

Performance Audit

Procurement and Delivery of Selected Infrastructure Projects

// Independent Auditor's Report



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1.0 Audit at a Glance

// Why We Did This Audit

- As of October 2024, Infrastructure Ontario (IO) had 30 infrastructure projects in pre-construction or construction phase with an estimated value of \$58 billion, and an additional 11 projects in the procurement phase with an estimated construction value totalling \$10 billion. IO, a provincial Crown agency, leads the procurement of and supports the construction of major infrastructure projects across the province under the public-private partnerships (P3) delivery model.
- Since 2021, IO has made changes to the P3 delivery model for major infrastructure projects to encourage more market interest and competition in projects. With these changes, the Province has taken on greater risks and transferred fewer risks to the private sector.

// Our Conclusion

We reviewed three infrastructure projects as part of this audit—Trillium Health Partners Mississauga Hospital, Lakeridge Gardens Long-Term Care Home and Highway 427 Expansion. Our audit found that two projects were completed behind schedule and both cost more than the original budget.

Lakeridge Gardens Long-Term Care Home was completed one month later than originally estimated, and Highway 427 Expansion was one year behind schedule. Both of these projects were over budget by 27% and 15%, respectively. As of October 2024, the Trillium Health Partners



Mississauga Hospital was still in the pre-construction stage and the estimated costs of the projects are expected to be over \$4 billion higher than the current approved budget.

Generally, the private-sector companies for the selected projects were procured fairly and in a timely and transparent manner. However, we found that as part of the planning and procurement process, the new delivery model introduced has not achieved the objectives of increased market interest or competition during the procurement of new infrastructure projects.

The risks and costs for the selected infrastructure projects could also have been better managed by IO and the sponsoring

ministries (Ministry of Health, Ministry of Long-Term Care and Ministry of Transportation). For example, one of the reasons the Highway 427 Expansion project was delayed was because the responsibility for conducting quality checks was transferred to the private partner, and the cost overruns on the Lakeridge Gardens Long-Term Care Home were borne entirely by the Province.

We also found that the decisions to cancel certain procurements for infrastructure projects were made with due regard for costs and impacts on the public sector.

Infrastructure Ontario and the ministries have accepted all 16 recommendations.

// What We Found

Competition for Infrastructure Contracts Has Decreased Despite Changes Made to Delivery Models to Increase Market Interest

- IO made changes to the classic P3 delivery model to encourage more bids during procurement in response to declining market participation for infrastructure projects, but the changes have not resulted in more competition. Requests for Qualifications issued by IO, excluding transit projects, went from averaging five interested parties in 2014 to averaging 2.5 interested parties between 2020 and 2023.
- Of the three hospital projects procured under the new Progressive P3 model that was developed to encourage more bidders, two projects still received a single bid.

» **Recommendation 1**

// **Trillium Health Partners Mississauga Hospital**

- This new 22-storey full-service acute-care hospital is being constructed in Mississauga with 950 beds and is expected to be approximately 2,870,000 square feet. This hospital will replace the existing hospital on the site.
- The project is being delivered with a Progressive P3 Design-Build-Finance-Maintain (DBFM) delivery model. Construction is estimated to be completed in 2033, when the 30-year maintenance period begins. IO, Trillium Health Partners and the Development Partner are in the Development Phase, with estimated completion in March 2025, at which point construction will begin.

Delivery Model Changed to Encourage More Competition, but Still Only One Proponent Responded

- IO recommended changing to a Progressive P3 delivery model for two hospital projects to increase competition for the procurement of these two contracts because it expected little market interest under a classic P3 model. After the first hospital (Trillium Mississauga Hospital) received a single bid in the procurement process, IO did not formally seek market feedback from other companies that initially expressed interest to see why they did not ultimately bid on the project. The procurement for a second hospital followed and also received a single bid, from the same company that bid on the Trillium Mississauga Hospital project.

» **Recommendations 2 and 3**

// What We Found

Cost Estimates Show Over \$4 Billion Budget Gap on the Project

- The Progressive P3 delivery model and the model's Development Phase were intended to increase collaboration between the private sector (Development Partner) and public sector (IO, Trillium Health Partners) to manage the risks of the project. As of October 2024, the estimated costs of the project exceed the budget by \$4 billion, indicating that the Development Phase has not been effective at obtaining the desired value for money on the project. The final price of the project is still subject to change. The contract is expected to be finalized in March 2025 when the Development Phase is completed subject to Treasury Board approval.

» **Recommendations 4 and 5**

Lack of Detailed Costing Information Required from Development Partner Impacting IO's Ability to Collaborate with Partner and Compare Pricing

- The Development Partner's price quotes have increased at each milestone of the Development Phase, but the information that the Development Partner is required to disclose does not provide enough detail for IO to fully understand the significant cost drivers. This is especially important where the prices differ significantly from the third-party estimate of the expected cost for this project (the shadow bid).

» **Recommendation 7**

Future Use of the Existing Hospital Location Has Not Been Decided

- While the new hospital is being constructed (creating about 950 beds), the existing hospital will remain operational at the same location (with about 786 beds, including hallway beds). Once the new hospital is completed and operational, the main building of the old hospital will be demolished, but no plans for a secondary building or for the use of the vacant land have been determined.

» **Recommendation 9**

// What We Found

// Lakeridge Gardens Long-Term Care Home

- In June 2020, the Ontario government approved an Accelerated-Build Long-Term Care Pilot Program to develop four long-term care homes at three hospital sites. These projects used a Modified Construction Management at Risk delivery model, which is not a P3. These homes are owned and operated by the three hospitals.
- One of the four homes was the 320-bed Lakeridge Gardens Long-Term Care Home, built on an existing hospital site in Ajax. The project relied on modular construction techniques, an accelerated construction schedule and a fast-tracked procurement process to create new long-term care beds quickly during the COVID-19 pandemic.
- Construction of Lakeridge Gardens began in December 2020 and was substantially completed in February 2022, one month after the Pilot Program's target of 14 months, with a total project cost of \$229 million (\$49 million, or 27%, over budget). The initial project budget was approximately \$180 million.

Significant Costs and Risks for the Ministry Under the Accelerated-Build Long-Term Care Projects

- The Ministry of Long-Term Care (MLTC) paid for 100% of this project's construction costs at construction completion, which differs from traditional long-term care development funding where MLTC provides a fixed subsidy to operators of long-term care homes over 25 years.
- On average, the construction cost of the four long-term care homes built under the Accelerated-Build Long-Term Care Pilot Program was \$492,668 per bed, including Lakeridge Gardens Long-Term Care Home, which was about \$522,000 per bed. The accelerated-build long-term care homes cost about 50% more than comparable homes built under traditional construction methods based on the average of initial estimated construction costs shared by operators to MLTC. Overtime premiums paid during construction, the more expensive modular construction method chosen and supply chain issues during the COVID-19 pandemic also contributed to the higher costs.

» Recommendations 10 and 12

// What We Found

Construction of Nearly 40,000 Beds Needs to Begin Soon to Meet Provincial Targets and Timelines

- Despite attempts by MLTC to encourage building of long-term care homes, MLTC is projecting that almost 40,000 additional new and redeveloped beds still need to begin construction to meet the Province's target for beds by 2028/29.

» **Recommendation 11**

Procurement Process Invited Only Two of Three Prequalified Companies to Bid on Each Project, Limiting Options in the Negotiation Process

- IO used a modified procurement process to speed up the procurement phase for the accelerated-build long-term care homes. Three companies were prequalified for the construction of long-term care homes at the three hospital sites (Lakeridge Health, Humber Meadows and Trillium Health Partners). However, only two of the three companies were invited to bid on each project because a shorter procurement period was prioritized.
- This resulted in contracts for two homes being awarded to one contractor, which initially stated that it did not have the capacity to build the beds required. During construction, two homes fell behind schedule (Humber Meadows and Trillium Health Partners) because the supply of the modular units depended on two suppliers, and one was not able to meet the required production schedule. This resulted in a delay in completion of one home, which also led to a delay in the second home.

» **Recommendation 13**

// What We Found

// Highway 427 Expansion

- The Highway 427 Expansion project consists of extending Highway 427 from Toronto to Vaughan for 6.6 kilometres and widening 4 kilometres of an existing portion of the highway.
- The project was delivered through a P3 DBFM delivery model. Substantial completion was reached in September 2021, a year later than originally planned.
- The total project is estimated to cost about \$758 million, which is about \$98 million over budget (fixed-price contract was approximately \$616 million plus contingency of around \$44 million). At the time of our audit, the final costs were still under dispute and had not been finalized.

Safety Concerns That Delayed Opening Highway 427 Were Not Identified Until Close to Construction Completion

- Safety concerns stemming from how the highway was paved were uncovered late in the construction process, which delayed opening. The Project Company had the responsibility to conduct quality checks as part of the intended transfer of maintenance risks under the selected P3 DBFM delivery model. In comparison, for projects where the Ministry of Transportation (MTO) retains construction and maintenance risk, MTO would typically conduct quality assurance checks as construction progresses. The Project Company did not follow MTO's standards for quality control processes and testing procedures during construction to verify the specific cross slope measurement, as intended in the contract. MTO and IO did not identify this until the final quality check to confirm the substantial completion of the highway.

» Recommendation 14

Dispute Resolution Process Was Not Effective in Resolving Disagreements about Project Delays between the Province and the Project Company

- The Project Company notified MTO/IO of five potential delays impacting the Highway 427 project between November 2017 and May 2019. However, they disagreed on whether the Project Company provided sufficient information on the impact of the delays for MTO/IO to determine whether the Province would extend the project completion date and compensate the Project Company for its additional costs.
- The disputes were brought to an arbitrator as part of the dispute resolution process in May 2021, 3.5 years after the first potential delay was identified. At the time of our audit, the matter was still in dispute between the Province and the Project Company.

» Recommendation 15



2.0 Background

2.1 Building Major Infrastructure in Ontario

In Ontario, ministries identify their infrastructure needs through a rolling 10-year infrastructure plan as part of their annual planning and budgeting process. Ministries then obtain Treasury Board approval for their infrastructure projects before starting planning and construction. IO, a Crown agency that reports to the Ministry of Infrastructure, commonly provides advice and support to the ministries on how best to deliver these major infrastructure projects.

Major infrastructure projects (those over \$100 million) are commonly built under a P3 model (described in **Section 2.2**). IO's role varies between projects, but it typically supports the ministries by leading the procurement of these P3 projects, and provides ongoing advisory support throughout construction. IO's main objectives when supporting these projects are to ensure they are completed on time and on budget.

2.1.1 Approval Process for Infrastructure Projects

The decision-making, approval process and oversight of major infrastructure projects is governed under the Major Public Infrastructure Projects Directive (MPIP Directive). It sets out two key

Stage

1

- » Planning Approval before undertaking or committing funding for detailed planning of the project

Stage

2

- » Construction Approval before undertaking or committing funding or procuring construction of the project

approvals from Treasury Board that the sponsoring ministry (the ministry funding the project) must obtain before a project can proceed:

IO is not typically involved in the early capital planning before ministries seek Stage 1 Planning Approval, but this can vary across ministries. After Stage 1 Planning Approval is obtained from Treasury Board, IO supports ministries with selecting the best delivery model using the Treasury Board Secretariat's Delivery Option Analysis Template (DOAT). This includes determining whether a P3 delivery model is appropriate for the project compared to traditional construction methods where the project is managed by the sponsoring ministry (rather than a private partner). The sponsoring ministry and IO both sign the DOAT to indicate their recommendation of the model after the analysis conducted in the DOAT. The DOAT is included as part of the ministry's Stage 2 submission for Treasury Board approval.

Once Treasury Board provides Stage 2 approval, IO is formally engaged to support sponsoring ministries on delivering their respective capital projects through a letter of direction from the Minister of Infrastructure that outlines the approved delivery model, total budget and key project details. The ministries and IO begin the procurement of a private-sector partner after Stage 2 approval is obtained. See **Appendix 1** for the lifecycle of a P3 process, including the approval stages.

2.2 P3 Delivery Model

2.2.1 Classic P3 Process

Once a sponsoring ministry has identified the need for an infrastructure project and the project's requirements, one option to be considered is whether to build the project through a P3 delivery model. This involves entering into one contract with a private-sector partner, often a consortium of several companies teaming up to work together to design, build, finance, operate and/or maintain the infrastructure asset.

Under the classic P3 process, significant risks are transferred from the Province to the private sector. The P3 model allows the Province to lock in a fixed price when the contract is signed, for all design, construction, financing and/or operating/maintenance costs. This method has been preferred historically because it provided cost certainty to the Province for construction costs and the initial 30-year operating/maintenance period once the asset was operational (if maintenance or operation is included in the contract). The Province also did not have to pay a substantial portion of the construction costs until the project was completed under this model, which also incentivized the construction companies to finish on time in order to receive payment.

The P3 model differs from the traditional construction process where the Province first contracts with a company to design the project, and then this design is used to procure a contract with a construction company to build according to the design plans. These two separate procurements and contracts are often referred to as a Design-Bid-Build (DBB) delivery model.

In a DBB delivery model, the Province retains more risks throughout the project compared to a P3 delivery model, and also makes progress payments as the work is completed instead of paying for a majority of the construction costs when the project is completed as under a P3 delivery model. At each stage, the Province contracts with a company to carry out the work. The designer and contractor are contracted separately, so once the design firm completes the design, that contract is deemed complete. If unforeseen site conditions arise that the design plans did not account for, since the contractor did not create the design (unlike in a P3 delivery model) the Province is generally responsible for additional costs required to conform with the design plans.

2.2.2 Changes to P3 Process (Progressive P3)

The market demand for infrastructure projects has increased significantly in recent years. Since there have been many infrastructure projects available for the companies to bid on, they can be more selective, which reduces the amount of interest and competition that IO receives on procurements it issues.

Based on feedback from industry stakeholders, the main concern was that the P3 projects required significant risk transfer to the private sector, including submitting fixed-price bids at the Request for Proposals stage based on preliminary design plans. If changes are required to the

preliminary design due to unforeseen site conditions, the contractor would be responsible for the majority of costs incurred to change the design and additional construction costs such as labour and materials not included in the original budget.

In September 2021, IO made changes to its classic P3 delivery model and introduced a Progressive P3 delivery model in response to the changing market conditions. The Progressive P3 delivery model adds a Development Phase to the project. **Figure 1** illustrates the process and differences between traditional DBB, classic P3 and Progressive P3 delivery models. **Appendix 2** provides a comparison of the key components between the classic P3 and Progressive P3 delivery models.

Development Phase in Progressive P3s

A company, the Development Partner (selected through a competitive procurement process), works collaboratively with IO during the Development Phase to finalize the design for the project. This allows both parties to work together to define the design, pricing and risk transfer before entering into the final project agreement. Several design and cost estimate milestones are established at the beginning of the Development Phase where the Development Partner submits design and cost estimates to IO for review. At each milestone, the goal is to have the design and pricing become more precise. Upon successful completion of the Development Phase, the Development Partner will be awarded the construction contract based on the design, work schedule and pricing that is negotiated.

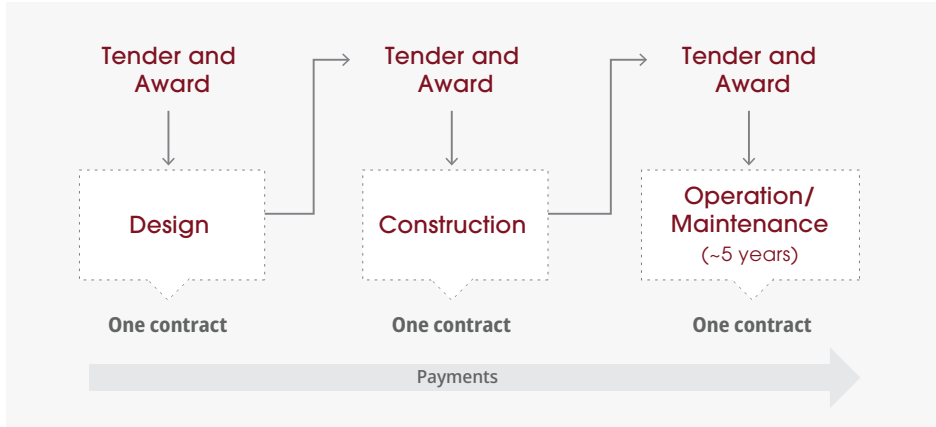
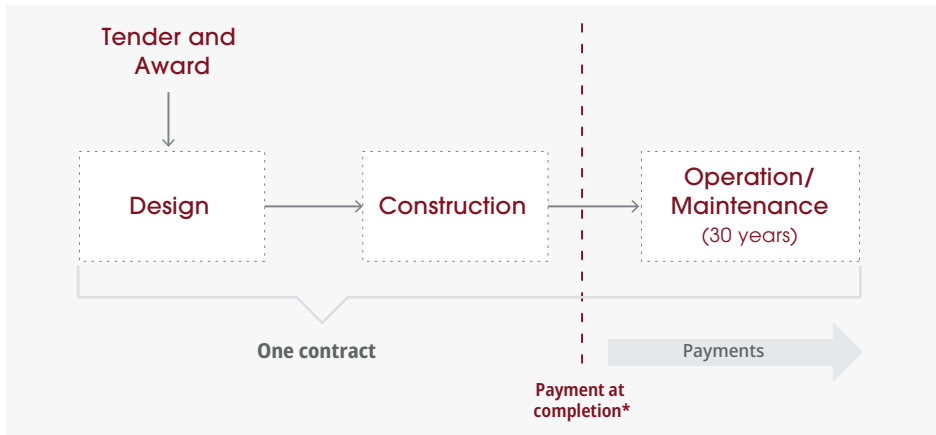
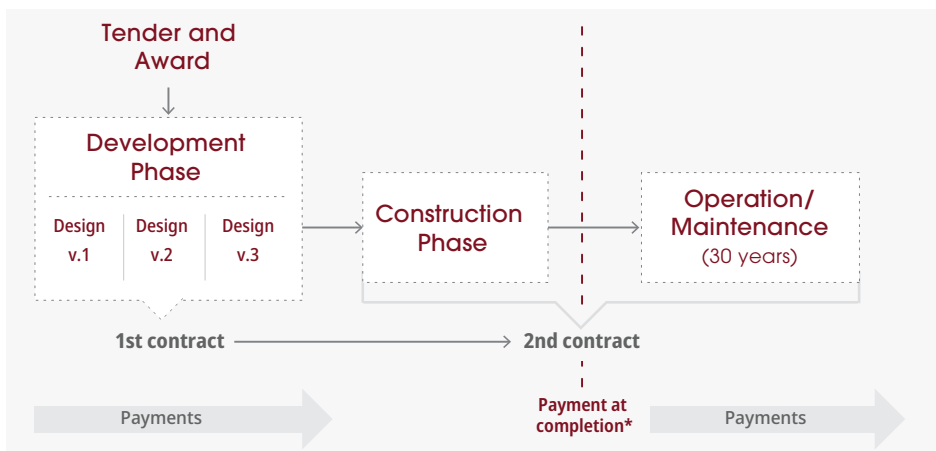
This differs from a classic P3 process where prequalified companies bid on a project by quoting a price for their work, and the Province evaluates the bidders based on factors such as the competitiveness of their price, the bidder's technical capabilities, design proposal and work schedule.

