



City of Toronto's Modular Housing Initiative: The Need to Balance Fast Delivery with Stronger Management of Contracts and Costs

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**AUDITOR
GENERAL**

TORONTO



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Executive Summary

Audit of Modular Housing Initiative

The Auditor General’s 2022 Work Plan included an audit of the City of Toronto’s (City’s) Modular Housing Initiative.

What is modular housing?

Modular housing units are a type of prefabricated, permanent housing that are constructed in a factory and then transported and assembled onsite. Modular housing represents an innovative opportunity to respond rapidly to Toronto’s urgent homelessness situation and to reduce pressure on the City’s shelter system.

Modular Housing Initiative developed as part of the HousingTO 2020-2030 Action Plan

In 2019, City Council requested the Executive Director, Housing Secretariat to lead an interdivisional team to explore and develop a pilot program for new modular supportive housing on public lands.

A target of creating 1,000 modular supportive homes for people experiencing homelessness and chronic shelter users was introduced in the HousingTO 2020-2030 Action Plan, adopted by Council in 2019.

Expedited construction of modular homes as urgent response to homelessness and COVID-19 pandemic

In April 2020, as an urgent response to the housing need for people experiencing homelessness, particularly during the COVID-19 pandemic, and to expedite action under the HousingTO Plan, City Council directed City staff to launch the Modular Housing Initiative to create 250 new modular supportive homes as quickly as possible.

Initial cost estimate was \$47.5 M – federal government funded \$18.75 M and City funded remainder

The Modular Housing Initiative was comprised of two phases and was estimated to cost \$47.5 million. Capital contributions consisted of \$28.75 million from the City’s Development Charges Reserve Fund for Subsidized Housing and \$18.75 million from the federal government via the Canada Mortgage and Housing Corporation’s (CMHC’s) Affordable Housing Innovation Fund. In addition to the capital funding, the City also provided approximately \$12.76 million in financial incentives such as relief from development charges, planning application fees, and building permit fees.

Non-competitive procurement approved for Phase One

Given the expedited timeframe required, the procurement for Phase One was approved as a non-competitive procurement by City Council. Phase Two was completed using a competitive procurement process.

Audit objectives and scope

In reviewing the procurement and delivery of modular housing units to assess whether modular supportive housing provided value for money, this audit aimed to answer the following questions:

- Did the City comply with appropriate purchasing policies and procure modular home contracts in an open, fair, competitive, and transparent manner?
- Is the City effectively managing its modular housing contracts and costs to ensure contract requirements are met?
- Does modular housing result in faster delivery of housing and lower cost than traditional construction?

As part of our audit, we reviewed the procurement and construction and contract management of all Phase One and Phase Two modular housing projects, which covered the period from 2019 to 2022.

Scope did not include effectiveness of supportive housing – subject of a future audit

This audit did not include the question of whether supportive housing is effective in meeting the needs of the tenants. There is a future audit in the Auditor General’s 2023 Work Plan on affordable rental and supportive housing.

159 new homes completed out of planned 275 homes, with 57 more expected soon

At the time of this report, a total of 159 new modular homes have been completed out of the planned 275 homes (three out of five locations), with an additional 57 homes expected to be completed soon (in July 2023).

Both Phase One locations completed 5 months from start of construction

The Phase One locations of 11 Macey Avenue and 321 Dovercourt Road opened in December 2020 and January 2021, both five months from the start of construction, with 56 and 44 studio apartments, respectively.

Two of the Phase Two locations completed or expected to be completed 13 months from start of construction. One location (175 Cummer Avenue) delayed.

For Phase Two, 540 Cedarvale Avenue opened in November 2022, 13 months from the start of construction, with 59 apartments. 39 Dundalk Drive is expected to open in July 2023 (13 months from the start of construction) with 57 apartments. The final Phase Two project, 175 Cummer Avenue, has been delayed (see Section B. 2.), but is expected to have approximately 59 apartments when completed. See **Figure 1** below for a summary.

Figure 1: Summary Status of Phase One and Phase Two Projects (Dollars in thousands)

| Location | Units | Adjusted Budget* | Final Costs / Forecast Costs | Variance | Variance % | Occupancy Date |
|----------------------|------------|------------------|------------------------------|------------------|------------|---|
| Phase One | | | | | | |
| 11 Macey Avenue | 56 | \$ 10,640 | \$ 12,233 | \$ 1,593 | 15% | December 19, 2020 January 28, 2021 |
| 321 Dovercourt Road | 44 | \$ 8,360 | \$ 9,836 | \$ 1,476 | 18% | |
| Sub-total | 100 | \$ 19,000 | \$ 22,069 | \$ 3,069 | 16% | |
| Phase Two | | | | | | |
| 540 Cedarvale Avenue | 59 | \$ 11,210 | \$ 20,058 | \$ 8,848 | 79% | November 15, 2022 Expected in July 2023 TBD |
| 39 Dundalk Drive | 57 | \$ 10,830 | \$ 21,734 | \$ 10,904 | 101% | |
| 175 Cummer Avenue | 59 | \$ 11,210 | \$ 21,526 | \$ 10,316 | 92% | |
| Sub-total | 175 | \$ 33,250 | \$ 63,318 | \$ 30,068 | 91% | |
| Total | 275 | \$ 52,250 | \$ 85,387 | \$ 33,137 | 63% | |

* The original Council approved budget was \$47.5 million based on 250 units at a funding rate of \$190,000 per unit. The number of units was later revised by the Housing Secretariat to 275 units. For the purposes of budget cost variance analysis, we multiplied 275 units by the per unit funding of \$190,000 to arrive at an adjusted budget of \$52.3 million.

What We Found: Significant Audit Results in Brief

We found that there are opportunities for improvement in the following areas:

A. Better Project Planning before Budget Preparation

Final project costs exceeded adjusted budget:

- Phase One: \$3M or 16%
- Phase Two: \$30M or 91% and expected to increase further

As shown in Figure 1 above, we found that:

- The final project costs for the two completed Phase One projects exceeded the adjusted budget by a total of \$3.1 million (or 16 per cent).
- The forecast cost to complete the three ongoing projects for Phase Two exceeded the adjusted budget by a total of \$30.1 million (or 91 per cent) and is expected to increase further until the remaining two projects are completed.

Some project planning and due diligence work not completed until after budget prepared

Based on our review, we found that some project planning and due diligence work on project sites was not completed until after the budget was prepared, and the projects were impacted by cost escalations due in part to the COVID-19 pandemic. All these factors contributed to the cost increase between the adjusted budget and the actual/forecast project costs. For example:

- There was no consideration of the costs of land remediation, foundation redesign, and structural changes when developing the budgets. This also resulted in costly change orders, which changed the contractor's scope of work.

Other factors contributed to cost escalations, including inflation and industry-wide cost increases due to the COVID-19 pandemic, and other unforeseen costs

- There were unforeseen industry wide housing construction cost increases, due in part to the COVID-19 pandemic.
- Manufacturing of modular housing units for the 175 Cummer Avenue project began before the Minister’s Zoning Order (MZO) was provided. The MZO was needed to quickly re-zone the location for modular construction to meet the urgent need for supportive housing; however, it was not provided, resulting in delays. As of December 2022, storage and transportation costs incurred for the manufactured units totaled \$1.1 million and costs will continue to escalate for as long as the re-zoning delay continues.

A short timeline was needed, particularly with the COVID-19 pandemic, but it needs to be better balanced with stronger management of costs and contracts

City staff informed us that in order to achieve the aggressive timeline required by the federal funding provider, they had to make decisions quickly and fast track the projects as much as possible, which did not provide as much time for due diligence and project planning. We acknowledge the need for a short timeline, particularly during the COVID-19 pandemic; however, it is important to balance that with strong oversight and project/contract management processes and practices.

B. Strengthening the Tracking, Monitoring, and Reporting of Project Costs

Transparency of modular housing project costs could be improved

We found that transparency of the modular housing project costs could be improved, as there were no regular report backs of financial information such as detailed budget increases, cost escalations, and variance analysis to City Council. Therefore, City Council was not made aware of:

- the extent and rationale for budget and cost increases
- funding intended for other new rapid housing projects being reallocated to fund cost increases on modular housing.

Lack of clear roles and responsibilities contributed to issues in monitoring some of the project costs

In some instances, we also found that the various stakeholders did not have a clear understanding of roles and responsibilities, which contributed to inconsistencies and/or gaps in the monitoring of some of the project funding, budgets, and costs.

Tracking and monitoring of project budget and costs by site needs improvement

In addition, project budgets and costs for modular housing were divided across many accounts in the City’s financial system. As a result, it was difficult for the Housing Secretariat to track and monitor the project costs-to-date for each project site, and we were unable to verify the completeness and accuracy of the project costs provided to us.

C. Establishing Contract Management Policies and Procedures

Formal project management policies and procedures needed

At the time of our audit, no formal project management policies and procedures have been established. The lack of policies and procedures, combined with the pressure to deliver quickly, may have contributed to a number of areas for improvement we found with change order management, invoice reviews, work progress inspections, and contractor performance monitoring.

Change orders were not always reviewed and supported before payment

For Phase One, we found that staff were unable to provide evidence that change orders were reviewed prior to payments being made to the contractor. In some cases, change orders were paid before supporting documents were received.

Some improvement noted for support of change orders in Phase Two - however CREM allowed work to proceed before review and approval of change orders

For Phase Two, we noted an improvement in supporting documents for change order work being reviewed prior to payments. However, in an effort to meet tight timelines and avoid delays, the Corporate Real Estate Management (CREM) Division allowed the contractor to proceed with the change order work without CREM reviewing and approving the scope of work first. As a result, we noted the change orders were reviewed by CREM after the work had already been performed. In some cases, this resulted in disagreements between the City and the contractor with respect to whether the additional work was within scope and who should cover the additional costs.

Better documentation of inspections needed

In the construction industry, payments are typically made progressively over the course of a project, based on how much work has been completed to date. CREM informed us that it would verify the progress of work through on-site inspections prior to paying the monthly invoice to the contractor. However, we found that inspections were not documented. There was also no documentation to support that all the questions raised by staff during the invoice review were addressed or resolved prior to payment.

Contractor performance evaluations should be completed

Monitoring contractor performance is an important aspect of project management and can inform management decisions on future procurement. However, contractor performance evaluations were not performed. This increased the risk that the Housing Secretariat and/or CREM were not aware of performance issues or breaches of contract, which could lead to difficulties in resolving potential disputes.

Some findings of this audit have been previously identified by the Auditor General as common themes for the City – to effectively procure, manage, and monitor contracts

Some of the findings of this audit have been common themes our Office has identified for the City in our previous reports, as outlined in our January 31, 2020 report titled “Previous audit Reports – Common themes and Issues”, specifically key common theme 2: Strengthening oversight and accountability for contracts by effectively procuring, managing, and monitoring contracts.

Other divisions/agencies of the City can also learn from the lessons outlined in this report to address this common theme across the City.

D. Strengthening Documentation of the Procurement Process

Documentation needs strengthening for the procurement decisions

For Phase One, City Council approved a non-competitive procurement process because CreateTO's research showed that only one manufacturer, with experience in modular housing delivery, was able to confirm that it could deliver what was required by the City's tight target date. However, CreateTO staff advised us that all of the discussions with building contractors were conducted in an informal manner and staff did not take minutes of these meetings. Therefore, we were unable to verify whether staff properly carried out their due diligence in identifying modular housing suppliers and the accuracy of the information provided to City Council for decision-making.

While we noted that Phase One's contract pricing had lower unit rates than Phase Two, despite being procured non-competitively, we were unable to verify whether Phase One's contract pricing was at fair market value because other factors such as inflation and the impacts of COVID-19 could have influenced the pricing.

E. Better Information and Analysis to Assess Overall Program Effectiveness

Need more information to assess effectiveness of modular housing versus traditional construction method

In order to determine if it is more cost-effective and quicker to build modular housing versus using traditional construction methods, more information is needed. The Housing Secretariat should obtain more external benchmarking information and should ensure the overall total costs are complete and accurate, and include information related to long-term maintenance and capital repair costs of the completed Phase One and Two modular housing projects.

Conclusion

Successfully delivered 159 out of 275 modular housing units within 5 to 13 months from start of construction

The Housing Secretariat, CREM, and CreateTO, with support from other City agencies and divisions, successfully delivered 159 out of 275 planned modular housing units within 5 to 13 months from the start of construction, with an additional 57 homes expected to be completed soon (July 2023).

Unable to conclude on procurement objective due to scope limitation given lack of available documentation

For our first audit objective, to assess the City's procurement process, we found that City Council approved a non-competitive procurement process based on research performed by CreateTO. However, we could not conclude on our objective as we had a scope limitation due to a lack of available documentation to support CreateTO's research. While the Phase One procurement had lower contract pricing than Phase Two, which was competitively procured, we were unable to conclude whether Phase One's contract pricing was at fair market value because other factors such as inflation and the impacts of COVID-19 could have influenced the pricing.

Need to balance the speed of delivery with stronger oversight and management of the contracts and costs

Overall, for our second objective, to assess how the modular housing contracts and costs were managed, we found that improvements are needed, particularly in the areas of project planning, budget preparation, the tracking, monitoring, and reporting of project costs, invoice payment reviews, and contractor performance management. Although the City was able to deliver quickly for much of the Initiative, we found that the speed at which it was delivered needed to be better balanced with stronger oversight and management of the contracts and costs.

More information needed to assess modular housing versus traditional construction method

Although modular housing offers many potential benefits, we were unable to conclude on our third objective of determining whether modular construction results in faster delivery and lower costs than traditional construction. More information is needed to make this assessment, including accurate and complete information on total costs of the City's Modular Housing Initiative and more available benchmarking information.

20 recommendations to help strengthen controls and reporting

In our view, the implementation of the 20 recommendations contained in this report will strengthen controls over project planning, budgeting, cost tracking, and contract management processes, and help enhance the quality of reporting to City Council.

Thank you to management and staff

We would like to express our sincere appreciation for the co-operation and assistance we received during our audit from the management and staff of the Housing Secretariat, the Corporate Real Estate Management Division, and CreateTO.

Background

What is modular housing?

Modular housing, sometimes referred to as prefabricated housing, are housing units constructed in a warehouse or factory, that are then transported to the build site for installation and finishing. The prefabricated units can be joined in many ways to allow for many types of configurations. These homes are planned to be permanent, environmentally sustainable, and compatible with the surrounding neighbourhood.

