Chapter 3

Section

3.07

Treasury Board Secretariat

Infrastructure Planning

1.0 Background

Ontario is served by a large and diverse portfolio of public infrastructure with a replacement value of close to $500 billion. The portfolio includes highways, bridges, transit systems, schools, universities, hospitals, drinking water and wastewater systems, parks, government buildings, and a wide variety of other assets.

The Ontario government oversees about 40% of these assets either directly or through broader-public-sector organizations such as hospitals, school boards and colleges. In the fiscal year ended March 31, 2015, the total net book value of infrastructure owned by the province and its consolidated broader-public-sector organizations was $97.1 billion (net book value is the original cost of the asset, less accumulated depreciation, as reported in the Public Accounts of the province) (See **Figure 1**). (Note that energy infrastructure assets, such as nuclear, gas, and hydro-electric power plants, are excluded from **Figure 1** because they are funded by Ontario ratepayers rather than the government or broader-public-sector organizations).

In addition to the assets it owns directly, the province provides infrastructure funding through transfer payments to municipalities, universities, social-service organizations and long-term-care

Figure1: Portfolio of Public Infrastructure Owned by the Province as Reported in Public Accounts

Sources of data: Treasury Board Secretariat and Public Accounts 2014/15

Sector		Value ($ billion)
Transportation	• Metrolinx: GO Transit has 3,250 kilometres (km) of routes (450km train, 2,800km bus) serving 7 million passengers in an area of 11,000 square km	32.5
	• 17,000 kilometres of provincial highways and 2,900 bridges	
Health	• 148 hospitals on 229 sites	25.0
Schools	• 5,000 schools with more than 26 million square metres of space and 1.96 million students	22.8
Colleges	• 24 colleges with 140 campuses and almost 200,000 full-time students	3.8
Other	• 980,000 acres of land	13.0
	• 5,700 buildings including offices, courthouses, correctional facilities and OPP detachments	
Total		**97.1**

homes. These recipients are responsible for planning and managing their infrastructure to meet their needs.

1.1 Infrastructure Plans and Spending

Much of Ontario's current stock of infrastructure was built between the end of the Second World War and the 1970s in response to wartime shortages and the post-war baby boom. Infrastructure spending slowed over the period between 1980 and 2005 as government priorities shifted during difficult economic conditions.

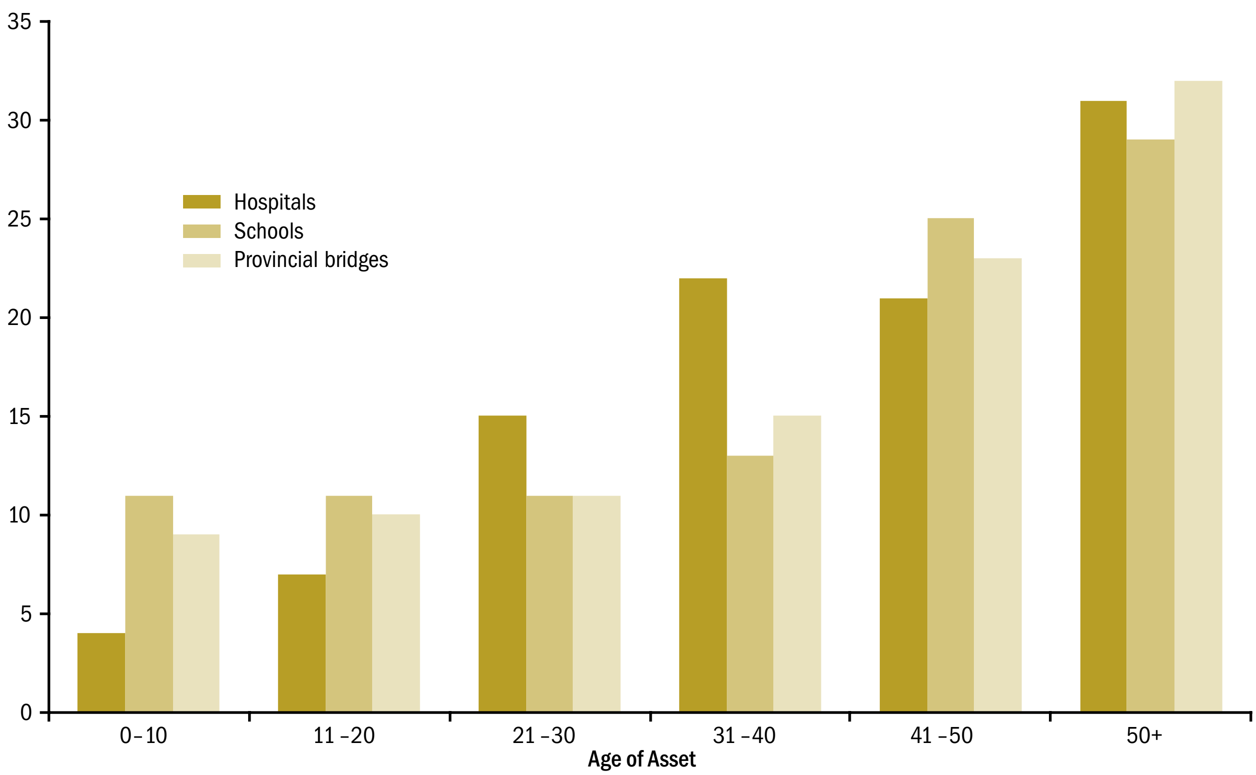
Infrastructure investments picked up again in the last 10 years, but Ontario is still managing an aging asset portfolio. An overview of the age of major assets in the province is shown in **Figure 2**. The average age of the province's hospitals is 45 years while that of schools is 38 years. Additionally, over 50% of both hospitals and schools are at least 40 years old.

The province released two long-term infrastructure plans in the past decade to outline the direction it wanted ministries and government agencies to follow for infrastructure renewal and expansion:

- *ReNew Ontario, 2005* identified the transportation, health and education sectors, among others, as needing investment, and committed to invest $30 billion between 2005 and 2010, including approximately $5 billion for health care projects, more than $10 billion to improve school and postsecondary facilities, and about $11.4 billion to highways and transit projects. This plan was completed in 2008-2009 a year ahead of schedule. Projects committed under this plan include, the York–Spadina subway extension in Toronto, the Windsor–Detroit Gateway, and new hospitals and schools.

Figure 2: Age Distribution of Major Categories of Infrastructure Assets

Sources of data: Ministries of Education, Health and Long-Term Care, and Transportation



Note: The age of provincial highways (pavements) average only seven years and have therefore not been presented in the graph.

- *Building Together—Jobs & Prosperity for Ontarians, 2011*, is a 10-year plan that set out the government's priorities for infrastructure investments and provided a framework to guide future investments. The majority of planned investments were concentrated in the five ministries with the biggest capital spending (Transportation; Health and Long-Term Care; Education; Northern Development and Mines; and Training, Colleges and Universities). Investments consisted of a large number of previously approved projects and programs. Priorities identified in the plan included:
  - expanding and rehabilitating highways, bridges, border crossings, and other transportation infrastructure;
  - improving and expanding transit for commuters;
  - investing in elementary, secondary and post-secondary educational infrastructure;
  - investing in hospital expansions and redevelopments; and
  - supporting investments in rural communities.

1.1.1 Infrastructure Spending

In the last 10 years, Ontario's largest infrastructure investments have been in the transportation sector, followed by health and education. During this period, the province devoted 77% of its total infrastructure spending—which includes preserving existing assets, expansion of existing assets, and construction of new facilities—to these three sectors alone.