Since IO works with a single company during the Development Phase instead of receiving multiple bids under a standard procurement process, IO has limited leverage when working with a single counterparty, so there is a risk that the price offered by the Development Partner is not competitive. In order to ensure pricing is reasonable, IO implemented a process where a third-party consultant develops a cost estimate independent of the Development Partner based on the same design information, referred to as the shadow bid. This shadow bid is compared to the Development Partner's pricing to identify significant differences in price estimates and assess overall price reasonableness.

The internal target is for the Development Partner's price to be within a predetermined threshold of the shadow bid and the affordability threshold (a cap established by Treasury Board based on project budget) at the end of the Development Phase, before IO recommends signing the final contract.

Figure 1: Comparison of Traditional DBB, Classic P3 and Progressive P3 Delivery Models

Prepared by the Office of the Auditor General of Ontario

A. Traditional DBB**B. Classic P3 Design-Build-Finance-Operate/Maintain****C. Progressive P3 Design-Build-Finance-Operate/Maintain**

* For both classic and Progressive P3s, a large payment for construction costs is paid at completion of the project, but milestone payments can also be required during the construction phase.

2.2.3 Risk Transfer in P3s

When building infrastructure projects, there are different types of risks that can cause a project to be delayed or over budget.

For example, construction risks can impact a project's schedule and delay its completion. These risks include changes to project design or scope, need to obtain the necessary permits and licences to perform the work, and insufficient or improper scheduling of work that does not allow for contingency. Some of these risks can be transferred to the private sector through a P3 contract. For example, when the private-sector partner is responsible for both design and construction in the contract, it is responsible for minimizing the impact of any delays encountered in constructing the project in accordance with the design it developed.

Construction risks can also impact the cost of a project and cause the project to go over budget. These risks include rising market prices for construction materials, increases to repair and maintenance costs required to keep the asset operational after construction, and errors in estimating the labour and materials required to complete the work. A P3 contract's fixed price can include design, construction, financing and maintenance, which includes a 30-year period to maintain the asset after it is constructed. This creates price certainty for the Province during construction and over 30 years of maintenance if additional costs are required to maintain the asset's condition. The private-sector partner is paid the fixed price that was initially agreed to, but its profits may be reduced if maintenance costs are higher than initially estimated.

The types of risks transferred between projects differ depending on the contracting model and the terms of the contract. The private-sector partner takes these risks into consideration when providing a quote on a project. In general, the more risks that are transferred to the private sector, the higher the project costs for the Province. Yet if these risks can be better managed by the private sector than the Province, it may be more cost-effective to have the private sector manage the risk, reducing the overall estimated cost of the infrastructure project, compared to the Province being required to manage it. However, transferring risks that the private sector cannot manage has higher cost premiums attached.



3.0 Audit Objective and Scope

Our audit objective was to assess whether IO, in conjunction with sponsoring ministries/agencies, for selected infrastructure projects, have effective systems and processes in place to ensure that:

- » private-sector companies for the projects are procured fairly and competitively in a timely and transparent manner;
 - » the projects are delivered on time and on budget;
- » risks and costs to the public sector are proactively identified and managed; and
 - » decisions to cancel procurements are made with due regard for costs and impacts on the public sector.

Our audit scope focused on the delivery of three infrastructure projects in different sectors (hospital, long-term care home and transportation) and whether the projects were delivered effectively, and reviewed some recently cancelled procurements. The projects are summarized in **Figure 2**. For the purposes of the audit, the P3 delivery model refers to the definition by IO, which aligns with the industry understanding of procurement and contracting under a P3 model.

For more details, see our [Audit Criteria](#), [Audit Approach](#) and [Audit Opinion](#).

Figure 2: Selected Infrastructure Projects Discussed in This Audit

Prepared by the Office of the Auditor General of Ontario

Project Name	Ministry/Organization*	Delivery Model
Trillium Heath Partners Mississauga Hospital	Ministry of Health, Trillium Health Partners	Progressive P3 DFBM
Lakeridge Gardens Long-Term Care Home	Ministry of Long-Term Care, Lakeridge Health	Construction Management at Risk (non-P3 delivery model)
Highway 427 Expansion	Ministry of Transportation	Classic P3 DBFM

* All projects are supported by Infrastructure Ontario.



4.0 What We Found

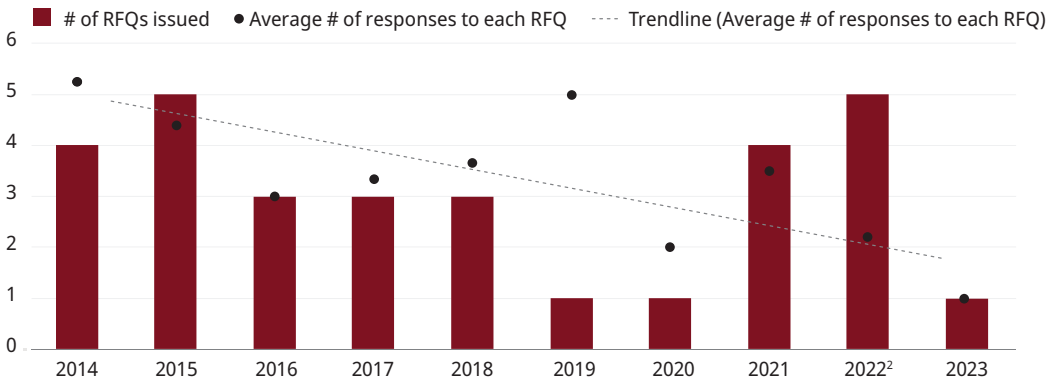
4.1 Competition for Infrastructure Contracts Has Decreased Despite Changes Made to Delivery Models to Increase Market Interest

In September 2021, in response to declining market participation in infrastructure projects, IO introduced changes to the classic P3 delivery model to encourage more bids during procurement. Yet the changes introduced to the market have not resulted in more competition for infrastructure projects.

From 2014 to 2024, IO completed 30 procurements for major infrastructure projects using a P3 delivery model, excluding joint transit projects with Metrolinx, an agency of the Province overseeing public transit, which often have different risks and project considerations than other infrastructure projects. Four of these procurements received a single bid. Over the last 10 years, procurements have fallen from an average of more than five respondents at the initial Request for

Figure 3: Average Number of Responses to RFQs¹ per Year, 2014–2023

Prepared by the Office of the Auditor General of Ontario



1. Requests for Qualifications issued by IO, excluding transit projects.

2. 2022 includes two Progressive P3 procurements, and 2023 includes one Progressive P3 procurement. All other procurements in the non-transit sectors have used the classic P3 delivery model.



Qualifications (RFQ) stage in 2014, to an average of 2.5 interested parties based on the number of responses to each RFQ in the years 2020–2023, as shown in **Figure 3**.

Starting in 2018/19, the Ministry of Infrastructure (led by the Minister of Infrastructure) began collecting feedback from over 60 market participants for ideas on how to improve infrastructure delivery and management. The major themes reiterated through this feedback related to the level of risk allocated to the private sector, delivery models, and the size and complexity of the projects. IO also conducted its own market soundings in 2020 and 2021 to solicit feedback from market participants. IO's feedback sessions were generally conducted on a project-by-project basis, or by sector, such as hospitals. Feedback obtained through IO's market soundings followed the same themes identified through the Ministry of Infrastructure's feedback from market participants. Because of less market interest in complex P3 projects, IO had to make changes to the classic P3 delivery models. The changes were aimed at encouraging more market participation and competition during procurement and to introduce a collaborative process with the private partner to identify and mitigate risks prior to executing the final contract. The objective of the new process is intended to encourage the private partner to reduce the contingency that they include in their price quote if risks are now known, so that the overall total project cost can be lower.

In 2021, the Progressive P3 model described in **Section 2.2.2** was developed in response to market feedback. However, there has not been significant interest in projects under this model. Of the three hospital projects procured under a Progressive P3 model in 2022 and 2023, two received a single bid. Our audit reviewed one of these projects, the Trillium Health Partners Mississauga Hospital, discussed in **Section 4.2**.

Based on the market feedback that IO received, companies have noted that the size, complexity and risks of infrastructure projects significantly impact whether they bid on a project. Many companies indicated to IO that, even if they are interested in a project, it may be too large for them take on individually due to a lack of resources, staffing, and/or the bonding and insurance

required. Of the four infrastructure projects procured over the past 10 years with a single bidder, the total estimated cost of each project exceeds \$1 billion. Projects in recent years have had a much higher project value than those completed in the past. In our discussions with IO, we were told that a contributing factor to the decreased competition for larger projects is that only a small number of construction companies with a presence in Ontario have the capacity to deliver projects of this size.

IO informed us that breaking large projects into multiple, smaller components may encourage more market participants because more contractors could potentially have the capacity to take on the projects if they were smaller, making them more manageable. However, this option would introduce other complexities, such as requiring the Province to take on the responsibility of co-ordinating the work of different contractors, which could result in a longer construction schedule and added costs. The cost/benefit analysis of this option would need to be undertaken early in the capital planning process.

Recommendation 1

We recommend that Infrastructure Ontario assess new strategies to increase market competition for projects based on feedback received from market participants while maintaining incentives for contractors to complete projects on time and on budget, including the allocation of risk and whether it would be feasible to break projects into smaller components.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.2 Trillium Health Partners Mississauga Hospital

The Trillium Health Partners Mississauga Hospital (Trillium Mississauga Hospital) was originally built in 1958, and many additions have been made since then to expand the hospital capacity. In the April 2016 Treasury Board submission, the Ministry of Health (MOH) identified a need to redevelop the Mississauga hospital because it is located in one of the high population growth areas based on MOH's analysis of growth projections and service needs over the next 10 years. The submission also noted that the hospital has aging infrastructure that is "below the design and clinical standards for hospital care."

According to the plans, the new hospital will be located on the same site as the existing hospital and is proposed to be a 950-bed full-service acute-care hospital. It is expected to be approximately 2,870,000 square feet and 22 storeys. The existing hospital building will remain open and operational until the new building is completed. Refer to **Figure 4** for an aerial view of the existing hospital site and the proposed site plan for the new hospital.

The new hospital is being built with the Progressive P3 DBFM delivery model, where the Province and the private-sector partner work together to identify and manage project risks during the Development Phase to finalize the design plans and negotiate pricing for the construction and maintenance of the hospital. Once the two parties agree on price, and MOH and Trillium Health Partners obtain Treasury Board approval, Trillium Health Partners and the Development Partner enter into the final P3 contract and construction begins.

As of October 2024, the project was in the Development Phase, which is estimated to be completed in March 2025. Substantial completion of the Trillium Mississauga Hospital (that is, when the construction of the hospital is completed and ready for operations) is estimated for 2033. The total project cost has not yet been finalized, but according to the latest cost estimates in October 2024, it is expected to exceed \$16 billion, comprising of design, construction, financing, maintenance over 30 years and ancillary costs. This is \$4 billion more than the current approved budget. These costs represent an estimate at the most recent design and cost milestone, and the Province has the right to negotiate and not accept the contract at this price. See **Appendix 3** for a timeline of the Trillium Mississauga Hospital project.

4.2.1 Delivery Model Changed to Encourage More Competition, but Still Only One Proponent Responded

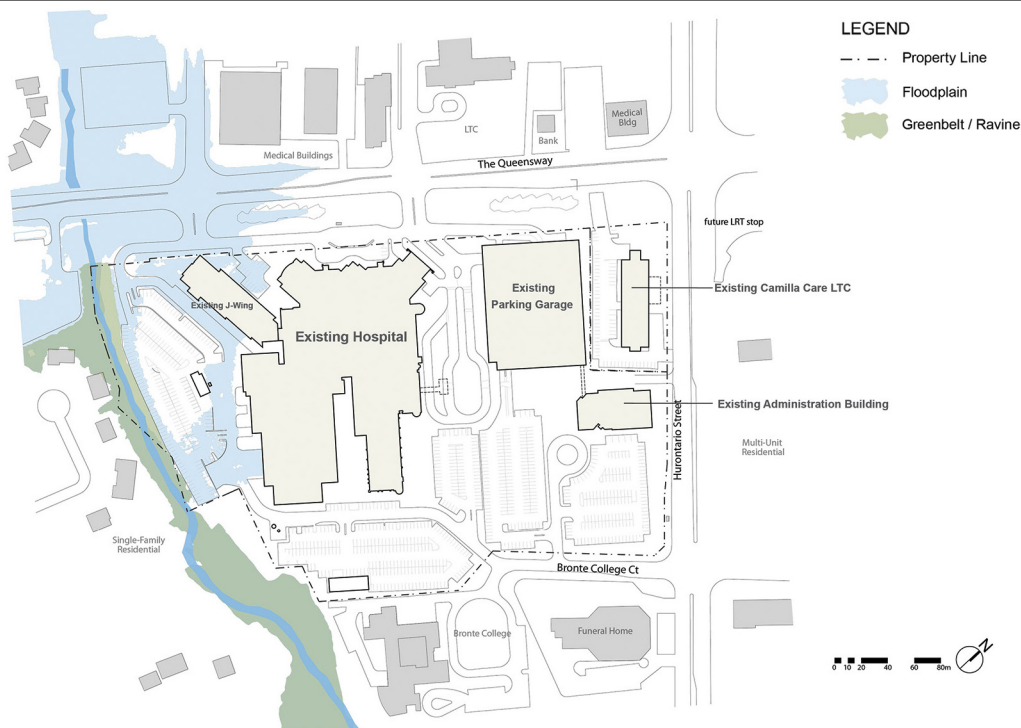
Selection of Delivery Models in 2017 and 2021 Not Well Supported

In 2017, when MOH first requested Treasury Board approval for the Trillium Mississauga Hospital project, the mandatory DOAT did not include important information to support the recommended delivery model. A DOAT is expected to provide comprehensive analysis of the various delivery model options with associated costs and risks for each option, along with a recommendation for the infrastructure project. Subsequently, in 2021, when MOH sought Treasury Board approval to

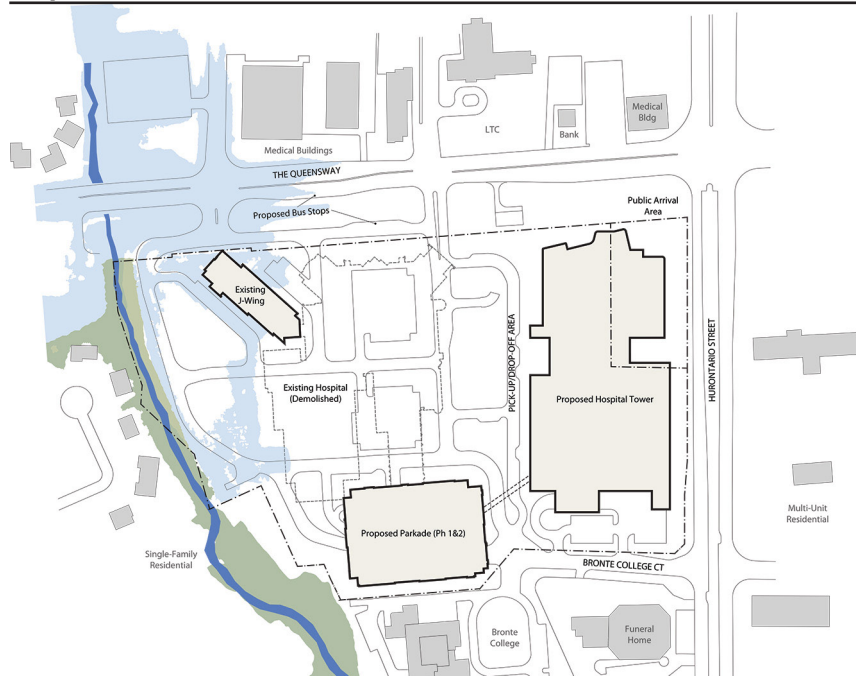
Figure 4: Existing and Proposed Site Plans for Trillium Health Partners Mississauga Hospital

Source of data: Trillium Health Partners

Existing Site Plan



Proposed Site Plan



change the delivery model for the hospital project, another DOAT was not completed even though Treasury Board requires its completion.

In May 2017, MOH and IO recommended using a classic P3 DBFM model to deliver the Trillium Mississauga Hospital. The DOAT used to recommend the model lacked analyses of options, as the template considered only the DBFM delivery option. In addition, our review of the DOAT found:

- » limited assessment of project risks, including site-specific risks and costs associated with these risks;
- » a lack of risk mitigation strategies;
- » no discussion on how risk would be transferred;
- » no comparison of risks against different delivery models, as only one option was presented; and
- » no description of project complexities despite identifying the project as highly complex (highest complexity rating in the DOAT).

After the original approval was obtained in 2017, IO identified the Trillium Mississauga Hospital project as being very complex with significant risks that the private sector was unwilling to accept under a classic P3 DBFM delivery model. In 2021, IO recommended changing the delivery model to the Progressive P3 DBFM model based on market feedback (discussed in **Section 4.1**) and its expectation that there would be a lack of competition for this project.

Another Treasury Board approval was required for changing the delivery model along with a new DOAT to provide Treasury Board with an analysis of options considered to support the model change. Instead of completing a DOAT, IO and MOH presented a business case to Treasury Board in September 2021 that included a rationale for the model change. According to the business case, market participants were not interested in the project due to the complexity and level of risk, and it presented only the Progressive P3 DBFM delivery model but not any other delivery options to increase market interest. However, internally, as part of its market sounding exercise, IO had considered other delivery model options. For example, it considered selecting an Integrated Delivery Partner to work in collaboration with IO and the hospital to lead design development and manage construction, with different components of the project being procured competitively, but this delivery option and analysis was not included in the business case.

IO informed us that this approach was not included in the Treasury Board submission because it would have required significantly more oversight from the Province to manage contracting and construction activities. It would also require the Province to take on the risk of ensuring components were all integrated and operating effectively. Given the complexities, risks and costs associated with the project, it is important that IO present decision-makers with all options it has considered and the analysis that outlines the advantages and disadvantages of each option.

IO informed us that the current DOAT form is no longer an effective way to help ministries determine the best delivery model because it does not allow for a comprehensive analysis of options being considered to increase market competition, such as Progressive P3s. However,

the DOAT is only a template document to guide ministries on what information is required to be presented to Treasury Board. It lets users select and describe other delivery models, which allows a comprehensive analysis.

Recommendation 2

We recommend that Infrastructure Ontario, in collaboration with Treasury Board Secretariat, update the Delivery Options Analysis Template to require:

- detailed descriptions of known and expected project-specific risks and mitigation efforts, and an analysis comparing relevant delivery options, including their pros and cons, that considers and addresses project-specific risks; and
- an updated analysis when a delivery model is changed after Treasury Board approval, including the rationale for the change and a revised cost analysis of the new model.

For the auditee's response, see [Recommendations and Auditee Responses](#).

Two Consecutive Procurements for Hospital Projects Each Received a Single Bid After Model Was Changed to Increase Competition

IO initially estimated that changing the delivery model to the Progressive P3 DBFM model for the Trillium Mississauga Hospital project could attract up to three bidders. Despite the change in model, the Request for Proposals (RFP) issued on April 20, 2022, attracted one bid by the September 30, 2022, deadline. The sole bidder for the project was a joint venture between two large construction companies.