The Modular Housing Initiative as part of the HousingTO 2020-2030 Action Plan

In 2019, the City began moving forward on its plan to increase the supply of affordable housing—including affordable rental housing, supportive housing, affordable home ownership, and modular housing—across the city. As part of the HousingTO 2020-2030 Action Plan,¹ the City committed to create 1,000 new modular homes.

The Modular Housing Initiative is described as an innovative and cost-effective way to build small-scale housing while providing a rapid, dignified response to connect people experiencing or at risk of homelessness with homes and appropriate supports to help them achieve housing stability. According to City staff, modular housing was considered because it could offer a number of potential cost savings and time efficiencies compared with conventional construction.

An interdivisional group led by the Housing Secretariat was established to expedite the building of modular houses

The Executive Director, Housing Secretariat was put in charge of leading an interdivisional team to explore and develop the Modular Housing Initiative. The team includes major support from CreateTO and the Corporate Real Estate Management (CREM) Division.

Roles and responsibilities of the various stakeholders

The Housing Secretariat oversees the entire program, including the overall budget, project scheduling, funding sources, and coordinates with other agencies and divisions. CreateTO helped to select site locations, perform due diligence on the sites, and procure the modular housing manufacturer for both Phases One and Two. CREM's Project Management Office (PMO) administers the construction work on-site, manages the contractor invoices, and monitors contractor performance.

¹ PH11.5 - HousingTO 2020-2030 Action Plan (<https://secure.toronto.ca/council/agenda-item.do?item=2019.PH11.5>)

Other City agencies and divisions also contributed to the Modular Housing Initiative. For example, City Planning advanced the work with fast-tracking the zoning approach of the selected locations and the site plan approval of Phase One sites. Concept 2 Keys advanced the Phase 2 site plans. Toronto Building, who is responsible for building inspections, also expedited the building permit process. Shelter, Support and Housing Administration (SSHA) assisted the Housing Secretariat with procuring the not-for-profit building operators.

See **Section C. 1** and **Figures 6** and **7** for all the stakeholders involved in the Modular Housing Initiative.

Urgent response to homelessness and COVID-19 pandemic

In March 2020, due to the urgent need to provide people experiencing homelessness with a safe and secure living accommodation and to allow everyone to physically isolate during the COVID-19 pandemic lockdowns, City Council approved expediting the Phase One delivery of modular supportive housing with the aim of opening 110 new homes by September of that year.² See **Exhibit 1** for a detailed timeline of events.

By April 2020, given the urgency and limited availability of contractors, City Council approved CreateTO to negotiate and enter into non-competitive agreements with Horizon North Inc. (or its affiliate NRB) for the design, delivery, and installation of up to 110 modular rental units (Phase One).

Initial funding provided for the Modular Housing Initiative – included \$18.75M from federal government and remainder funded by the City

At the same time, City Council approved \$47.5 million in funding for 250 modular housing units. The \$47.5 million consisted of \$28.75 million through the City’s Development Charges Reserve Fund for Subsidized Housing, and another \$18.75 million of funding and financing from the federal government via CMHC’s Affordable Housing Innovation Fund. In addition to the capital contributions, the City also provided financial incentives, including but not limited to reliefs from development charges, building permit fees, and planning application fees totalling approximately \$12.76 million. The Modular Housing Initiative had an aggressive timeline since the federal funding agreements stipulated that the housing needed to be occupied within 12 months of the funding approval.

Phase One

The two Phase One sites are:

- 11 Macey Avenue
- 321 Dovercourt Road (formerly 150 Harrison Street).

See **Exhibit 2** for interior photos of a modular home and pictures of the modular housing sites.

² CC20.6 - Implementing the Toronto Modular Housing Initiative as an Urgent Response to the COVID-19 Pandemic (<https://secure.toronto.ca/council/agenda-item.do?item=2020.CC20.6>)

**Modular Housing Initiative
community engagement –
conducted 5 sessions for
2 sites in Phase One**

Despite the aggressive timelines for project delivery, City staff conducted community engagement for each location, including a total of five virtual public meetings across two sites for Phase One, to share information about the program and proposed developments, and answer questions from residents. The City requested Minister's Zoning Orders (MZOs) to bypass the municipal re-zoning process to permit the development and allow for quick construction.

11 Macey Avenue officially opened in December 2020, with 56 studio apartments. 321 Dovercourt Road officially opened in January 2021, with 44 studio apartments. Both sites opened for occupancy within five months after the start of construction.

Phase Two

The three Phase Two sites are:

- 540 Cedarvale Avenue (formerly 20 Bracebridge Avenue)
- 39 Dundalk Drive (formerly 7 Glamorgan Avenue)
- 175 Cummer Avenue.

See **Exhibit 2** for pictures of the modular housing sites.

A competitive procurement process took place for Phase Two between August and September 2020. NRB, the same contractor used in Phase One, was selected as the contractor for Phase Two.

**Community engagement
– conducted 9 sessions
for 3 sites in Phase Two;
limited to virtual public
meetings during the
COVID-19 pandemic**

As with Phase One, City staff conducted community engagement sessions for each location, which included holding nine virtual public meetings across three sites during the COVID-19 pandemic to inform residents of the proposed developments and answer questions. Residents and stakeholders were also able to share their feedback to members of the Planning and Housing Committee on five separate reports that concerned the modular housing projects. City Council also directed staff to advance the modular housing proposals by requesting MZOs for each Phase Two location as opposed to proceeding by a City-initiated rezoning.

540 Cedarvale Avenue opened in November of 2022, 13 months after the start of construction, with 59 apartments. 39 Dundalk Drive is expected to open in July 2023, 13 months after the start of construction, with 57 apartments. 175 Cummer Avenue has been delayed with no scheduled finish date (see **Section B. 2.** for details) but is expected to have approximately 59 apartments when completed.

Audit Results

This section of the report contains findings from our audit work followed by specific recommendations.

A. Strengthening the Procurement Process

Audit objective #1 - Procurement

Our first audit objective examined whether the City complied with appropriate purchasing policies and procured modular home contracts in an open, fair, competitive, and transparent manner. We reviewed the procurement process for both Phase One and Phase Two projects. **Sections A. 1. to A. 4.** below summarizes our audit findings for this first objective.

Scope limitation on procurement objective due to lack of available documentation

City Council approved a non-competitive procurement process for Phase One because CreateTO's research showed that only one manufacturer had modular housing delivery experience and was able to confirm that it could deliver what was required by the City's target date. However, we could not conclude on our objective and had a scope limitation due to a lack of available documentation supporting CreateTO's research. We also noted that while Phase One's contract pricing was lower than that of Phase Two, which was procured competitively, we were unable to verify whether Phase One's contract pricing was at fair market value because other factors such as inflation and the impacts of COVID-19 could have influenced the pricing.

A. 1. Non-Competitive Procurement Authorized for Phase One

Urgent need to deliver supportive housing

In June 2019, City Council directed Housing Secretariat staff to develop a plan to implement a new modular supportive housing initiative pilot. Then, in March 2020, City Council decided to expedite Phase One of that pilot (110 new homes) aiming to have construction finished in six months, by September 2020, and ready for occupancy. The urgency of delivering modular housing was in response to the "health emergency [COVID-19 pandemic] impacting the well-being of residents in the City, and the urgent need to find safe and secure accommodation for the City's homeless population."³

³ CC20.6 – Implementing the Toronto Modular Housing Initiative as an Urgent Response to the COVID-19 Pandemic (<https://secure.toronto.ca/council/agenda-item.do?item=2020.CC20.6>)

CreateTO had just 30 days to engage a contractor

The Housing Secretariat delegated the procurement process of selecting a contractor to CreateTO. The search to find a contractor began in early April 2020, and CreateTO had just 30 days to engage a contractor in order to meet the tight timeline required by the City. In the end, only one manufacturer with modular housing delivery experience confirmed that it could deliver what was required by the target date.

City Council approved non-competitive procurement for Phase One

On April 30, 2020, City Council, based on CreateTO’s research, authorized the City to enter into a non-competitive agreement.

Modular Housing Initiative met the criteria for non-competitive procurement

The Toronto Municipal Code, Chapter 195-7 states that a non-competitive procurement may be undertaken where both the proposed non-competitive procurement and the supplier can be justified in good faith. Article 7 § 195-7.1 outlines the prerequisites that allow for non-competitive procurement.

According to CreateTO, the procurement of a modular housing contractor for Phase One met a number of exemptions that allow for a non-competitive procurement, as outlined in **Figure 2** below. However, we were unable to verify that exemptions were met because documents supporting the exemptions were not retained.

Figure 2: Non-Competitive Procurement Exemptions, Toronto Municipal Code, Chapter 195-7, Article 7 § 195-7.1

| Relevant Prerequisite | Outlined in Staff Report CC20.06 |
|--|--|
| (B) An absence of competition in the market for technical reasons | <ul style="list-style-type: none"> • Limited competition in the market with only a handful of companies that have delivered residential modular housing • Company has extensive experience in the modular residential housing industry • Company has successfully delivered hundreds of modular homes in the city of Vancouver and across the province of British Columbia |
| (G) The goods or services are required as a result of an emergency which would not reasonably permit the solicitation of competitive submissions | <ul style="list-style-type: none"> • In response to the health emergency impacting the well-being of residents in the city, and the urgent need to find safe and secure accommodation for the city's homeless population, the Mayor asked staff to find ways to expedite the delivery of modular supportive housing, with the aim of getting 110 new homes (“Phase One”) open by September 2020. • A request for proposal would likely take five weeks and result in project completion in November. • Only one contractor contacted confirmed being able to meet timeline. |
| (P) Such other non-competitive procurement exemptions authorized by Council | <ul style="list-style-type: none"> • Staff requested to proceed with non-competitive procurement for Phase One and it was approved by Council on April 30, 2020. |

A. 2. Phase One Procurement – Good Record Keeping Needed to Support Decisions Made

Supporting documentation should be retained

Given the long-term nature of modular housing (multiple phases) and the possibility of staff turnover, it is important to ensure that decisions are supported and documented, and the documentation is retained for future reference and lessons learned.

However, we found that documentation to support the research on contractors and other jurisdictions was not retained. This research was presented to City Council on April 30, 2020 and led to the approval for a non-competitive procurement. Without the supporting documentation, we were unable to verify whether staff properly carried out their due diligence in identifying modular housing suppliers and the accuracy of the information provided to City Council for decision-making.

Identified and contacted three manufacturers

CreateTO was responsible for researching building contractors. Given the time constraints and the border restrictions imposed by the COVID-19 pandemic, CreateTO was only able to speak with manufacturers within Canada. As a result, only three manufacturers were identified. CreateTO informed us that after it made multiple phone calls and some factory visits to convey the project scope, only one of the three manufacturers confirmed that it could deliver what was required by the target date.

However, CreateTO staff were unable to provide us with evidence of this research because no documentation was retained. CreateTO staff advised us that all of the discussions with building contractors were conducted in an informal manner and staff did not take minutes of these meetings.

CreateTO acknowledged that this was not their normal process for engaging contractors but stated that it was the only option to enable the City to complete the project in a timely fashion. CreateTO also had a number of staffing changes which impacted the retention of records. CreateTO informed us that it does retain documentation in the normal course of competitive procurement for other projects. However, we were unable to verify this as those other projects were outside the scope of this audit.

Housing Secretariat advised they researched 4 other jurisdictions who have successfully used modular construction

The Housing Secretariat had also gathered and presented modular housing information from other jurisdictions to City Council. Staff researched Vancouver and Edmonton in Canada, as well as Los Angeles and Boston in the United States, to identify different jurisdictions who have successfully used modular construction as a form of rapid housing to create homes for those experiencing homelessness. The information was gathered through a combination of internet research and telephone/virtual meetings. However, staff were unable to provide any minutes for these meetings and, except for housing information from British Columbia, no supporting documentation was available to support the research.

A. 3. Contract Pricing Was Lower in Phase One than Phase Two

Phase One contract pricing was lower than Phase Two despite being procured non-competitively

As Toronto was one of the first municipalities in Ontario to build modular housing, there was also insufficient information available to determine if Phase One’s contract pricing was at fair market value, given it was procured non-competitively.

However, when we compared the contract pricing between Phase One and Phase Two, we found that Phase One had an average contract pricing of \$170,762 per unit, which was lower than the \$268,302 per unit pricing for Phase Two, which was competitively procured. See **Figure 3** below.

While factors such as inflation and the increased cost of lumber and steel could have impacted construction costs between Phase One and Phase Two, the results of the contract price comparison shows that Phase One’s contract pricing was lower than that of Phase Two, despite being procured non-competitively.

Figure 3: Contract Cost Per Unit by Phase and Location, Based on Initial Contracts

| Phase One | Location | |
|---------------------|-------------------------------|---|
| | 11 Macey Avenue | 321 Dovercourt Road |
| Cost per Unit (\$) | 167,555 | 174,843 |
| Average (\$) | 170,762 | |
| Phase Two | Location | |
| | 39 Dundalk Drive ⁴ | 540 Cedarvale Avenue 175 Cummer Avenue |
| Cost per Unit (\$) | 343,841 | 206,415 |
| Average (\$) | 268,302 | |

⁴ 39 Dundalk Drive has a higher cost per unit than other Phase Two projects because while it has approximately the same number of units, they are spread over six storeys rather than over three like in the other locations. The additional storeys increased the cost as seen in **Figure 5: Major Cost Escalations, Section B. 1.**

A. 4. Phase Two Procurement – Follow City’s Policy for Future Procurements to Improve Documentation

Phase Two contractor was competitively procured

Similar to Phase One, Phase Two procurement was carried out by CreateTO with oversight from the Housing Secretariat. There was more time to conduct the procurement during Phase Two, and by this time more contractors were entering into the modular housing market, which allowed for a competitive procurement.

Procurement followed CreateTO’s policy, but there were differences between CreateTO’s and City’s procurement policies

Although CreateTO staff were in compliance with CreateTO’s procurement policy and followed its internal procurement process, there are differences between CreateTO’s and the City’s procurement policies. The differences we noted were related to the retention of individual evaluators’ scores and conflict-of-interest declarations.

CreateTO informed us that they are not required to comply with the City’s Purchasing By-laws as they are an agency, and as such may create and follow their own policies. CreateTO followed its own procurement policies which, according to CreateTO, were set up specifically to enable CreateTO to be nimble and efficient while at the same time achieving the goals of transparency, competitiveness, value for money, and openness. These policies were approved by the CreateTO Board and reviewed by the City.