Over the last decade, major investments in the various sectors have included:

- more than $20 billion for transit projects, including $9.1 billion for GO Transit and $3.7 billion for transit in Toronto, Ottawa, and Waterloo;
- $18.8 billion to design, repair or build nearly 8,000 kilometres of roads and 950 bridges;
- more than $16 billion invested in the hospital sector, including more than 100 major hospital projects and another $2 billion for other health-care infrastructure such as community health centres and long-term-care facilities; and
- $12.7 billion to build 700 new schools and make major additions and renovations to more than 725 existing schools.

The province has provided an average of about $3 billion per year in infrastructure transfer payments over the last 10 years to organizations such as municipalities, universities, social service agencies, and long-term-care homes. **Figure 3** highlights the province's infrastructure spending in the last 10 years.

Figure 4 shows the estimated planned spending for the next 10 years. This includes:

- $55 billion to transportation for priority projects such as public transit, roads, bridges and highways;
- $27 billion to health care;
- $21 billion to education (schools and post-secondary institutions); and
- $21 billion in other (including some capital funding to municipalities).

Planned capital funding to municipalities totals almost $17.5 billion, allocated as follows: health care, $6.5 billion; roads and bridges, $1.2 billion; schools, $500 million; transit, $4 billion; and other, $5.2 billion.

Over the last ten years, the province has received $6 billion from the federal government through a variety of infrastructure initiatives, and will be undertaking negotiations with the newly elected federal government to jointly fund future projects and programs.

1. 2 Infrastructure Planning

Ontario's Treasury Board Secretariat (Secretariat) is the central agency responsible for co-ordinating, planning, analyzing, and providing recommendations to the government regarding the province's

Figure 3: Actual Infrastructure Spending by Sector, 2006–2015 ($ billion)
Source of data: Treasury Board Secretariat

Sector	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Total
Transit	1.54	1.62	1.86	1.07	1.72	1.74	2.30	2.38	2.49	2.78	**19.50**
Highways, Roads and Bridges	1.73	1.50	2.16	1.79	2.51	2.69	2.45	2.80	2.37	3.10	**23.10**
Hospitals and Other Health Care	0.46	0.56	1.34	2.52	2.86	3.06	3.04	4.14	3.22	3.57	**24.77**
Schools and Postsecondary (Colleges, Universities)	1.52	1.81	2.32	1.69	2.00	2.16	2.37	2.18	2.24	2.35	**20.64**
Other (including some capital funding for municipalities*)	1.35	1.62	3.12	1.91	1.87	1.96	2.52	1.95	1.46	1.02	**18.78**
Stimulus Funding	–	–	–	–	1.62	3.60	–	–	–	–	**5.22**
Total	**6.60**	**7.11**	**10.80**	**8.98**	**12.58**	**15.21**	**12.68**	**13.45**	**11.78**	**12.82**	**112.01**

* Municipal infrastructure spending is also included in the various sectors.

Figure 4: Planned Infrastructure Spending by Sector, 2016–2025 ($ billion)
Source of data: Treasury Board Secretariat

Sector	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Transit	3.21	4.93	5.25	4.24	3.76	2.59	1.25	1.00	0.94	1.08	**28.25**
Highways, Roads and Bridges	3.34	3.00	3.41	3.28	2.96	2.57	2.23	2.13	2.06	1.96	**26.94**
Hospitals and Other Health Care	2.94	3.44	3.41	3.17	2.93	2.38	2.63	2.04	1.88	1.89	**26.71**
Schools and Postsecondary (Colleges and Universities)	2.52	2.73	2.29	2.09	1.95	1.91	1.90	1.90	1.89	1.90	**21.08**
Other (including some capital funding for municipalities*)	1.86	1.82	1.81	2.24	2.30	2.22	2.10	2.11	2.24	2.18	**20.88**
Total	**13.87**	**15.92**	**16.17**	**15.02**	**13.90**	**11.67**	**10.11**	**9.18**	**9.01**	**9.01**	**123.86**

* Planned funding for municipal infrastructure totals almost $17.5 billion, allocated as follows: health-care, $6.5 billion; roads and bridges, $1.2 billion; schools, $500 million; transit, $4 billion; and other, $5.2 billion

infrastructure investments on assets owned by the Province, and broader-public-sector organizations. It also makes recommendations on capital transfers to the various recipients. The Secretariat's responsibilities include:

- co-ordinating infrastructure planning across the provincial government;
- providing fiscal, economic and policy analysis to support the infrastructure-planning process;
- providing capital-expenditure information to the Ministry of Finance for inclusion in the provincial Budget; and
- monitoring capital expenditures.

The Secretariat's infrastructure-planning activities are carried out primarily by the Capital Planning Division (Division), which had 67 full-time employees and expenditures of $6.1 million in the fiscal year ended March 31, 2015. (Prior to September 2014, the Division reported to the former Ministry of Infrastructure). The Division consists of a research and analytics group, a policy co-ordination group, and analysts grouped by sectors that are each responsible for a cluster of ministries.

Ministries are responsible for assets in their respective portfolios and the Ministry of Economic Development, Employment and Infrastructure is responsible for the development of the province's long-term infrastructure plan. The **Appendix** shows the key parties involved with infrastructure planning.

1.2.1 Annual Planning Process

At the beginning of the annual planning process in the fall, the Secretariat sends instructions to ministries for the coming fiscal year to guide them in preparing funding submissions, and to outline any changes to the reporting requirements.

In addition to high-level 10-year outlines of their infrastructure strategy and asset-management plans, ministries must submit details about any major projects and programs, and explanations for any changes to previously approved program or project funding.

A ministry's submission incorporates the funding requests the ministry has received from the broader-public-sector entities that it oversees. After it has reviewed and analysed the requests, the Ministry of Education, for example, includes in its overall submission a province-wide analysis of the renewal needs and major capital needs of all school boards. The Secretariat analyzes the ministries' overall funding requests and makes recommendations to the Treasury Board/Management Board of Cabinet (Treasury Board), which issues final decisions. The Treasury Board usually approves the Secretariat's funding recommendations.

1.2.2 Ministries to Plan within Funding Allocations

Along with instructions from the Secretariat, ministries are also given their preliminary operating and capital funding allocations, developed by the Secretariat in collaboration with the Ministry of Finance.

A ministry's approved 10-year plan from the previous year serves as the starting point for the current year's allocation, and adjustments are made to reflect changes to planned expenditures. In determining a ministry's annual funding allocation, the Secretariat typically makes the following adjustments to the previous year's approved funding amount:

- It extends the planning horizon by one year by replacing the current year's allocation with the forecasted allocation for the 10th year.
- It adds any decisions made by the Treasury Board during the year impacting the funding allocation.
- It adjusts for inter-ministry transfers when services are shifted from one ministry to another.

Ministries are expected to plan their expenditures within these allocations, although they can usually ask for adjustments to reflect additional costs or savings.

The infrastructure plans and related schedules are typically submitted to the Secretariat in late November or early December. Secretariat analysts examine them and make recommendations to the Treasury Board, which issues its decisions in February, ahead of the spring provincial budget.

Ministries are required on a quarterly basis to report on their progress and any risks they face in managing their allocations. They must also update their plans to ensure adherence to their approved 10-year allocations, and provide a projection of year-end financial performance.

This data is submitted to the Secretariat and reviewed by the same analysts who examined the initial submissions to ensure that ministries are on track financially with their plans, and that they have adequately addressed any material deviations from those plans.

Figure 5 illustrates the infrastructure-planning process.