Two months later, on November 29, 2022, IO went to the market using the same Progressive P3 DBFM delivery model for a large hospital in Ottawa. IO did not conduct a formal market sounding before releasing this RFP even though it had received a response from only one bidder for the Trillium Mississauga Hospital project using the same model. IO did not undertake a formal assessment to ascertain the reasons behind the lack of bids received. Obtaining this feedback is especially important when the delivery model was changed for the purpose of increasing market interest, and when other companies that initially indicated interest did not end up submitting a bid. According to IO, informal discussions with contractors indicated that they were engaged in other projects and found the size and complexity of the Trillium Mississauga Hospital project too extensive to undertake and manage.

Using the same Progressive P3 DBFM delivery model, the Ottawa Hospital project also received a single bid, and from the same respondent as the Trillium Mississauga Hospital.

Obtaining Competitive Pricing Is Difficult under the Progressive P3 Delivery Model and Single-Bidder Procurements

The Trillium Mississauga Hospital had only a single bidder at the RFP stage for a Development Partner, so there was no competition to win the Development Phase contract. Since IO has limited leverage when working with a single party during the Development Phase, there is a risk that the price offered by the Development Partner is not competitive compared to other delivery models that receive multiple bids under a standard procurement process. Therefore, it is difficult for the Progressive P3 model's pricing risks to be mitigated. Without other parties bidding to win the same contract, IO relies on the third-party consultant's cost estimate (the shadow bid) for comparison to assess whether the Development Partner's cost estimates are competitive, as discussed in **Section 2.2.2**.

Another hospital network, the University Health Network (UHN), has chosen a different delivery model to manage construction of a new 11-storey Patient Tower at its Toronto Western Hospital site with an expected completion date of 2028. In response to evolving market conditions, UHN chose a non-P3 delivery model that requires it to manage its own construction project, in contrast to P3s where the private partner manages the construction process. This model involves separate procurements of a design company and a construction company, with both companies working together with UHN to develop the design before construction begins.

Under this non-P3 delivery model, the contractor conducts competitive procurements for major subtrades such as structural, mechanical and electrical. The results of the procurements are shared with the hospital to provide transparency over the market pricing for major components of the project.

Under the Progressive P3 model, IO also has the opportunity to require its Development Partner to conduct competitive procurements of certain project components. IO informed us that it would use this provision sparingly based on project-specific circumstances so as to not place limitations on who the Development Partner must work with, as contractors often have their own relationships with different subtrades.

Recommendation 3

We recommend Infrastructure Ontario obtain competitive pricing with Progressive public-private partnership delivery models by requiring the Development Partner to tender any subtrades where the price offered by the Development Partner is not competitive when compared to the shadow bid.

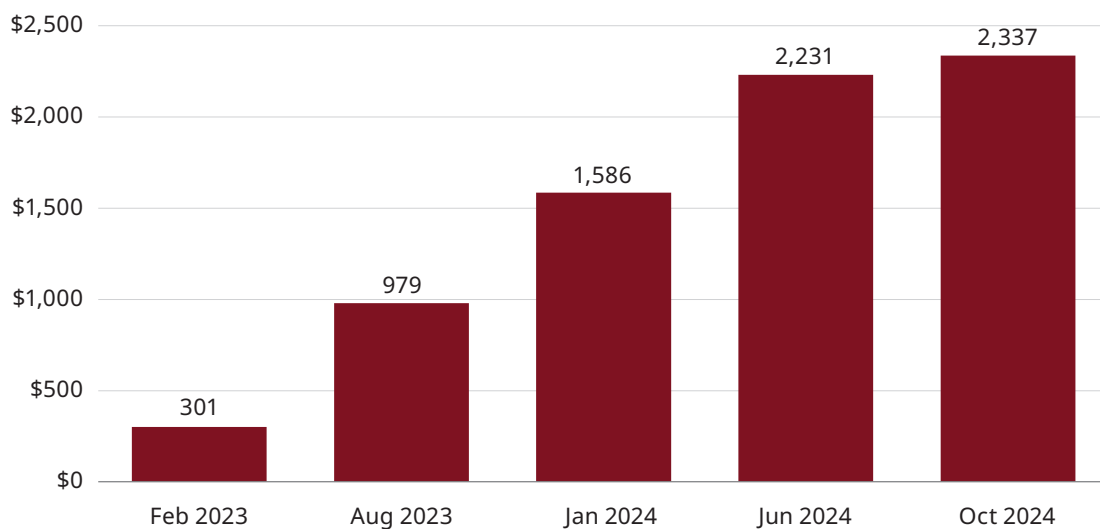
For the auditee's response, see **Recommendations and Auditee Responses**.

4.2.2 Cost Estimates Show Over \$4 Billion Budget Gap on the Project

The Development Phase with the Progressive P3 delivery model allows the private-sector Development Partner and IO to work collaboratively to discuss how to manage risks, ensure reasonable and transparent pricing of these risks, and develop innovative approaches to reduce project costs. Despite working with IO during the Development Phase of the Trillium Mississauga Hospital (\$ million), the Development Partner's cost estimates for the project have been increasing at each stage as the design has advanced. As of October 2024, the project is estimated to be over \$16 billion, exceeding the current approved budget for the project by over \$4 billion. For design and construction costs alone, the Development Partner's cost estimate exceeded the Treasury Board budget by over 40%, or \$2 billion. See **Figure 5** for a history of the differences in the design and construction cost estimates compared to the Treasury Board budget at various milestones.

Figure 5: Amount by Which Development Partner's Cost Estimates for Design and Construction Exceeded Budget during Development Phase of Trillium Health Partners Mississauga Hospital (\$ million)

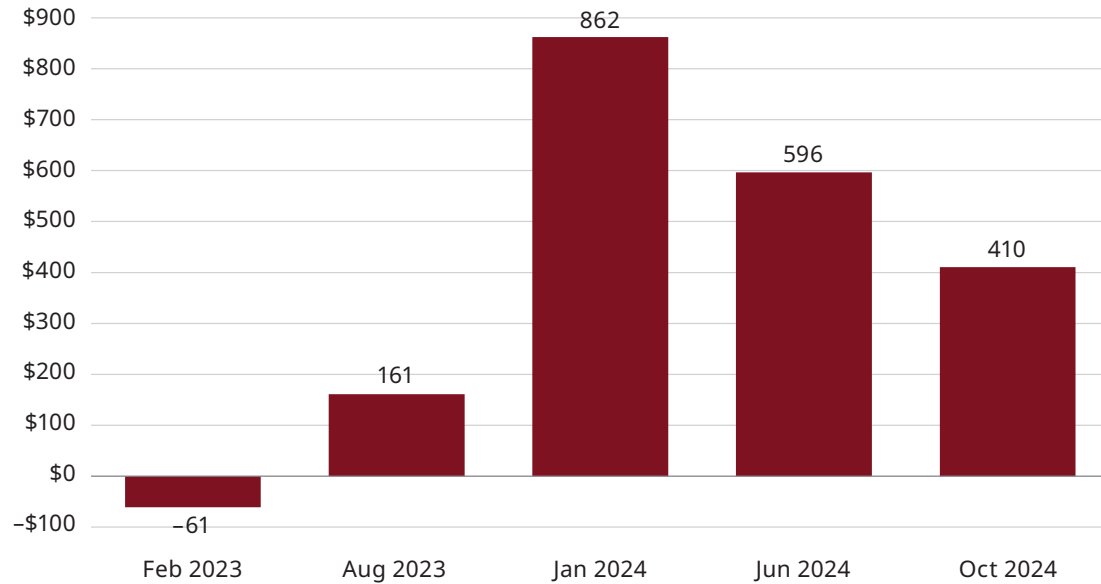
Source of data: Infrastructure Ontario



As mentioned in **Section 2.2.2**, IO has implemented an internal price validation process for Progressive P3 projects based on the same design information, referred to as the shadow bid. This shadow bid is compared to the Development Partner's pricing to identify significant differences in price estimates and assess overall price reasonableness, that is, if it falls within a predetermined threshold of the third-party consultant's shadow bid. As of October 2024, the design and construction costs, excluding financing and the 30-year maintenance, were within

Figure 6: Amount by Which Development Partner's Cost Estimates for Design and Construction Exceeded Shadow Bid during Development Phase of Trillium Health Partners Mississauga Hospital (\$ million)

Source of data: Infrastructure Ontario



the predetermined threshold of the shadow bid. See **Figure 6** for a history of the differences in the design and construction cost estimates compared to the shadow bid at various milestones.

The Development Phase for the Trillium Mississauga Hospital requires the Development Partner to provide another cost estimate in October 2024, followed by the final proposal to negotiate the pricing. Based on the October 2024 cost estimate, the project's costs are significantly higher than the Treasury Board-approved budget. IO's internal analysis has indicated that the project is not meeting the affordability target (the Treasury Board-approved budget), and that the Development Phase has not been effective at "simulating competitive market conditions necessary to obtain the desired value for money on this project."

Budget Has Increased Significantly Due to Scope Changes and Recent Market Trends, but Risk of Future Cost Escalation Has Added to Overall Price

The Trillium Mississauga Hospital project received Stage 2 Construction approval in May 2017 under a classic P3 DBFM delivery model. At that time, the hospital was designed to be 15 storeys high and approximately 1,296,000 square feet. Since then, the size and scope of the hospital have increased to 22 storeys and approximately 2,866,000 square feet. Over this same period, the Treasury Board-approved budget has increased 204%. The scope changes include the addition of more hospital bed capacity, acquisition of a property, demolition of an existing clinical administrative building, refinements made as a result of the COVID-19 pandemic, and the inclusion of child and mental health services. Along with the scope changes to the hospital, the estimated project costs also increased due to a significant increase in the market rates for construction costs.

Based on Statistics Canada's Construction Price Index, the construction costs for high-rise residential projects have increased 80% between 2017 and 2024. Between 2021 and 2024, prices increased by 51%. The high-rise residential price index is used as a comparison for the Trillium Mississauga Hospital because of the size (22-storeys) and complexity of the project. In February 2024, IO performed a comparative analysis of hospital costs in Ontario to other provinces, specifically British Columbia and Quebec, and compared this trend in construction industry costs to historical hospital project costs and bids received. IO's overall analysis found that the cost of hospital projects has increased significantly with market prices. It also found that companies have relied significantly on recent market escalations to inform their bid prices ("significant recency bias") by assuming further significant increases to construction costs as part of their bid prices based on the rise in costs after the COVID-19 pandemic.

Along with the increase to the size of the Trillium Mississauga Hospital, rising construction costs were also reflected in the approved budget for the hospital. From May 2021 to June 2023, the budgeted design and construction costs increased about 69%. IO's analysis of overall hospital construction costs indicated that the largest cost driver in recent projects has been from the increasing price of materials. Additional cost drivers identified by IO were higher interest rates leading to higher financing costs, lack of capacity of contractors and subcontractors in the construction sector, and a decrease in the number of bidders causing overall cost escalation.

These factors have also impacted the Trillium Mississauga Hospital project as a single-bidder project (discussed in **Section 4.2.1**). According to IO's analysis, private partners are incorporating significant cost escalations into their bids to protect themselves against the risk of further rise in construction costs.

Recommendation 4

We recommend that Infrastructure Ontario, for projects where significant cost escalation is being assumed in the bid prices, explore opportunities for incorporating risk sharing with the private sector in the Project Agreement by indexing project costs to actual changes in market cost for materials and other significant drivers of cost escalation.

For the auditee's response, see **Recommendations and Auditee Responses**.

Estimated Design and Construction Costs per Square Foot Are 16% Higher for Trillium Mississauga Hospital Project Than for Other Hospitals

Based on five recent hospital projects procured by IO between 2022 and 2024, the average design and construction cost per square foot is about \$1,700 and ranges from \$1,200 to \$2,300 per square foot. The average size of these hospitals is about 477,000 square feet (ranging from 96,000 to 1,300,000). The Trillium Mississauga Hospital is about 2,800,000 square feet, which is significantly larger than the other hospitals, but as of October 2024 the Development Partner's estimate was about 16% higher than the top end of the range for other hospital projects, while the approved budget estimated \$1,800 per square foot.

De-scoping and Value Engineering during Development Phase Did Not Lead to Overall Cost Savings

The first cost estimate that IO received from the Development Partner exceeded the project budget so IO, Trillium Health Partners and the Development Partner reviewed the hospital design to find cost savings. Even though it made design changes to reduce the cost of the project, the Development Partner's cost estimate for the project has continued to increase.

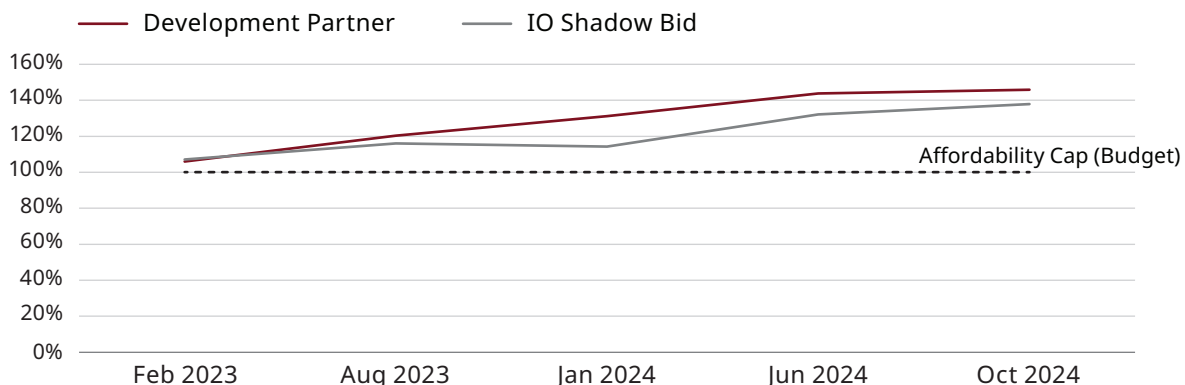
In August and September 2023, IO, Trillium Health Partners and the Development Partner held meetings and conducted analysis to find cost savings on the project through a value engineering and de-scoping exercise. Value engineering consists of finding more cost-effective construction solutions such as choosing less expensive materials. One example is using different material for the floor tiles, such as Epoxy Terrazzo instead of porcelain, which is estimated by the Development Partner to save \$3.3 million.

De-scoping is removing non-clinical components of the project, such as the removal of a bridge, which is estimated to save \$1.4 million in construction costs. The savings identified to date are from initiatives such as changing the material for wall panels, reducing window sizes and ceiling heights on some floors, changing the materials used for the hospital exterior, and deferring some construction work. Changes to the design were estimated to result in cost savings of \$450 million to \$525 million. Even after incorporating these design changes for cost savings, the Development Partner's construction price estimates have increased by over \$1 billion throughout the various design and cost estimate milestones and continue to exceed the budget, as shown in **Figure 7**.

Many of the cost savings identified in value engineering and de-scoping exercises came from changing smaller design features or removing smaller items from the design and construction plans. However, there are significant costs associated with this large, complex hospital project that cannot be reduced through value engineering and de-scoping exercises with the design plans. For example, the new hospital is being constructed near the existing hospital, which will continue

Figure 7: Development Partner's and Shadow Bid's Design and Construction Cost Estimates as a Percentage of Budget, Trillium Health Partners Mississauga Hospital

Source of data: Infrastructure Ontario



Note: The Development Partner's cost estimates and IO's shadow bids are represented as a percentage of the Affordability Cap (Budget) for each design milestone.

to operate during construction. The limited space on-site for construction work and for parking for construction workers and hospital staff and visitors led the Development Partner to propose an off-site parking solution. As of June 2024, the cost of the off-site parking along with a shuttle bus for transporting the construction workers was estimated at \$194 million over the eight-year construction period. The Development Partner and IO continue to explore alternatives. This is one example of a cost for the project that the value engineering or de-scoping exercises could not resolve.

IO and Trillium Health Partners informed us that they believe that most of the feasible cost savings have been exhausted. To address their budget constraints, Trillium Health Partners may need to consider removing key clinical requirements from the design, with MOH approval, which could impact the quality and scope of health-care services provided. Alternatively, they would need to request additional funding approval from Treasury Board. In May 2021, May 2023 and June 2023, Treasury Board had already approved three increases to the budget for changes in market conditions and in the scope (about 70% increase from May 2021).

Recommendation 5

We recommend that Infrastructure Ontario, in partnership with the Ministry of Health, conduct a cost/benefit analysis for the Trillium Health Partners Mississauga Hospital project and determine whether the increase in estimated project costs still represents the best solution for delivering the hospital project, including an analysis of other options to deliver the project.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.2.3 Cost Estimates Are Not Comparable as Different Assumptions Are Used by the Development Partner and Shadow Bid

To effectively assess the reasonability of the Development Partner's cost estimate against the independent shadow bid, the two estimates must be comparable. The Development Partner and the shadow bid consultant work concurrently to create cost estimates using identical design plans, and they submit their cost estimates to IO within days of each other. IO receives the cost estimates and assumptions developed independently by each party and reviews the reasonability of the assumptions. For the next submission milestone, IO may provide the shadow bid consultant with the assumptions used by the Development Partner that were approved by IO to consider incorporating as part of the shadow bid.

However, the assumptions used by the Development Partner when developing the cost estimate for the Trillium Mississauga Hospital project at each design and cost estimate milestone differed significantly from those used by the shadow bid consultant.

For example, the shadow bid cost estimates in January 2024 assumed that competitive bids will be received for each trade, with a minimum of three subcontractors bidding. It did not fully consider

the extent to which multiple subtrades would be required to perform the full scope of the work due to the project's size. Conversely, the Development Partner's cost estimate in January 2024 assumed that multiple firms will be needed for certain subtrades due to the project's size, and that using a competitive process to exclusively select the single lowest bidder will not be feasible. This assumption added an estimated \$77 million to the Development Partner's cost estimates in January 2024, at a time when the shadow bid consultant did not fully account for such costs. IO reviewed this assumption and approved it for inclusion in the cost estimate by the shadow bid consultant, and the assumption was incorporated into the shadow bid cost estimate for the next milestone, in June 2024.

With differing assumptions used at each milestone, it is difficult to analyze and compare the areas where the Development Partner's price is significantly higher than the shadow bid consultant's price. The Development Phase is intended to allow the Development Partner and IO to work collaboratively throughout each design milestone to refine the design, with the objective of getting more precise pricing at each stage and ending with a price that is acceptable to both parties. However, the pricing from the Development Partner has only increased after each design milestone and has moved further away from the shadow bid estimates for the Trillium Mississauga Hospital project, as seen in **Figure 7**.

Recommendation 6

We recommend that Infrastructure Ontario obtain the Development Partner's critical assumptions used in arriving at its cost estimate to share with the shadow bid cost consultant before the shadow bid is finalized for the same milestone, to ensure that cost estimates are comparable.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.2.4 Lack of Detailed Costing Information Required from Development Partner Impacting IO's Ability to Collaborate with Partner and Compare Pricing

The Development Phase contract outlines the specific requirements for how the Development Partner must present its cost estimates. However, it does not require enough detail to support the subtotals or assumptions used in the estimates, such as market rates and quantities, even after the Development Partner began incorporating this information into its price estimates. With the Development Phase spanning two years, IO requires this detailed information as early as possible to effectively collaborate with the Development Partner through exchanging information on market factors and risks associated with the project that have been included in the pricing.