CreateTO’s procurement policy allows for the destruction of the individual evaluators’ scores

The City’s Procurement Processes Policy, Section 23.1: Procurement Records Retention and Access to Information states in subsection 2 that all procurement documentation must be retained until the termination or expiry of the agreement plus seven years, whereby the CreateTO policy allows for the destruction of individual evaluators’ scores.

Although we were able to verify that the average score given to each contractor was approved and signed off on by each of the three evaluators, CreateTO was unable to provide us with the individual scores to verify the calculation of the average score given to each supplier during the contractor evaluation process.

CreateTO’s procurement policy does not require bid evaluators to sign a conflict-of-interest declaration for each procurement

The City’s Procurement Processes Policy states in Section 12.4 that evaluation team members, as well as any other divisional staff involved in the preparation of the solicitation, must sign a conflict-of-interest declaration and non-disclosure of confidential information agreement for each procurement. There is no such requirement in CreateTO’s policies.

CreateTO informed us that their employment contracts, which are signed by all employees, include a conflict-of-interest and confidentiality clause. In addition, all employees sign a code of conduct annually which includes clauses regarding conflict of interest and confidentiality. However, these forms and declarations are not specific to each procurement.

Moving forward, procurements for Phase Three and other future modular housing projects will be carried out by CREM, and CREM is required to comply with City’s procurement policy.

While CreateTO will no longer be responsible for the procurement of future modular housing projects, the Auditor General has issued a separate management letter to CreateTO, that they consider aligning with the City’s policy in the above two areas for its non-competitive procurement process.

**Audit objective #2 –
Managing modular
housing contracts and
costs**

Our second audit objective examined whether the Housing Secretariat, together with CREM, had effectively managed its modular housing contracts and costs to ensure contract requirements were met. To assess the City’s performance in this area, we reviewed the project planning and budgeting process (**Section B**), the monitoring and tracking of project costs (**Section C**), the change order and invoice payment review processes (**Section D**), and the contract and project management processes (**Section E**). The following sections summarizes our audit findings.

B. Better Project Planning and Budgeting Needed

B. 1. Better Project Planning Needed Prior to Preparation of Project Budget

In order to effectively manage costs, it is essential to have a comprehensive project budget that takes into consideration all relevant pre-construction cost estimates. This allows for a better prediction of funding requirements and cost drivers.

**Significant increase
between budget and
project costs**

We found that unbudgeted site preparation costs, change orders, and cost escalations all contributed to the significant cost increase between the adjusted budget and the actual/forecast project costs. The cost increase was also due in part to unforeseen industry-wide construction cost increases due in part to the COVID-19 pandemic and insufficient project planning.

More Comprehensive and Detailed Budget Needed

**More comprehensive
budget needed**

We noted that the Phase One budget, developed by CreateTO, was more comprehensive than Phase Two. It included estimates of itemized “total project costs”⁵ from the construction contract and incorporated other non-construction costs as well. It also provided the rationale for assumptions used in establishing the budget.

⁵ Throughout this report, “total project cost” refers to all costs incurred up to the point the site is ready for occupancy. Typical project costs include costs associated with the design-build construction contract, such as land remediation, design, manufacturing units, on-site construction, furniture, and equipment.

However, for Phase Two, the budget only included construction and design costs. It did not include non-construction costs, such as staffing costs, or the assumptions made on the budget items. We also noted that the Phase Two budget only has high level costing by category but did not include a breakdown of itemized costs. For example, Phase One broke down utility connection costs by electricity, hydro and gas but Phase Two budget only showed a lump sum cost.

Project Costs Exceeded Budget

Adjusted budget for Modular Housing Initiative: \$52.3M for 275 homes

In the April 30, 2020 City Manager’s staff report, City Council approved \$47.5 million to deliver 250 modular homes (or \$190,000 per unit). The number of modular homes was later revised by the Housing Secretariat to 275 units. For the purposes of budget cost variance analysis, we multiplied 275 units by the per unit funding of \$190,000 to arrive at an adjusted budget of \$52.3 million.

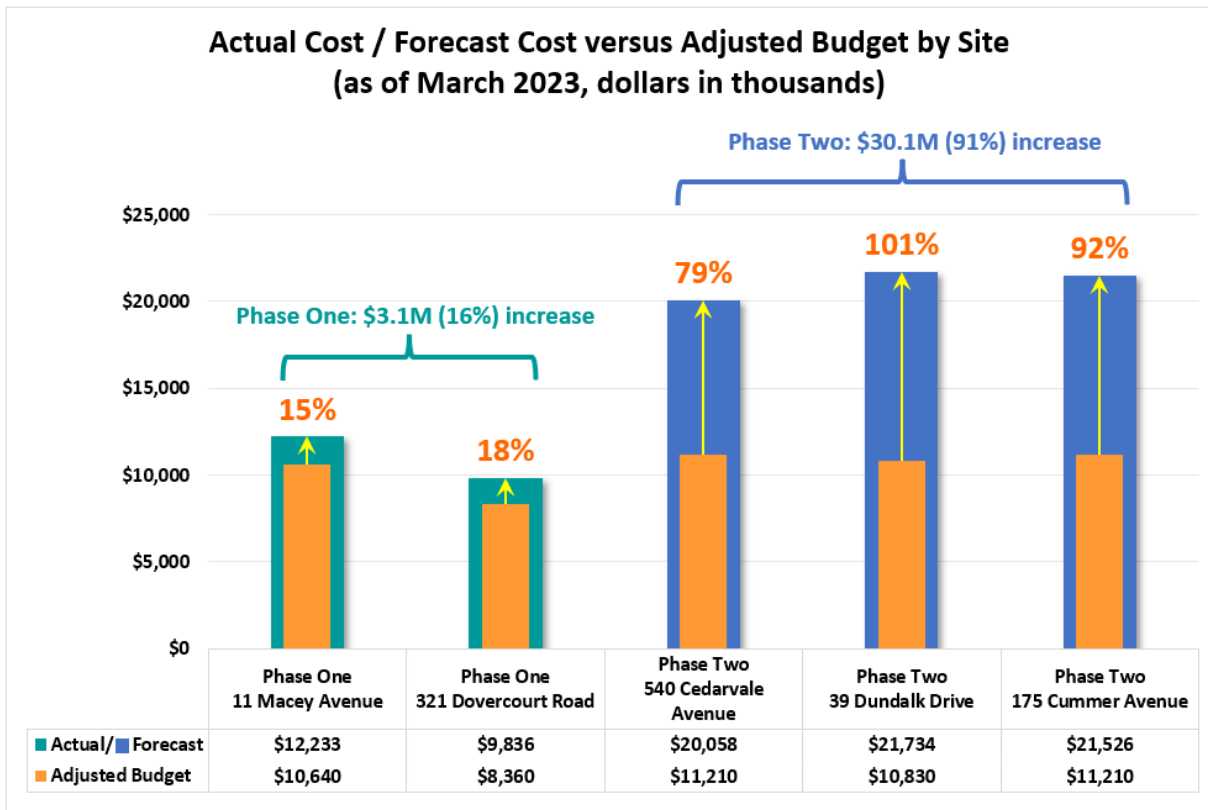
Final project costs exceeded adjusted budget:

- **Phase One: \$3M or 16%**
- **Phase Two: \$30M or 91% and expected to increase further**

As shown in **Figure 4**, we compared the actual (or forecast for projects not yet completed) costs for completed and ongoing projects with the adjusted budget. We found that:

- the final project costs for the two completed Phase One projects exceeded the adjusted budget by a total of \$3.1 million (or 16 per cent)
- the forecast cost to complete the three ongoing projects for Phase Two exceeded the adjusted budget by a total of \$30.1 million (or 91 per cent) and is expected to increase further until the remaining two projects are completed.

Figure 4: Actual Cost (Phase One) / Forecast Cost (Phase Two) Compared with Adjusted Budget



Note:

The actual and forecast costs above were compared against the adjusted budget of \$52.3 million for 275 units.

Source:

Actual costs for 11 Macey Avenue and 321 Dovercourt Road were provided by the Housing Secretariat based on City's financial system data. Forecast costs for 175 Cummer Avenue, 540 Cedarvale Avenue, and 39 Dundalk Drive were based on CREM's internal tracking spreadsheet.⁶

Since variance analysis was not performed by the Housing Secretariat or CREM, we reviewed change orders and analysis performed by the contractor to investigate the cost increases. See **Figure 5** for details.

⁶ At the time of this report, Phase Two projects have yet to be completed and forecasted data has been used.

Figure 5: Major Cost Escalations by Site

| Site Location | Adjusted Budget to Actual / Forecast Costs Variance (\$ millions) | Variance (%) | Major Cost Escalations |
|----------------------|---|--------------|--|
| Phase One | | | |
| 11 Macey Avenue | \$1.60 | 15% | <ul style="list-style-type: none"> Land remediation and unforeseen on-site civil work: \$0.62M Cost increase of retaining wall: \$0.38M Foundation change from temporary (removable) to permanent (fixed foundation): \$0.55M |
| 321 Dovercourt Road | \$1.48 | 18% | <ul style="list-style-type: none"> Foundation change from temporary to permanent: \$0.59M Landscaping cost increase: \$0.35M |
| Phase Two | | | |
| 540 Cedarvale Avenue | \$8.85 | 79% | <ul style="list-style-type: none"> Soil remediation: \$0.59M Foundation redesign and structure change due to poor soil condition: \$0.69M Panel and lumber escalation: \$1.62M General contractor and misc. subcontractor cost escalation: \$0.93M Non-scope site-specific requirements: \$0.7M |
| 39 Dundalk Drive | \$10.90 | 101% | <ul style="list-style-type: none"> Additional design and materials cost escalation: \$0.91M Panel and lumber escalation: \$1.63M Cost escalation related to higher building (6 storeys): \$2.73M Non-scope site-specific requirements: \$1.03M |
| 175 Cumber Avenue | \$10.31 | 92% | <ul style="list-style-type: none"> Storage costs were approximately \$1M as of December 2022. Estimated that an additional \$445K in storage costs will be incurred by June 2023. Panel and lumber escalation: \$1.62M General contractor and misc. subcontractor cost escalation: \$0.93M Forecast cost escalation due to schedule slippage⁷ requested by the contractor (under review by CREM): \$4.86M |

Source: Change orders and analyses provided by the contractor

We found that the cost increases were largely due to:

- substantial cost escalations resulting from global supply chain issues, and labour disruptions and shortages, which were consistent with those seen in the housing construction industry nation-wide during the COVID-19 pandemic
- not having a thorough budget that takes into consideration the costs of land remediation, foundation redesign, and structural changes

⁷ Schedule slippage is defined as the act of missing deadlines when managing a task or a series of tasks.

- inadequate project planning which led to the need for additional storeys and a higher building for 39 Dundalk Drive than originally planned, resulting in increased costs.

Increases Between Bid and Contract Price

Project sites were unknown at the time of the request for proposal, leading to a significant increase between bid and contract price

We found that the final contract price (prior to change orders) for Phase Two was significantly higher than the original bid. Proponents were not provided with site-specific information as the project sites were unknown at the time. Bidders were asked to prepare a price quote assuming all the project sites would be level and rectangular in shape. As a result, the prices quoted did not take into consideration factors that could have a significant impact on cost, including land remediation, soil conditioning, foundation redesigns, and structural changes that would be needed to build modular homes. The quoted bids would have been different if these elements were known and provided to the proponents. We cannot say whether this information would have changed the bidding outcome.

Price increased \$57,000 (28%) per unit once site was identified and examined

An example of an increase from the quoted bid to the contract price was the 540 Cedarvale Avenue site. Once the site was identified and examined by the contractor, the price increased by \$57,000, from approximately \$205,000 to approximately \$262,000 per unit. This was 28 per cent higher than the original request for proposal (RFP) price quoted. This increase was partly due to cost escalations and site-specific costs that were unknown at the time of the RFP.

Costly Change Orders for Site Preparation Work

Sufficient due diligence on project site should be performed before entering the contract

We also noted many change orders relating to site preparation work. For example, we found that change orders for the 11 Macey Avenue site totalled \$2.47 million. The project commenced in July 2020, and in September 2020, CREM received a \$1.55 million change order estimate related to the foundation, on-site civil work, earth work, and landscaping, from the contractor.

In another example, for 540 Cedarvale Avenue, there were \$1.08 million in change items, such as soil remediation and foundation redesign due to poor soil condition. Proper and sufficient due diligence work on the project site should have been performed before entering into the contract. Having these changes included in the original design and contract pricing could have reduced the number of proposed change orders and the resulting cost overruns during the contract execution stage.

Timely Due Diligence Work Should Be Performed

Site preparation costs should be estimated and included in the budget

Site preparation costs were not included in the original budget because the site locations had not been determined at the time. In addition, Housing Secretariat staff confirmed that the original Council approved budget did not include any contingencies. When the site locations are identified and presented to City Council for re-zoning, these additional costs should be included in a revised budget to City Council.

Subsurface investigation and due diligence on land/soil and infrastructure and servicing constraints should be performed prior to making the final decision on site selection. An estimate of these site preparation costs should be analyzed during project planning so that a more accurate budget can be prepared and presented to City Council for approval.

All stakeholders agreed that they needed more time to be able to conduct thorough due diligence work during the planning stage

The Housing Secretariat, CREM, and CreateTO all agreed that they did not have time to conduct thorough due diligence work before selecting the site if they were to meet the tight timeline required by the funding provider, coupled with the limited number of sites available. Some federal capital funding programs, which have helped enable modular projects, have a 30-day application deadline, leaving minimal time for staff to do the level of due diligence necessary to refine cost estimates. However, in our view, it is important to balance critical processes such as project planning, due diligence, and budgeting with the fast delivery required.

Recommendations:

- 1. City Council request the Executive Director, Housing Secretariat, through the Executive Steering Committee for site selection, to:**
 - a. Perform subsurface investigation and due diligence on land/soil and infrastructure and servicing constraints prior to the final decision on site selection;**
 - b. Obtain from the Corporate Real Estate Management Division a cost-estimate analysis of site remediation to be included in the development of site budgets; and**
 - c. Provide the above information to the proponents in the request for proposal (or to the contractor early on in the project) to facilitate a more accurate price quote and project cost estimate.**

2. **City Council request the Executive Director, Housing Secretariat and the Executive Director, Corporate Real Estate Management Division, in the budget development process for future modular housing projects, to:**
 - a. **Conduct a review to understand all cost elements (construction and non-construction) that would be expected to be incurred in preparing a site ready for operation;**
 - b. **Include the above cost elements for budget development;**
 - c. **Document assumptions used for the estimated budget numbers; and**
 - d. **Clearly define which party is responsible for managing each cost item within the budget.**

B. 2. Manufacturing of Modular Units Should Not Start until after Re-Zoning Approval of Project Site

Minister’s Zoning Orders requested for modular housing sites to expedite the timeline

For each of the modular housing projects, the City requested a Minister’s Zoning Order (MZO) to bypass the municipal re-zoning process, in an effort to expedite the permit for development and allow for quick construction.