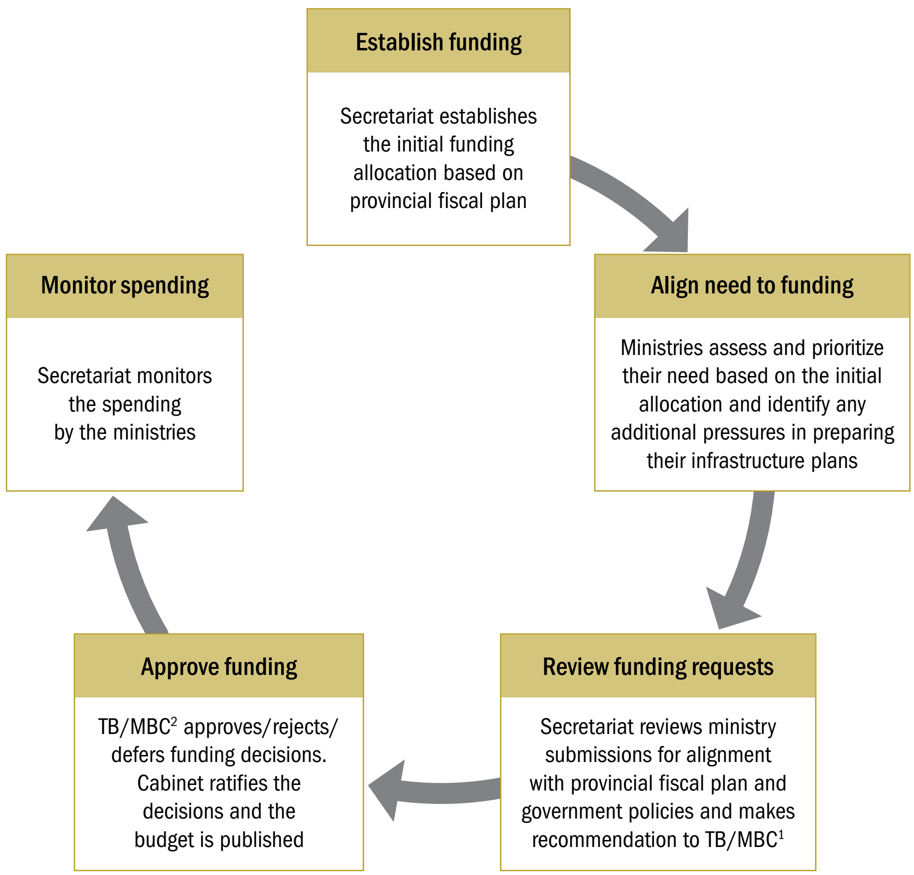
1.2.3 Infrastructure Asset Management Framework

In 2008, the government developed an Infrastructure Asset Management Framework (Framework) to guide the stewardship of all infrastructure assets owned, managed or funded by the province. The Framework describes standard practices, processes and tools, with specific guidance on performance measures, asset inventories, condition assessment and valuation, and asset-management plans.

The principles for asset management identified under the Framework form the foundation for the *Infrastructure for Jobs and Prosperity Act, 2015* (Act), passed in June 2015. Upon proclamation (no

Figure 5: Infrastructure Planning Process

Source of data: Treasury Board Secretariat



1. In some circumstances, submissions may be received and decisions made throughout the year, under the same principles described.
2. TB/MBC: Treasury Board/Management Board of Cabinet

set date at the time of the audit), the Act would require that:

- the Minister of Economic Development, Employment and Infrastructure periodically develops a long-term plan that includes a description of the current state of assets wholly or partly owned by the government, a description of the government's anticipated infrastructure needs for at least the next 10 years, and a strategy to meet those needs;
- the first long-term plan be tabled within three years of the Act being proclaimed, and subsequent plans at least every five years thereafter;
- each long-term plan be made public;
- the government and broader-public-sector entities consider specific principles, including demographic and economic trends in Ontario, and take into account any applicable budgets or fiscal plans and clearly identified infrastructure priorities, in making infrastructure decisions; and
- broader-public-sector entities prepare infrastructure asset-management plans.

The Act also establishes criteria the Government must consider when prioritizing proposed new infrastructure projects. As the Act has not yet been proclaimed, there has not been an opportunity for its provisions to have an impact on infrastructure planning.

1.2.4 Infrastructure Delivery Options

In 2005, the province created Infrastructure Ontario as an agency of what is now the Ministry of Economic Development, Employment and Infrastructure. Infrastructure Ontario's mission is to deliver large public-sector projects through Alternative Financing and Procurement (AFP) arrangements, the form of public-private partnerships most frequently used in Ontario.

Under AFP, provincial ministries, agencies or broader-public-sector entities establish the scope and purpose of a project, and a private-sector contractor then finances and builds the project (and sometimes also operates and/or maintains it for up to 30 years after completion). The province pays for these projects over the term of the contracts.

The government has said AFPs are a more cost-effective way to deliver large complex infrastructure projects because they transfer the risks of cost overruns and project delays from the province to the private sector.

Infrastructure Ontario assesses the feasibility of using AFP for projects that have received planning approval from the Treasury Board and are valued at more than $100 million ($50 million prior to 2015). It then recommends whether to use an AFP based on an initial assessment of the value for money provided by this approach, taking into consideration such factors as the size and complexity of a project.

As of September 2015, Infrastructure Ontario had been involved in the delivery of over 80 AFP infrastructure projects with about $35 billion in capital construction costs across various sectors, including health, justice and transportation.

In 2014, we issued a report on Infrastructure Ontario's delivery of major capital projects using the AFP approach. The report, titled Infrastructure Ontario – Alternative Financing and Procurement, is included in our *2014 Annual Report*.

2.0 Audit Objective and Scope

The objective of our audit was to assess and report on whether the province's infrastructure-planning process ensured that infrastructure projects are prioritized based on need, and whether existing assets are maintained and renewed in accordance with sound asset-management principles.

A significant portion of our work was conducted at the office of the Treasury Board Secretariat (Secretariat) in Toronto, where we reviewed the infrastructure plans and related documents submitted by ministries, and analyzed information prepared by the Secretariat.

We interviewed personnel responsible for submission or assessment of infrastructure plans at both the Secretariat and five ministries, including three with the largest infrastructure spending and highest-value assets – Health and Long-Term Care, Education, and Transportation.

In these three ministries, we also reviewed business cases submitted by broader-public-sector entities to the ministries that oversee them and examined their respective processes for assessing need and selecting projects, and for monitoring capital projects in development. We also reviewed provincial budgets and the government's significant infrastructure plans to identify major commitments made by the province and whether approved capital funding is in alignment with these commitments.

In addition, we met with industry associations and researched how other jurisdictions plan for infrastructure.

3.0 Summary

Proper infrastructure planning is necessary to ensure infrastructure needs are identified and existing infrastructure is adequately maintained and renewed for public use. Such planning must take into account the benefits of infrastructure investment, the risks to the public when needed facilities are not built or are allowed to deteriorate, and the resources required to meet future demand.

Ministries perform considerable work in establishing their own priorities and the government essentially allocates infrastructure funds to ministries based on a stand-alone historical basis. However, this may not result in the government allocating capital funding based on the current most urgent needs in the province. As such, ministries set priorities internally, rather than weighting overall priorities for the province as a whole.

Two-thirds of funding is planned to go toward expansion (building new assets) and one-third is planned to go toward repairs and renewals of existing facilities—even though analysis conducted by the Secretariat has determined that this allocation should be the reverse in order to adequately maintain and renew existing public infrastructure.

We noted that there are no guidelines for the desired condition at which facilities should be maintained in each sector, and there is no consistency among ministries on how to measure the condition of asset classes such as highways, bridges, schools, and hospitals. This includes the type of assessment, frequency of assessment, and definition of assessment results, such as what is considered poor, fair, or good condition.