IO's internal analysis noted that the Development Partner has been reluctant to provide details on its significant cost drivers, such as design elements exceeding prior benchmark expectations or specific examples of higher subcontractor rates. In January 2024, IO requested the details

used by the Development Partner to support its cost estimates to better understand the significant increases. However, the Development Partner informed IO that it had already provided information as required by the Development Phase contract.

In its January 2024 analysis, IO noted that the lack of transparency in contingency calculations has limited IO's ability to effectively review and challenge the assessments used in this project, as it has been able to do in another Progressive P3 project. In the next cost estimate provided in June 2024, IO again noted that the Development Partner's submissions "lack transparency, hindering effective review and challenge" of costs provided by IO. For example, IO asked for greater clarity on the Development Partner's contingency calculations and risk assessment. IO also noted that detailed breakdowns of the Development Partner's costing, especially for the significant operating and overhead costs, such as labour and subcontracts for security, cleaning and insurance, are needed to assess whether the prices are reasonable.

IO also requested greater transparency in the Development Partner's inputs driving the projected financing costs. One example where the Development Partner's cost estimates differed significantly from IO's shadow bid was in the Interior Construction category, which includes partitions, windows, doors, ceiling and other fixtures. In the last three cost submission milestones, the Development Partner's design and construction cost estimate for this component exceeded the shadow bid by 14% (as of August 2023), 80% (as of January 2024) and 58% (as of June 2024).

The Development Partner noted that it prepared its August 2023 cost estimates using historical costs per gross area (square feet), whereas it began to quantify the January 2024 costs with materials and products based on the design plans and market pricing as they became available. For the June 2024 milestone, the Development Phase contract required some additional details from the Development Partner, but it still did not require the Development Partner to provide quantities, unit rates and other key assumptions (see **Figure 8** for the required cost reporting breakdown).

Subsequent to the June 2024 submission, the Development Partner agreed to provide some of this additional information, six months after it was initially requested by IO. However, as of the end of July 2024, it had not shared details on the key areas that IO requested. In contrast, since the initial price estimate, IO's shadow bid consultant has been preparing detailed cost estimates at each milestone and has provided the quantities and prices assumed in the calculation, such as number of doors, windows and frames, and the respective unit rates for each. If IO receives similar details from the Development Partner earlier, when the assumptions are developed, it can better understand where the prices differ significantly between the shadow bid and Development Partner's cost estimate.

The last Development Phase design milestone before the final price proposal will require the Development Partner to provide a more detailed cost analysis, which is expected in September 2024. This will be approximately 1.5 years since the Development Phase began, and nine months since additional details were first requested by IO, out of the total two-year duration of the Development Phase. Effective collaboration throughout the Development Phase, and IO's ability to assess the reasonableness of cost estimates it receives, necessitate that the Development Partner share detailed cost information throughout the Development Phase when it becomes available.

Figure 8: Required Cost Reporting from Development Partner versus Required Cost Reporting from Shadow Bid, Trillium Health Partners Mississauga Hospital

Source of data: Infrastructure Ontario

Cost Category	Development Partner Reporting			Shadow Bid Reporting ¹
	Aug 2023	Jan 2024	Jun 2024	
Interior partitions	×	×	✓	✓
Interior windows	×	×	✓	✓
Interior doors ²	×	×	✓	✓
Solid core wood door frame ²	×	×	✓	✓ ³
Hollow metal door frame ²	×	×	✓	✓ ³
Sliding panel doors ²	×	×	✓	✓ ³
Interior grilles and gates	×	×	✓	✓
Raised floor construction	×	×	✓	✓
Suspended ceiling construction	×	×	✓	✓
Interior specialties	×	×	✓	✓
Total for Interior Construction	✓	✓	✓	✓

✗ Information not required from the Development Partner

1. Reporting for shadow bid includes these details for every milestone (August 2023, January 2024, June 2024).
2. A few examples of the types of components that make up the interior doors category are provided for illustration purposes. This is not an exhaustive list, and each category consists of many components reported in the shadow bid.
3. Includes details of the underlying calculations, such as quantity x unit price = amount

Recommendation 7

We recommend that Infrastructure Ontario update its Development Phase contract to require the Development Partner to provide quantity, unit rates and market pricing for building materials and components throughout the Development Phase, as soon as the estimates are available.

For the auditee's response, see [Recommendations and Auditee Responses](#).

4.2.5 Costing of Significant Risks Not Done Until Late in the Development Phase, Resulting in the Province Retaining Some Risks

One of the key objectives of the Development Phase is to have the Development Partner and IO work together on the design and uncover potential risks to the project to lower the contractor's contingency costs. As of June 2024, the Trillium Mississauga Hospital's design and cost estimates have advanced during the Development Phase; however, the discussion of risk assessment and contingencies has progressed slowly and significant risks were not costed. The Development Partner provided an estimated cost of construction risks amounting to \$145 million in the June 2024 cost estimate, but certain risks remain under assessment or are in the process of being resolved, which have not been included in the price.

For the construction risks of \$145 million, IO does not have sufficient information to understand how the amounts were determined. Examples of these risks include inadequate co-ordination between design partners and consultants requiring a redesign, insufficient information provided to subcontractors that may result in design and procurement delays, and technical specifications that may not meet the hospital's requirements. IO has asked the Development Partner how these risks were quantified, and whether plans can be developed to mitigate these risks and reduce their financial impact. Even though, as part of the Development Phase, the Development Partner and IO hold monthly meetings to discuss risks, the Development Partner has not shared information with IO supporting the Development Partner's assessment of significant risks and the estimated cost of these risks.

In addition, as of June 2024, the third of five design and cost estimate milestones, significant risks had preliminary assessments performed by the Development Partner; however, they were not included in the cost estimates. These include mechanical and electrical risks, such as managing subtrades and compliance with code and project specifications, and overall project risks, such as insurance limits and permits and approvals. According to IO, as of June 2024, these risks are significant and are likely to add to the total project cost, but there have been limited discussions on risk sharing or other mitigation strategies. These risks were included in the cost estimate for the latest design and cost milestone in October 2024, requiring IO to retain some risks to minimize the impact on project cost.

Recommendation 8

We recommend that Infrastructure Ontario work with the Development Partner to:

- identify all significant risks and develop appropriate risk mitigation strategies;
- identify opportunities for risk sharing that optimizes risk allocation; and
- explore options to minimize contingencies and risk premiums included in project costs.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.2.6 Future Use of the Existing Hospital Location Has Not Been Decided

The construction of the new Trillium Mississauga Hospital, with estimated completion in 2033, is anticipated to replace the existing facility and accommodate over 950 beds, compared to the current hospital's approximately 786 beds (including 46 unconventional beds in the hallways or auditorium). The existing hospital will remain operational until the completion of the new facility, at which point it will be demolished. A separate extension of the existing hospital, the J-Wing (visible in the site plans in **Figure 4**), is not planned to be demolished. However, options are still being explored on how the site can be utilized as a standalone facility. Trillium Health Partners is responsible for developing any future plans for the site of the existing hospital building or J-Wing and bringing the plans and business case to MOH for approval. As of July 2024, the future uses of the land on which the existing hospital building resides, and the J-Wing, had not been finalized.

The business case for the new hospital building emphasizes the need to serve a high-growth area currently experiencing significant health-care pressures, including capacity constraints that now cause necessary health services to be performed in hospital hallways. In its 2013 business case presented to MOH, Trillium Health Partners noted that by 2035 the population it serves was projected to grow by 63%, including an increase in the senior population that require additional care. The business case also noted that there was no available capacity in the existing hospital to manage growth in the future, and expansion of the current building was not feasible due to spatial constraints on the site. Therefore, the hospital's ability to meet community demand would be constrained without a new building.

Under current development plans, it is not feasible for both the existing hospital and the J-Wing to remain operational alongside the new hospital building once it is built. This is due to limited space on the site to allow for safe and efficient vehicle and pedestrian traffic, and the impracticality of operating two full-scale hospitals side by side. If the hospital decided to keep the existing building instead of demolishing it, with MOH's approval, significant additional investment and work would be required to renovate the existing building for a new purpose; however, there are no plans to fund investments to redevelop the existing hospital building.

The J-Wing, built in 2008, is the most recent of several expansions to the hospital since it first opened in 1958. This wing cost around \$125 million to build and added approximately 135 beds to the hospital. The J-Wing has about 237 total beds, including 35 unconventional beds situated in hallways or the auditorium, and currently houses critical care, neuromusculoskeletal, cardiovascular, acute inpatient medicine and orthopedic units, as well as the Clinical Learning Lab and physician lounge. Other than to allow J-Wing to operate as a standalone building, no current plans have been made to fund a redevelopment of J-Wing after the new hospital building is constructed for future operational use.

When we asked about potential alternative uses for the standalone J-Wing building, such as a long-term care home, Trillium Health Partners informed us that significant improvements would be required to convert the building. The J-Wing building currently only has certain health units, rooms for beds and an auditorium, with many of the necessary services for a long-term care home located in the main building, connected by a bridge, so many additions, such as kitchen facilities and a dining area, and upgrades to the electrical and HVAC systems, would be required to make the J-Wing suitable for long-term care.

Recommendation 9

We recommend that the Ministry of Health, in collaboration with Trillium Health Partners:

- conduct a local health-care needs assessment to determine options for how the existing hospital site and its J-Wing can best be used to meet these needs; and
- prepare cost estimates to assess whether these options are feasible and recommend the optimal course of action for the sites.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.3 Lakeridge Gardens Long-Term Care Home

In June 2020, the Ontario government approved an Accelerated-Build Long-Term Care Pilot Program (Pilot Program) to develop four long-term care homes with a total of 1,280 beds on three sites owned by public hospitals. This Pilot Program was developed in response to a significant demand for long-term care beds in the Greater Toronto Area (GTA) during the COVID-19 pandemic. As a result of the pandemic, design decisions beyond the requirements of a traditional long-term care home were implemented to enhance infection prevention and control measures. This included the ability to divide 32-bed units into 16-bed sub-units, inclusion of dialysis stations, and enhancements to heating, ventilation and air conditioning, including air conditioning throughout, and supply of 100% fresh air.

The objectives of the Pilot Program were to address barriers to development, including the lack of availability and high costs of acquiring land in large urban centres that had high service needs for long-term care beds. This Pilot Program was expected to test the viability of building long-term care homes using an accelerated construction schedule and modular construction methods to enable completion of projects in approximately 14 months.

To build these long-term care homes quickly, the accelerated delivery relied on rapid construction techniques, including modular construction; a fast-tracked procurement process that focused on the contractors' qualifications and experience with rapid builds; and traditional contracting forms (Transfer Payment Agreement) where the Province assumed most of the risk compared to the contractor or the hospital for cost increases throughout the project.

The sites were selected based on the Province's awareness of available land on existing hospital sites in the GTA, and the associated hospital's interest in the Pilot Program. Three hospitals received funding for the Pilot Program: Lakeridge Health with 320 beds, located in Ajax; Humber River Hospital with 320 beds, located in Toronto; and Trillium Health Partners with 632 beds across two homes, located in Mississauga. The four long-term care homes built are owned by the hospital and are operated by the hospital or a related not-for-profit licensee.

To build these long-term care homes quickly, the accelerated delivery relied on rapid construction techniques, including modular construction; a fast-tracked procurement process that focused on the contractors' qualifications and experience with rapid builds; and traditional contracting forms

A Modified Construction Management at Risk contract was used for each project. This contracting model involved the Construction Manager (contractor) participating in the design process with a cost-plus-fee pricing model with an option to convert to a guaranteed maximum price. For the Lakeridge Gardens Long-Term Care Home, the Construction Management at Risk contracting model was modified so that a guaranteed maximum price was not set at the beginning of the project, but rather the two parties could agree to convert the contract to a guaranteed maximum price at any point during construction. This meant that the project sponsor, MLTC, carried all of the risk of any cost escalations throughout the project until the contract was converted to a guaranteed maximum price.

Construction of the 320-bed Lakeridge Gardens Long-Term Care Home (Lakeridge Gardens) began in December 2020 and was substantially completed in February 2022, one month after the Pilot Program's target of 14 months. The initial project budget was approximately \$180 million. The total project cost when completed was \$229 million, which includes \$163 million design and construction costs relating to the long-term care home, \$35 million ancillary costs such as furniture, fixtures and equipment and external consultants, and \$31 million to build a separate parking structure that is shared between the long-term care home and the hospital. **Appendix 4** shows the timeline of the Lakeridge Gardens project.

4.3.1 Significant Costs and Risks for the Ministry under the Accelerated-Build Long-Term Care Projects

Construction Costs per Bed About 50% Higher under Accelerated Build

When the Pilot Program was first developed, IO estimated it would cost about \$420,000 per bed. Under traditional construction methods without accelerated construction timelines, modular construction techniques, or design enhancements for infection prevention and control measures, initial estimated costs shared by a long-term care operator with MLTC for a comparable home being constructed in the Ajax region (the same region as Lakeridge Gardens) were about \$287,000 per bed, excluding the cost of land acquisition.

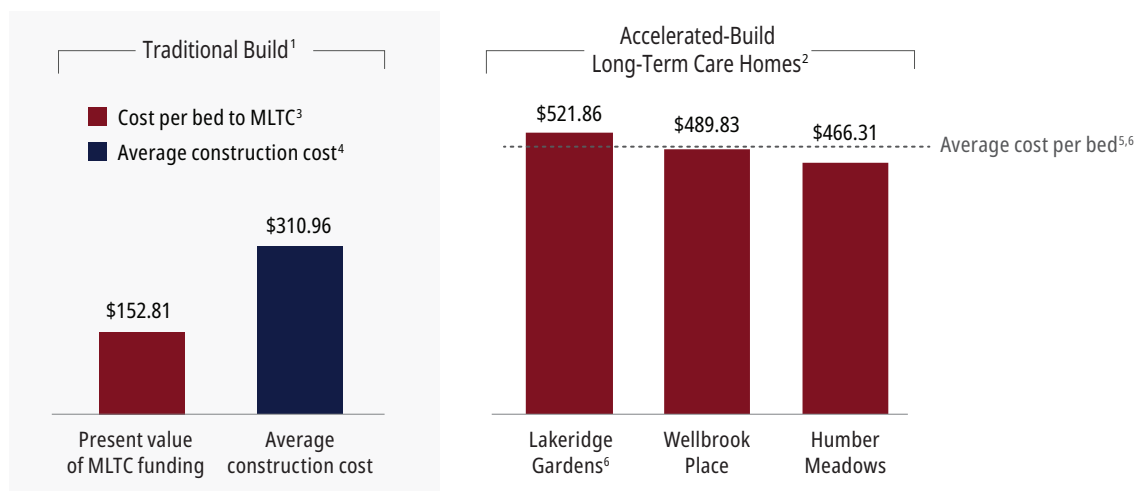
Across the four long-term care homes built under the Pilot Program, the final average construction cost paid to the Construction Managers of the accelerated-build homes was \$492,668 per bed, with Lakeridge Gardens Long-Term Care Home being nearly \$522,000 per bed (when excluding the cost of the separate parking structure that was constructed as part of the project). On average, the accelerated-build homes cost about 50% more than comparable homes built under traditional construction methods based on the average of initial estimated construction and land costs shared by operators with MLTC, as shown in **Figure 9**.

Several reasons contributed to the accelerated-build Pilot Program being more expensive than traditional construction methods. In our discussions with Lakeridge Gardens, we were informed of key factors that are unique to the accelerated-build project and resulted in higher costs:

- » The construction schedule consists of two shifts per day, six days a week, resulting in significant costs relating to overtime premiums paid.
- » The modular construction method chosen for speed required prefabricated components being built off-site, then transported to the construction site for either full assembly or partial assembly using specialized construction equipment to install the components.
- » To stay on schedule, and partially due to supply chain issues during the COVID-19 pandemic, there were limited opportunities to look for alternatives for cost savings when procuring furniture, fixtures and equipment or subtrades.

Figure 9: Cost per Bed to the Ministry of Long-Term Care (MLTC) for Accelerated-Build Homes versus Traditional Funding (\$ 000)

Source of data: Infrastructure Ontario and Ministry of Long-Term Care



1. MLTC supports the construction or redevelopment of long-term care homes through the Construction Funding Subsidy, paid over 25 years. Only homes built with a minimum of 160 beds with construction starting after 2020 have been included in the average (13 homes total), and each home received MLTC's Construction Funding Subsidy prior to the top-up announced in 2022. The costs of these homes included land and represent homes from across all geographic market segments.
2. The Accelerated-Build Long-Term Care Pilot Program developed four long-term care homes with a total of 1,272 beds on three sites owned by public hospitals. The costs of these homes included design enhancements for infection prevention and control measures.
3. Represents actual amounts paid by MLTC. For the accelerated-build long-term care homes, this represents payments to the Construction Manager. For traditional build homes, our Office has calculated the average present value of funding provided by MLTC to the home operator using a rate of 4.49% to approximate the cost of borrowing.
4. The average construction cost per bed (self-reported by the long-term care operators) is provided, as the size of each home varies.
5. The average cost per bed between all three accelerated-build long-term care home sites. In total, four long-term care homes were built, since Wellbrook Place has two homes at its location.
6. The Lakeridge Gardens costs exclude cost of parking structure partially funded by MLTC.

In total, the Lakeridge Gardens Long-Term Care Home had a construction cost of \$198.5 million (see **Figure 10** for the components of the construction cost). We requested an analysis of the key factors that led to cost escalation throughout the project, including how the above factors contributed to the overall cost of the project. However, IO and MLTC did not complete a detailed analysis to determine the key drivers that contributed to the cost escalation, including how much each of the above factors contributed to the total costs.

At the time of our audit, MLTC indicated that it did not currently have plans to use the Pilot Program in the future to build more long-term care homes. This was because the Pilot Program required MLTC to provide a significant amount of funding upfront and assume all the risks associated with the projects. In comparison, for long-term care homes built under MLTC's traditional funding approach, funding is provided over a 25-year period (refer to the following section for information on funding).

Figure 10: Components of Total Construction Cost of Lakeridge Gardens Long-Term Care Home (\$ million)

Source of data: Infrastructure Ontario

Cost Category	Actual Costs Incurred
Construction	39.2
Mechanical and electrical	37.7
Construction materials (concrete, metals, woods, etc.)	34.9
Parking garage*	31.4
Other costs (temporary power, site controls, cleaning)	16.1
Project staff	12.3
Services and fee on cost of work	10.8
Design	9.1
Change directives	3.6
Furniture, fixtures, equipment	3.4
Total Construction Costs	198.5

* The cost of the parking garage was jointly funded between the hospital (Lakeridge Health) and MLTC as the sponsoring ministry for the construction of the long-term care home, because it was intended to be used for both hospital and long-term care home operations. This amount was removed from cost comparisons shown in [Figures 9](#) and [12](#) since the construction of a parking garage is not a common requirement for most long-term care homes.