The *Planning Act* authorizes the Minister of Municipal Affairs and Housing (MMAH) to make an MZO for regulating the use of land, buildings, and structures anywhere in Ontario. If there is a conflict between an MZO and a municipal zoning by-law, the MZO prevails.⁸ Unlike municipal zoning by-laws, an MZO cannot be appealed to the Ontario Land Tribunal.

Manufacturing of modular units had begun before MZO was provided

The City received \$12.5 million in contributions from the Canada Mortgage and Housing Corporation (CMHC) as part of the Affordable Housing Innovation Fund⁹ with a number of requirements. One requirement is that the buildings must be occupied within a year, otherwise the City is at risk of having to repay the contributions in full, or in part, at the option of the CMHC.

⁸ Minister’s Zoning Orders on the City’s website (<https://www.toronto.ca/city-government/planning-development/zoning-by-law-preliminary-zoning-reviews/zoning-in-toronto/ministerial-zoning-orders/>)

⁹ The Affordable Housing Innovation Fund is federal funding meant to support new ideas, like modular housing, that will drive change and disrupt the industry to achieve affordable housing.

We found that, in an effort to expedite the delivery of modular housing, the manufacturing of modular units began before an MZO was requested. Although this generally allowed for the timing to be expedited, it created an issue for 175 Cummer Avenue, which had been identified by City staff as a suitable location to build a modular housing community.

As with all selected sites, the location needed to be re-zoned to allow for the modular housing to be built. The quickest way to do this would be to request an MZO, which was done for all Phase One and Phase Two project sites. On June 8, 2021, the City requested an MZO for 175 Cummer Avenue; meanwhile, the manufacturing of the modular units at this site had already begun approximately one month earlier, on April 28, 2021.

MZO requested for 175 Cummer was not provided and zoning by-law has been appealed

The MZO requests for Phase One projects went smoothly and were approved very quickly. However, a well-organized neighbourhood group that strongly opposes this particular Phase Two development approached the local Member of Provincial Parliament (MPP) for support in stopping the development. Despite the request of City Council, the MZO was not provided, and City Council directed City staff to initiate a municipal re-zoning process to permit the development. In July 2022, the zoning by-law was passed. However, City Council's adoption of the zoning by-law was appealed to the Ontario Land Tribunal (OLT), and at the time of this report, they were still awaiting a hearing.

City Council considered changes to the site's greenspace, population served, and potential reconfiguration, but motions were not adopted

On June 15, 2023, there were two City Council member motions to consider changes to this modular housing site's greenspace, population served, and a potential reconfiguration. These motions were considered by City Council and were not adopted.^{10,11}

Production of modular units began before re-zoning was in effect

While the zoning approval for 175 Cummer Avenue was still pending, the production of the modular units was conducted off-site and completed in November 2021. The completed modules were first stored outside at the TTC Finch East commuter lot for over six months. They were then relocated to a longer-term indoor storage facility to protect the modular housing units from the elements and preserve their quality.

¹⁰ Relocation of Proposed Modular Housing and Designation of 175 Cummer Avenue Green Space as Parkland (<https://secure.toronto.ca/council/agenda-item.do?item=2023.MM7.20>)

¹¹ Improvements to the Modular Housing at 175 Cummer Avenue (<https://secure.toronto.ca/council/agenda-item.do?item=2023.MM7.43>)

Need to keep project moving in order to meet the tight project timeline

Per discussion with the Housing Secretariat, production began on the housing units before the location was properly zoned due to the timeline required in order to receive the federal funding provided by the CMHC, as discussed above.

To achieve this timeline, the City had to make decisions quickly and fast-track projects as much as possible. As a result, the City decided to have the contractor start building modules as soon as possible, starting while sites were being prepared (e.g., foundation work) and re-zoning requests were being processed. By carrying out these tasks simultaneously, the City was aiming to reduce the construction time frame, as modules would be ready for installation at the same time project sites were prepped and re-zoned. However, this tight schedule left little to no room for a buffer in the event that anything did not go according to schedule, such as delays in or not receiving re-zoning approval.

Housing Secretariat exploring options to use modular units from 175 Cummer Avenue site

Housing Secretariat staff informed us that they have been actively exploring two options to use the modular units from the 175 Cummer Avenue project, in the event that the Cummer site cannot be re-zoned to allow for the building of modular housing. One possibility is to relocate the project to another location in the City. However, Housing Secretariat staff explained that the modular units were tailor-made specifically to the grading, soil condition, and footprint of the Cummer site. For the replacement location to work, it would need to have the exact same specifications as those of the Cummer site. Another possibility is to sell the modular units to a different municipality or jurisdiction.

Incurred \$1.1 M as of December 2022 in storage and transportation costs due to the delay of zoning approval for 175 Cummer Avenue project

From November 2021 to December 2022, the cost to date to store these modules were as follows:

| | |
|---------------------------------------|--------------------|
| TTC Storage (Finch East Commuter Lot) | \$220,000 |
| Long-Term Storage | \$550,000 |
| Transportation Cost | \$325,000 |
| Total Cost | <u>\$1,095,000</u> |

According to CREM, the current lease agreement is \$74,000 per month plus the cost of regular inspections and maintenance, and expires in July 2023. If a lease renewal is required, an increase in the monthly cost should also be expected. There is also a risk of possible damage to the units due to longer-term storage, resulting in a need for repairs and further delays to the project. Finally, when the project is ready to start again, there will also be additional costs to transport the units from storage to the project site.

If the zoning by-law appeal is successful, there will be additional resources required to identify alternative sites, or cost and time required to reach out to other jurisdictions to sell the modular units.

CREM estimates additional delays and cost increases, particularly if modular housing units are relocated

CREM estimates that if relocation is possible, it could add another nine months to one-and-a-half years of delay to the project. The total cost to evaluate the feasibility of relocating the project is estimated at \$1.55 million to \$2.22 million. This is inclusive of consultant work and site investigation costs, which are estimated to be \$890,000, as well as modular storage costs for the additional delay to the project. There is also no guarantee that the relocation would not result in additional issues or changes, which could lead to more delays and costs.

Since there are no additional sources of funding to cover these delays, these additional costs would be at the City's expense.

In the future, the re-zoning should be in effect before starting manufacturing, however that could result in a longer time frame

To avoid this type of situation and additional costs for all subsequent modular housing projects, the Housing Secretariat should not initiate the manufacturing of the modular units until the re-zoning is in effect for the project sites. However, this could result in a longer project time frame.



Units stored outdoors at the TTC - Finch East Commuter Lot (photo taken March 15, 2022).



Units being transported by truck from the TTC lot to a storage facility in Owen Sound (photos taken August 12, 2022).

Recommendations:

3. **City Council request the Executive Director, Housing Secretariat to ensure the re-zoning is in effect before beginning construction of future modular units, to reduce the risk of potential delays and additional costs related to storage, transportation, and other costs that may be incurred in trying to re-purpose or sell the modules.**
4. **City Council request the Executive Director, Housing Secretariat to continue to discuss and negotiate with funding provider(s) more reasonable timelines for future modular housing projects.**

B. 3. Requesting Approval of City Council for Increased Budgets and Keeping Them Informed

Keeping City Council informed fosters a culture of accountability and also allows for better-informed decisions on the allocation of the City's funding and other resources. We reviewed the Housing Secretariat's report backs to City Council with respect to construction progress statuses and cost updates on the Modular Housing Initiative.

No regular report backs of financial information

We found that there was a need to improve transparency on modular housing project costs since there were no regular report backs to City Council of financial information at this level, such as detailed budget increases, cost escalations, and variance analysis. Therefore, City Council was not made aware of:

- the extent and rationale for budget and cost increases
- funding intended for other new rapid housing projects being reallocated to fund cost increases on modular housing.

Actual project costs were not reported back to City Council

Since the launch of the Modular Housing Initiative in 2020, there have been several reports prepared by the Housing Secretariat and/or City Planning. These reports, submitted to City Council, contained information such as site proposals, status of the planning process, and results of community consultations. However, none of the report backs included project cost information (e.g., final costs for completed Phase One projects, cost escalations for Phase Two projects) or a comparison with the original April 20, 2020 Council-approved budget.

Budget revisions were made and approved at the division level but not reported back to Council

The original Council-approved budget was \$47.5 million for 250 modular units. Since then, the project budget has been increased by Housing Secretariat at least four times to \$77.19 million. However, City Council was unaware of these budget increases and other rising costs and budget changes because they were approved at the Housing Secretariat divisional level through the annual general budget variance process and did not go to City Council for review and approval. There was no further update to the budgets made after July 2022; however, CREM advised us that the forecast costs for Phases One and Two combined, as of March 2023, were \$85.4 million.

Original approved funding was insufficient to cover the increased project costs

The original budget approved by City Council was funded through a combination of the City's Development Charges Reserve Fund for Subsidized Housing and the CMHC's Affordable Housing Innovation Fund. However, given the cost increases discussed in **Sections B. 1. and B. 2.** and the increase from 250 to 275 units (additional 25 units), the original approved funding was no longer sufficient to cover the project costs.

Funding intended for other new housing projects was reallocated internally to cover cost overruns on modular housing

We found that, since late 2020, the Housing Secretariat internally reallocated \$37.5 million of funding from the Rapid Housing Initiative and the Emergency Housing Action (described below) to cover for the additional 25 modular units and cost increases on the Phase One and Phase Two modular housing projects.

- The **Rapid Housing Initiative (RHI)** is a federal funding program provided by the CMHC. Its objective to create new units of permanent affordable housing using a rapid construction method and/or acquisition of existing buildings for conversion to permanent affordable housing for vulnerable people and populations.¹² Similar to the Affordable Housing Innovation Fund mentioned in **Section B. 2.**, RHI also has a timeline requirement. It requires occupancy within twelve months of funding approval by the CMHC.

¹² Rapid Housing Initiative (<https://www.cmhc-schl.gc.ca/en/professionals/project-funding-and-mortgage-financing/funding-programs/all-funding-programs/rapid-housing>)

- The **Emergency Housing Action** is an interdivisional funding transfer of previously approved funding from the Shelter, Support and Housing Administration Division to secure real estate interests suitable for creating new affordable rental housing, including related pre-development, renovation and/or construction costs (e.g., planning, communications, environmental site assessments, cost consultant reports, permits, architectural or engineering reports, appraisals, legal/closing costs related to acquisition and/or leasing of land and buildings, remediation, construction, renovation) and all other costs required to create affordable housing.¹³

Modular housing qualified for use of this funding; however, it also leaves less available for new housing programs

While modular housing construction projects qualify for the use of both of these funding streams, it means that the \$10 million and \$27.5 million (total \$37.5 million) of funding reallocated from RHI and the Emergency Housing Action, respectively, will not be available for new housing project programs.

Additional funding reallocated to the Modular Housing Initiative and a breakdown by project site were not reported to City Council

Furthermore, the additional funding requests for modular housing were approved at the overall program level (aggregated with other housing projects, not limited to the Modular Housing Initiative) by City Council through the general annual budget variance process. However, there are benefits to providing City Council with a detailed breakdown showing funding requests for each modular housing project site. This level of detail in the budget variance reporting would allow City Council to be aware of site-specific cost increases.

Recommendations:

5. **City Council request the Executive Director, Housing Secretariat to improve reporting processes and transparency in the budget development process by submitting:**
 - a. **An updated site-specific budget to City Council at the time of site selection, after conducting the necessary due diligence work, and in compliance with any funding agreements executed between the City and other orders of government or funder(s); and**
 - b. **For City Council's approval, any financially material request(s) to increase the budget by modular housing project site and the rationale for the additional budget request(s).**

¹³ PH19.11 - Emergency Housing Action (<https://secure.toronto.ca/council/agenda-item.do?item=2020.PH19.11>)

6. City Council request the Executive Director, Housing Secretariat to report to City Council regularly on the progress of the modular housing projects. Such reports are to include, but not be limited to:
 - a. Comparison of original timeline and actual schedules, with explanations for significant delays;
 - b. Actual final costs for completed sites and projected costs for ongoing sites, compared with initial budgets, with explanations for any significant variances; and
 - c. Details of funding being allocated or reallocated to cover the additional costs.

C. Strengthening the Tracking, Monitoring, and Reporting of Project Costs

C. 1. Clarify Roles and Responsibilities for Parties Involved in Modular Housing Initiative

An interdivisional working group comprised of several City divisions and agency was established

To respond to the urgent need for supportive housing at the onset of the COVID-19 crisis, the Modular Housing Initiative required a fast-paced schedule. To do this, an interdivisional work group was formed. Key stakeholders and their roles and responsibilities are summarized in **Figure 6** below:

Figure 6: Stakeholders Involved in the Process of Planning and Delivering the Modular Housing Initiative

| SITE SELECTION | DUE DILIGENCE | PLANNING APPROVAL | PROCUREMENT OF BUILDER | CONSTRUCTION PROJECT MANAGEMENT | PROCUREMENT OF NFP* (not in scope) | POST-CONSTRUCTION ONGOING SERVICES (not in scope) | |
|----------------|------------------------|------------------------------|------------------------|---------------------------------|------------------------------------|---|--------------|
| | | Housing Secretariat (Note 1) | | | | | |
| | City Planning (Note 2) | | | | | | |
| | | Concept 2 Keys (Note 2) | | | | | |
| | CreateTO (Note 3) | | | | | | |
| | Toronto Building | | | | | | |
| | CREM | | | CREM (Note 4) | | | |
| | | | | | SSHA | | |
| | | | | | | | NFP Operator |
| | | | | | | | |
| | | | | | | | |

* Not-for-profit (NFP) operator

Note 1: In Phase Two, Vendor A provided program management services to the Housing Secretariat.

Note 2: City Planning advanced planning approval for Phase One and Concept 2 Keys advanced site plans for Phase Two.

Note 3: In Phase Two, CreateTO was only involved in the site selection and procurement of builder processes.

Note 4: In Phase Two, Vendor A provided project management services to CREM. Vendor B provided cost consultancy services to CREM.