Ontario does not have a reliable estimate of its infrastructure deficit—the investment needed to rehabilitate existing assets to an "acceptable" condition—to better inform where spending should be directed. In particular, we noted the following:

- **The Secretariat does not have access to a reliable estimate of the condition of all provincial assets:** This information is needed to determine funding priorities. Currently there is no consistency among ministries on how to measure the condition of various asset classes, such as highways, bridges, schools and hospitals. This includes the definition of assessment results, such as what is considered poor, fair, or good condition. As a result, ministry information on asset condition is not calculated consistently, which makes it difficult to enable comparisons when recommending where funding should be allocated.
- **Significant infrastructure investments needed to maintain Ontario's existing schools and hospitals, which current funding levels cannot meet, creating a backlog:** The Ministry of Education and the Ministry of Health and Long-term Care have each been conducting independent assessments over the last five years of their schools and hospitals. For schools, 80% of the assessments completed identified $14 billion of total renewal needs, requiring an investment of about $1.4 billion a year, based on an industry

average, to maintain the schools in a state of good repair. However, actual annual funding on a school year basis over the last five years has been $150 million a year, increasing to $250 million in 2014/15 and $500 million in 2015/16. Similarly, the assessments of hospital facilities identified $2.7 billion dollars of renewal needs, requiring annual funding of $392 million to bring assets to what is considered good condition. However, since 2014/15 actual annual provincial funding has been $125 million and prior to that, since 2010/11, only $56 million was provided.

- **Ministries do not always have information on the entire inventory of assets that they fund:** For example, while the Ministry of Health and Long-Term Care has good information about its hospitals, it lacks data about the condition of other health infrastructure it funds either directly or through transfer payments, including long-term-care homes, community health agencies and public-health labs.

  Similarly, the Ministry of Transportation in its 2015/16 infrastructure plan noted that while its focus has been on maintaining roads and bridges, it also is responsible for maintaining other assets valued at close to $2.5 billion, including median and noise barriers, traffic signals, overhead signs and lighting, which also are in need of renewal funding. However, the Ministry has not yet determined the rehabilitation need and the funding required to maintain these assets.
- **Existing funding does not address significant pressures faced by ministries for new projects:** Just as investment is needed to maintain and improve the condition of existing assets, investment is also needed to expand the existing portfolio of assets, replace aged assets, and support ministry strategies and programs. At present, there are over 100,000 students in temporary accommodations (portables), and about 10% of schools are operating at over 120% capacity in the province. Although portables are needed to provide some flexibility to address changes in school capacity, existing funding is not sufficient to rehabilitate the existing portfolio and to replace these structures with more permanent accommodation, in some cases. About $2.6 billion worth of projects are submitted to the Ministry of Education by school boards for funding consideration every year. However, over the last five years, the Ministry has approved only about a third of the projects every year, since its annual funding envelope under the program has averaged only about $500 million on a school year basis. Similarly, the Ministry of Health and Long-Term Care has received submissions for 37 major hospital projects totalling $11.9 billion dating back to 2005/06. These submissions were endorsed by Local Health Integration Networks as needed projects requiring funding. However, the Ministry did not put forward these projects for approval to Treasury Board as these initiatives could not be managed from within their existing budget allocation.
- **Funding allocations favour new projects over renewal of existing assets:** The province's guidelines say there should be an appropriate allocation of funds for asset renewal and construction of new projects to maintain existing service levels. An internal analysis conducted by the Secretariat noted that although two-thirds of the province's capital investments should go towards renewing existing assets, the current 10-year capital plan allocates only about one-third to renewal.

We also had the following concerns with respect to the Treasury Board Secretariat's (Secretariat) review of ministry submissions:

- **Prioritization of infrastructure needs across various sectors not done:** We noted the Secretariat generally evaluated each ministry on a stand-alone basis, and no comparison was done at an overall provincial level to ensure the most pressing needs receive top priority for funding.

- **Lack of analyst-based documentation to support funding recommendations:** Analysts prepared summary assessment notes, as well as briefing materials to the Treasury Board, which in many cases repeat the Ministry's rationale in its funding submission. Due to little documentation and high staff turnover (since 2012, more than 30 people, or 44% of total staff directly involved in assessing ministry submissions, left the Division), ministries said they had to continually educate new analysts about their asset portfolios. Ten ministries had new analysts assigned to them in each of the last three years.
- **Analysts' tools do not allow for substantive analysis:** We found that tools used by analysts (including the analysis checklist, prioritization template and a best-practices guide) focused mainly on administrative matters, such as whether a submission is complete. They did not provide specific guidance to assess whether submissions align with provincial priorities.
- **The Secretariat does not know how well individual projects are managed:** In our review of the quarterly reports from the ministries to the Secretariat, we noted that information is generally reported at a program level only (with the exception of projects completed under the AFP model). That is, these reports do not provide details on individual projects within a program. The Secretariat relies on ministries to monitor project delivery. It becomes concerned only when ministries inform the Secretariat of project cost overruns that cannot be offset from other projects.

This report has six recommendations, containing nine actions, to address the findings noted during this audit.

OVERALL SECRETARIAT RESPONSE

The Treasury Board Secretariat (Secretariat) welcomes and supports the recommendations made by the Auditor General to improve the Province's infrastructure planning process.

The Secretariat provides financial and policy analysis to support the Treasury Board/Management Board of Cabinet in the development of the Province's 10-year infrastructure plan. The Secretariat works closely with its partners, including ministries who are accountable for managing and funding their assets, to support the prioritization of infrastructure investments while recognizing the government's commitment to fiscal balance and managing the Province's net debt.

Over the last decade, Ontario has invested more than $100 billion in public infrastructure and worked to advance asset management and long-term infrastructure planning including:

- In 2008, releasing an Asset Management Framework to guide the management of all provincial assets owned, managed or funded by the Province;
- In 2011, publishing Building Together, a policy framework to guide long-term infrastructure planning; and
- Starting in 2013-14, providing ministries with 10-year infrastructure allocations.

Work is underway to improve infrastructure planning, in line with the Auditor General's recommendations to advance asset management, reporting, and evidence-based prioritization efforts.

The Province's Program Review, Renewal and Transformation process looks across ministries to assess government programs and emphasizes the use of evidence to evaluate and prioritize infrastructure funding. It is an ongoing process to help manage resources in a way that is efficient, effective and sustainable.

To strengthen key project oversight, Treasury Board/Management Board of Cabinet issued a new Directive for Major Public Infrastructure Projects to clearly articulate the approval process for large infrastructure projects and require ministries to report quarterly on the status of major projects.

Additionally, upon proclamation, the Infrastructure for Jobs and Prosperity Act will require the government to table a long-term infrastructure plan that at a minimum will describe the current condition of all provincially-owned assets, the anticipated needs of these assets over the next ten years, and strategies to meet these needs.

The Secretariat appreciates the efforts of the Office of the Auditor General and will continue to work with its partners to invest more than $130 billion over 10 years to renew and expand Ontario's public infrastructure.

4.0 Detailed Audit Observations

4.1 Complete, Reliable Information Needed for Effective Capital Planning

As discussed in more detail in the following subsections, the government has been unable to accurately determine its current or projected infrastructure deficit—the investment needed to rehabilitate existing infrastructure assets to an "acceptable" level—within its entire portfolio of assets. It needs to do this in order to direct funding to areas of greatest need when existing capital funding levels cannot meet all needs. As well, this becomes more difficult because there are no provincial guidelines or benchmarks on the desired condition at which assets within various sectors should be maintained.

In two of the three Ministries that we examined in detail—the Ministry of Education and the Ministry of Health and Long-Term Care—a significant backlog of renewal needs has been identified for Ontario schools and hospitals. However, existing capital funding levels cannot keep up with this backlog. This makes the need for effective planning and prioritizing to allocate limited funding that much more important.

4.1.1 Ministries Not Measuring the Condition of Assets in a Consistent Manner

At present, there is no reliable estimate of the overall infrastructure deficit within the government's portfolio of assets. The main reason is that there is no agreement, and therefore guidelines among ministries on how to consistently measure and compare the conditions of various asset classes, such as highways, bridges, schools and hospitals. As a result, the ministry information on asset condition that is provided each year to the Secretariat through infrastructure plans is inconsistent between ministries. This includes the type of assessment, frequency of assessment, and definition of assessment results, such as what is considered poor, fair, or good condition. This inconsistency makes it more difficult to determine which assets are in most need of funding in order to be maintained at defined acceptable conditions.