An analysis of the final construction cost of the accelerated-build long-term care homes, and in particular the key cost drivers that changed from initial estimates, can help identify the main components that led to the cost escalation of the homes. Understanding these cost escalations can help inform future capital planning and funding programs for MLTC, and could be adapted to future builds.

Recommendation 10

We recommend that Infrastructure Ontario (IO) conduct an analysis of the Accelerated-Build Long-Term Care Home Pilot Program (Pilot Program) that includes a breakdown of the cost drivers of the Pilot Program, including how much of the cost difference compared to traditional long-term care home construction is attributable to each of the following factors: the COVID-19 pandemic, accelerated construction schedule, design changes after construction began, procurement of subtrades and furniture and equipment, and any other cost drivers identified by IO.

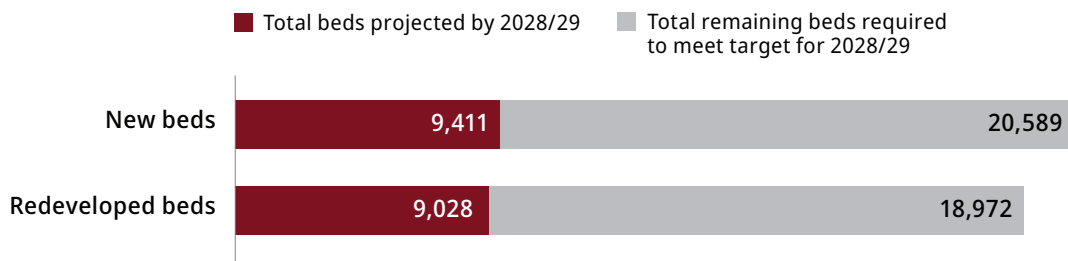
For the auditee's response, see [Recommendations and Auditee Responses](#).

4.3.2 Construction of Nearly 40,000 Beds Needs to Begin Soon to Meet Provincial Targets and Timelines

The accelerated-build Pilot Program was developed during the COVID-19 pandemic to build more long-term care beds when there was significant demand for beds. Other than the Pilot Program, MLTC typically funds construction of long-term care beds with a subsidy over a 25-year period (see the details of this funding program in **Appendices 5 and 6**). Starting in 2018, MLTC has targeted adding 30,000 new beds, and in 2022 expanded the goal to add 28,000 redeveloped beds, by 2028/29. Based on approved builds as of October 2024, the Province projects that it will be almost 40,000 beds short of this target, with 20,589 new beds and 18,972 redeveloped beds (see **Figure 11**), despite recent increases to funding and the introduction of a surplus lands program.

Figure 11: Projected Number of New and Redeveloped Long-Term Care Beds by 2028/29 Compared with Provincial Target*

Source of data: Ministry of Long-Term Care



* Provincial target is 30,000 new beds and 28,000 redeveloped beds by 2028/29. Projected number of beds to be built by 2028/29 was provided by MLTC as of October 2024. MLTC has approved applications for approximately 31,200 new beds and 25,300 redeveloped beds, but the beds that have not begun construction have not been included in the projections.

Under the subsidy funding model, the long-term care operator is solely responsible for managing its project, which includes securing financing, procuring a contractor to build the home, and monitoring construction costs and schedule. Costs that are not covered by the subsidy are expected to be funded through other sources, such as a loan. Under the Pilot Program, the Province provided upfront funding for the full capital costs to develop these homes, which was paid based on construction progress and costs incurred. Cost overruns during construction, including those associated with unforeseen events, were also the responsibility of the Province.

When the Pilot Program began in 2020, MLTC's Construction Funding Subsidy for a large urban home like Lakeridge Gardens would have been \$23.78 per bed per day for 25 years. If Lakeridge Gardens had been funded under that model, the hospital, as the long-term care home operator, would have received \$69 million paid over 25 years, plus a one-time development grant of \$17 million for a total of \$86 million. When this total subsidy is discounted to present value, assuming a 4.49% rate based on an estimate of the cost of borrowing, the present-day cost to MLTC drops to \$58 million. In comparison, the accelerated-build model cost MLTC \$198.5 million upfront to build Lakeridge Gardens because construction costs had to be paid as the project was being built.

In November 2022, MLTC introduced a \$35 top-up per bed per day to the Construction Funding Subsidy to help build more long-term care homes. With this top-up, a large home in a large urban market would receive a payment of \$58.78 per bed per day, in addition to the one-time development grant of \$51,376 per bed. The top-up funding, originally set to expire in August 2023, was extended to November 2024. As shown in **Figure 12**, the present value of the cost per bed to MLTC with the top-up to the Construction Funding Subsidy (\$370,000) is closer to the cost of the long-term care homes built under the Pilot Program (\$493,000), but it does not fully bridge the gap.

Figure 12: Comparison of MLTC's Cost to Build a 320-Bed Long-Term Care Home under Different Funding Scenarios

Source of data: Infrastructure Ontario and Ministry of Long-Term Care

	MLTC Capital Development Funding (subsidy amount, prior to top-up funding¹)	MLTC Capital Development Funding (subsidy amount, with top-up funding¹)	Average Cost of Long-Term Care Homes Using Accelerated Build²
MLTC funding (\$)	85,925,480	188,195,480	157,653,741
# of beds	320	320	320
Total cost per bed (\$)	268,517	588,111	492,668
Present value of total cost per bed (\$)	180,301³	370,057³	492,668

Note: Ministry funding will vary depending on the year in which the project is being developed and the market segment in which the project is being developed. For the purposes of this comparison our Office has used a large home in a large urban market.

1. MLTC announced a temporary top-up to the Construction Funding Subsidy in November 2022. The additional funding is available to homes that receive approval to start construction between April 2022 and November 2024.
2. Average amount paid by MLTC to the Construction Managers for 320 beds under the Accelerated-Build Long-Term Care Home Pilot Program. This average excludes the cost of a new parking structure for the Lakeridge Gardens Long-Term Care Home project.
3. Includes a one-time Development Grant and a Construction Funding Subsidy, which is paid over 25 years. Total funding is discounted using a rate of 4.49% to approximate the cost of borrowing.

Recommendation 11

We recommend that the Ministry of Long-Term Care:

- assess whether the current funding method, approvals for new homes to be developed and funding timeline are meeting expected long-term care capacity needs; and
- develop strategies to address the challenges that the sector faces in building long-term care homes, in collaboration with Infrastructure Ontario where applicable.

For the auditee's response, see **Recommendations and Auditee Responses**.

Each model (the previous Pilot Program and the current top-up of the funding subsidy) is a different approach to help address the need for more long-term care beds. MLTC does not currently plan to continue the accelerated-build model beyond the Pilot Program but it is proposing to extend the top-up of the Construction Funding Subsidy beyond November 2024, to March 2025, subject to government approvals. MLTC noted that the immediate need for beds during the COVID-19 pandemic prompted the development of the accelerated-build Pilot Program, but it required significant funding and resources from the Province throughout the project. According to MLTC, potential future use of accelerated-build or alternative delivery models will need to consider the cost and resource requirements. MLTC is also reviewing options for cost-sharing arrangements for future long-term care projects.

As of October 2024, with the top-up funding that MLTC introduced in 2022 to help more operators start construction, and extended to November 2024, the Province was projecting that 9,411 new long-term care beds and 9,028 redeveloped beds will have been added between 2018 and 2028. This is out of approximately 31,200 new beds and 25,300 redeveloped beds that MLTC has approved. As of September 2024, 2,385 new beds and 2,610 redeveloped beds had been completed.

Despite MLTC approving approximately 100% of the required long-term care beds needed to meet the provincial target, it is not certain that these beds will be built by 2028/29 since operators may not begin construction on time. Before starting construction of long-term care homes, operators need to take necessary steps that include raising the required financing, acquiring suitable land and municipal approvals and permits, and deciding on governance and operations of the home. Construction on 20,589 new beds and 18,972 redeveloped beds has to begin soon to meet the provincial target of 30,000 net new long-term care beds and 28,000 redeveloped beds by 2028/29. **Figure 11** shows progress as of October 2024 and the amount that still needs to be done to meet the target.

To address some of the barriers to long-term care home construction, the Pilot Program used hospital-owned land for the projects and provided funding for construction. In addition to the Pilot Program, MLTC has explored other options to find available land to build long-term care homes. Starting in 2020, under the Long-Term Care Development Program, MLTC and IO have collaborated to offer surplus government lands that have been identified for sale to a long-term care operator, for the specific purpose of developing more beds. To date, three sites have been identified for long-term care use. IO, with the Broker of Record (CBRE), is leading the marketing for one site (Aurora), with two sites (Oakville, 640 beds, and Hamilton, 512 beds) already sold for development of 1,152 long-term care beds.

4.3.3 Limited Risk Transfer for Timely Completion and No Cost Certainty

The use of the Modified Construction Management at Risk delivery model provided MLTC with limited opportunity for risk transfer with the Construction Manager for both schedule and cost risks. In addition, due to accelerated timelines and construction during the COVID-19 pandemic, MLTC accepted risks beyond what is common for the construction of a traditional long-term care home.

There were two mechanisms with this delivery model that could have been used to mitigate construction schedule and cost risks for the Lakeridge Gardens project—a Liquidated Damages clause for schedule risk, and conversion of the cost-plus-fee contract to a guaranteed maximum price or a stipulated price contract.

Schedule Risk

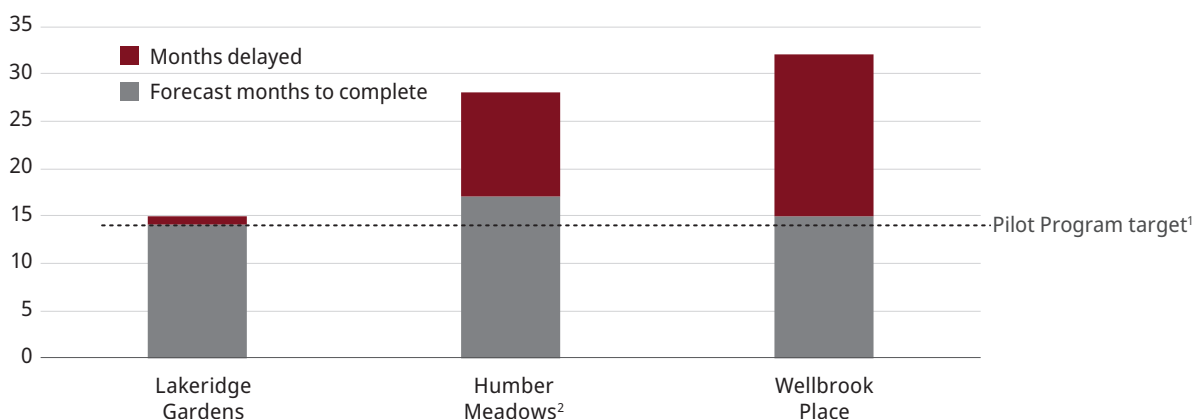
A Liquidated Damages clause is common in construction contracts to manage schedule risk by placing a financial penalty on the Construction Manager for each day that the project is delayed, where the delay is solely caused by the Construction Manager. For example, through such a clause, if substantial completion was delayed and the Construction Manager was at fault, the Province would be able to recover some costs. For Lakeridge Gardens, the Construction Manager was able to limit its risk by negotiating a maximum cap of \$500,000 for schedule delays that were within the contractor's control, which equated to 77.5 days. This is the maximum amount that the Province may charge the Construction Manager; any delays beyond 77.5 days would not have resulted in additional liability for the Construction Manager, subject to certain exclusions such as gross negligence.

Overall, the Pilot Program had a target timeline of 14 months for completion for each home, in comparison to traditional builds, which take an average of three years (36 months) to complete. Of the three hospital sites that were part of the Pilot Program, Lakeridge Gardens was the only project that was completed with minimal delays, in around 15 months. The Liquidated Damages clause did not apply to Lakeridge Gardens because the delay of around one month was not caused by the Construction Manager. However, it was also the only project that negotiated a limit on its Liquidated Damages clause, so if there had been significant delays caused by the Construction Manager, the Province's ability to hold the Construction Manager accountable to the schedule would have been limited.

As shown in **Figure 13**, the other two homes faced longer delays. Humber Meadows took 28 months to complete and Wellbrook Place took 32 months, which is 14 months and 18 months longer than the 14-month target of the Pilot Program, respectively. The Province applied \$220,000 of Liquidated Damages to the Humber Meadows project, representing 22 days, and none to Wellbrook Place. There were no Liquidated Damages charged for Wellbrook Place because the delays were mostly caused by the COVID-19 pandemic and union strikes, and therefore schedule extensions were negotiated and agreed to between all parties. With speed being a priority for building these long-term care homes under the accelerated-build Pilot Program, the Province still retained a large portion of the schedule risk on the projects and did not have significant performance security in the event of delays.

Figure 13: Months to Complete Construction of Long-Term Care Homes under the Accelerated-Build Pilot Program

Source of data: Infrastructure Ontario and Ministry of Long-Term Care



1. MLTC's Pilot Program had a target timeline of 14 months for completion for each home.

2. Humber Meadows was originally planned to be completed after Wellbrook Place, since the projects were being completed sequentially to manage the contractor's capacity to fabricate the modular units. Humber Meadows was completed first after converting the homes from modular to traditional construction to limit the impact of further delays.

Price Risk

With the Modified Construction Management at Risk delivery model, MLTC is responsible for paying all construction costs plus a fee for the Construction Manager, until a price option such as a guaranteed maximum price is set to cap the cost of the project. One benefit of a price cap for MLTC is that the cost of potential risks above the cap becomes the Construction Manager's responsibility. The Lakeridge Gardens contract had an option to convert the pricing model to a fixed price or guaranteed maximum price at any time during the project, but by the time a guaranteed maximum price offer was received in August 2021, construction was about 50% complete. By that time, there were fewer potential risks to the project that were not already known and IO projected that total construction costs would be lower than the price offered. IO therefore did not recommend accepting the conversion.

In addition to paying for all construction costs (including cost overruns that occurred on the project), MLTC had to accept an irregular indemnity clause in order for the hospitals to accept the projects, so the total cost of the risks is not yet known. At the onset of the Pilot Program, the hospitals expressed concerns with their exposure to the risk of potentially having to pay for additional costs exceeding the total project costs MLTC originally committed to when the projects were first approved. As a result, the hospitals received an indemnity from MLTC to protect them from any increases in project costs, so that any costs beyond the budgeted project costs during planning, procurement, design and construction would be borne by MLTC. MLTC also committed to funding an independent review of the structure of the homes five to six years after the completion of the homes to assess for any deficiencies arising from the accelerated construction schedule and methods. This review is expected to take place in 2027 or 2028. MLTC will pay for any deficiencies in construction found, adding to the risk retained by the Province.

While an immediate need for long-term care beds during the COVID-19 pandemic led to accepting the increased risks for the Province under the chosen contracting model, managing schedule and cost risks will be important to any future strategy the Province plans to implement.

Recommendation 12

We recommend that Infrastructure Ontario:

- conduct an analysis on how the planning, procurement and delivery model used in the accelerated-build Pilot Program can be modified for better cost and risk transfer; and
- present this analysis to the Ministry of Long-Term Care so that it can consider whether a modified accelerated-build program with appropriate risks taken on by the Province is feasible to encourage more long-term care home construction.

For the auditee's response, see [Recommendations and Auditee Responses](#).

4.3.4 Procurement Process Invited Only Two of Three Prequalified Companies to Bid on Each Project, Limiting Options in the Negotiation Process

IO developed a modified procurement process to speed up the procurement phase and help accelerate the build of long-term care homes by starting the construction phase earlier. Through this modified process, IO prequalified three companies for the construction of four long-term care homes at the three hospital sites, Lakeridge Gardens, Humber Meadows and Wellbrook Place. Even though three companies were prequalified, only two companies were invited to bid on each project. In standard P3 procurements three qualified companies would typically be invited to bid.

According to IO, a third negotiating party would have increased the time and resources required to complete the evaluation process. IO was directed to complete the procurement and begin construction of the homes quickly, and determined that with the timing urgency and limitation of resources, competitive pricing negotiation could only be obtained in an expedited fashion with two counterparties for each hospital.

When asked how much longer it would have taken to invite all three companies, IO noted the pressures it faced in building these homes quickly during the COVID-19 pandemic as a reason for which it could not estimate the additional time that would have been required. Taking into account the time between the date when the negotiating parties were invited to bid and the final notification of winning bidders (four weeks in total for the homes at each of the three hospitals and six total bids), we estimated that it may have taken an additional two to four weeks for the three companies to prepare their submissions and for IO to review an additional bid for each project.

We noted that the decision as to which two of the three prequalified companies would be invited to negotiate for each project was not based on a formal evaluation process but instead

an equal distribution amongst the three hospitals, with consideration for the companies' and IO's preferences for the various sites where applicable. The Fairness Monitor that oversaw the procurement process noted that the procurement process was open, fair, consistent and transparent, including the process in which IO and the hospitals exercised their discretion to select the two companies that would bid for each project. The Fairness Monitor concluded that this process was consistent with the terms and conditions of the procurement process disclosed to the participants. However, we noted this process limits the negotiation options for each hospital through the exercise of discretion by IO and the hospitals, which results in reduced competition and transparency of the procurement overall.

Two Homes Awarded to One Contractor with Limited Capacity

During the procurement process for the three accelerated-build long-term care projects, which aimed to build 1,280 beds in total, one contractor noted it had capacity to build only 640 beds in total. Despite this, it was awarded contracts to build a total of 960 beds at two of the homes, Humber Meadows and Wellbrook Place. IO considered this the preferred approach because the alternatives were either to invite a fourth contractor to the negotiating process even though it did not meet the initial prequalification criteria, or, for one of the projects, to negotiate directly with the one party that had more capacity. With supply chain issues impacting the two projects, the long-term care homes ended up being delayed by approximately 11 months and 17 months, respectively, compared to the forecast substantial completion date.

This contractor relied on two suppliers to construct modular units under the accelerated-build model, as few vendors have modular capabilities. One of the suppliers was projected to build six units per day, accounting for 40–50% of the total modular units needed. The supplier missed this target and construction fell behind schedule, and the supplier ultimately withdrew its services in September 2021.

By July 2021, the contractor estimated a construction delay of 150 days at Wellbrook Place, leading to a delay of 300 days on Humber Meadows, since the projects were being completed sequentially to manage the contractor's capacity to fabricate the modular units. The contractor proposed to convert the homes from modular to traditional construction to limit the impact of further delays, and the Province accepted.

Recommendation 13

We recommend that Infrastructure Ontario:

- invite all (or at a minimum, three) prequalified vendors to submit a proposal in a manner similar to the standard process where prequalified companies are invited to respond to the Request for Proposals when modified procurement processes are used; and
- when a contractor is selected for multiple similar projects whose schedules overlap, identify risks to the project schedule and implement strategies to mitigate the risks.

For the auditee's response, see [**Recommendations and Auditee Responses**](#).

4.4 Highway 427 Expansion

The Highway 427 Expansion project (Highway 427 project) consists of extending Highway 427 from Toronto to Vaughan for 6.6 kilometres and widening four kilometres of an existing portion of the highway. (Figure 14 is a map of the project.) The extension of Highway 427 was first identified as a priority in the 2006 Growth Plan for the Greater Golden Horseshoe (see [Appendix 7](#) for a timeline of the Highway 427 project).

