meet functional space requirements	55
Alternative 2: New Decentralized Facilities	New locations are developed and constructed to meet functional space requirements. The facilities are situated in a decentralized arrangement. Following the relocation of operations to the new facilities.	65
Alternative 3: Centralized City Operations Campus	New locations are developed and constructed to meet functional space requirements. The facilities are centralized at the Watson-Stone location. Following the relocation of operations to the new facilities	69

Table 12 Existing Condition: Do Nothing

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Culture	Possibility of improving the organizational culture (e.g., employee engagement, etc.) as an outcome of the program or activities.	-No improvement to employee morale or engagement. -Maintains existing workplace locations.	1	1	1
Organizational Performance	Possibility of improving the organizational performance level through capacity and capability improvement, effectiveness and efficiency improvement.	-Existing facilities are not effectively laid out and result in inefficient workflow. -Does not allow for service growth to meet community growth demands. -Does not address end of life facilities. -Consistency with existing	1	1	1
Organizational Sustainability	Possibility of improving the organizational sustainability through efforts in talent acquisition and retention, succession planning, knowledge management.	-Sustainable asset management of end-of-life facilities is not addressed. -Talent acquisition and retention may be limited by constrained work space.	1	1	1

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Accountability	Possibility of improving the organizational accountability through better governance, social responsibility, transparency and due diligence.	-Potential health and safety incidences are not reduced with maintaining the existing layout. -Existing facilities are near or at end-of-life and have poor energy performance.	1	1	1
Well-Being	Possibility of improving Well-Being domains, such as: Healthy Population, Environment, Democratic Engagement, Community Vitality, Leisure and Culture, Education, Living Standards, and Time Use.	-Health and safety concerns are not effectively addressed. -Wasted resources (staff time, energy and fuels, maintenance efforts) are not effectively prevented.	1	1	1
Overall					5

Table 13 Alternative 1 Rehabilitation and Expansion

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Culture	Possibility of improving the organizational culture (e.g., employee engagement) as an outcome of the program or activities.	<ul style="list-style-type: none"> -Improved working conditions have positive impact on employee engagement. -Additional facility functional space to improve work flow have positive impact on employee engagement. -Enables electrification of buses to mitigate climate change. This initiative is supported by employees. -Improved building performance to mitigate climate change. This initiative is supported by employees. -Right-sized facilities to meet 	3	4	12

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Performance	Possibility of improving the organizational performance level through capacity and capability improvement, effectiveness and efficiency improvement, etc.	<ul style="list-style-type: none"> -Increased number of facilities worsens connectivity of maintenance services to operational services. -Covered area for fleet vehicles improve vehicle dispatch readiness. -Somewhat improved site layouts to improve work flow and operational effectiveness and efficiency. -Allows for staff growth to meet growing community service requirements. -Improved physical working conditions improve employee productivity. -Enables electrification of buses - significant reduction of GHG emissions and climate change mitigation measure. 	2	4	8

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Sustainability	Possibility of improving the organizational sustainability through efforts in talent acquisition and retention, succession planning, knowledge management.	<ul style="list-style-type: none"> -Employs sustainable asset management practices with respect to end-of-life facilities. -Improved physical work environment may attract new talent and strengthen talent retention. -Innovative initiative may attract new talent and strengthen talent retention. 	3	4	12