In addition, as noted in **Section 1.2.3**, the government released an Infrastructure Asset Management Framework (Framework) in 2008 to guide the management of all infrastructure assets owned, managed or funded by the province. Although following the Framework is not mandatory, it provides specific guidance on asset condition assessments and valuation. However, the Secretariat does not monitor whether ministries use the Framework.

Assumptions Vary in Calculating Asset Condition

Ministries generally use the Facility Condition Index (FCI), an industry-standard measure of a building's condition at a given time, to determine if their assets are in good, fair or poor condition. The FCI is calculated by combining the total cost of any needed or outstanding repairs with the renewal or upgrade requirements of the building, divided by the current replacement value. In essence, it is the ratio of “repair needs” to “replacement value,” expressed as a percentage. The higher the FCI, the greater the renewal need.

However, ministries make different assumptions in estimating their repair needs. In its 2015/16 submission to the Secretariat, for example, the Ministry of Education identified an FCI of about 36% for its schools overall by including its current repair backlog and five years of future repair needs in its calculation. In contrast, the Ministry of Health and Long-Term Care included its current repair backlog and only two years of repair needs in its calculation, and arrived at an average FCI of 23% for its facilities. Because these two ministries assessed the conditions of their respective assets differently, it is difficult to determine which of them has a higher-priority need overall.

For highways and bridges, the Ministry of Transportation takes a different approach in assessing their condition. It classifies its highway pavements and bridges as being in good, fair, and poor condition. Pavements and bridges are considered in good condition if they will not require any rehabilitation work for six or more years. Based on this assessment, the Ministry has classified 77% of the pavements and 83% of bridges that they are responsible for to be in good condition.

In comparison, Alberta uses a government-wide standardized FCI as a common measure to enable ministries to compare condition ratings across facility types (schools, post-secondary institutions, government-owned buildings and health-care facilities). It calculates its FCI using current backlogs and five years of future repair needs.

Alberta has targets for the percentage of facilities to be in good, fair and poor condition for the different sectors, and it reports the actual percentage in each category publicly each year, along with the progress made towards achieving each sector’s targets. It uses the following definitions:

- Good—the facility’s FCI is less than 15%, is adequate for intended use and expected to provide continued service life with average maintenance.
- Fair—facilities with an FCI between 15% and 40%, inclusive, have aging components nearing the end of their lifecycle and require additional expenditures for renewal or refurbishing.
- Poor—facilities with an FCI greater than 40% require upgrading to comply with minimum codes or standards, and deterioration has reached the point where major repairs or replacement are necessary.

4.1.2 Some Ministries Lack Necessary Resources to Identify Needs

The infrastructure planning process and information-submission requirements are the same for all ministries, regardless of the size of their infrastructure portfolios and projects. This can make it difficult for some smaller ministries to meet the requirements.

In 2014/15, for example, the Ministry of Tourism, Culture and Sport (Ministry) requested $14.6 million to address imminent health and safety issues including failures in roofing, fire alarm systems, and emergency power and lighting systems that it identified as the most pressing in its asset portfolio. However, the Secretariat recommended deferring the request until the Ministry could supply more detailed information, including a long-term strategy for repairs and rehabilitation.

In its submission the following year, the Ministry provided some additional information, but was unable to meet all of the Secretariat’s information requirements. As a result, it was once again deferred, which meant that critical needs identified by the Ministry two years ago are still unfunded.

Similarly, the estimated ministry-wide renewal costs provided by the Ministry of the Attorney General (MAG) in its 2014/15 infrastructure plan were simply extrapolations from a pilot study done at the

Newmarket courthouse, because actual condition information for individual courthouses had not been obtained.

MAG has said that, since many of its courthouses are older and in worse condition than Newmarket, the costs may well be higher. It needs to conduct a thorough assessment of its entire portfolio to gather comprehensive and accurate information about its renewal needs. The Ministry has since expanded on the pilot project to complete additional assessments of facilities in collaboration with Infrastructure Ontario.

As the central agency responsible for co-ordinating planning and analyzing the province's infrastructure, the Secretariat can provide tools which some ministries can use to identify their infrastructure needs, specifically those ministries that currently lack the capacity to do so.

Specific examples include:

- The Ministry of Education noted it had to develop a costing adjustment to capture the differences in expenses associated with construction costs in various locations within the province. It noted that the Secretariat could have helped develop this tool, which many other ministries could use to better estimate project costs.
- Four ministries examined during the audit separately retained the same company to perform an assessment of the condition of their facilities. The company is not a vendor of record for the Ontario Public Service, which means the four ministries each had to enter into separate contracts and arrangements with this company. The province could have potentially saved money and facilitated a standard condition assessment process across ministries by coordinating a single contract to cover services for several ministries.

4.1.3 Significant Infrastructure Investments Needed to Maintain Ontario's Existing Schools and Hospitals

About half of Ontario's public infrastructure is managed by broader public-sector-entities such as hospitals, schools and colleges. The ministries responsible for these entities do not directly monitor the use of these assets and are not involved in their management. Instead, they rely on the entities to self-identify their infrastructure needs and manage their portfolios to meet the province's public service mandate.

The Ministry of Education, for example, relies on 72 different school boards, which operate almost 5,000 elementary and secondary schools, while the Ministry of Health and Long-Term Care relies on 14 Local Health Integrated Networks to oversee broader system planning for hospitals and other health-care facilities.

The detailed planning and identification of need rests with these entities, and the ministries depend on them to evaluate their infrastructure needs and to submit funding requests accordingly.

In 2011, to quantify the current backlog of renewal needs for all Ontario schools, the Ministry of Education hired a company specializing in asset management to conduct condition assessments on all schools five years and older. The assessments are being done over a five year period covering about 20% of the schools per year. The assessors visit each school and conduct a non-invasive inspection of all major building components and systems (for example, basement, foundation, and HVAC systems). School portables, third-party leased facilities, equipment and furnishings, maintenance shops and additional administrative buildings are not assessed as part of this exercise. Currently, with 80% of the schools assessed, the Ministry is reporting a total renewal need of $14 billion, $1.7 billion deemed as critical and urgent (i.e., renewal work that should not be postponed due to risk of imminent failure). An investment of about $1.4 billion per year based on an industry average of 2.5% of the $55 billion replacement value is estimated to be required to maintain the schools in a state of good repair. But actual annual funding in the last five years had been $150 million a year, increasing to $250 million in 2014/15 and $500 million in 2015/16. The Ministry allocates this funding to school boards based on a percentage calculated by dividing the school boards' individual needs by the total renewal need of $14 billion. Distributing the funding in proportion to individual school boards' critical needs should be considered to at least ensure that the critical needs are met.

The assessments made during the first year of the condition assessment exercise are now five years old. Therefore, any further deterioration or repairs that might have been undertaken on those schools over this period have not been captured.

School boards can raise additional funds to address deferred maintenance backlog by selling schools with low enrolment. The Ministry of Education recently declared (June 2015) to school boards that 80% of the proceeds from the sale of schools must be put toward the renewal and maintenance of assets. However, competing interests between trustees to keep schools open in their own wards sometimes preclude boards from effectively utilizing this strategy. This was cited as a concern in a January 2015 report commissioned by the Minister of Education. The report, an independent review of the performance of the province's largest school board, conducted by the former registrar of the Ontario College of Teachers, noted that 76 elementary schools and 55 secondary schools within the board were operating under 60% capacity. However, because trustees were unwilling to sell schools with low enrolment in their wards, the board continued to operate these schools at a huge expense.