The Highway 427 project was delivered through a P3 DBFM delivery model. Substantial completion was reached in September 2021, a year later than originally planned. The total project is estimated to cost about \$758 million, or approximately \$98 million over budget; the fixed-price contract was for \$616 million and contingency of \$44 million. Figure 15 provides a detailed breakdown of the total project cost. At the time of our audit, the final costs were still under dispute and had not been finalized.

4.4.1 Safety Concerns That Delayed Opening of Highway 427 Were Not Identified Until Close to Construction Completion

Safety concerns with the Highway 427 project were uncovered only during the final walkthrough to confirm substantial completion because the private-sector partner (the Project Company) did not follow the MTO standards for quality control processes and testing of the cross slope during construction as intended. P3 DBFM contracts are intended to hold the Project Company responsible for maintenance risk, so the Project Company is expected to conduct quality testing to manage its own risk. As a result, MTO was not responsible to be on-site to conduct quality assurance checks of the work performed during construction, unlike non-P3 contracts such as the traditional DBB model.

The main safety concern raised by the project sponsors (MTO/IO) was over the cross slope of the highway. The contract and the Ontario highway construction standard required a 2% cross slope on the straight sections of the highway for proper water drainage, to reduce the risk of vehicles hydroplaning on water that remains on the road surface and to help spread de-icing materials in the winter. The Project Company did not verify the specific cross slope measurement while paving

Figure 14: Map of Highway 427 Expansion Project

Source of data: Ministry of Transportation



Figure 15: Detailed Cost Breakdown of Highway 427 Expansion Project (\$ million)

Source of data: Infrastructure Ontario

Cost Category	Actual Costs Incurred
Bridges and structure	86.5
Road accessories (including pavement markers, barriers, signage, lighting, curbs)	61.8
Road subsurface (including drainage, culverts, manholes)	45.0
Other construction costs (including removal of materials and relocation costs)	36.0
Design	29.4
Land and land improvements	28.9
Pavement	27.4
Subtotal – Design and Construction Costs	315.0
Construction financing and transaction costs	47.7
Maintenance and associated financing¹	253.6
Change orders and additional costs	24.8
Arbitration award²	116.7
Total Project Cost	757.8

1. The maintenance costs are paid over 30 years and adjusted for inflation. For example, an assumed inflation rate of 2% per year would result in total maintenance payments of \$324.4 million over 30 years.

2. The arbitration amount includes interest charged. The arbitration award is under appeal and subject to change.

the highway. In the Project Company's view, it was not realistic to meet the precise 2% standard without a variance throughout the length of the highway. MTO/IO disagreed with the Project Company on what an acceptable variance would be, but did not discover the variance in the final measurement until they attended the final walkthrough to confirm the substantial completion of the highway in October 2020. This led to the delays in completing and opening the highway.

The contract required the Project Company to develop its quality control processes, including testing plans, in accordance with MTO's standards for quality control processes and testing procedures, which included a requirement to check the cross slope measurement continuously during paving. MTO/IO did not identify that the Project Company's testing plans did not include this specific requirement. The Project Company, based on its interpretation of MTO's standards, relied on other elements in its quality control processes to check for cross slope instead of including a specific cross slope measurement in its testing plans. This was not as intended in MTO's standards. MTO/IO were not required to verify quality control processes and testing requirements during construction because it was the Project Company's responsibility to conduct quality assessments. Additionally, the P3 DBFM contract intended to transfer the risks of design flaws or quality issues to the Project Company, which also has the responsibility for the 30-year

maintenance period once the project is completed. Including maintenance in a P3 contract is intended to incentivize the Project Company to construct a higher quality build that benefits it in the future with lower costs when maintaining the asset.

Between March 2021 and January 2022, MTO consulted with the industry and conducted a jurisdictional review to identify best practices for highway construction standards for cross sloping. As a result, in September 2022 MTO updated its highway construction standard to set the allowable variance, such as for new paving, at a maximum of 0.4% with an average requirement of 0.3%. This update was intended to clarify interpretations of the construction requirements and how these are measured and accepted, to avoid similar disputes on future highway projects.

In December 2022, MTO updated its inspection guidelines for highway construction to include more specific requirements on the timing and measurement of the cross slope of a highway. For example, the guideline requires that the cross slope of a highway be measured at specified increments and recorded within one business day after the highway is paved. For future highway construction contracts, these updates are intended to provide more clarity to the contractor on construction standards and inspection guidelines acceptable to MTO.

Despite these changes, the risk of discovering quality and safety issues late in the construction process still exists for P3 contracts with a maintenance component, if MTO/IO rely solely on the Project Company's quality control processes and testing. Even though a DBFM delivery model intends to transfer quality risks to the Project Company, if these issues are discovered late in the construction project and its completion is delayed, the Province is still impacted by the delay. At the time of our audit, the Province and the Project Company were still in dispute over who would be responsible for covering certain costs incurred to rectify the Highway 427 expansion for safe opening.

Recommendation 14

We recommend that Infrastructure Ontario, in conjunction with the Ministry of Transportation, update its quality oversight framework as part of its public-private partnership agreements for highway construction to ensure regular monitoring throughout projects around key risk areas that could delay substantial completion or impact public safety.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.4.2 Dispute Resolution Process Was Not Effective in Resolving Disagreements about Project Delays between the Province and the Project Company

Many issues that arose during the Highway 427 project were not resolved in a timely manner between the Project Company and MTO/IO through the processes for addressing delays and disputes in the contract.

Under the P3 DBFM contract, when the Project Company encounters a delay in the project:

1. The Project Company must provide written notice of the delay and details of how the delay impacted the work for MTO/IO to assess whether granting financial and/or scheduling relief is justified. If the two parties do not agree to a resolution, then it can be escalated to the Independent Certifier, an independent third-party, to make an assessment on the dispute.
2. If either party disagrees with the Independent Certifier's decision, the parties can enter the formal dispute resolution process. This process starts with the parties negotiating at different levels of management (first the MTO/IO representative and the Project Company representative, and then senior officers of each party), but if the dispute cannot be resolved, it can be escalated to arbitration or litigation.

For the Highway 427 project, between November 2017 and May 2019, the Project Company notified MTO/IO of five potential delays, provided details of the delays and, where applicable, sought compensation from MTO/IO. These matters could not be resolved within this 1.5-year period because the two parties disagreed over whether the Project Company provided sufficient information on the impact of delays for MTO/IO to make a determination on whether to grant scheduling and/or compensation relief.

On July 11, 2019, the Project Company formally delivered a notice of dispute for these matters to go to the formal dispute resolution process. However, the two parties did not agree on whether this was appropriate because the matters had not been brought to the Independent Certifier yet. The dispute was brought to the Independent Certifier in August 2020, but the parties continued to disagree on the outcome. In May 2021, 3.5 years after the first potential delay was identified, the matters were brought to an arbitrator.

We noted cases when the Project Company notified MTO/IO of possible delays during construction and, although it provided some details, it indicated that impacts could not be quantified yet since the delay was related to matters outside of its control. For example, the Project Company initially raised the matter of a potential delay in November 2017 because MTO/IO had not obtained a required permit by a certain date. At this time, the Project Company did not assess the impact of the delay, noting that it was premature to assess the scheduling and cost impact until the permit was obtained and its contents were known. When MTO obtained the permit in April 2018, the Project Company provided details of the impact of the delay, but the two parties continued to disagree on the sufficiency of information provided, including how the Project Company had determined the time and cost impacts it claimed.

Since the Highway 427 project, MTO/IO have made changes to subsequent P3 highway contracts and the dispute resolution process. For example, the Highway 401 contract in April 2019 was clarified to require the Project Company to restart the notice of delay process if it failed to submit certain details (such as financial and non-financial impacts, or a mitigation plan) within the prescribed number of days.

Despite updates to the dispute resolution process, these P3 contracts still do not provide clarity on reporting requirements. We reviewed P3 agreements for highway projects in North America and identified examples of different dispute resolution processes that could improve communication between the parties during disputes and streamline the dispute resolution process. Examples include:

- » requiring the Project Company to provide as much information as possible when the financial and non-financial impacts of the delay are not available, and subsequently providing an update on the impact when additional information becomes available;
- » moving to the formal dispute resolution process automatically after a certain amount of time has passed; and
- » requiring the Project Company to provide supporting documentation on how impacts, such as cost and scheduling impacts of the delay, are determined.

The recent P3 contracts for highways in Ontario do not specify these requirements. For example, unresolved disputes do not automatically advance to the dispute resolution process after a certain number of days; clarity is not provided in the contracts on the information to be provided when impacts cannot be determined if not known or if they relate to matters whose cause is not in the Project Company's control; and the contracts do not specify the type of supporting information that must be provided to substantiate the cost and scheduling impacts claimed.

Recommendation 15

We recommend that Infrastructure Ontario:

- conduct an analysis of P3 contracts from other jurisdictions for clauses that add clarity for a timely dispute resolution process, including information requirements, and incorporate these changes into future Project Agreements where applicable; and
- develop a reporting form that the Project Company is required to complete when providing a notice of the delay that includes all the information and supporting documentation required by the Project Agreement, and specifies the information to be provided when the impacts of the delay cannot be quantified yet.

For the auditee's response, see [Recommendations and Auditee Responses](#).

4.4.3 Lack of Detailed Cost Information Impacted the Accurate Monitoring of Construction Progress

One of the key advantages that MTO and IO identified in selecting a P3 DBFM delivery model for the Highway 427 project was that construction could be completed about a year faster than traditional procurement projects, such as DBB or Design-Build. However, the project was ultimately completed over a year later than the scheduled completion date.

As early as the procurement phase, IO's internal analysis identified that the Project Company's proposed timeline for completing the project was optimistic compared to other bidders' timelines, and the Project Company did not build in much contingency for potential schedule delays. When the Project Company was selected, IO recommended that public communications for the project refer to a later completion date to mitigate the risk of the project not being delivered on time.

MTO/IO engaged a Technical Advisor to oversee construction progress on the Highway 427 project, including whether the Project Company was keeping to its own construction schedule. MTO/IO reviewed and agreed on the initial schedule in October 2017 and there was no documentation of the Technical Advisor's review. While construction began in February 2018, the documentation of the Technical Advisor's review of the Project Company's monthly schedule progress report began in April 2018, when they began to report monthly to MTO/IO on any differences between the Project Company's schedule and progress achieved to date. In these reports, the Technical Advisor noted that the Project Company did not assign costs to all activities and sections within the construction schedule, and without this information, the accuracy of measuring the progress of the project could not be verified. The Technical Advisor emphasized the importance of assigning costs to all activities. This comment appeared in a majority of monthly reports between April 2018 and January 2019.

In February 2019, the Technical Advisor conducted an audit comparing some of the Project Company's progress reports against its schedule, and again advised that all activities in the schedule should have an assigned cost for all activities, and it should equal the contract value. That same month, MTO/IO sent a formal letter to the Project Company referencing the audit report and requesting that the Project Company review the findings and demonstrate actions taken to address the non-compliances with the contract that were identified. Even after MTO/IO issued the formal letter, the Technical Advisor continued to comment in the monthly reports that the schedule was lacking sufficient detail for analysis and was not in compliance with the contract. MTO/IO did not take the appropriate measures to ensure that the Project Company complied with the contract's reporting requirements.

In November 2019, IO started assembling a Project Controls Team within the organization to oversee project control processes (including risk assessment, cost estimating and budgeting, and schedule analysis). The team's objectives are to develop in-house expertise so that IO can place less reliance on third parties, such as the Technical Advisor it hired on the Highway 427 project, and to provide more support for projects, especially for more complex projects.

Since the Project Controls Team was established, some of IO's ongoing projects have their initial master schedule reviewed at the beginning of the project, rather than throughout the duration of the project. Other projects may not receive any support from the Project Controls Team.

Recommendation 16

We recommend that Infrastructure Ontario review the initial work schedule before construction commences for all new projects so that all necessary information required in the contracts is reported, including the cost assigned to all activities in the construction schedule.

For the auditee's response, see **Recommendations and Auditee Responses**.

4.5 Cancelled Procurements

Since 2014, 16 procurements for P3 infrastructure projects have been cancelled or changed. Of these, 13 were GO Rail transit projects (11 were cancelled and two procurements expired) and three were in the justice and health sectors. **Figure 16** summarizes the number of projects and the reasons for cancelling the procurements. Several factors can result in a cancelled procurement, but three common reasons for cancelling procurements or letting procurements expire were:

- » policy changes resulted in the project not being required;
- » the project budget was exceeded so the project did not proceed; and
- » procurement was reissued with a change in delivery model or scope.

Figure 16: Number of Procurements Cancelled and Reasons for Cancellations, 2014–2023

Prepared by the Office of the Auditor General of Ontario

Reasons for Cancelled Procurements	Sector		Total
	Transit (GO Rail)	Other (Health, Justice)	
Project scope and/or delivery model changed	7	2	9
Procurement cancelled due to policy change	4	1	5
Procurement did not proceed as budget was exceeded	2	–	2
Total	13	3	16

Procurements for the two of the three non-transit projects were cancelled due to changes in how services were planned to be delivered or in the need for the projects, and the procurement for the third project was reissued. These three projects are:

- » Halton Region Consolidated Courthouse—A new courthouse was originally planned to be built with the RFP released in February 2019. In May 2020, the Ministry of the Attorney General cancelled this procurement in light of the COVID-19 pandemic. The ministry repurposed the funding originally planned for the construction of the new courthouse to address infrastructure needs at existing courthouses and invest in technology as part of the ministry's justice digital transformation and for virtual and hybrid hearings. The ministry began offering virtual hearings during the COVID-19 pandemic and initiated a project in 2021 to add more virtual courtrooms. The project experienced delays during the pandemic, but as of July 2024, the ministry aimed to provide 197 more courtrooms over the next two years, for a total of 325 courtrooms by the end of the project.
- » Thunder Bay Correctional Complex—In 2018 during the RFQ stage to construct a new correctional complex in Thunder Bay, the RFQ was cancelled to amend the requirements

of the project. The RFQ was subsequently reissued with the new requirement that interested companies develop a plan for incorporating community benefits as part of the construction (for example, Indigenous engagement and participation in the project). The procurement proceeded with the revised RFQ, and construction began in 2022 and is still in progress.

- » Kingston General Hospital Redevelopment—Amid budget constraints, the hospital asked MOH and IO to cancel the procurement in 2023 due to escalating project costs arising from complexities with redeveloping on the existing hospital site. The hospital has submitted revised early planning documents, which include both development on-site and at a new location to support the longevity of the existing sites. The revised plan is currently under review by MOH.

Based on our review of the three projects, we found that the decisions to cancel certain procurements for these projects were made with due regard for costs and impacts on the public sector.

Procurements may be cancelled during the RFQ or RFP phase. Cancellations during RFP often have a financial cost to the Province, known as a break fee, whereas cancellations prior to the commencement of an RFP process do not include break fees and do not result in a financial cost to the Province for cancelling a procurement. This is in addition to any non-financial impacts of not moving forward with an infrastructure project after a need for it has been identified.

Of the 16 cancelled procurements since 2014, eight were cancelled at the RFQ stage and eight were cancelled at the RFP stage. In total, \$30 million of break fees was paid across the eight procurements cancelled at the RFP stage. The amount of the break fee is often determined by the design and bid fee that is already stated in the RFP and disclosed to bidders. The design and bid fee represents partial compensation of an unsuccessful bidder's pursuit costs for responding to the proposal if it is not awarded the contract. The break fees represent a small percentage of the total project budget. For the eight projects, the \$30 million total paid was 0.4% of the \$7.9 billion total approved project budget at the time of cancellation.

While break fees represent a financial cost to the Province, it could cost the Province more to proceed with a project if the delivery model is not appropriate, if the scope of the project no longer meets the needs of the public, or if the cost exceeds the budget and the business case is no longer justified due to the increased costs.

Recommendations and Auditee Responses

Recommendation 1

We recommend that Infrastructure Ontario assess new strategies to increase market competition for projects based on feedback received from market participants while maintaining incentives for contractors to complete projects on time and on budget, including the allocation of risk and whether it would be feasible to break projects into smaller components.

Infrastructure Ontario Response

IO agrees with the recommendation. IO routinely meets with government to discuss market trends and the characteristics of delivery models. We have also worked with Metrolinx, MTO and government to break up projects into smaller components to ensure a competitive response and have made direct recommendations to MOH regarding the disaggregation of various large and complex hospital projects. IO will build on this to implement this recommendation by exploring further opportunities to incentivize on-time and on-budget performance and encouraging more competition.

Recommendation 2

We recommend that Infrastructure Ontario, in collaboration with Treasury Board Secretariat, update the Delivery Options Analysis Template to require:

- detailed descriptions of known and expected project-specific risks and mitigation efforts, and an analysis comparing relevant delivery options, including their pros and cons, that considers and addresses project-specific risks; and
- an updated analysis when a delivery model is changed after Treasury Board approval, including the rationale for the change and a revised cost analysis of the new model.

Infrastructure Ontario Response

IO agrees with the recommendation. As part of our ongoing participation in Treasury Board Secretariat's Major Public Infrastructure Project working group, we have provided input on potential revisions to the Template. We will work with Treasury Board Secretariat to provide additional input on how the Delivery Options Analysis tool can be updated:

- to better reflect the analysis IO undertakes in its Procurement Options Analysis tool to reflect risks and recommended delivery options; and
- after a delivery model change, led by the sponsoring ministry, to document the rationale of such delivery model change and any applicable cost analysis of the new model.

Recommendation 3

We recommend Infrastructure Ontario obtain competitive pricing with Progressive public-private partnership delivery models by requiring the Development Partner to tender any subtrades where the price offered by the Development Partner is not competitive when compared to the shadow bid.

Infrastructure Ontario Response

IO agrees with the recommendation. IO is committed to competitive pricing on all capital projects and will review its Progressive P3 contract language to require the Development Partner to tender any subtrades where the price offered by the Development Partner is not competitive when compared to the shadow bid, within a predefined threshold.

Recommendation 4

We recommend that Infrastructure Ontario, for projects where significant cost escalation is being assumed in the bid prices, explore opportunities for incorporating risk sharing with the private sector in the Project Agreement by indexing project costs to actual changes in market cost for materials and other significant drivers of cost escalation.

Infrastructure Ontario Response

IO agrees with the recommendation. IO acknowledges that construction cost escalation and the private sector's ability to absorb it have been major challenges, particularly following the COVID-19 pandemic. To maintain project viability and efficient pricing, IO introduced a construction cost escalation regime in several projects. For example, for Trillium Health Partners Mississauga (in the Development Phase), the regime was introduced in October 2024.

IO monitors Ontario's inflationary environment and may choose to maintain its escalation regime as appropriate. However, if price escalation becomes manageable by the market once again under a fixed-price contract, IO would prefer to allow the private sector to retain this risk, as it can find ways to mitigate such costs on its side internally and within its supply chain. Furthermore, to the extent that fixed-price contracting for a particular project is deemed to be inefficient from a pricing perspective, IO will consider the use of alternative delivery models appropriate.