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Accountability	Possibility of improving the organizational accountability through better governance, social responsibility, transparency and due diligence.	-Strategic Plan alignment - Sustaining Our Future: Mitigate climate change by reducing Guelph's carbon footprint; -Strategic Plan alignment - Sustaining Our Future: Plan and design an increasingly sustainable city as Guelph grows; -Strategic Plan alignment - Navigating Our Future: Build Guelph's capacity to adopt clean and efficient technology; -Strategic Plan alignment - Working Together For Our Future: Attract and develop accountable employees who work collaboratively and creatively to deliver services; -Strategic Plan alignment - Working Together For Our Future: Improve how the City communicates with residents and delivers services; -Strategic Plan alignment - Building Our Future: Maintain existing community assets and secure new ones;	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Well-Being	Possibility of improving Well-Being domains, such as: Healthy Population, Environment, Democratic Engagement, Community Vitality, Leisure and Culture, Education, Living Standards, and Time Use.	<ul style="list-style-type: none"> -Health and safety concerns somewhat addressed with additional space, rehabilitated facilities maintain layouts. -Enables electrification of buses - significant reduction ofGHG emissions and climate change mitigation measure. -Enables electrification of buses - improves air quality throughout city. -Enables electrification of buses - reduction in noise pollution throughout city. -Improved building performance reduces energy consumption and utility operating costs. -Prevents the waste of resources (staff time, energy and fuels, maintenance efforts). 	2	4	8
Overall					55

Table 14 Alternative 2 New Decentralized Facilities

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Culture	Possibility of improving the organizational culture (e.g., employee engagement, etc.) as an outcome of the program or activities.	<ul style="list-style-type: none"> -Improved working conditions have positive impact on employee engagement. -Improved site layouts and facility functional space to improve work flow have positive impact on employee engagement. -Enables electrification of buses to mitigate climate change. This initiative is supported by employees. -Improved building performance to mitigate climate change. This initiative is supported by employees. -Right-sized facilities to meet growing demands for City services. 	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Performance	Possibility of improving the organizational performance level through capacity and capability improvement, effectiveness and efficiency improvement, etc.	<ul style="list-style-type: none"> -Decentralized facilities impact connectivity of maintenance services to operational services. -Covered area for fleet vehicles improve vehicle dispatch readiness. -Improved site layouts to improve work flow and operational effectiveness and efficiency. -Allows for staff growth to meet growing community service requirements. -Improved physical working conditions improve employee productivity. -Enables electrification of buses - significant reduction of GHG emissions and climate change mitigation measure. 	3	5	15
Organizational Sustainability	Possibility of improving the organizational sustainability through efforts in talent acquisition and retention, succession planning, knowledge management, etc.	<ul style="list-style-type: none"> -Employs sustainable asset management practices with respect to end-of-life facilities. -Improved physical work environment may attract new talent and strengthen talent retention. -Innovative initiative may attract new talent and strengthen talent retention. 	3	4	12

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Accountability	Possibility of improving the organizational accountability through better governance, social responsibility, transparency and due diligence.	<ul style="list-style-type: none"> -Strategic Plan alignment - Sustaining Our Future: Mitigate climate change by reducing Guelph's carbon footprint; -Strategic Plan alignment - Sustaining Our Future: Plan and design an increasingly sustainable city as Guelph grows; -Strategic Plan alignment - Navigating Our Future: Build Guelph's capacity to adopt clean and efficient technology; -Strategic Plan alignment - Working Together For Our Future: Attract and develop accountable employees who work collaboratively and creatively to deliver services; -Strategic Plan alignment - Working Together For Our Future: Improve how the City communicates with residents and delivers services; -Strategic Plan alignment - Building Our Future: Maintain existing community assets and secure new ones; 	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Well-Being	Possibility of improving Well-Being domains, such as: Healthy Population, Environment, Democratic Engagement, Community Vitality, Leisure and Culture, Education, Living Standards, and Time Use.	<ul style="list-style-type: none"> -Health and safety concerns effectively addressed. -Enables electrification of buses - significant reduction of GHG emissions and climate change mitigation measure. -Enables electrification of buses - improves air quality throughout city. -Enables electrification of buses - reduction in noise pollution throughout city. -Improved building performance reduces energy consumption and utility operating costs. -Prevents the waste of resources (staff time, energy and fuels, maintenance efforts). 	2	4	8
Overall					65