Source: 2020 CC20.06 Staff Report, internal lessons learned report prepared by the Housing Secretariat, and multiple interviews with staff

Roles and responsibilities should be clearly defined

We found that there was a lack of clarity in the definitions of and understanding of the roles and responsibilities of parties involved in the Modular Housing Initiative. This is important, as the lack of clear understanding by the various stakeholders contributed to inconsistent monitoring of some of the project funding, budgets, and costs.

As shown in **Figure 7**, the roles and responsibilities of the Housing Secretariat, CREM, and CreateTO evolved throughout Phase One and Phase Two of the Modular Housing Initiative. For example, budget development was CreateTO’s responsibility in Phase One but became CREM’s responsibility in Phase Two. However, there were no documents to outline the changing roles and responsibilities of each party clearly and formally.

Roles and responsibilities of parties involved in Modular Housing Initiative kept evolving

Furthermore, during Phase Two of the Modular Housing Initiative, the Housing Secretariat and CREM engaged two third-party consulting firms to provide temporary staffing relief. Vendor B provided cost management advisory services to CREM. Vendor A provided program management services for the Housing Secretariat and project management services for CREM. As the staffing issues were addressed in August 2022, the Housing Secretariat and CREM took back Vendor A's responsibilities.

Figure 7: Roles and Responsibilities for Project Cost Management (Phase One and Two)

| Task Name | Housing Secretariat | CREM-PMO | CreateTO | Other third-party consultant | Comments |
|---|---------------------|--|-------------|------------------------------|-----------|
| FUNDING AND BUDGET MANAGEMENT | | | | | |
| ▶ Seek for funding and funding allocation | √ (Phase 1&2) | | | | |
| ▶ Monitor use of funding (budget revision and forecast cost to complete) | √ (Phase 1&2) | √ (Phase 1; Phase 2 after Vendor A not retained) | | Vendor A (Phase 2) | Not clear |
| ▶ Budget development | | √ (Phase 2) | √ (Phase 1) | | |
| ▶ Budget approval and ownership | √ (Phase 1&2) | | | | |
| COST MANAGEMENT | | | | | |
| ▶ Reconcile and prepare periodic/final total actual costs by site according to financial system's records | | | | | Gap |
| ▶ Construction contract cost management | | √ (Phase 1&2) | | Vendor B (Phase 2) | |
| ▶ Other costs outside of construction contract | √ (Phase 1&2) | √ (Phase 1&2) | | | Not clear |

Source: 2020 CC20.06 Staff Report, internal lessons learned report prepared by the Housing Secretariat, documents provided by staff, and multiple interviews with staff

Gaps and inconsistencies in the monitoring of project funding, budgets, and costs

We found that neither the Housing Secretariat nor CREM had a clear understanding of the responsibilities for monitoring the use of funding. While Housing Secretariat oversaw project and program funding by tracking contract values and approved commitments, there were gaps in the tracking of actual costs spent using the City's financial system. For example, there was no reconciliation and preparation of periodic and final total actual costs by site.

We also noted that both the Housing Secretariat and CREM had been recording some eligible, non-construction project costs relating to due diligence work, environmental assessment, building permits and program management in the financial system.

We found that some non-construction costs such as the cost of community engagement, legal fees, and staff salaries, were not properly allocated to the correct cost centre and were booked to Housing Secretariat's general operating cost centre (see **Section C. 3.**), without charging back to the capital project. It was unclear which party was responsible for the overall monitoring and tracking of costs outside of the construction contract. It is important to track and monitor these non-construction costs and charge them back to the capital project since they are part of the total project costs.

C. 2. Develop a Process to Ensure Consistent Financial Data Is Used in Reporting

Consistent financial data should be used for reporting by all parties

As part of our audit, we reviewed management reports prepared by the Housing Secretariat and CREM. We found inconsistent reporting of funding amounts and project costs. The discrepancies were due to an inconsistent source of data used when calculating project costs and a lack of sharing and reconciliation of financial data between the two parties. As a result, we were unable to verify the accuracy and completeness of the project costs. This also means that the Housing Secretariat may not have been working with accurate and complete cost information in managing and making decisions in its oversight role of the Modular Housing Initiative.

Recommendation:

- 7. City Council request the Executive Director, Housing Secretariat, in conjunction with the Executive Director, Corporate Real Estate Management Division and the CEO, CreateTO, to:**
 - a. Clarify in writing, the roles and responsibilities for each of the parties involved in the modular housing project management process, ensuring they are clearly understood; and**
 - b. Develop and implement a process to ensure consistent financial data is shared and used by all parties for reporting purposes of modular housing projects.**

C. 3. Revising the Financial System Coding Will Facilitate Better Tracking and Monitoring of Project Costs

An effective financial process and system, with proper coding of project cost centres, is critical for accurate and complete recording; tracking; and managing of project budgets, costs, and estimates.

Project costs were divided across multiple cost centres in the City's financial system making it difficult to track and monitor project costs against budget

We found that the way the accounts had been set up in the City's financial system was not conducive to tracking and monitoring project budgets and costs. For example:

- The majority of costs incurred for Phase One projects were booked to just one cost centre in the City's financial system, with no breakdown of costs by project site. With costs not recorded by project site, it made it difficult to track which project sites had cost overruns and whether they were significant.
- Costs related to each project site were divided across different cost centres. Some costs were recorded under various funding cost centres depending on how many funding resources the project received, and some costs were recorded under a general cost centre rather than a site-specific cost centre. This made it difficult to track complete costs of a project.
- Throughout Phase One and Phase Two, some soft costs related to the projects (e.g., community engagement, legal, staff salaries) were booked to the general Housing Secretariat operating cost centre along with other non-modular housing-related divisional costs. These costs were not included in the calculation of the total project costs prepared by the Housing Secretariat. As a result, we were unable to verify the total cost of the projects or initiative.
- While most project costs for Phase Two were first tracked by funding stream then by project site, the budget was only tracked aggregately at the funding stream level, which made it difficult to directly compare between actual and budgeted costs.

Recommendation:

- 8. City Council request the Executive Director, Housing Secretariat to revise the financial system coding (i.e. cost centres) to assign future budget and actual costs by site, in order to reflect the accurate budget and most up-to-date costs in the financial system.**

C. 4. Perform Variance Analysis to Monitor Project Costs and Identify Cost Drivers

Housing Secretariat should regularly reconcile cost centre amounts to track the cost-to-date for each project site

As discussed in the section above, project costs were divided across multiple cost centres in the City's financial system. To calculate the costs incurred to date by project site, the Housing Secretariat had to go through all the cost centres, review line-by-line entries, and manually allocate costs to each project site.

Prior to our audit, the Housing Secretariat had not reconciled cost centre amounts to track the costs-to-date for each project site. At our request, the Housing Secretariat provided us with a schedule showing the final costs for each of the Phase One project sites. The Housing Secretariat also prepared for us a cost-to-date schedule as at December 31, 2022 for the Phase Two projects, since none of them have been fully closed out and final project costs were unavailable at that time.

However, both schedules took a considerable amount of time for the Housing Secretariat to prepare. We also found errors (e.g., omitted invoice amounts, missing soft costs, double entries) in the schedules. Since there could be other omitted costs within other cost centres that the Housing Secretariat is unaware of, we were unable to verify the completeness and accuracy of the project costs provided by the Housing Secretariat.

Issues found in Housing Secretariat's cost tracking approach

The Housing Secretariat informed us that instead of performing the reconciliation described above, it engaged a third-party consulting firm to assist in program management, including the periodic tracking of project costs. However, we identified a number of issues in the cost tracking approach. For example:

- The consultant did not have access to the City's financial system and had to rely on the City to inform them of all cost activities. There were instances where an invoice or an interdivisional charge was not forwarded to them.
- The consultant tracked the approved contract value, not the final cost of a contract, which could vary, and no reconciliations were performed to reconcile the consultant's amounts with the City's financial system records.
- The consultant tracked the revised budget against a forecast cost on a monthly basis in order to inform the Housing Secretariat and CREM of any funding deficiencies. This monitoring was not intended to track the project cost incurred and paid by the City.

Therefore, the costs tracked by the consultant did not represent the complete and final actual costs reimbursed by the City, as reflected in the City's financial system.

Variance analysis helps to identify cost drivers and keep project costs on budget

It is critical to conduct a variance analysis of the initial Council-approved budget with the final project costs after completion. Had such an analysis been performed for Phase One, the Housing Secretariat would have been able to better use the insights on cost drivers and apply them when developing the budget for Phase Two. The Housing Secretariat would also be able to perform benchmarking analysis with other comparable projects and/or traditional construction projects.

There was also no variance analysis of the original Council-approved budget and the costs incurred by site on a regular basis. Had a variance analysis been done on a line-by-line cost basis, the Housing Secretariat would likely have noted the cost overrun earlier and been able to identify the drivers contributing to the significant cost increases. Better tracking of actual site costs would also help with detecting potential site-specific problems and identifying any patterns that could lead to cost savings in the future.

Recommendations:

- 9. City Council request the Executive Director, Housing Secretariat in conjunction with the Executive Director, Corporate Real Estate Management Division to conduct a thorough review and reconciliation of existing costs in the system to ensure all costs incurred to date for Phase One and Phase Two modular housing projects have been captured and allocated to the correct accounts.**

- 10. City Council request the Executive Director, Housing Secretariat to:**
 - a. Develop and implement a process for cost recording of modular housing projects to ensure all future costs (including all hard and soft costs) are captured and allocated to the correct site-specific cost centre and cost account;**

 - b. Perform timely and regular cost allocation to site-specific cost centres for future invoices that contain costs for multiple sites; and**

 - c. Develop a process to review the entries booked by other divisions in the financial system to ensure their accuracy and completeness.**

11. City Council request the Executive Director, Housing Secretariat to develop formal policies and procedures and reporting templates for the purpose of tracking actual expenditures against initial budgets on a line-by-line basis (e.g. permit fees, manufacturing costs), on a project site basis and on an overall project basis.

D. Strengthening the Review Processes for Change Orders and Invoice Payments

D. 1. Change Orders Should Be Reviewed and Approved Prior to Payment

Change orders were paid before the receipt of supporting documents

Change orders are construction contract amendments that change the contractor's scope of work. As outlined in both Phase One and Phase Two contracts, CREM was responsible for reviewing change orders and monthly construction bills and approving payments. However, during Phase One, we found that change orders were paid by CREM before supporting documents were received from the contractor.

Furthermore, in some cases for Phase One, CREM was unable to provide evidence that its staff reviewed the supporting documents to assess the reasonableness of the change order's scope of work and cost.

We also noted discrepancies, although not significant, between the change orders, the monthly invoices, and the supporting documents. Therefore, we were unable to assess whether the City had overpaid for any change order work.

Improvements noted in the review of Phase Two change orders

For Phase Two, CREM had rectified the issues identified above. Our review of change orders indicated that CREM had reviewed the supporting documents for change order work prior to payments.

Work was permitted to proceed without getting a formal signed approval from the City

However, the payment review process was lengthy. For example, it took CREM one year to review, negotiate, and finalize 30 change orders for one of the Phase Two sites. In an effort to meet tight timelines and avoid delays, CREM allowed the contractor to proceed with the change order work and not wait for CREM to review and approve the scope of work first. As a result, we noted the change orders were reviewed by CREM after the work had already been performed. In some cases, this resulted in disagreements between the City and the contractor with respect to whether the additional work was within scope and who should cover the additional costs. Although the City ended up approving 26 out of the 30 change orders for this particular Phase Two project, the contractor still planned to pursue a legal dispute for the remaining four change orders that the City rejected.

A new change order control process is being developed

At the time of writing this report, CREM informed us that it was in the process of developing a change order control process tailored to housing projects.

CREM also informed us that they are currently exploring a new framework to incorporate a third-party independent firm, acting as the Contract Administrator or Payment Certifier for the modular housing contracts. If the framework is confirmed, the new Contract Administrator or Payment Certifier will be responsible for payment certification and the review and approval of change orders. If this approach is used, it will be important that CREM staff still ensure they manage the process and this third-party contractor, ensuring the roles and responsibilities are clearly defined and understood by all stakeholders, and that the project and costs are managed appropriately.

Recommendation:

- 12. City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to ensure consistent compliance with the new change order process for all future modular housing projects by finalizing the development of the change control process and protocols, and including the following steps:**
- a. Complete the negotiation of change order work on a timely basis and ensure work is not started until the Executive Director, Corporate Real Estate Management Division approves the change order request;**
 - b. Obtain and review supporting documents from the contractor for each change order and require approval of change orders before payment is made; and**
 - c. Clearly define the roles and responsibilities of the third-party contractor, if one is employed as the Payment Certifier or Contract Administrator on behalf of the City for both payment certification and the review and approval of change orders.**

D. 2. Reviewing Monthly Invoices and Inspection of Work Progress Documentation

CREM was responsible for reviewing payment applications and certifying the payment value

Normal practice in the construction industry dictates that payments are made progressively over the course of a project based on how much work has been completed in the progress period. This is commonly referred to as a progress payment plan.

Applications for payment are made monthly as the work progresses. The monthly application includes a schedule outlining the scope of work and the percentage of its completion for that month. CREM, the Payment Certifier, would review the application, certify the status and value of work performed, determine the amounts owing to the contractor, and issue certificates for payment.

Inspections and reviews need to be better documented

Per discussion with CREM, they verified work progress through on-site inspections. However, in some cases, CREM was unable to provide documentation to support these inspections. In addition, CREM normally keeps a workbook to document their review. However, there was no documentation to support that all questions raised during the review were addressed. We also noted that the process of verifying work progress and documenting the review results lacked consistency, because CREM has not developed a standardized process to review the monthly invoices.

Recommendation:

- 13. City Council request the Executive Director, Corporate Real Estate Management Division for Phase Two and future modular housing projects, to:**
 - a. Develop and implement a process to review the process payment invoice to ensure it is accurate and reflects the updated work progress;**
 - b. Verify work progress through on-site inspections and document the review; and**
 - c. Ensure all file review questions and comments are adequately addressed, documented, and retained.**

D. 3. Clarification Required for Markups and Project Management Fees

Inconsistent practices of marking up change orders

CREM advised that it is not unusual in the industry for contractors to charge markups and project management fees.

We noted that inconsistent markup rates were charged on the change orders. Under a general construction contract, markup rates are applied to cover overhead, administration, and profit to the party performing the work associated with a change order. According to the executed contracts for modular housing, markup rates are either 5% or 10%, depending on who performs the work (i.e., subcontractors or the contractor, respectively).