The Ministry of Health and Long-Term Care hired the same company as the Ministry of Education to complete assessments of all hospitals. The first cycle of assessments was completed in 2011, and included an evaluation of all public hospitals including over 820 buildings in 242 hospital sites for each hospital's major building components. The hospital assessments will be done on a four-year rolling basis (25% of hospitals per year). These technical assessments of hospital facilities helped identify $2.7 billion dollars of renewal needs considered eligible for ministry funding, requiring annual funding of $392 million to maintain assets in a state of what the Ministry considers good condition. Actual annual funding, however, has been $125 million since 2014/15 and prior to this it was $56 million.

Over the last number of years school boards and hospitals have had to use operating funds to fund capital. Since 2010/11, school boards have used $243.4 million of accumulated surpluses for capital purposes, or an average of $60.8 million a year. Similarly, in the last five years, hospitals spent on average $45 million a year of operating funds on capital and other funding needs.

4.1.4 Some Ministries Lack Information on Their Full Inventory of Assets

Although ministries have undertaken assessments on their major assets, the ministries do not always have information on the entire inventory of assets that they fund. For example, while the Ministry of Health and Long-Term Care has good information about its hospitals, it lacks data about the asset stock and condition of other health infrastructure it funds either directly or through transfer payments, including long-term-care homes, community health agencies and public-health labs. This makes it difficult to determine the sector's total renewal funding needs in the future.

This Ministry also has limited information on the facility-renewal needs of community and Aboriginal health centres, or community-based mental health and addictions programs. Information on facility renewal needs of community service providers is only available to the Ministry when project proposals are received. Based on these proposals, in 2014/15 it requested an increase of $444 million over 10 years to establish a new program to fund capital renewal projects for these community health-service providers. The Secretariat recommended to the Treasury Board that the Ministry not receive the full amount, but rather get $90 million to begin renewal and provide the Ministry with additional funding in the future once it has better assessed its renewal needs in the sector.

Similarly, the Ministry of Transportation in its 2015/16 infrastructure plan noted that while its focus has been on maintaining roads and bridges, it also maintains other assets valued at close to $2.5 billion, including median and noise barriers, traffic signals, overhead signs and lighting, which also are in need of renewal funding. However, the Ministry has not yet determined the rehabilitation need and the funding required to maintain these assets.

RECOMMENDATION 1

To better identify, measure and quantify the province's infrastructure investment needs, the Treasury Board Secretariat, working with ministries, should:

- define how ministries should identify and measure the condition of all asset classes and determine how to assist those ministries that currently lack the capacity to do so;
- provide guidance to ministries on the desired condition at which to maintain infrastructure assets; and
- publicly report on the progress made in achieving targets set for the desired condition for the province's infrastructure.

SECRETARIAT RESPONSE

The Treasury Board Secretariat agrees that effective asset management practices are an essential part of long-term infrastructure planning in Ontario.

As noted in the report, upon proclamation, the Infrastructure for Jobs and Prosperity Act, 2015 would require the government to make public a long-term infrastructure plan within three years, and subsequent plans at least every five years thereafter. These plans would be required to include, at minimum, a description of provincial infrastructure assets (as described in the Act) that includes an assessment of age, value and condition, an estimate of the government's anticipated infrastructure needs for at least the next ten years and a strategy to meet those needs. The Ministry of Economic Development, Employment and Infrastructure will work with the Secretariat and ministries to develop this long-term infrastructure plan and leverage the information provided by ministries as part of their Infrastructure Plans.

When developing Infrastructure Plans, the Secretariat will remind ministries to adhere to the Infrastructure Asset Management Framework, released in 2008, that provides standardized definitions and methodologies to measure the condition of provincial assets across different classes and categories.

4.2 Existing Funding does not Address Significant Pressures Faced by Ministries for New Projects

In addition to the need to maintain the condition of existing assets, there is also a need to invest in new assets to meet growing program demands, replace aged assets that no longer meet safety standards or are at over-capacity, and to support new strategies and programs.

In the following sub-sections we discuss some significant needs highlighted by the Ministry of Education and the Ministry of Health and Long-term Care to expand their existing schools and hospitals and the impact of existing funding levels that are unable to meet these needs. This highlights the importance of prioritization of infrastructure needs not only at the individual Ministry level, but also on the provincial level overall.

4.2.1 Need to Increase Student Accommodation Exceeds Available Funding

At present there are over 100,000 students in temporary accommodations (e.g., portables) and about 10% of schools are operating at over 120% capacity. Although portables are needed to provide some flexibility to address changes in school capacity, existing funding is not sufficient to rehabilitate the existing portfolio and to replace these structures with permanent accommodation, in some cases. The Ministry of Education's Capital Priorities Program (Program) funds new permanent student accommodations for areas with existing overcrowding in schools or projected overcrowding due to residential growth. Specifically, the program supports the building of new schools, building additions or undertaking major renovations of existing schools where projects are needed within three years.

In an effort to reduce the number of students currently housed in temporary accommodations and ease the overcrowding in schools, under this Program school boards identify their highest and most urgent capital priorities and submit the associated business cases to the Ministry for consideration for funding approval. The Ministry has limited the maximum number of projects that each school board can submit to eight projects.

In evaluating the business cases submitted by school boards, the Ministry of Education focuses on a number of criteria including:

- the number of students without suitable accommodations;
- the number of students housed in portables or holding schools;
- joint school opportunities; and
- appropriateness, cost and viability of the proposed project.

Annually about $2.6 billion worth of projects are submitted to the ministry by school boards for funding consideration. However, over the last five years the Ministry annually has approved about a third of these projects, since its annual funding envelop under the Program has averaged only about $500 million on a school year basis. Requests are usually re-submitted in future years for projects that are not approved.

4.2.2 Need for Major Hospital Projects

The Ministry of Health and Long-term Care did not put forward a number of new projects endorsed by Local Health Integration Networks (LHINs) totalling $11.9 billion dating back to 2005/06, as these initiatives could not be managed from within their existing budget allocation. Some of these projects addressed potential health and safety needs at hospitals. In addition, in their 2015/16 instructions to Ministries, the Treasury Board Secretariat instructed ministries not to request additional funding for new infrastructure initiatives.

Planning for expansion projects at the Ministry of Health and Long-Term Care begins with the submission of project proposals by a hospital or other health service provider to its Local Health Integration Network (LHIN) for endorsement. The Ministry will not consider funding or putting projects forward for approval by Treasury Board without the endorsement of the LHIN. In order to receive the endorsement, a proposed project must demonstrate that it addresses a current need, aligns with local and provincial health system priorities as determined by current programs or health plans and agreements, identifies options for program or service delivery, and addresses projected demographic and utilization needs over a twenty year period. Once endorsed by a LHIN, a proposed project is prioritized among other projects and initiatives for potential funding approval.

As of the 2015/16 fiscal year, the Ministry of Health and Long-Term Care received funding requests for 37 major hospital projects totalling $11.9 billion endorsed by LHINs. For example:

- In order to improve patient access and care, a hospital put forward an urgent need to redevelop ambulatory, clinical, diagnostic and therapeutic services and support services due to infection prevention concerns and capacity issues, stating the facility does not meet ideal standards.

- Construction of a replacement building to address "gross" structural and functional inadequacies at another hospital site and to accommodate 96 new beds as well as the expansion in diagnostics and relocation of some ambulatory programs.
- Redeveloping the surgical suite of a hospital to address deficiencies such as a lack of segregation of traffic flow, inadequate storage space, operating rooms which are too small to accommodate current technology, and insufficient space in the post-anaesthesia care unit and surgical day care to accommodate current levels of activity.
- Construction of two new buildings at an existing hospital to address multi-bed wards as the layout is not considered conducive to safety, infection control, confidentiality and accessibility.