Table 15 Alternative 3 Centralized City Operations Campus

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Culture	Possibility of improving the organizational culture (e.g., employee engagement, etc.) as an outcome of the program or activities.	<ul style="list-style-type: none"> -Improved working conditions have positive impact on employee engagement. -Improved site layouts and facility functional space to improve work flow have positive impact on employee engagement. -Enables electrification of buses to mitigate climate change. This initiative is supported by employees. -Improved building performance to mitigate climate change. This initiative is supported by employees. -Right-sized facilities to meet growing demands for City services. 	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Performance	Possibility of improving the organizational performance level through capacity and capability improvement, effectiveness and efficiency improvement, etc.	<ul style="list-style-type: none"> -Greater connectivity and closer proximity of maintenance services to operational services. -Covered area for fleet vehicles improve vehicle dispatch readiness. -Improved site layouts to improve work flow and operational effectiveness and efficiency. -Allows for staff growth to meet growing community service requirements. -Improved physical working conditions improve employee productivity. -Enables electrification of buses - significant reduction of GHG emissions and climate change mitigation measure. 	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Sustainability	Possibility of improving the organizational sustainability through efforts in talent acquisition and retention, succession planning, knowledge management, etc.	<ul style="list-style-type: none"> -Employs sustainable asset management practices with respect to end-of-life facilities. -Improved physical work environment may attract new talent and strengthen talent retention. -Innovative initiative may attract new talent and strengthen talent retention. 	3	4	12

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Organizational Accountability	Possibility of improving the organizational accountability through better governance, social responsibility, transparency and due diligence.	<ul style="list-style-type: none"> -Strategic Plan alignment - Sustaining Our Future: Mitigate climate change by reducing Guelph's carbon footprint; -Strategic Plan alignment - Sustaining Our Future: Plan and design an increasingly sustainable city as Guelph grows; -Strategic Plan alignment - Navigating Our Future: Build Guelph's capacity to adopt clean and efficient technology; -Strategic Plan alignment - Working Together For Our Future: Attract and develop accountable employees who work collaboratively and creatively to deliver services; -Strategic Plan alignment - Working Together For Our Future: Improve how the City communicates with residents and delivers services; -Strategic Plan alignment - Building Our Future: Maintain existing community assets and secure new ones; 	3	5	15

Benefit Category	Category Definition	Stakeholder / Benefit Description	Impact	Likelihood	Total
Well-Being	Possibility of improving Well-Being domains, such as: Healthy Population, Environment, Democratic Engagement, Community Vitality, Leisure and Culture, Education, Living Standards, and Time Use.	<ul style="list-style-type: none"> -Health and safety concerns effectively addressed. -Development aligned with GIDsecondary plan. -Improved streetscape along major corridors. -Enables electrification of buses - significant reduction ofGHG emissions and climate change mitigation measure. -Enables electrification of buses - improves air quality throughout City. -Enables electrification of buses - reduction in noise pollution throughout City. -Improved building performance reduces energy consumption and utility operating costs. -Prevents the waste of resources (staff time, energy and fuels, maintenance efforts, etc.). 	3	4	12
Overall					69

Appendix 7 – Risk Analysis

Alternative	Description	Total Risk Assessment Score
Existing Condition: Do-nothing	Facilities remain as they exist.	84
Alternative 1: Rehabilitation and Expansion	Existing facilities are rehabilitated and renovated. Additional locations are developed and constructed for expansion purposes to meet functional space requirements.	60
Alternative 2: New Decentralized Facilities	New locations are developed and constructed to meet functional space requirements. The facilities are situated in a decentralized arrangement. Following the relocation of operations to the new facilities, existing facilities are to no longer be used and sold.	41
Alternative 3: Centralized City Operations Campus	New locations are developed and constructed to meet functional space requirements. The facilities are centralized at the Watson-Stone location. Following the relocation of operations to the new facilities, existing facilities are to no longer be used and sold.	30