However, the executed contract terms are open to interpretation with respect to the classification of the top-tier subcontractors and suppliers. This confusion led to inconsistent markup rates being applied by the contractor.

Pending clarification and discussion between the City and the contractor, there may or may not be an overcharge from the contractor.

Project management fees were charged by contractor but were not mentioned in the contracts

In addition, for Phase Two change orders, project management and coordination fees totaling \$25,353 as of December 2022 were charged and paid by the City. However, project management and coordination fees were not mentioned in the executed contracts, so there were no clear conditions and terms that set out the nature of these fees. At the time of this report, CREM informed us that they are in the process of recovering the entire sum of \$25,353.

Recommendation:

- 14. City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with City Legal Services, to:**
 - a. Assess whether the project management fees and markups were reasonably charged;
 - b. Seek to recover any overpayment, if the project management fees and markups are not reasonably charged by the contractor; and
 - c. Assess whether there is a need to amend future contracts for project management fees and change order markups in order to provide clarity on interpretation.

E. Establishing Formal Contract Management and Project Management Policies and Procedures

E. 1. Formal Contract Management and Project Management Processes Should Be in Place

Good contract management helps the City ensure it receives the services and quality contracted for, within the required budget and timeline

Good contract management by staff is important so that the City receives the services it is contracting for at the level of quality needed, within the budget and timeline required. When contracted services form a large part of a project, managing the contract well also helps in mitigating project risks and overall project management.

Importance of establishing formal written policy and procedures on contract management process

We found that CREM does not have a contract performance management process in place to:

- keep track of key performance requirements and deliverables from the modular housing contracts
- document any performance issues in the file
- regularly discuss the performance issue with the contractor
- monitor or track through a performance management plan
- resolve performance issues with the contractor and document the resolution.

In addition, CREM did not perform any contractor performance evaluations for the three buildings that were occupied in 2020, 2021, and 2022. The absence of this performance monitoring and tracking increases the risk that the Housing Secretariat and/or CREM are unaware of performance issues or breaches of contract and could lead to difficulties in being able to resolve potential disputes.

Monitoring contractor performance is an important aspect of project management

Monitoring contractor performance is an important aspect of project management and can also inform management decisions on future procurement. It is important that the contractor performance results be incorporated into the vendor selection process for future procurements of modular housing projects.

Development of formal project management policies and procedures is to be completed

We also noted that formally written policies and procedures related to project management for modular housing projects are still in development. While CREM is creating a general “Project Delivery Process Map” and advised that it will be used as a guide for staff to follow for project management, CREM should consider the following deficiencies while developing these policies and procedures:

- document retention
- project cost management process (including tracking of actual costs, change order authorization process, and progress payment certification process)
- project close-out (existing process can be enhanced for document request and retention)
- contractor performance monitoring.

Recommendations:

15. City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with Chief Procurement Officer, for Phase Three and future modular housing projects, to:
 - a. Implement a vendor performance management process to address the unique requirements of modular housing projects;
 - b. Summarize a list of key performance requirements and deliverables from the modular housing contracts;
 - c. Monitor and evaluate the contractor's performance and quality of design and manufacturing throughout and after the completion of the project; and
 - d. Identify, document, and resolve any contractor performance, design and manufacturing issues.
16. City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to finalize its project management processes, including but not limited to project cost tracking, progress payment invoice review, project close-out, and contractor performance monitoring, and ensure compliance with those processes.

E. 2. Need to Standardize Policies and Procedures on Document Retention

Importance of documentation retention

When there is a good document retention policy in place and staff are following it, staff know what documents to keep and for how long, how to store the documents in an organized way so they can be easily accessed later when needed, and staff are consistent in how and when they disposed of any documents no longer needed.

We found that staff for the Housing Secretariat, CREM, and CreateTO were not following a record retention policy, resulting in a lack of available documentation of key decisions and other records for the Modular Housing Initiative. Staff said that there was not always sufficient time for the project team to follow their normal processes given the tight timeline, including their processes for taking meeting minutes and document retention.

High staff turnover contributed to lack of record retention and to lost knowledge

In addition, staff advised us that record retention was challenging given the high level of staff turnover experienced by CreateTO, CREM, and the Housing Secretariat during the entirety of the Modular Housing Initiative. The following are examples of key staff that have left during this time period:

- CreateTO's Senior Vice President
- Two Project Directors and two Project Managers from CREM
- One Finance Manager from the Housing Secretariat

Many instances where documentation was not retained often related to key decisions made

These roles were major contributors during Phase One and were replaced mid-project for Phase Two. As a result of staff turnover and a lack of meeting minutes and documentation, some important knowledge was lost when these staff left. Also, some historical information and documentation relating to key decisions made were not retained or disorganized and unable to be provided on a timely basis. For instance:

- During Phase One, a working group was organized to discuss key items, issues, plans, and decisions across the divisions to coordinate the Modular Housing Initiative. It included executives from the Housing Secretariat, CreateTO, CREM, and City Planning. However, no meeting minutes or documents were maintained for any of their gatherings.
- The final change orders for Phase One with the City's signoff were not retained, even though payment was made. CREM was unable to provide us with evidence of approval.
- There was no documentation to support the rationale or risk assessment of the different contingency rates on the Phase One and Phase Two projects. We were unable to verify how the contingency amount was decided and whether it was reasonable or sufficient.

Recommendation:

- 17. City Council request the Executive Director, Housing Secretariat, in conjunction with the Executive Director, Corporate Real Estate Management Division, and CEO, CreateTO, to develop, implement, and comply with a standard file documentation and retention policy for the program, aligned with the City's policy on record retention. The policy should specify documents to be created and retained (and retention length), especially for any information supporting significant decisions made during the process.**

F. Other Areas for Continuous Improvement

F. 1. Develop Guidelines on Warranty Management

A need to keep monitoring warranty claims after occupancy

Once a modular building is ready for occupancy, a building operator takes possession of the building through a lease from the City and City staff are no longer involved with any warranty items. It is then the building operator's responsibility to manage warranty claims and work with the contractor directly.

The only time the City would involve themselves in warranty items after occupancy is when CREM conducts a warranty review inspection approximately three weeks before the expiry of warranty (this usually occurs two years after occupancy). The inspection is done to ensure the building has no construction issues that have gone unnoticed. However, there is no formal inspection checklist being used to ensure that the City does not overlook any items.

In addition, the City does not have any processes in place to monitor warranty claims on modular buildings after occupancy. It is important for the City to be aware of building damages caused by tenant destruction or negligence by the tenant, in order to be better informed of the potential impact to the useful life of the building. By monitoring warranty claims, the City would also be able to identify any defects or issues with the building so they could be brought forward for future phases to be improved upon or to prevent them from occurring again.

Recommendation:

- 18. City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to develop a warranty management process, including actively monitoring any event(s) of repairs and damages on the modular housing buildings after building occupancy.**

F. 2. Lessons Learned Could Be Timelier and Include More Areas of Review

Lessons learned report could be timelier

The Housing Secretariat advised us that informal lessons learned were conducted throughout the Modular Housing Initiative. However, there was no documentation to centrally summarize the lessons from all sources. In addition, it was unclear how the informal lessons learned were distributed to the appropriate stakeholders to ensure awareness.

Conducting a timely lessons learned exercise on completed projects and documenting the results is important because it provides opportunities to identify areas for improvement and best practices that can be applied to future projects.

More areas should be included in the lessons learned review

Currently, the lessons learned report only reviewed practices on procurement of the not-for-profit building operator, planning and building approval, site selection, due diligence, and building design processes.

However, the report does not review the processes on procurement of developers, contract design, cost and budget management, developer performance, and operations. As noted throughout this audit report, we found issues in all of these areas and identified opportunities to improve the related processes and practices.

Recommendation:

- 19. City Council request the Executive Director, Housing Secretariat to conduct and document on a timely basis, a more formalized lesson learned review after each modular housing project is completed, which should include:**
- a. Inputs from all participating divisions of the project team;**
 - b. A review of contract design, procurement of the contractor, cost and budget management, contractor performance, and operations; and**
 - c. A consideration of lessons learned from past projects.**

G. Modular Housing versus Traditional Housing Construction to Achieve Supportive Housing Supply Goals

Audit objective #3 – Modular construction as a housing solution

Our third and final audit objective set out to examine whether modular housing results in faster delivery of housing and lower costs than traditional construction.

Potential benefits of modular housing construction

The Modular Housing Initiative is intended to be an innovative and cost-effective way to build affordable small-scale housing for people experiencing homelessness. It can offer a number of potential cost savings, time efficiencies, and other benefits compared with conventional construction. Some potential benefits of modular housing construction include:

- a faster project schedule (see **Figure 8**) as site preparation can be done alongside modular unit production
- faster construction times since various components of the modular unit can be built simultaneously
- less downtime due to weather as each module is built indoors within a temperature-controlled setting

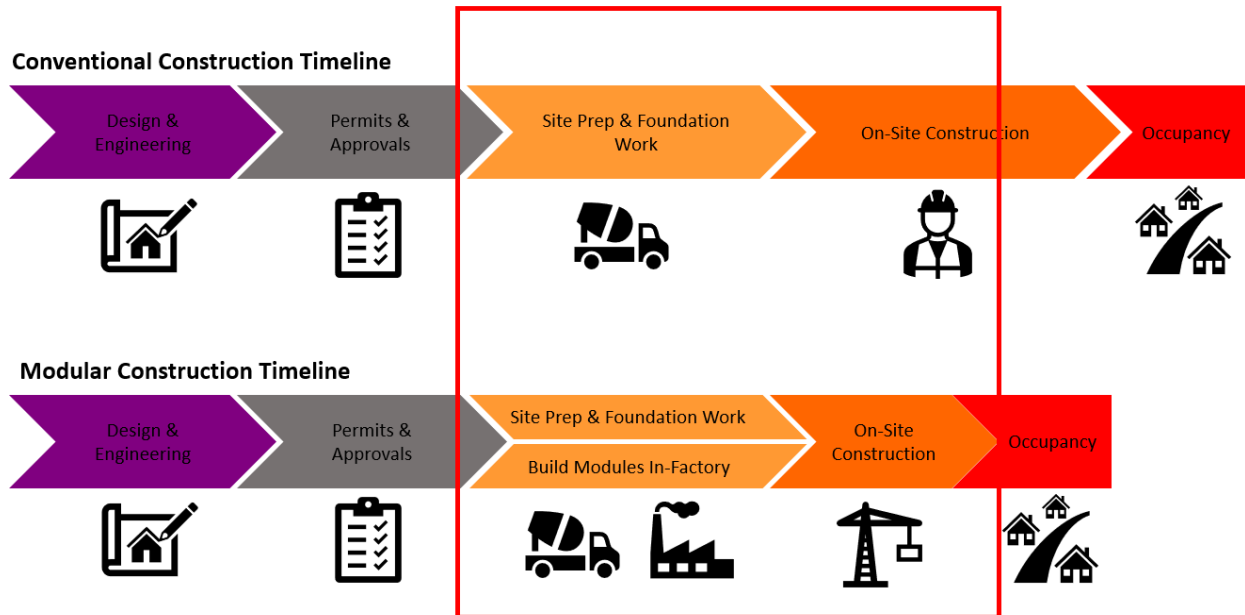
- higher quality control since modules are built in a factory-controlled environment
- less disruption during construction to the community because modular units are built in a warehouse, and there is less on-site construction than with conventional builds
- more environmentally friendly because modular construction facilities take advantage of assembly line manufacturing which results in less energy usage than traditional construction
- ability to replicate the design and have consistency
- reduction of material losses and theft since manufacturing facilities tend to be more secure than construction sites.

Potential drawbacks of modular housing construction

On the other hand, some potential drawbacks of modular housing construction can include:

- potentially costly transportation depending on the distance from the warehouse to the build site; and
- limited ability to reuse the modular units because they are custom built for a specific site, configuration, and dimension.

Figure 8: Comparison Timeline



More comparable data is required

Outside of Vancouver, Toronto was one of the first jurisdictions to start building modular homes as supportive housing. The technology of the modern modular build is relatively new with little comparable data in the industry. In addition, each jurisdiction that uses modular builds has different needs (e.g., temporary modular housing in Vancouver versus permanent modular housing in Toronto) and circumstances (e.g., climate, soil condition).

Without the City performing enhanced tracking and analysis (refer to **Section C**) with comparable traditional construction builds in Toronto, we are unable to conclude whether modular housing construction is faster and less costly than traditional construction.

More data and information must be collected by the City to confirm and validate the potential cost and time savings of modular housing construction.

Recommendation:

- 20. City Council request the Executive Director, Housing Secretariat to analyze and determine if it is more cost effective and quicker to build using modular construction, when compared with traditional methods, by:**
- a. Tracking and monitoring overall costs, including the long-term maintenance and capital cost requirements of completed modular housing; and**
 - b. Obtaining more external benchmarking information as it becomes available.**

Conclusion

This report highlights the results of our audit of the Modular Housing Initiative, including an examination of the procurement and management of contracts and costs.

For our first objective on procurement, City Council approved a non-competitive procurement based on research performed by CreateTO. However, we could not conclude on our objective and had a scope limitation due to a lack of available documentation to support CreateTO's research. While Phase One procurement had lower contract pricing than Phase Two, which was competitively procured, we were unable to conclude whether Phase One was at fair market value because other factors such as inflation and the impacts of COVID-19 could have influenced the pricing.

Overall, for our second objective on managing the modular housing contracts and costs, we found improvements are needed, particularly in the areas of project planning, budget preparation, the monitoring and reporting of project costs, invoice payment reviews, and contractor performance management. Although the City achieved its fast delivery time for much of the Modular Housing Initiative, we found that the speed at which it was delivered needed to be better balanced with stronger oversight and management of the contracts and costs.

Although modular housing offers many potential benefits, we were unable to conclude on our third objective of whether modular construction results in faster delivery and lower costs than traditional construction. More information is needed first, including accurate and complete information on total costs of the City's Modular Housing Initiative and more available benchmarking information.

In our view, implementing the 20 recommendations contained in this report will strengthen controls over project planning, budgeting, cost tracking, and contract management processes, and help enhance the quality of reporting to City Council.