Recommendation 5

We recommend that Infrastructure Ontario, in partnership with the Ministry of Health, conduct a cost/benefit analysis for the Trillium Health Partners Mississauga Hospital project and determine whether the increase in estimated project costs still represents the best solution for delivering the hospital project, including an analysis of other options to deliver the project.

Infrastructure Ontario Response

IO agrees with the recommendation. IO, working with MOH, will apply the price validation framework (approved by the IO Board of Directors and shared for information with Treasury Board) in order to recommend to government whether the final price proposal from the Development Partner represents value to taxpayers.

Recommendation 6

We recommend that Infrastructure Ontario obtain the Development Partner's critical assumptions used in arriving at its cost estimate to share with the shadow bid cost consultant before the shadow bid is finalized for the same milestone, to ensure that cost estimates are comparable.

Infrastructure Ontario Response

IO agrees with the recommendation and is committed to understanding the Development Partner's critical assumptions that inform the cost estimate. It is important to note that the process is intentionally designed so that each party develops independent opinions on the design requirements and corresponding cost impacts at each phase. IO will work with our cost consultant firms to modify the process and ensure that information is shared to achieve a consistent basis of estimate for the Development Partner estimate and the shadow bid.

Recommendation 7

We recommend that Infrastructure Ontario update its Development Phase contract to require the Development Partner to provide quantity, unit rates and market pricing for building materials and components throughout the Development Phase, as soon as the estimates are available.

Infrastructure Ontario Response

IO agrees with the recommendation. IO has developed an updated price form template for future projects that requires full quantities and unit rates disclosure for building materials and components at all design milestones. We will review the requirements of the Development Partner and how to further streamline consistent disclosure.

Recommendation 8

We recommend that Infrastructure Ontario work with the Development Partner to:

- identify all significant risks and develop appropriate risk mitigation strategies;
- identify opportunities for risk sharing that optimizes risk allocation; and
- explore options to minimize contingencies and risk premiums included in project costs.

Infrastructure Ontario Response

IO agrees with the recommendation. The Development Phase in a Progressive P3 is intended to identify risk and risk mitigation, risk sharing and opportunities to minimize contingencies and risk premiums. Building on this, working with the Development Partner, IO will:

- ensure all significant risks are documented in risk registers (for both the development and construction phases) and include identified mitigation strategies. IO will undertake a review to see if any mitigation strategies can be progressed further;
- explore how to optimize risk allocation to the party best able to manage the identified risks while balancing cost implications on a complex mega-hospital; and
- review options for minimizing risk contingencies as contingencies are directly impacted by the optimized risk allocation. There are several working groups actively examining further options to minimize contingencies and risk premiums.

Recommendation 9

We recommend that the Ministry of Health, in collaboration with Trillium Health Partners:

- conduct a local health-care needs assessment to determine options for how the existing hospital site and its J-Wing can best be used to meet these needs; and
- prepare cost estimates to assess whether these options are feasible and recommend the optimal course of action for the sites.

Ministry of Health Response

MOH agrees with the recommendation and will review the Trillium Mississauga Hospital project and conduct an assessment of local health-care needs to determine options and recommend future use of the existing hospital site and J-Wing to meet the health-care needs of the community. MOH will work collaboratively with Ontario Health (OH) and hospitals to identify capital projects that support the delivery of programs and services aligned with local, regional and provincial health-care needs and priorities. MOH will work with OH and the hospital to assess the potential future use of these assets in the context of local health system needs and thoughtful resource management.

Recommendation 10

We recommend that Infrastructure Ontario (IO) conduct an analysis of the Accelerated-Build Long-Term Care Home Pilot Program (Pilot Program) that includes a breakdown of the cost drivers of the Pilot Program, including how much of the cost difference compared to traditional long-term care home construction is attributable to each of the following factors: the COVID-19 pandemic, accelerated construction schedule, design changes after construction began, procurement of subtrades and furniture and equipment, and any other cost drivers identified by IO.

Infrastructure Ontario Response

IO agrees with the recommendation and will undertake an analysis compared to actual long-term care home costs that are reported to IO through the IO Lending Program, to identify the cost impacts of the Accelerated-Build Long-Term Care Pilot Program focusing on the COVID-19 pandemic, accelerated construction schedule, design changes after construction started, procurement of subtrades and furniture and equipment.

Recommendation 11

We recommend that the Ministry of Long-Term Care:

- assess whether the current funding method, approvals for new homes to be developed and funding timeline are meeting expected long-term care capacity needs; and
- develop strategies to address the challenges that the sector faces in building long-term care homes, in collaboration with Infrastructure Ontario where applicable.

Ministry of Long-Term Care Response

MLTC agrees with the recommendation and continues to make efforts to advance investment in long-term care to support the government's commitment to building 58,000 new and upgraded beds to modern design standards across the province by 2028.

The Accelerated-Build Pilot Program was a new and innovative approach to long-term care development. Through a range of accelerated construction measures, rapid procurement and the use of hospital lands, beds were built sooner than traditional approaches while navigating the COVID-19 pandemic, supply chain disruptions, interest rate volatility and significant inflation in construction pricing.

The Auditor General's findings in the Accelerated-Build Pilot Project will inform potential ongoing enhancements to the framework for investment for long-term care capital projects.

Recommendation 12

We recommend that Infrastructure Ontario:

- conduct an analysis on how the planning, procurement and delivery model used in the accelerated-build Pilot Program can be modified for better cost and risk transfer; and
- present this analysis to the Ministry of Long-Term Care so that it can consider whether a modified accelerated-build program with appropriate risks taken on by the Province is feasible to encourage more long-term care home construction.

Infrastructure Ontario Response

IO agrees with the recommendation and will conduct an analysis on how the planning, procurement and delivery model used in the Accelerated-Build Pilot Program can be modified for better cost and risk transfer and present the analysis to MLTC so that it can consider whether a modified accelerated-build program with appropriate risks taken on by the Province is feasible to encourage more long-term care home construction.

Recommendation 13

We recommend that Infrastructure Ontario:

- invite all (or at a minimum, three) prequalified vendors to submit a proposal in a manner similar to the standard process where prequalified companies are invited to respond to the Request for Proposals when modified procurement processes are used; and
- when a contractor is selected for multiple similar projects whose schedules overlap, identify risks to the project schedule and implement strategies to mitigate the risks.

Infrastructure Ontario Response

IO agrees with the recommendation. IO will action this recommendation, noting there may be projects and/or programs where IO receives specific direction from government about timelines for delivery that do not allow for this.

IO is committed to maximizing competition and delineating appropriate risk transfers in all its procurements while remaining cognizant of market and project conditions applicable on a project-by-project basis, and will make efforts to invite all (or at a minimum, three) prequalified vendors to submit a proposal.

Any future procurement of a portfolio of projects similar to the long-term care accelerated-build program will benefit from lessons learned on that program to refine our approach to identifying and mitigating schedule risk where project schedules overlap.

Recommendation 14

We recommend that Infrastructure Ontario, in conjunction with the Ministry of Transportation, update its quality oversight framework as part of its public-private partnership agreements for highway construction to ensure regular monitoring throughout the project around key risk areas that could delay substantial completion or impact public safety.

Infrastructure Ontario Response

IO agrees with the recommendation and will work with MTO to ensure quality oversight on its projects and has applied the lessons learned from Highway 427, and has already implemented enhancements to the oversight framework on the Highway 401 project and subsequent Project Agreements. These changes include clear delineation and requirements for both quality control and quality assurance; quality assurance performed by an independent quality assurance firm; the contractor's requirement to provide the Province with real-time access to test results and reports; and increased Technical Advisor field oversight and audit responsibilities for quality records provided by the contractor.

Recommendation 15

We recommend Infrastructure Ontario:

- conduct an analysis of P3 contracts from other jurisdictions for clauses that add clarity for a timely dispute resolution process, including information requirements, and incorporate these changes to future Project Agreements where applicable; and
- develop a reporting form that the Project Company is required to complete when providing a notice of the delay that includes all the information and supporting documentation required by the Project Agreement, and specifies the information to be provided when the impacts of the delay cannot be quantified yet.

Infrastructure Ontario Response

IO agrees with the recommendation and is in regular discussions with other jurisdictions on approach to claims, claims management and procedural guidance on the resolution of claims and will undertake a comprehensive review of clauses specific to timely dispute resolution and information requirements.

IO acknowledges that Project Companies have consistently failed to provide information of sufficient quality and detail to advance claims in a timely manner and will accept the recommendation to develop a reporting form that Project Companies will be required to complete when providing a notice of delay that includes all the information and supporting documentation required by the Project Agreement, and specifies the information to be provided when the impacts of the delay cannot be quantified yet.

Recommendation 16

We recommend that Infrastructure Ontario review the initial work schedule before construction commences for all new projects so that all necessary information required in the contracts is reported, including the cost assigned to all activities in the construction schedule.

Infrastructure Ontario Response

IO agrees with the recommendation. IO will review its current approach to identify any potential enhancements to our process.

Audit Criteria

In planning our work, we identified the audit criteria we would use to address our audit objectives (outlined in **Section 3.0**). These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at Infrastructure Ontario (IO) reviewed and agreed with the suitability of our objectives and associated criteria:

1. IO has adequate procurement directives and policies in place to ensure that the procurement of private-sector contractors to deliver selected infrastructure projects is competitive, fair, transparent and prevents conflicts of interest.
2. Information used, including assumptions used by IO to support project risk allocation decisions for design, construction, financing and maintenance risks, was evidence-based, and risk mitigation actions were identified and implemented, and considered market conditions, costs and impacts on the public sector, and lessons learned from delivery of other infrastructure projects, when entering into contractual agreements with private-sector companies.
3. Effective measures are in place to identify, manage and resolve issues that arise over the duration of the selected projects that may delay the timing of the projects or increase their costs.
4. Effective oversight processes are in place to monitor project costs, quality and timely delivery of projects in accordance with user specifications and needs.
5. Other external experts are procured in accordance with relevant procurement policies, and measures are in place to ensure that the experts are free of any conflicts of interest.
6. The cancellation of an infrastructure project procurement is done with due regard for costs and potential impacts on the public sector.

Audit Approach

We conducted our audit between January 2024 and October 2024. We obtained written representation from IO and each ministry's management that, effective November 26, 2024, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusion of this report.

As part of our audit work, we:

- » interviewed relevant staff from IO on the delivery models for major infrastructure projects, procurement processes, including evaluation of bids received, and project management and oversight processes for managing project budgets and progress;
- » interviewed and obtained documentation from each of the three ministries, Trillium Health Partners and Lakeridge Gardens Long-Term Care Home relating to the infrastructure projects selected in this audit;
- » spoke with external parties that have similar infrastructure projects or work with the sponsoring ministries on infrastructure projects, including University Health Network and the Ministry of the Environment, Conservation and Parks;
- » obtained and reviewed Treasury Board materials for the selected infrastructure projects, including the business case and rationale for the delivery model selected;
- » interviewed staff and obtained documentation from the Ministry of Health on its capital planning process and selection of hospital projects for development;
- » interviewed staff and obtained documentation from the Ministry of Long-Term Care on its current long-term care development funding model to compare to the accelerated-build model, and whether this current model develops beds at a pace that will achieve the provincial targets for net-new long-term care beds;
- » interviewed staff and obtained documentation from the Ministry of Transportation on the cost of its highway projects under different contracting models and how the ministry performs construction oversight on different projects; and
- » spoke with relevant staff at the Ministry of the Attorney General, Ministry of Children, Community and Social Services, Ministry of Health, and Ministry of the Solicitor General on planned projects that were cancelled to understand the rationale and impact on the public.

Audit Approach (Continued)

Our audit selected three major infrastructure projects to review over three different sectors and three different delivery models. In addition, each project had unique characteristics that we reviewed as part of our audit, including:

- » Trillium Health Partners Mississauga Hospital (hospital sector, Progressive P3 DBFM contract)—one of the first projects that used the newly developed Progressive P3 delivery model and is in the Development Phase so we reviewed the effectiveness of the new process and specifically how the Province has managed risk allocation and pricing under the model; one of many large, complex hospital projects that are planned or recently started with significant risks and/or received low market interest with minimal competition in the market.
- » Lakeridge Gardens Long-Term Care Home (long-term care sector, Construction Management at Risk contract, which is not a P3 contracting model)—one of four long-term care homes that was built under an accelerated-build pilot program to test whether long-term care homes can be built quickly and using modular construction methods.
- » Highway 427 Expansion (transportation sector, P3 DBFM contract)—one of several highway projects that has been completed under the same delivery model, but experienced significant delays and disputes during the construction process.

This audit did not include a review of transit projects. Our Office has audited certain major transit infrastructure projects in the past, such as our audit of Metrolinx—LRT Construction and Infrastructure Planning in our *2018 Annual Report* that found ineffective risk transfer on P3 projects. The 2018 audit reviewed several LRT projects that were in progress in 2018, which continue to be in progress as of the date of this audit report, so the final cost and completion date is not yet known to provide an update. Our Office also last followed up on the outstanding recommendations of the 2018 audit in our *2023 Annual Report*.

Audit Opinion

To the Honourable Speaker of the Legislative Assembly:

We conducted our work for this audit and reported on the results of our examination in accordance with Canadian Standard on Assurance Engagements 3001—*Direct Engagements* issued by the Auditing and Assurance Standards Board of the Chartered Professional Accountants of Canada. This included obtaining a reasonable level of assurance.

The Office of the Auditor General of Ontario applies Canadian Standards on Quality Management and, as a result, maintains a comprehensive system of quality management that includes documented policies and procedures with respect to compliance with rules of professional conduct, professional standards, and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Professional Conduct of the Chartered Professional Accountants of Ontario, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

December 3, 2024

A handwritten signature in black ink, appearing to read 'Spence', with a large, sweeping flourish extending from the end.

Shelley Spence, FCPA, FCA, LPA

Auditor General

Toronto, Ontario

Acronyms

Acronym	Definition
DBB	Design-Bid-Build contracting model (traditional, non-P3 type of contracting)
DBFM	Design-Build-Finance-Maintain contracting model (type of P3)
DOAT	Delivery Options Analysis Template
IO	Infrastructure Ontario
MOH	Ministry of Health
MOI	Ministry of Infrastructure
MLTC	Ministry of Long-Term Care
MTO	Ministry of Transportation
P3	Public-private partnerships
RFP	Request for Proposals
RFQ	Request for Qualifications

Glossary

Term	Definition
Public-Private Partnership (P3)	A delivery model that leverages the expertise of the private sector for a construction project, which includes transferring the risk of cost overruns and project delays to the private sector. This can be done through various types of P3 delivery models, which incorporate a combination of the following functions: design, build, finance, operate and maintain. A P3 is mainly used for projects with a capital cost greater than \$100 million.
Classic P3 Delivery Model	Contrasts with the Progressive P3 delivery model . A P3 that involves entering into one contract with a private-sector partner, often a consortium of several companies teaming up to work together to design, build, finance, operate and/or maintain the infrastructure asset. Also see Public-Private Partnership (P3) .
Progressive P3 Delivery Model	Contrasts with the classic P3 delivery model . An evolution of the classic P3 model where a Development Phase is added before the standard design, build, finance, operate and/or maintain part of the contract.
Development Phase	Phase prior to entering into the main project contract to construct the infrastructure asset, at which the Development Partner (private sector) and the Province (such as IO and the sponsoring ministry) work collaboratively to develop the design, set the price and negotiate risk allocation. There is no separate tendering process after the Development Phase, so the Development Partner will be automatically awarded the construction contract at the end of the Development Phase.
Design-Bid-Build (DBB)	A traditional approach to delivering an infrastructure asset that is not considered a P3. The Province retains the risk throughout the project and makes progress payments as the work is completed, instead of paying a substantial portion of the cost at the end of the project, as with a P3 delivery model with financing included. At each stage, the Province contracts with a company to carry out the work. If unforeseen site conditions arise that the design plans did not account for, since the contractor did not create the design (unlike in a P3 delivery model), the Province is responsible for any additional costs required to conform with the design plans.
Design-Build-Finance-Maintain (DBFM)	A type of P3 delivery model where the private sector designs, constructs, finances and conducts maintenance of the infrastructure asset over the term of the contract (usually 30 years). The public sector retains ownership of the asset.
Progressive Design-Build-Finance-Maintain (Progressive DBFM)	Similar to a DBFM, but with the addition of a Development Phase . Instead of an RFP process to negotiate terms of the design, build, finance and maintain contract, a Development Partner is selected through a competitive procurement process to work collaboratively with IO to develop the design and negotiate the price in the Development Phase.
Price Validation Process	Internal process developed by IO for Progressive P3 projects, to ensure pricing proposed by the Development Partner is reasonable throughout the Development Phase. As part of this process, IO engages a third-party cost consultant to help prepare a shadow bid of projected costs based on the design prepared by the Development Partner, with the goal to have the Development Partner's pricing come within a predetermined threshold of the shadow bid. Additionally, the price must be within the approved Treasury Board budget.

Term	Definition
Accelerated-Build Pilot Program (Pilot Program)	Developed by IO with input from hospitals and the Ministry of Long-Term Care to construct long-term care homes faster than traditionally built homes by utilizing hospital-owned land, a fast-tracked procurement process and rapid construction to achieve accelerated timelines. Four long-term care homes were built under the Pilot Program.
Modified Construction Management at Risk	A non-P3 contract arrangement where the Construction Manager (private-sector contractor) is paid for actual costs incurred plus a predetermined fee. Under a standard construction management at risk contract, a guaranteed maximum price would be established at the beginning of the project. For a <i>modified</i> construction management at risk contract, a guaranteed maximum price is not established at the beginning of the project, but the public-sector contractor has the option to convert the contract to a guaranteed maximum price once the design has been substantially finalized. This contracting model was used for the Accelerated-Build Pilot Program .
Guaranteed Maximum Price	Agreement under which the private-sector contractor is paid the actual costs incurred for the project plus a fee, and payments are capped to an overall maximum price.
Fixed Price	Agreement under which the private sector commits to a defined scope of work for an agreed-upon price. It is responsible for any costs incurred throughout the project that are beyond the agreed-upon price if the work was within the original scope of the project.
Major Public Infrastructure Projects Directive (MPIP Directive)	The policy document that establishes the decision-making process and reporting requirements for major public infrastructure projects undertaken or funded by ministries and provincial agencies. For example, the MPIP Directive sets out the process for two key approvals, including Stage 1 Planning Approval and Stage 2 Construction Approval , that are required from Treasury Board prior to the planning, construction or commitment of funding for a major public infrastructure project.
Delivery Option Analysis Template (DOAT)	A template document developed by Treasury Board Secretariat (TBS) that ministries work with IO to complete when determining the best delivery model to construct a new infrastructure asset, including whether it should be delivered through a P3. The DOAT includes an assessment that compares different delivery model options for the project. Where an assessment of delivery options for a project is required, the sponsoring ministry must work with IO to conduct and submit the assessment to Treasury Board/Management Board of Cabinet (TB/MBC) in a form specified by TBS to recommend a delivery model concurrent with the ministry's Stage 2 Construction Approval submission to Treasury Board.
Treasury Board Stage 1 Planning Approval	Required approval from Treasury Board before detailed planning of an infrastructure project can begin. Stage 1 Planning Approval must include a business case that identifies the need for the infrastructure project, desired outcomes and how they will be measured, among other matters (e.g., outlining how the project aligns with a ministry's infrastructure plan).