Table 16 Existing Condition: Do Nothing

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Service Delivery	Risk of not meeting customer expectations	-Underachievement of public service delivery as City demand for services grow. -Potential of unrecoverable facility loss as facilities are at or near end-of-life.	3	5	15

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Employees	Risk that employees, contractors or other people at the City will be negatively impacted by a policy, program, process or project including physical harm	<ul style="list-style-type: none"> -Risk of serious injury involving employees and vehicles due to facility size constraints and site layout of existing facilities will remain and become exasperated as City demands for services grow. -Risk of injury due to end-of-life facilities. -Risk of reduced employee productivity/efficiency due to facility size constraints and ineffective facility layouts. -Higher risk of failed vehicles or equipment. 	4	5	20
Public	Risk that the policy, program or action will have a negative impact on the citizens of Guelph	<ul style="list-style-type: none"> -Underachievement of public service delivery as City demand for services grow. 	2	4	8
Physical Environment	Risk that natural capital will be damaged	<ul style="list-style-type: none"> -End-of-life facilities have higher energy consumption and GHG emissions. -Constrains transit electrification initiative and will not yield the significant GHG reductions. -Storing vehicles outdoors increases damage to vehicles and may result in more leaks (oil or fuel spills) and not contained by proper drainage systems. -Vehicles are less available for maintaining environment (such as tree trimming, waste collection, road cleaning and maintenance). 	2	4	8

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Reputation	Risk associated with anything that can damage the reputation of the City or undermine confidence in the City of Guelph	<ul style="list-style-type: none"> -Public complaints associated with not meeting public servicedemands. -Failure to align and meet strategic plan objectives. -Failure to progress towards Corporate 100RE and CommunityNet Zero Carbon targets. -Not employing sustainable asset management practices to address end-of-life facilities. 	3	4	12
Financial	Risk related to decisions about assets, liabilities income and expenses including asset management, capital and operational funding economic development, theft or fraud	<ul style="list-style-type: none"> -Continued operation of end-of-life facilities results in highermaintenance and utility costs. -Accelerated wear and increased maintenance requirementsfor vehicle/equipment assets due to outdoor storage. -Lower productivity of staff due to inadequate facility functional space and layout. -Significant exposure to asset management risk with end-of-life facilities. -Forfeiting ICIP funding related to electric transit facility andelectric buses. 	3	5	15
Regulatory	Risk related to the consequences of non-compliance with laws, regulations, policies or other rules	<ul style="list-style-type: none"> -Buildings would remain compliant with (or be grandfatheredunder) applicable laws and regulations, however requires more maintenance. -Vehicles would remain compliant with applicable laws and regulations, however requires more maintenance due to lack of storage. 	2	3	6
Overall					84

Table 17 Alternative 1: Rehabilitation and Expansion

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Service Delivery	Risk of not meeting customer expectations	-Disruption to services during rehabilitation of facilities is likely. -Increased facility functional space and improved layouts enable service areas to more effectively meet current publicservice demand. -Increased facility functional space and improved layouts enable service areas to meet future public service demand.	1	5	5
Employees	Risk that employees, contractors or other people at the City will be negatively impacted by a policy, program, process or project including physical harm	-Site investigation work and new construction activity introduce health and safety risk however can be properly managed by following health and safety policies and procedures. -New facilities address facility size constraints and reduce hazards. Ineffective layouts in existing facilities.	4	2	8
Public	Risk that the policy, program or action will have a negative impact on the citizens of Guelph	-New facilities address facility size and layout and support meeting growing public service needs. -Disruptions to services is likely during rehabilitation of facilities. -Public site access during site development and new construction to be controlled to prevent public injury.	4	4	16
Physical Environment	Risk that natural capital will be damaged	-Extensive environmental studies and servicing design is to be conducted to determine site constraints and inform design and ensure that new site development will respect the natural capital. Coordination with the GRCA, site plan committee and the province will mitigate risk. -Rehabilitation and expansion model is site area inefficient, requiring more land to accommodate facilities.	3	4	12