In particular, the recommendations identified opportunities for:

- better project planning before budget preparation and construction start to reduce the risk of potential delays and costs;

- strengthening the tracking, monitoring, and reporting of project costs to improve the information for decision making, as well as accountability and transparency;
- establishing contract management policies and procedures to monitor contractor performance and ensure the City is receiving the services contracted for, within the required budget and timeline; and
- improved tracking of overall costs, data collection (including of benchmarking information), and analysis to assess overall program effectiveness.

Audit Objectives, Scope, and Methodology

Audit included in the 2022 Work Plan

The Auditor General's 2022 Work Plan included an audit to review the City's Modular Housing Initiative, which is part of the HousingTO 2020-2030 Action Plan administered by the Housing Secretariat and supported by the Corporate Real Estate Management (CREM) Division and CreateTO.

Audit Objectives

The purpose of this audit was to review the procurement and delivery of modular housing units to assess whether modular housing provided value for money in achieving supportive housing.

This audit aimed to answer the following questions:

- Did the City comply with appropriate purchasing policies and procure modular home contracts in an open, fair, competitive, and transparent manner?
- Is the City effectively managing its modular housing contracts and costs to ensure contract requirements are met?
- Does modular housing result in faster delivery of housing and lower cost than traditional construction?

Scope

This audit focused on reviewing the procurement and delivery of modular housing units under Phase One and Phase Two of the Modular Housing Initiative, which covered the period from 2019 to 2022.

Areas not covered within the scope of this audit

Our audit scope did not include assessments of:

- the request for proposal and the selection of building operators
- whether the modular housing units meet the demand for supportive housing in Toronto as well as the ongoing needs of the tenants
- how well the not-for-profit operator is managing and maintaining the modular housing units after construction.

Specifically, the costs of operating the modular housing after occupancy and subsequent repair and maintenance costs are not within the scope of this audit.

We also did not assess Toronto Building's inspection activities. Please refer to the Auditor General's February 2023 report, "*Building Better Outcome: Audit of Toronto Building's Inspection Function*," for a review of Toronto Building's operational policies and processes for inspecting construction and issuing orders to enforce compliance with the *Building Code Act*, *Ontario Building Code*, and building permits.

Methodology

Our audit methodology included:

- reviewing and analyzing tender documents, including bid proposals and related contracts
- reviewing board and committee reports and financial budgets relevant to contracted property management
- reviewing policy requirements, procedures, and guidelines relevant to contracted property management
- interviewing staff from the Housing Secretariat, CreateTO, CREM and other relevant stakeholders such as Toronto Building, Shelter, Support and Housing Administration, and City Planning
- conducting site visits of all modular housing locations
- interviewing stakeholders from other jurisdictions to research best practices and benchmarks for modular housing projects
- conducting other procedures that were deemed relevant.

Limitations

Our findings and conclusions were based on the information and data available at the Housing Secretariat, CREM, and CreateTO at the time the audit was completed. We had a scope limitation on two of our objectives due to the lack of available documentation.

We could not conclude on our first objective of the procurement of manufacturers of modular housing units, due to a lack of available documentation to support CreateTO's research.

Also, our review of project costs incurred is also limited to those documents that were retained and the costs that were tracked. As noted in our findings, at times, we identified inconsistent cost information and were unable to obtain assurance on the accuracy and completeness of project costs. It is possible that there are additional costs that have not been captured or allocated to the proper cost centre or cost account. We also noted that due to staff turnover and lack of record retention, the Housing Secretariat, CREM, and CreateTO were unable to provide some historical information on projects as well as documentation to support decisions made.

We were also unable to conclude on our third objective, to determine whether the modular construction method results in faster delivery and lower costs than traditional construction, due to a lack of benchmarking information and complete overall cost information, including information related to long-term maintenance and capital repair costs of completed modular housing projects.



Compliance with generally accepted government auditing standards

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Exhibit 1: Chronology of Significant Modular Housing Events




Colour Legend

| | |
|--|------------------------|
| | Background information |
| | Phase One events |
| | Phase Two events |

| | | | |
|------|-----------|-------|--|
| 2019 | JUNE | 18 | Council requests the City report on a new modular supportive housing pilot initiative. |
| | DECEMBER | 17 | HousingTO 2020-2030 Action plan item 50 – Create 1,000 modular supportive housing opportunities for homeless individuals and chronic shelter users by 2030 |
| | MARCH | LATE | In response to the COVID-19 health emergency the mayor asks staff to find ways to expedite the delivery of modular supportive housing |
| | APRIL | EARLY | CreateTO reaches out to suppliers for research |
| | | 30 | City Council authorizes a non-competitive agreement with Horizon North Inc. (or its affiliate NRB) for Phase One. |
| 2020 | JUNE | 16 | First community engagement session is held for 11 Macey Avenue ¹⁴ |
| | | 17 | First community engagement session is held for 321 Dovercourt Road ¹⁵ |
| | | 24 | 11 Macey Avenue and 321 Dovercourt Road contracts are signed with NRB |
| | | 29 | City Council requests Minister's Zoning Order for both 11 Macey Avenue and 321 Dovercourt Road |
| | JULY | 2 | Minister's Zoning Order is approved for 11 Macey Avenue |
| | | 8 | Minister's Zoning Order is approved for 321 Dovercourt Road |
| | | 20 | Manufacturing begins on modular units for 11 Macey Avenue |
| | AUGUST | 14 | RFSQ is issued for Phase Two |
| | | 17 | Onsite construction starts at 11 Macey Avenue  |
| | SEPTEMBER | 7 | Manufacturing begins on modular units for 321 Dovercourt Road |
| | | 14 | Onsite construction starts at 321 Dovercourt Road  |
| | | 25 | RFSQ is closed for Phase Two |
| | NOVEMBER | 10 | RFP is issued for Phase Two |

¹⁴ 11 Macey Avenue also held community engagement sessions on June 23rd, 2020, and July 8th, 2020.



¹⁵ 321 Dovercourt Road also held a community engagement session on June 24th, 2020.

| | | | | |
|------|----------|---|---|---|
| 2020 | DECEMBER | 4 | RFP is closed for Phase Two | |
| | | 16 | RFP is scored; NRB is selected | |
| 19 | | 11 Macey Avenue is ready for occupancy |  | |
| 2021 | JANUARY | 28 | 321 Dovercourt Road is ready for occupancy |  |
| | FEBRUARY | 23 | 175 Cummer Avenue and Trenton (540 Cedarvale Avenue) are announced as the next modular housing locations for Phase Two | |
| | MARCH | 4 | 175 Cummer Avenue contract is signed with NRB | |
| | | 8 | First community engagement session is held for 540 Cedarvale Avenue ¹⁶ | |
| | | 9 | First community engagement session is held for 175 Cummer Avenue ¹⁷ | |
| | APRIL | 28 | Manufacturing begins on modular units for 175 Cummer Avenue | |
| | MAY | 14 | 39 Dundalk Drive is announced as the third site for Phase Two | |
| | | 25 | First community engagement session is held for 39 Dundalk Drive ¹⁸ | |
| | JUNE | 8 | City Council requests Minister's Zoning Order for 175 Cummer Avenue (which was not provided) and for 540 Cedarvale Avenue | |
| | | 14 | 540 Cedarvale Avenue contract is signed with NRB | |
| | JULY | 14 | City Council requests Minister's Zoning Order for 39 Dundalk Drive | |
| | | 30 | Minister's Zoning Order is approved for 540 Cedarvale Avenue | |
| | AUGUST | 23 | Manufacturing begins on modular units for 540 Cedarvale Avenue | |
| | OCTOBER | 4 | 39 Dundalk Drive contract is signed with NRB | |
| | | 25 | On-site construction starts at 540 Cedarvale Avenue |  |

¹⁶ 540 Cedarvale Avenue also held community engagement sessions on March 17th, 2021, and May 3, 2021.

¹⁷ 175 Cummer Avenue also held community engagement sessions on April 6th, 2021, August 12th, 2021, and April 4th, 2022.

¹⁸ 39 Dundalk also held a community engagement session on June 17th, 2021.

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| 2021 | NOVEMBER | 15 | Minister's Zoning Order is approved for 39 Dundalk Drive | |
| | | MID | Modular units for 175 Cummer Avenue are completed and stored outside at TTC Finch East Commuter Lot | |
| 2022 | JANUARY | 31 | Manufacturing begins on modular units for 39 Dundalk Drive | |
| | MARCH | 9 | City Council directs staff to initiate re-zoning for the proposed development of 175 Cummer Avenue | |
| | JUNE | 2 | Onsite construction starts at 39 Dundalk Drive ¹⁹ |  |
| | JULY | 22 | Zoning By-Law 818-2022 is passed for the proposed development at 175 Cummer Avenue | |
| | AUGUST | MID | Modular units for 175 Cummer Avenue are relocated from the TTC lot to a longer-term indoor storage facility in Owen Sound | |
| | | 18 | City Council's adoption of Zoning By-Law 818-2022 is appealed to the Ontario Land Tribunal (OLT) by a Willowdale neighbourhood group ²⁰ | |
| | OCTOBER | 28 | OLT allows the appeal of 175 Cummer Avenue | |
| | NOVEMBER | 15 | 540 Cedarvale Avenue is ready for occupancy |  |

¹⁹ Expected occupancy for 39 Dundalk Drive is July 2023.

²⁰ A decision has not been reached; therefore, the outcome is still pending.

Exhibit 2: Interior Pictures of a Modular Home and Pictures of the Modular Housing Sites

Each modular building built by the City was proposed to be at least three storeys high and include an elevator, with each unit being a self-contained studio apartment measuring approximately 350 square feet. Each unit has its own bathroom and kitchenette and is also fully furnished, with bed side tables and other furniture and appliances.

In addition, the building also has communal amenity areas and shared facilities including an office, lounge, laundry, and commercial kitchen.



Interior views of a modular unit at 11 Macey Avenue



Construction at 11 Macey Avenue



Completed 11 Macey Avenue



Construction at 321 Dovercourt Road



Completed 321 Dovercourt Road



Construction at 540 Cedarvale Avenue



Completed 540 Cedarvale Avenue



Construction at 39 Dundalk Drive

Appendix 1: Management’s Response to the Auditor General’s Report Entitled: “City of Toronto’s Modular Housing Initiative: The Need to Balance Fast Delivery with Stronger Management of Contracts and Costs”

Recommendation 1: City Council request the Executive Director, Housing Secretariat, through the Executive Steering Committee for site selection, to:

- a. Perform subsurface investigation and due diligence on land/soil and infrastructure and servicing constraints prior to the final decision on site selection;
- b. Obtain from the Corporate Real Estate Management Division a cost-estimate analysis of site remediation to be included in the development of site budgets; and
- c. Provide the above information to the proponents in the request for proposal (or to the contractor early on in the project) to facilitate a more accurate price quote and project cost estimate.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. This recommendation has been implemented as of Q1 2023 in the due diligence and site selection processes for modular housing sites being considered for Rapid Housing Initiative – Phase 3 funding. Management will also implement this recommendation to future phases of modular housing, however, note that the completion of these technical site due diligence activities and their incorporation into site budget development requires sufficient time within the funding program, including project submission timelines, to undertake such work. In November and December of 2022, the Supportive Housing Delivery Executive Steering Committee approved a more extensive suite of technical site due diligence activities as part of the site selection process for modular housing. This included: inter-Divisional review of location of current and planned underground infrastructure servicing each modular site, sub-surface utility investigations, civil engineering consultant review of servicing capacity, and completion of Phase 1 and 2 environmental site assessments to assess any remediation work required. These due diligence tasks are undertaken prior to submission of projects for RHI funding, and informed total project costing including funding requested from CMHC, and the information gathered through these assessments will be provided to the contractor as part of the procurement process. Housing Secretariat and the Executive Steering Committee will continue to build upon this due diligence package for future modular housing sites, as part of ongoing lessons learned in the delivery of new modular homes. Housing Secretariat will also share with its funding partners at the other levels of government that new modular and rapid housing funding programs need to be designed to allow sufficient time for program applicants to complete site due diligence prior to project submission. |

Recommendation 2: City Council request the Executive Director, Housing Secretariat and the Executive Director, Corporate Real Estate Management Division, in the budget development process for future modular housing projects, to:

- a. Conduct a review to understand all cost elements (construction and non-construction) that would be expected to be incurred in preparing a site ready for operation;
- b. Include the above cost elements for budget development;

- c. Document assumptions used for the estimated budget numbers; and
- d. Clearly define which party is responsible for managing each cost item within the budget.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: <p>Management agrees with this recommendation. Recommendation parts (a) through (c) have been implemented by CREM & Housing Secretariat as of Q1 2023 in the preparation of budget estimates for Rapid Housing Initiative - Phase 3 modular housing sites, where data from completed projects as well as lessons learned from due diligence performed for site selection were incorporated into budget development. The budget development process has been informed by actual cost experience across all cost elements on modular sites completed and under construction. A new template has been developed and implemented by the Housing Secretariat for this purpose, which includes all pre-development, construction, and operator handover related costs, guidelines for contingencies and allowances for unknowns, and documentation of assumptions and rationale.</p> <p>All Divisions involved in the delivery of new modular housing are collaborating to develop a revised Program Charter and RACI to further document roles and responsibilities. This includes responsibilities related to project specific budget items. The new Charter and revised Responsible, Accountable, Consulted, and Informed (RACI) will be approved and in place by Q4 2023.</p> |

Recommendation 3: City Council request the Executive Director, Housing Secretariat to ensure the re-zoning is in effect before beginning construction of future modular units, to reduce the risk of potential delays and additional costs related to storage, transportation, and other costs that may be incurred in trying to re-purpose or sell the modules.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: <p>Management agrees with this recommendation and will implement this revised approach on future modular housing projects.</p> |

Recommendation 4: City Council request the Executive Director, Housing Secretariat to continue to discuss and negotiate with funding provider(s) more reasonable timelines for future modular housing projects.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: <p>Management agrees with this recommendation. Throughout 2021 and 2022, Housing Secretariat has shared challenges with meeting rapid (e.g. 12 month) project delivery timelines with CMHC, particularly in the volatile construction market that has arisen as a result of the COVID-19 pandemic. Housing Secretariat will continue to seek reasonable project timelines from its funding partners, while simultaneously working with City Divisions to apply lessons learned to deliver new modular homes rapidly, as an urgent response to the housing and homelessness crisis in Toronto and pressure on the City's shelter system.</p> <p>On November 10, 2022, the federal government launched Phase 3 of the Rapid Housing Initiative. The program now permits up to 18 months for projects to be completed, an increase from previous 12 month delivery requirements in 2020 and 2021.</p> |

Recommendation 5: City Council request the Executive Director, Housing Secretariat to improve reporting processes and transparency in the budget development process by submitting:

- a. An updated site-specific budget to City Council at the time of site selection, after conducting the necessary due diligence work, and in compliance with any funding agreements executed between the City and other orders of government or funder(s); and
- b. For City Council's approval, any financially material request(s) to increase the budget by modular housing project site and the rationale for the additional budget request(s).