4.3 Funding Allocations Not Always Based on Need

4.3.1 Secretariat Focuses on Provincial Budget Rather Than Service Levels

Our review found that allocation of infrastructure funding is based on historical levels rather than actual need. In determining a ministry's 10-year rolling capital funding allocation, the Treasury Board Secretariat uses previously allocated amounts without carrying out a current needs assessment from individual ministries to examine their actual requirements and those of the province as a whole.

As discussed in **Section 1.0**, the Secretariat develops preliminary funding allocations for each ministry based on previous years' funding levels. Ministries are then presented with these allocations at the beginning of the planning process and told to fit their infrastructure priorities within them despite their need.

The Secretariat has tended to focus more on ensuring that capital spending remains within the provincial budget rather than on ensuring that ministries meet specific levels of service or performance. For instance, in the 2015/16 planning instructions, ministries were told not to ask for additional funding for new infrastructure initiatives beyond what they were allocated because of the province's current budgetary constraints.

As part of their infrastructure plans, ministries are required to identify their potential infrastructure gap—the difference between their actual infrastructure needs and the funding allocated—and identify strategies to bridge the gap. However, in our review of plans submitted by ministries, we noted the strategy was often to defer needs to future years.

RECOMMENDATION 2

The Treasury Board Secretariat should ensure that ministries put forward viable strategies that address bridging the gap between actual infrastructure needs and the funding allocated including options such as adjusting service levels, delivering the same service levels more efficiently, and internally realigning expenses.

SECRETARIAT RESPONSE

The Secretariat acknowledges the importance of ensuring ministries make investments to address priority needs in the areas of greatest benefit to the province. The Secretariat will continue to remind ministries to put forward viable strategies to meet infrastructure needs and support the sustainable delivery of infrastructure projects within the fiscal context of the Province.

Also, the Province's Program Review, Renewal and Transformation process was launched in 2015/16 to enhance multi-year planning and budgeting looking across ministries to assess government programs. Through this process, ministries are asked to review their programs for relevancy, effectiveness, efficiency and sustainability, and based on these assessments, identify opportunities to improve outcomes. The Program Review, Renewal and Transformation process will be reviewed annually to assess whether it has been effective or if changes are required.

4.3.2 More Funds Directed to New Projects Over Renewal Need

According to the Secretariat's Infrastructure Asset Management Framework, an appropriate balance between funding renewal (repair/rehabilitation or replacement of existing assets) and expansion (new projects) must be struck in order to minimize lifecycle costs, prolong the life of assets and, ultimately, achieve better service levels.

However, the Secretariat's internal analysis has noted that investments on the current portfolio of assets have historically been favoured over renewal, leading to substantial deferred maintenance; ongoing maintenance and renewal activities have typically been underfunded and piecemeal.

This trend of funding new infrastructure rather than maintaining and repairing existing assets is expected to continue into the future. Internal analysis conducted by the Secretariat suggests that, as of March 2015, two-thirds of the province's capital funding should go to renewing existing assets. However, the province's current 10-year capital plan for infrastructure spending proposed by the ministries has only about one-third of funding allocated to renewal, and the remaining two-thirds to new projects. Major programs and initiatives announced by the government are accounting for some of this disparity. They include: the introduction of full day kindergarten and recent investments in significant transit projects.

According to the Secretariat's internal analysis, an average annual investment of 5% needs to be spent on asset renewal annually. However, the Secretariat estimated that the "10-year capital plan only contains renewal investments of around 1.9% of current replacement value of the stock". In other words, the plan does not allocate enough funds for repair and maintenance to sustain the current stock of assets. **Figure 6** highlights the annual funding shortfall for infrastructure renewal in various sectors in the province.

RECOMMENDATION 3

The Treasury Board Secretariat should make use of all relevant and available ministry information such as the condition of assets and what is needed to meet target service levels in ensuring that funding allocations strike an appropriate balance between funding new projects versus funding repair/rehabilitation and replacement

Figure 6: Infrastructure Renewal Deficit by sector, 2014/15 ($ million)

Sources of data: Ministries of Education, Health and Long-Term Care, and Transportation

	Total Renewal Needed	Methodology for Optimal Funding	Optimal Annual Renewal Funding	Actual Annual Renewal Funding
Provincial Highways and Bridges	2,562	2%–4% x asset value	1,600–3,200	1,127
Education	14,000	2.5% x asset value	1,400*	250*
Health	2,700	estimated based on actual assessment data collected to bring assets to a state of good condition	392	125

* On a school-year basis.

of existing assets to minimize lifecycle costs and prolong the life of assets.

SECRETARIAT RESPONSE

The Secretariat is taking action to advance the use of evidence to inform infrastructure decision-making.

Building on previous planning processes and requirements, the Secretariat is asking ministries to provide detailed Infrastructure Plans through the 2016/17 Program Review, Renewal and Transformation process. Ministries are asked to include a summary inventory of their assets and a description of the differences between current and target service levels. Further, ministries are asked to provide a strategy to meet renewal and expansion needs based on long-term forecasts of service levels.

To support the prioritization of infrastructure investments, the Secretariat will continue to require an evidence-based business case from ministries to support changes to infrastructure funding.

The Secretariat acknowledges that outcome measurement across government could be improved. In 2015, the Centre of Excellence for Evidence-Based Decision Making Support was established to promote the use of performance indicators and program evaluation across government. An Evidence Based Decision-Making Framework is being developed to set standards and provide guidance for improved use of data and more rigorous analysis of planning options.

4.3.3 Projects Funded Outside Infrastructure Planning Process

Although the Secretariat is responsible for planning and analyzing the province's infrastructure investments, we noted that the government may choose to approve projects directly or choose to fund other government priorities.

For instance, as part of the Moving Ontario Forward regional infrastructure plan for the Greater Toronto and Hamilton area, the Ministry of Transportation was asked to submit directly to a committee of Cabinet (the Priorities and Planning Committee) transit projects for approval. In April/May 2015, the government committed $1.6 billion to fully fund a light-rail transit project in Mississauga and Brampton and $1 billion to fund the capital cost of the light rail transit project in Hamilton. The Secretariat had no explanation for the funding of these projects as it was not involved in the selection process.

Also, since 2003/04, the Ministry of the Attorney General has been directed by the government to reallocate $72 million from planned infrastructure spending to fund specific public-safety initiatives such as, resources to conduct a guns and gangs initiative, high security courtrooms, Human Rights Tribunal activities, and a justice delay reduction initiative. According to the 2014/15 submission that the Ministry provided to the Secretariat, this reallocation of funds has reduced the funds available for capital spending.

Another example of project approval outside of the planning process relates to an expansion project of a sports arena currently being negotiated between the Province and a municipality. This project had not been identified as a priority by the Ministry of Tourism, Culture and Sport (Ministry). However, the Ministry was instructed to report back on implementation plans for this project. At the time of our audit, the Ministry did not know which specific program areas would be impacted by the amount needed for the project.

RECOMMENDATION 4

To ensure the province makes the most effective infrastructure investments, the Treasury Board Secretariat should ensure that funding allocated to ministries is supported by an objective analysis of needs prioritized on a province-wide basis as well as by individual ministries.

SECRETARIAT RESPONSE

The Secretariat appreciates the report highlighting the value of using evidence to inform infrastructure investment decisions.

The Secretariat continues to develop tools and work with partner ministries to estimate infrastructure needs and benefits to the Province, particularly from an economic perspective. The division is collaborating with ministries to improve methodologies and gather data. This ongoing analysis will be used to help prioritize infrastructure investments at a high-level across government.

The Ministry of Economic Development, Employment and Infrastructure will be working with the Secretariat and ministries on infrastructure policy issues, including advancing the government's project assessment, coordination and prioritization efforts from an enterprise-wide perspective.