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Reputation	Risk associated with anything that can damage the reputation of the City or undermine confidence in the City of Guelph	<ul style="list-style-type: none"> -Public interest due to large project size. -Potential of neighbouring stakeholder complaints. -Project linked to other levels of government. -Decentralized location increases number and variety of stakeholders impacted. 	2	3	6
Financial	Risk related to decisions about assets, liabilities income and expenses including asset management, capital and operational funding economic development, theft or fraud	<ul style="list-style-type: none"> -Site development and new facility construction requires capital investment. Phased approach is employed to sustainably finance the project. -Employs sustainable asset management practices to attend to end-of-life facilities proactively. -Potential of exceeding detailed budget. -Land is not confirmed available and is exposed to real estate market pressures. Will likely increase project costs as time goes on. 	3	4	12
Regulatory	Risk related to the consequences of non-compliance with laws, regulations, policies or other rules	<ul style="list-style-type: none"> -Site development will comply with development and planning policies. -New facilities will comply with applicable laws and regulations. -Regulatory requirements may pose technical constraints to the site/facility development and will be considered through the design process. 	1	1	1
Overall					60

Table 18 Alternative 2: New Decentralized Facilities

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Service Delivery	Risk of not meeting customer expectations	<ul style="list-style-type: none"> -Minimal disruption to services during construction of new facilities. New construction allows for overlap with existing facilities and improved continuity of services. -Increased facility functional space and 	1	2	2

		improved layouts enable service areas to more effectively meet current publicservice demand. -Increased facility functional space and improved layouts enable service areas to meet future public service demand.			
Employees	Risk that employees, contractors or other people at the City will be negatively impacted by a policy, program, process or project including physical harm	-Site investigation work and new construction activity introduce health and safety risk however can be properly managed by following health and safety policies and procedures. -New facilities address facility size and layout constraints and effectively reduce hazards.	4	1	4
Public	Risk that the policy, program or action will have a negative impact on the citizens of Guelph	-New facilities address facility size and layout and support meeting growing public service needs. -Disruptions to services to be mitigated during new construction of facilities. -Public site access during site development and new construction to be controlled to prevent public injury.	4	1	4
Physical Environment	Risk that natural capital will be damaged	-Extensive environmental studies and servicing design is to be conducted to determine site constraints and inform design and ensure that new site development will respect the natural capital. Coordination with the GRCA, site plan committee and the province will mitigate risk. -Decentralized campus is site area inefficient, requiring more land to accommodate facilities.	3	4	12
Reputation	Risk associated with anything that can damage the reputation of the City or undermine confidence	-Public interest due to large project size. -Potential of neighbouring stakeholder complaints. -Project linked to other levels	2	3	6

	in the City of Guelph	of government. -Decentralized location increases number and variety of stakeholders impacted.			
Financial	Risk related to decisions about assets, liabilities income and expenses including asset management, capital and operational funding economic development, theft or fraud	-Site development and new facility construction requires capital investment. Phased approach is employed to sustainably finance the project. -Employs sustainable asset management practices to attend to end-of-life facilities proactively. -Potential of exceeding detailed budget. -Land is not confirmed available and is exposed to real estate market pressures. Will likely increase project costs as time goes on.	3	4	12
Regulatory	Risk related to the consequences of non-compliance with laws, regulations, policies or other rules	-Site development will comply with development and planning policies. -New facilities will comply with applicable laws and regulations. -Regulatory requirements may pose technical constraints to the site/facility development and will be considered through the design process.	1	1	1
Overall					41