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. This recommendation will be implemented in 2023. Pending approval from CMHC, Housing Secretariat will bring a report to City Council in Q4 2023 to provide an update on new modular housing sites that may be approved under Phase 3 of the Rapid Housing Initiative, including up to date site-specific budgets. Housing Secretariat will continue to improve reporting and transparency in the budget development process for modular housing by keeping Council updated on additional budget changes including requesting approval for financially material increases required to deliver the projects. |

Recommendation 6: City Council request the Executive Director, Housing Secretariat to report to City Council regularly on the progress of the modular housing projects. Such reports are to include, but not be limited to:

- a. Comparison of original timeline and actual schedules, with explanations for significant delays;
- b. Actual final costs for completed sites and projected costs for ongoing sites, compared with initial budgets, with explanations for any significant variances; and
- c. Details of funding being allocated or reallocated to cover the additional costs.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. This recommendation will be implemented beginning by Q4 2023 and going forward, starting with any modular housing projects that may be funded by CMHC under the Rapid Housing Initiative – Phase 3. City Council will receive at least annual progress reports on modular housing projects that are in development. |

Recommendation 7: City Council request the Executive Director, Housing Secretariat, in conjunction with the Executive Director, Corporate Real Estate Management Division and the CEO, CreateTO, to:

- a. Clarify in writing, the roles and responsibilities for each of the parties involved in the modular housing project management process, ensuring they are clearly understood; and
- b. Develop and implement a process to ensure consistent financial data is shared and used by all parties for reporting purposes of modular housing projects.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
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Comments/Action Plan/Time Frame:

Management agrees with this recommendation. Housing Secretariat, CREM, CreateTO, and others have begun implementing this recommendation as of Q4 2022. Full implementation is anticipated by Q4 2023.

As part of Phase 3 of the Rapid Housing Initiative (announced by the federal government on November 10, 2022) Housing Secretariat, CREM, and CreateTO have developed a revised program RACI outlining roles, responsibilities, and accountabilities of Divisions across the stages of delivering new modular housing. Housing Secretariat is working with these partners, and engaging all other Divisions involved in delivering modular housing, to finalize this RACI and develop a revised accompanying Program Charter that will clarify in writing roles & responsibilities in the delivery of individual modular development projects and the overall program. This work will include developing and implementing a new financial reporting structure which will ensure consistent financial data is shared and used by all parties.

Recommendation 8: City Council request the Executive Director, Housing Secretariat to revise the financial system coding (i.e. cost centres) to assign future budget and actual costs by site, in order to reflect the accurate budget and most up-to-date costs in the financial system.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation and will implement a revised financial management and tracking system to improve on all financial management related aspects of the modular housing audit, including improvements to the financial coding system. The system will use one account per site to track expenditures. If there are multiple funding sources for the site, cost elements related to the site account will be used to track the revenue. This recommendation will be implemented in Q1 2024.

The new financial system coding system will ensure budget and actual costs are monitored on a site-by-site basis using the City's financial systems in SAP. This system will include a new process for booking of costs to accounts between CREM and Housing Secretariat, and regular monitoring by Housing Secretariat to ensure charges are being booked to the correct accounts.

Recommendation 9: City Council request the Executive Director, Housing Secretariat in conjunction with the Executive Director, Corporate Real Estate Management Division to conduct a thorough review and reconciliation of existing costs in the system to ensure all costs incurred to date for Phase One and Phase Two modular housing projects have been captured and allocated to the correct accounts.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation. Housing Secretariat in conjunction with the CREM-PMO are carrying out a full, thorough reconciliation to ensure all costs associated with Phase One and Phase Two modular housing projects are accounted for and allocated to the appropriate projects. This review and reconciliation will be completed by Q4 2023.

The teams will work with the City's Financial Planning and Accounting Services teams to determine what adjustments can be made to make corrections, if necessary, within the City's financial systems in SAP, otherwise will ensure a fully reconciled statement is developed that aligns with all costs within the City's financial system related to these projects. This approach will be maintained for all costs going forward, and through the implementation of recommendations 8, 10 and 11, the teams will apply lessons learned from this review and reconciliation to the development of the new financial management and tracking

system referenced in response to recommendations 8, 10, and 11. This system will leverage the City's financial system to ensure costs are tracked appropriately and the necessary variance analysis is completed on a periodic basis for this and future projects.

Recommendation 10: City Council request the Executive Director, Housing Secretariat to:

- a. Develop and implement a process for cost recording of modular housing projects to ensure all future costs (including all hard and soft costs) are captured and allocated to the correct site-specific cost centre and cost account;
- b. Perform timely and regular cost allocation to site-specific cost centres, for future invoices that contain costs for multiple sites; and
- c. Develop a process to review the entries booked by other divisions in the financial system to ensure their accuracy and completeness.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation. Implementation of this recommendation will be achieved through the development of a revised financial management and tracking system, to be implemented by Q1 2024.

Housing Secretariat, in consultation with CREM, will develop a revised financial management and tracking system to: ensure that the correct cost centres and cost elements are charged when processing invoices, allocations to site-specific cost centres done correctly, and entries booked by other divisions are accurate and complete. This financial management and tracking system will also implement recommendations 8 and 11 and apply lessons learned from the review and reconciliation arising from recommendation 9.

Recommendation 11: City Council request the Executive Director, Housing Secretariat to develop formal policies and procedures and reporting templates for the purpose of tracking actual expenditures against initial budgets on a line-by-line basis (e.g. permit fees, manufacturing costs), on a project site basis and on an overall project basis.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation. Housing Secretariat, in consultation with CREM and CreateTO, is developing new templates, policies and processes for tracking project and program actual expenditures against initial budgets. These processes and policies will form part of the revised financial management and tracking system being developed also in response to recommendations 8, 9 and 10. This recommendation will be implemented by Q4 2023.

Recommendation 12: City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to ensure consistent compliance with the new change order process for all future modular housing projects by finalizing the development of the change control process and protocols, and including the following steps:

- a. Complete the negotiation of change order work on a timely basis and ensure work is not started until the Executive Director, Corporate Real Estate Management Division approves the change order request;
- b. Obtain and review supporting documents from the contractor for each change order and require approval of change orders before payment is made; and
- c. Clearly define the roles and responsibilities of the third-party contractor, if one is employed as the Payment Certifier or Contract Administrator on behalf of the City for both payment certification and the review and approval of change orders.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. Implementation began earlier in 2023 as part of the process improvement being undertaken by CREM-PMO, including a new change control process for overall projects currently in the process of trial and implementation. Full implementation of this recommendation will be complete by the end of 2023. CREM will work with Housing Secretariat to further develop existing change control processes to address unique requirements of the modular housing projects. This will include: <ul style="list-style-type: none"> i. Identification and communication of change order including costs – in budget and out of budget ii. Roles and responsibilities of change order approval – unforeseen circumstances and client requested change orders iii. CREM working with Housing Secretariat to ensure the revised RACI matrix and Program Charter (see recommendation 7) includes clarification of roles and responsibilities related to change order management. |

Recommendation 13: City Council request the Executive Director, Corporate Real Estate Management Division for Phase Two and future modular housing projects, to:

- a. Develop and implement a process to review the process payment invoice to ensure it is accurate and reflects the updated work progress;
- b. Verify work progress through on-site inspections and document the review; and
- c. Ensure all file review questions and comments are adequately addressed, documented and retained.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. As of Q3 2023 CREM will engage a contract administrator which includes as part of its scope of work a payment certifier role. This will support project management staff in the role of reviewing and approving of invoices accurately against work performed and contractual obligations, and ensuring all questions and comments are adequately addressed, filed, and recorded. This will be applied to all Phase Two ongoing projects and future housing projects delivered under the design build agreement. |

Recommendation 14: City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with City Legal Services to:

- a. Assess whether the project management fees and markups were reasonably charged;
- b. Seek to recover any overpayment, if the project management fees and markups are not reasonably charged by the contractor; and
- c. Assess whether there is a need to amend future contracts for project management fees and change order markups in order to provide clarity on interpretation.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: |
| <p>Management agrees with this recommendation. As of the time of this audit report, CREM has worked with Legal and Finance to address all overcharges identified by this report, a letter of repayment has been delivered to the vendor, and funds will be recovered from unpaid invoices.</p> <p>Going forward, CREM is working with Legal to review the CCDC 14 contract to amend existing clauses for future projects where clear identification of mark ups and associated tiers are identified. CREM will also conduct a review of remaining projects not included in the audit and identify if any additional fees were overcharged and need to be recovered. These actions will be completed by Q4 2023.</p> |

Recommendation 15: City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with Chief Procurement Officer, for Phase Three and future modular housing projects, to:

- a. Implement a vendor performance management process to address the unique requirements of modular housing projects;
- b. Summarize a list of key performance requirements and deliverables from the modular housing contracts;
- c. Monitor and evaluate the contractor's performance and quality of design and manufacturing throughout and after the completion of the project; and
- d. Identify, document, and resolve any contractor performance, design and manufacturing issues.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: |
| <p>Management agrees with this recommendation. CREM will work with Chief Procurement Officer to revise, where possible, current process of vendor performance management to address the unique requirement of the modular housing program including but not exclusive to:</p> <ul style="list-style-type: none"> a) Vendor's performance/ability and response in meeting aggressive schedule unique to RHI program and specified in the procurement documentation b) Vendor's performance and ability to pivot and address challenges associated with design and site plan applications c) Vendor's performance and ability to proper address capacity in site work (construction) and manufacturing when delivering multiple projects d) Vendor's performance and ability to maintain a stable resources during the project life cycle e) The ability of past performances rating to carry into future work <p>The implementation of this recommendation is to be completed by the end of 2023, dependent on Chief Procurement Officer. CREM has engaged with the Chief Procurement Officer and guidance on performance management must align with the Trade agreements with the City.</p> |

Recommendation 16: City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to finalize its project management processes, including but not limited to project cost tracking, progress payment invoice review, project close-out and contractor performance monitoring, and ensure compliance with those processes.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. By the end of 2023, CREM will complete amendments to existing project management process and playbook to address modular housing program needs including but not limited to: <ul style="list-style-type: none">a) Control and monitoring processes to enhance vendor management and budget managementb) Financial and Administrative close out process to enhance project reconciliation and hand out proceduresc) Existing supplemental conditions under the CCDC 14 contract, in consultation with Legal, to further clarify and enhance design builder and/or contractor contractual obligations related to project budget tracking, progress invoices review and close out. The implementation of this recommendation will also be reflected in the clarification of roles and responsibilities in the Program Charter and RACI matrix outlined in recommendation 7, and will also be reflected in the revised financial management and reporting system being developed in response to recommendations 8, 9, 10, and 11. |

Recommendation 17: City Council request the Executive Director, Housing Secretariat, in conjunction with the Executive Director, Corporate Real Estate Management Division, and CEO, CreateTO, to develop, implement and comply with a standard file documentation and retention policy for the program, aligned with the City's policy on record retention. The policy should specify documents to be created and retained (and retention length), especially for any information supporting significant decisions made during the process.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. Housing Secretariat, in consultation with CREM and CreateTO, will develop and implement a standard file documentation and retention policy for the program to be applied to any future modular housing projects, including any funded under Phase 3 of the Rapid Housing Initiative. Full implementation of the new policy is expected by end of 2023. |

Recommendation 18: City Council request the Executive Director, Corporate Real Estate Management Division, in consultation with the Executive Director, Housing Secretariat, to develop a warranty management process, including actively monitoring any event(s) of repairs and damages on the modular housing buildings after building occupancy.

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| Management Response: <input checked="" type="checkbox"/> Agree <input type="checkbox"/> Disagree |
| Comments/Action Plan/Time Frame: Management agrees with this recommendation. CREM, in consultation with Housing Secretariat, will leverage its current internal warranty processes to develop specific consultation requirements for |

operators related to proper tracking and communication of repairs and any warranty items activated through the warranty period, as well tracking and documentation of warranty expiration and final walkthrough. This will be implemented by end of Q4 2023.

CREM will also amend existing supplemental conditions under the CCDC 14 contract in consultation with Legal to further clarify and enhance design builder and/or contractor contractual obligations related to project close out procedures, by Q4 2023.

Responsibility for warranty and post-warranty oversight will be included in the Program Charter and revised RACI matrix in development in response to recommendation 7.

Recommendation 19: City Council request the Executive Director, Housing Secretariat to conduct and document on a timely basis, a more formalized lesson learned review after each modular housing project is completed, which should include:

- a. Inputs from all participating divisions of the project team;
- b. A review of contract design, procurement of the contractor, cost and budget management, contractor performance, and operations; and
- c. A consideration of lessons learned from past projects.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation and will begin implementation in Q3 2023.

Housing Secretariat, in consultation with CREM, design-build contractors, and non-profit housing providers operating in modular projects, will develop a more formalized lessons learned manual and process to be used as part of project close out (e.g. one per individual modular project), and as part of a program close out (e.g. all Modular Housing Initiative Phase Two activities). This manual will detail specific evaluation exercises required to take place during the close out or review period, and will be developed by Q4 2023. A formal lessons learned exercise will be held for all Phase Two modular projects, starting with 540 Cedarvale (currently underway), following by 39 Dundalk in Q3 2023, and 175 Cummer.

Recommendation 20: City Council request the Executive Director, Housing Secretariat to analyze and determine if it is more cost effective and quicker to build using modular construction, when compared with traditional methods, by:

- a. Tracking and monitoring overall costs, including the long-term maintenance and capital cost requirements of completed modular housing; and
- b. Obtaining more external benchmarking information as it becomes available.

Management Response: Agree Disagree

Comments/Action Plan/Time Frame:

Management agrees with this recommendation. Housing Secretariat has begun implementation and will have a standard format for tracking and monitoring overall project life cycle costs by Q1 2024. This will be included in the revised financial management and reporting system being developed in response to recommendations 8, 9, 10, and 11.

Housing Secretariat will also obtain more external benchmarking information on the cost effectiveness and speed of delivering modular housing from other jurisdictions. This will begin in Q3 2023 and be maintained and updated annually.

**AUDITOR
GENERAL**

TORONTO