Term	Definition
Treasury Board Stage 2 Construction Approval	Required approval from Treasury Board before the procurement and subsequent construction of an infrastructure project can begin. Stage 2 Construction Approval must include the project's scope, budget, procurement and construction time, recommended delivery model through a form specified by Treasury Board Secretariat (e.g., Delivery Option Analysis Template), a plan to manage project risks, and any required actions.
Letter of Direction	Issued by the Minister of Infrastructure to IO after a project obtains Stage 2 Construction Approval to direct IO to begin the procurement process and confirms the delivery model approved by Treasury Board.
Project Agreement	The contract between the sponsoring Ministry and/or IO (representing the public sector) and the contracting company (representing the private sector) that outlines the provisions and terms of the complete project delivery.
Market Sounding	Market input and feedback gathered through either dialogue or written submissions with the industry, including contracting companies, industry associations and experts. Feedback is used to help inform IO's project delivery approach, how upcoming infrastructure projects will be received by the industry and any areas of concern.
Request for Qualifications (RFQ)	An RFQ for an infrastructure project is an open and competitive process used prior to the issuance of an RFP to request potential vendors to submit their qualifications (such as similar past experience and financial strength) to demonstrate their capability to deliver an infrastructure project. Vendors that meet the stipulated requirements, subject to any specific limitations set out in the RFQ regarding the maximum number of prequalified vendors, are invited to submit to an RFP.
Request for Proposals (RFP)	A competitive process for an infrastructure project in which the request can be either issued to a list of prequalified vendors following the completion of an RFQ or issued independently as a standalone process. Vendors are asked to submit proposals that are evaluated based on predetermined criteria disclosed in the RFP, which may be both financial and non-financial. For major infrastructure projects, vendor proposals include a pricing submission and a design submission.
Substantial Completion	Stage when construction is substantially complete and ready for use in accordance with the contractual requirements set out in the project agreement. Minor deficiencies that need to be addressed by the private-sector contractor may still remain to be fixed before the project reaches Final Completion . For classic P3 projects with a financing component, such as a DBFM, a significant portion of the construction costs are not paid to the private-sector contractor until the project reaches substantial completion.
Final Completion	Stage when all outstanding deficiencies have been addressed by the private-sector contractor, and no further construction work is known to be required on the infrastructure project.

Appendix 1: Life Cycle of P3 Projects

Prepared by the Office of the Auditor General of Ontario

Phase	Key Activities	Infrastructure Ontario's Role
Stage 1 Treasury Board approval obtained by sponsoring ministries before detailed planning of a project can begin. Infrastructure Ontario is not typically involved in early planning, but this varies across ministries.		
Planning	<ul style="list-style-type: none"> Assess appropriateness for P3 delivery, and the type of P3 model to use if selected Determine project scope, estimated budget and obtain Treasury Board approval if the costs and scope have changed since the initial approval 	<ul style="list-style-type: none"> Assess delivery options and provide a recommendation with sponsoring ministries Provide input on project costs and budget Perform market soundings for proposed project
Stage 2 Treasury Board approval obtained before procurement and subsequent construction can begin		
Procurement	<ul style="list-style-type: none"> Issue RFQ to market to shortlist qualified bidders Issue RFP to the prequalified bidders and responses are evaluated based on the technical responses Negotiate with highest scoring proponent to the RFP Finalize Project Agreement with the selected proponent 	<ul style="list-style-type: none"> Lead the entire procurement process from drafting and issuing the RFQ, evaluating and shortlisting submissions, drafting and issuing the RFP, and evaluating proposals Manage negotiations with preferred proponent
Construction	<ul style="list-style-type: none"> Review and approve the proposed detailed construction schedule presented by the construction company Construction work is performed by the construction company Review the site and note minor deficiencies when substantial completion is achieved, including certification by an independent certifier Review and monitor the completion of all remaining minor deficiencies 	<ul style="list-style-type: none"> Monitor construction costs against the budget Manage variation and amendments required during the project (change orders) Track and manage contract risks Support claims mitigation Manage payment process
Operations and Maintenance	<ul style="list-style-type: none"> Applicable to any P3 contracts with Operations and/or Maintenance clauses Operation of infrastructure asset according to contract terms (such as collecting tolls on highway) Maintenance of infrastructure asset according to contract terms (such as performing repairs and renewals to the required specifications) 	<ul style="list-style-type: none"> Manage payment process and contract (if IO is main contracting authority) Provide advisory support on operational issues, financing and legal issues, dispute resolution, and other matters (if IO is not the main contracting authority)

Appendix 2: Comparison of Key Components of Classic P3 and Progressive P3 Delivery Models

Prepared by the Office of the Auditor General of Ontario

Delivery Component	Classic P3	Progressive P3
Procurement Strategy	<ol style="list-style-type: none"> 1. Public sector determines scope of project. 2. Private sector responds to the Request for Qualifications to be shortlisted for the project. The shortlisted applicants are invited to respond to the Request for Proposals to bid on the entire project (Design, Build, Finance and/or Maintain/Operate) based on the project agreement and requirements defined by the public sector. 3. Project Agreement is signed between public and private sector. 	<ol style="list-style-type: none"> 1. Public sector determines scope of project. 2. Private sector responds to Request for Qualifications to be shortlisted for the Development Phase of the project, or the review of participants' qualifications may be combined into the Request for Proposals. Applicants respond to the Request for Proposals to bid on the Development Phase of a project. 3. Development Phase Agreement is signed between public and private sector to work collaboratively to finalize the design of the project. This involves multiple iterations of the design that becomes more detailed as the Development Phase progresses, with both parties working to reduce project risks and refine pricing. 4. The parties then enter into a Project Agreement for the build and/or to operate/maintain based on the design and scope set in the Development Phase.
Contract Packaging	One contract between the public sector (which can include the ministry as the project sponsor, and IO) and the Project Company (Project Agreement).	<p>Can be one or two contracts.</p> <p>Single contract: Covers development, construction and implementation phases of project, generally used where speed is important, such as the accelerated builds of long-term care homes.</p> <p>Two contracts: Parties enter into Development Agreement first, and then, once Development Phase is complete, enter into Project Agreement.</p>
Payment and Pricing Structure	<p>Price: Fixed price agreed to at the beginning of the contract; cost overruns are generally the responsibility of contractor.</p> <p>Payment structure: Contractors are usually paid by the public sector only at substantial completion or for reaching key milestones.</p>	<p>Price: Can be fixed price, guaranteed maximum price or target price.</p> <p>Payment structure: Monthly payments are made by the public sector during the Development Phase based on work completed. Once the Project Agreement is finalized, the public sector pays when key milestones are reached and at substantial completion if financing is a component of the agreement; otherwise, monthly payments will be made by the public sector as work is completed.</p>

Appendix 3: Timeline for Trillium Health Partners Mississauga Hospital

Prepared by the Office of the Auditor General of Ontario

Date	Description
May 1958	Trillium Mississauga Hospital opens to the public with 115 beds.
1964–1983	519 beds are added to the hospital.
Apr 1998	Trillium Mississauga Hospital merges with Trillium Queensway General Hospital to become a new hospital corporation, Trillium Health Centre.
2006–2007	An additional wing is added to the hospital with 190 beds at a cost of \$120 million. The total bed count to date is 709.
Apr 2016	Treasury Board approves Stage 1 Planning for Trillium Health Partners and MOH to build 548 beds across two sites (Mississauga and Queensway sites) with a planning grant of \$5 million.
May 2017	Treasury Board approves Stage 2 Construction to deliver the project through a DBFM delivery model with an estimated completion date of spring 2025/26.
Mar 2018	Treasury Board approves a change in delivery model from DBFM to Design-Build-Finance (DBF).
Apr 2019	Treasury Board approves a change in delivery model from DBF to DBFM and an increase to the total project cost. The increase is to include maintenance costs and increase capacity to allow for more hospital beds.
Mar 2021	The project scope is changed. Treasury Board approves acquisition of a long-term care home for \$32.5 million for its land (with \$20 million of provincial contribution), on which the new Mississauga hospital will be built. The project will be a full replacement of the existing Mississauga hospital with a new 624-bed hospital.
May 2021	Treasury Board approves an increase to the total project cost. The increase is to expand the project scope to include a new emergency department, surgical suites, pharmacy and laboratory. The estimated completion date for the Mississauga site is revised from spring 2025/26 to May 2031.
July 2021	MOI issues a letter of direction to IO to work with the MOH to deliver the project using a DBFM delivery model. The estimated completion date continues to be May 2031 for the Mississauga site.
Sep 2021	MOH, in consultation with IO, requests a delivery model change from DBFM to Progressive DBFM. The change is made because IO anticipates that there will be low market interest (see Section 4.2.1 for more details). Treasury Board approves the change.
Apr 2022	IO issues a Request for Proposals for the Development Phase.
Sep 2022	IO completes its procurement after receiving one bid from a joint venture between EllisDon Corporation and PCL Constructors Canada Inc. (Development Partner) for the Mississauga hospital site.

Date	Description
Mar 2023	IO and Trillium Health Partners sign a Development Phase Agreement with the Development Partner to advance design and confirm fixed pricing for a 24-storey hospital with about 985 beds.
May 2023	Due to current construction market conditions, Treasury Board approves an increase to the total project cost.
Jun 2023	Treasury Board approves an increase to the total project costs to address current construction market conditions. Treasury Board also approves IO to disclose the affordability cap of \$5.1 billion for the design and construction costs to the Development Partner.
Jul-Sep 2023	The Development Partner submits a 100% schematic design price to IO. IO, Trillium Health Partners and MOH work with the Development Partner to complete de-scoping and value engineering measures to reduce costs. The de-scoping exercise results in the hospital being reduced to 22 storeys. (see Section 4.2.2 for more details).
Dec 2023–Mar 2024	IO obtains 30% design development submission.
May–Jun 2024	IO obtains 60% design development submission. The estimated completion date is updated to 2033.
Oct 2024	IO obtains 90% design development submission.
Mar 2025	Estimated date of completion of Development Phase and financial close.
2033	Estimated date of completion for the Trillium Mississauga Hospital.

Appendix 4: Timeline for Lakeridge Gardens Long-Term Care Home

Prepared by the Office of the Auditor General of Ontario

Date	Description
Jun 2020	Treasury Board approves Stage 1 Planning for MLTC to accelerate the build of a 320-bed long-term care home at the Lakeridge Health Ajax Pickering Hospital site for a preliminary estimated budget of \$134.7 million (\$421,000 per bed).
Jul 2020	Minister issues letter of direction to IO to start the procurement process. IO issues Request for Qualifications on July 22, 2020, resulting in an accelerated seven-week procurement.
Sep 2020	IO completes its accelerated procurement and identifies the winning bidder, PCL, for the Lakeridge Health site (bid was a range from \$155 million to \$175 million, or about \$484,000 to \$547,000 per bed).
Oct 2020	<p>Treasury Board approves Stage 2 Construction to deliver the project through a Modified Construction Management at Risk delivery model for a total project cost of \$179.6 million (about \$561,000 per bed) with an estimated completion date of December 2021. The estimated budget for the project is increased from the Stage 1 approval due to:</p> <ul style="list-style-type: none"> • increased construction premiums relating to COVID-19 productivity and supply chain impacts; • programmatic and design enhancements such as the addition of a Dialysis Station room and hospital-grade HVAC for 100% fresh air supply; and • site-specific costs such as restructuring of a helipad flight path.
Dec 2020	<p>Treasury Board authorizes MLTC to enter into a Transfer Payment Agreement with Lakeridge Health, which includes covering the complete project costs and an indemnification for the Hospital for any costs related to deficiencies with the build.</p> <p>A construction contract is awarded to PCL to build a long-term care home at the Lakeridge Health Hospital site in Ajax. Construction commences on the long-term care home.</p>
Sep 2021	Treasury Board approves an increase of \$62.8 million to the total project cost, from \$179.6 million to \$242.4 million.
Nov 2021	The estimated date of substantial construction completion is changed from December 2021 to January 2022, because of reallocation of resources in preparation for patient move-in to ease hospital strain.
Feb 2022	Substantial completion for the long-term care home is reached on February 23, 2022.
Mar 2022	Major construction resulting in the first resident moving into the long-term care home is achieved on March 31, 2022.
Aug 2023	All work and payments for the long-term care home are completed. The final amount MLTC paid to the Construction Manager is \$198.5 million (about \$620,000 per bed), or \$167.1 million (about \$522,000 per bed) excluding the separate parking structure that was built.

Appendix 5: Traditional Funding for Long-Term Care Home Construction

Source of data: Ministry of Long-Term Care

Construction Funding Subsidy (CFS)

- The CFS is provided to eligible operators for the development of a new long-term care home or beds, or for the redevelopment of an existing long-term care home or beds (to the current design standards).
- In 2020, the MLTC introduced a modernized funding policy that divided the province into four market segments based on population size.
- Whereas previously eligible operators would receive a range of funding dependent on the size of the home, the funding is now based on where a project is constructed (large urban, urban, mid-size and rural) and the home size (small, medium and large).
- In 2022, an additional top-up was introduced for eligible projects to help fast-track the construction of new long-term care beds, with eligible projects needing to start construction by August 31, 2023.
- This top-up was provided for a second year in 2024, for projects that were approved for construction by November 30, 2024.

Development Grant*

- A development grant is also provided to eligible operators, per bed, to cover a portion of eligible project costs.
- The maximum amount of development grant funding per bed is set according to the market segment of the project.
- Eligible project costs for the grant include any combination of eligible construction costs; eligible land costs; eligible development charges; and eligible signage.

Eligibility

- Operators are eligible to apply for the CFS and development grant if they are an existing non-profit, for-profit or municipal long-term care home operator, or a new licensee with a partnership with an established operator eligible to operate a long-term care home in Ontario.
- Applicants would be evaluated based on alignment with program objectives; the project's readiness; financial viability; ability to address local needs; and compliance history (where applicable).
- Subsequent to approval and under the policy, MLTC would provide the funding to an eligible operator only if:
 - there is a signed Development Agreement (DA) between MLTC and the licensee or operator, and this policy is identified as applicable;
 - all conditions and requirements of the DA have been met to the satisfaction of MLTC; and
 - all conditions and requirements of this policy are met.

Calculation of the CFS and development grant

- The base CFS per day ranges from \$20.53 to \$23.78 depending on the market segment.
 - For homes with up to, and including, 160 long-term care beds, including all regular licensed or approved beds in the home (excluding certain beds such as under a temporary licence or temporary emergency licence), the base CFS per day is adjusted by up to \$1.50 in recognition of the cost differentials typical for small- and medium-sized homes.
- The time-limited CFS top-up with a maximum of \$35 per day for eligible projects that meet specific criteria (part of which is convertible to a CFS construction grant for eligible non-profit homes).
- The base CFS and top-up are paid per bed, on a monthly basis for a period of 25 years.
- The development grant is a one-time grant per bed ranging from 10% to 17% of total project costs, up to a maximum of \$24,923–\$51,376 depending on the market segment.
 - Provided following the substantial performance of the construction contracts relating to the beds of the project.

* Not-for-profit organizations can apply for a planning grant of \$250,000.

Appendix 6: Breakdown of per Bed Funding for Traditional Long-Term Care Home Construction

Source of data: Ministry of Long-Term Care

	Large Urban	Urban	Mid-size	Rural
Base Construction Funding Subsidy (CFS) per day (\$)	23.78	20.53	20.53	20.78
Small home (up to and including 96 beds) (\$)	+1.50	+1.50	+1.50	+1.50
Medium home (97 beds up to and including 160 beds) (\$)	+0.75	+0.75	+0.75	+0.75
Large home (161 beds and over) (\$)	+0.00	+0.00	+0.00	+0.00
Maximum CFS top-up (if eligible) (\$)¹	+35.00	+35.00	+35.00	+35.00
Maximum CFS per day per bed (\$)	60.28	57.03	57.03	57.28
Maximum CFS per bed over 25 years (\$)	550,431.75	520,755.19	520,755.19	523,038.00
Development grant² (% of total eligible project costs)	17.00	17.00	10.00	12.00
Maximum Development Grant per bed (\$)	51,376.00	47,926.00	24,923.00	29,246.00

1. The maximum CFS top-up was introduced in November 2022 to provide additional funding and encourage more homes to be built. This top-up was originally set to expire in 2023, but was extended to November 2024.

2. Not-for-profit organizations can apply for a planning grant of \$250,000.

Appendix 7: Timeline for Highway 427 Expansion

Prepared by the Office of the Auditor General of Ontario

Date	Description
2006	The extension of Highway 427 north of Highway 7 is noted as a priority in the 2006 Growth Plan for the Greater Golden Horseshoe.
Nov 2010	The Ministry of the Environment approves an Environmental Assessment for the extension of Highway 427. Preliminary design for the extension is conducted in parallel with the Environmental Assessment.
May 2013	Treasury Board approval for MTO to construct an extension to Highway 427 for a total project cost of \$700 million. The project is included in the government's 2013 budget announcement for a construction start in 2016–2017.
Feb 2014	Treasury Board gives approval for budget increase of \$400 million, for total project budget of \$1.1 billion, in order to acquire property necessary to complete the expansion work.
Mar 2015	Treasury Board approves the project be delivered through a DBFM delivery model. It is estimated that the delivery through a P3 will result in a quicker delivery. The final Treasury Board-approved budget is \$1.57 billion. ¹
Jul 2015	The Minister of Infrastructure issues a letter of direction to IO to work with MTO to deliver the project using a DBFM delivery model.
Jul-Nov 2015	IO issues a Request for Qualifications and receives responses from six interested bidders. IO and MTO shortlist three teams to submit proposals, including 427 Link, Blackbird Infrastructure Group and Link 427.
Mar 2016 to Jan 2017	IO and MTO release a Request for Proposals to the three shortlisted teams and subsequently select Link 427 as the preferred proponent.
Mar 2017	IO and MTO sign a fixed-price contract with Link 427 to design, build, finance and maintain for 30 years the Highway 427 expansion project for approximately \$616 million ² with an estimated substantial completion date of September 30, 2020.
Feb 2018	Construction on Highway 427 begins.
Sep 2020	Substantial completion is delayed due to a number of obstacles during construction, including the COVID-19 pandemic.
Sep 2021	Substantial completion is reached on September 9, 2021, and the highway is opened to the public (one year later than planned).
Nov 2021	Link 427 and MTO/IO enter into binding arbitration agreement to resolve claims initiated by Link 427.
Jun 2022	Highway 427 reaches final project completion with no outstanding deficiencies.
Feb 2024	Arbitrator determines the Province owes \$116.7 million, including interest, to Link 427 for these claims.
Mar 2024	IO and MTO submit a Notice of Appeal to the arbitrator's ruling to the Ontario Superior Court of Justice.
Jan 2025	Scheduled Hearing for Appeal.

1. The Treasury Board-approved budget includes costs for construction, property acquisitions, fees paid to IO to recover its costs and others.

2. The total project contract value is \$687 million, which includes the assumption of 2% inflation.



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