Table 19 Alternative 3: Centralized City Operations Campus

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Service Delivery	Risk of not meeting customer expectations	-Minimal disruption to services during construction of new facilities. New construction allows for overlap with existing facilities and improved continuity of services. -Increased facility functional space and improved layouts enable service areas to more effectively meet current public service demand. -Increased facility functional space and improved layouts enable service areas to meet future public service demand.	1	2	2
Employees	Risk that employees, contractors or other people at the City will be negatively impacted by a policy, program, process or project including physical harm	-Site investigation work and new construction activity introduce health and safety risk however can be properly managed by following health and safety policies and procedures. -New facilities address facility size and layout constraints and effectively reduce hazards.	4	1	4
Public	Risk that the policy, program or action will have a negative impact on the citizens of Guelph	-New facilities address facility size and layout and support meeting growing public service needs. -Disruptions to services to be mitigated during new construction of facilities. -Public site access during site development and new construction to be controlled to prevent public injury.	4	1	4

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Physical Environment	Risk that natural capital will be damaged	<ul style="list-style-type: none"> -Extensive environmental studies and servicing design is to be conducted to determine site constraints and inform design and ensure that new site development will respect the natural capital. Coordination with the GRCA, site plan committee and the province will mitigate risk. -Centralized campus is site area efficient, requiring less land to accommodate facilities. 	3	2	6
Reputation	Risk associated with anything that can damage the reputation of the City or undermine confidence in the City of Guelph	<ul style="list-style-type: none"> -Public interest due to large project size. -Potential of neighbouring stakeholder complaints. -Project linked to other levels of government. -Concentrated location reduces number and variety of stakeholders impacted. 	2	2	4
Financial	Risk related to decisions about assets, liabilities income and expenses including asset management, capital and operational funding economic development, theft or fraud	<ul style="list-style-type: none"> -Site development and new facility construction requires capital investment. -Phased approach is employed to sustainably finance the project. -Employs sustainable asset management practices to attend to end-of-life facilities proactively. -Potential of exceeding detailed budget. -Proposed centralized campus land is available and already owned by the municipality. 	3	3	9
Regulatory	Risk related to the consequences of non-compliance with laws, regulations, policies or other rules	<ul style="list-style-type: none"> -Site development will comply with development and planning policies. -New facilities will comply with applicable laws and regulations. -Regulatory requirements may pose technical constraints to the site/facility development and will be considered through the design process. 	1	1	1

Risk Category	Category Definition	Risk Description	Impact	Likelihood	Total
Overall					30

Appendix 8 - Energy efficiency opportunities

Table 20 Existing Facilities

Site	Facility functional Area (m2)	Total Energy Consumption (GJ)	Total Cost (\$)	EUI (GJ/m2)	ECI (\$/m2)	Carbon Emissions (kgCO2e)	Carbon Intensity (kgCO2e/m2)
45 Municipal	3,838	5,654	\$95,972	1.5	25.0	208,308	54.3
50 Municipal	3,437	5,239	\$51,699	1.5	15.0	224,330	65.3
Transit	7,246	10,073	\$168,060	1.4	23.2	372,035	51.3
Corporate Building Maintenance	305	107	\$3,416	0.3	11.2	889	2.9

Table 21 Benchmarked Facilities

Site	Facility functional Area (m2)	Total Energy Consumption (GJ)	Total Cost (\$)	EUI (GJ/m2)	ECI (\$/m2)	Carbon Emissions (kgCO2e)	Carbon Intensity (kgCO2e/m2)
45 Municipal	3,838	2,418	\$41,047	0.6	10.7	89,094	23.2
50 Municipal	3,437	2,166	\$21,370	0.6	6.2	92,730	27.0
Transit	7,246	7,681	\$128,151	1.1	17.7	283,688	39.1
Corporate Building Maintenance	305	192	\$6,157	0.6	20.2	1,602	5.3

Table 22 Comparison

Item Measured	Existing	Benchmark	Percent Reduction
Total Energy Consumption (GJ)	21,073	12,457	59%
Total Cost (\$)	\$319,147	\$196,726	62%
Carbon Emissions (kgCO2e)	805,564	467,115	58%