While the Secretariat provides recommendations to Treasury Board/Management Board of Cabinet for their decisions on infrastructure investments, there are other government committees that review and make recommendations to Cabinet on policies, programs and services within their respective areas of responsibility consistent with direction set by the government. Their approvals may include infrastructure, as it is a key priority of the government's economic plan. Ministries that have received these approvals are required to seek TB/MBC approval of related financial requirements in the context of the Province's fiscal plan.

4.4 Inadequate Review by Secretariat of Ministry Submissions

Teams of analysts and managers at the Secretariat along with other partners across central agencies such as, the Office of the Provincial Controller Division, review ministries' proposed infrastructure-investment plans. In accordance with internal planning guidelines, and to support their recommendations to the Treasury Board, the analysts and managers determine if the proposed investments meet the following four key criteria:

- address imminent health or safety risks;
- generate long-term economic benefits;
- align with government policy objectives; and
- generate long-term return on investment or support transformational initiatives.

The following sections address the degree of review to which infrastructure plans are subject, the documentation relating to funding decisions, training of review staff, and the tools used to analyze ministry submissions to ensure they meet the above criteria.

4.4.1 Scope of Analysis Limited

The starting point of the Secretariat analysis is a review of the ministry infrastructure plans. However, as noted earlier, we found that plans generally contain only summary-level descriptions of infrastructure programs funded by the ministries; project-level information is only available for select projects as requested by the Treasury Board, or for large projects such as major highway expansion.

Upon submission of infrastructure proposals to the Secretariat, each ministry is generally evaluated on a standalone basis by its assigned analysts on how it intends to use its funding allocation. The ministries' use of its funding allocation is not weighted against priorities of other ministries that may be more pressing but are not funded.

This leads to the risk that the province is not optimally investing its limited infrastructure dollars. In its capacity as a central agency, the Secretariat is in the best position to evaluate and balance relative needs and priorities across ministries.

In addition, the Secretariat completes limited analysis of cases where ministries have to reallocate their existing resources to cover things like cost overruns. Such reallocations have no fiscal impact at the provincial level as the needed funding is offset from funding allocated toward a ministry's ten-year capital plan. They do, however, affect the cost and timing of project completion in the future.

4.4.2 Lack of Documentation Creates Knowledge Gaps

We noted a lack of consistent documentation to support recommendations by analysts to the Treasury Board for accepting, rejecting, or deferring a funding request. Analysts are not required to document their analyses; they prepare a summary assessment note outlining their recommendations along with briefing materials.

In addition, these analyses are primarily based on program-level information which is a rollup of individual project spending, rather than project-level details. In many cases, an assessment note simply restates the ministry's rationale in its funding submission.

Lack of documentation can be especially problematic when there is high staff turnover, as has been the case at the Secretariat.

High Turnover Rate at Secretariat

The average annual turnover rate we calculated at the Capital Planning Division since 2012 was 43% for analysts and 50% for managers of those who assessed ministry submissions. Moreover, during this same period, we calculated that 10 ministries experienced an average annual turnover rate of over 100% for analysts assigned to them. The Secretariat explained that staff that review ministry infrastructure submissions are privy to a wide array of information, and build significant personal networks, leading to employment opportunities elsewhere in the public service, Crown corporations, or educational institutions. Still, the lack of proper documentation leads to significant knowledge gaps when staff leave and to inefficiencies as new personnel have to become acquainted with the work of the people they replaced.

In one case, we had to interview a former employee to get an understanding of the files she had been responsible for, as no one at the Secretariat was able to respond to our questions about details of the files. The former employee also had to return to help the Secretariat with questions about her former portfolio of ministries.

Ministries we met with also said turnover at the Division required them to educate new Secretariat employees each year about their portfolio of assets.

In addition, much of the supplementary analysis supporting final assessment notes and briefing materials, are stored with the respective teams, rather than on a central server. This makes it difficult for the Secretariat to access information needed for timely decision-making when analysts go on vacation or take jobs elsewhere.

When we asked for information related to the 2014/15 submission of the Ministry of Health and Long-Term Care, it took the Secretariat more than three months to provide us with its internal documentation. The Secretariat attributed the delay to the transition of a new manager and analyst on the file.

The lack of documentation and knowledge gaps is magnified by tight time constraints under which analysts work between receiving ministry submissions and meeting the deadline to submit their assessment notes and recommendations to the Treasury Board.

4.4.3 Gaps Cited in Training for Effective Review of Funding Submissions

The Secretariat provides training to its analysts in many areas related to infrastructure in Ontario, including capital accounting, Alternative Financing and Procurement (AFP), asset management, the budget process, capital financial concepts, and the Program Review, Renewal and Transformation process.

The results of an internal survey of 56 analysts with a response rate of 55% conducted in 2013 indicated that many analysts were uncomfortable with various aspects of the process used to analyze ministry submissions, and that they wanted more training and standardization.

Areas of particular concern (and the percentage of analysts reporting little or no comfort with each in brackets) included:

- estimating the impact of ministry plans on the government's capital-borrowing needs and debt (62%);
- interpreting consolidation worksheets, such as summary spreadsheets (46%);
- understanding the AFP model and evaluating its impacts on the capital plan (45%); and
- reviewing financial impacts of requests on ministry expenditure estimates (29%).

In 2013 and 2014, the Secretariat offered additional training to analysts in these areas of concern. Although analysts were asked to provide feedback at the end of the training, as of August 2015, the Secretariat had not surveyed them again to determine how effective the additional training had been, or whether more was needed.

4.4.4 Analyst Tools Do Not Allow for Substantive Analysis

In addition to templates provided to analysts for assessment notes, tools that analysts use to assess ministry proposals include an analysis checklist, a prioritization-scoring template and a best-practices guide. However, in our review of these tools, we noted the following:

- The checklists do not specifically address how to support recommendations to the Treasury Board by ensuring that individual funding requests meet the Secretariat's criteria. The analyst checklists focus on administrative matters such as ensuring that documentation submitted by ministries is complete and that the documents cross-reference one another.
- The Secretariat developed a best-practices guide for analysts, but, as with the checklists, the guide contains no specific direction as to what analysts must look for to determine whether proposed infrastructure projects meet Secretariat criteria. This guide also focuses on administrative matters, such as how to complete the necessary forms and worksheets when assessing a funding request.
- The Secretariat has developed a scoring template to rank the priority of funding requests based on the four assessment criteria identified earlier. However, we found that analysts used the template only as a reference, and never actually completed it.

There is an analytics group within the Secretariat that can provide additional technical support to analysts on macro-level details about infrastructure need based on external geographic and demographic data. However, we noted that analysts had little interaction with this group regarding specific infrastructure submissions, and did not use its expertise to confirm that their recommendations to the Treasury Board aligned with overall provincial infrastructure needs.

RECOMMENDATION 5

To ensure an appropriate review of ministries' proposed infrastructure investment plans, the Treasury Board Secretariat should:

- ensure that proper documentation of analysts' work is completed and made centrally accessible and provide the training necessary to address knowledge gaps; and
- amend the tools that analysts currently use to assess ministry proposals to better enable them to clearly determine whether key criteria have been satisfied by a project proposal, and train all analysts in the consistent use of these tools.

SECRETARIAT RESPONSE

The Secretariat is committed to continuous improvement and welcomes the Auditor General's recommendation to strengthen analytical support.

Currently, all final drafts of briefing materials are stored in a central network and financial information is accessible through an integrated business application. Building off engagement surveys undertaken and existing training materials available to staff, the Secretariat will continue to improve consistency in documentation and training and ensure information is centrally accessible. The Secretariat is working to strengthen business case development and requirements, focusing on risk and financial analysis, for ministries when they make submissions to Treasury Board/ Management Board of Cabinet.

The Secretariat will assess the tools it provides to analysts to ensure the tools support evaluation of ministry requests against communicated requirements.

4.5 Insufficient Monitoring of Infrastructure Spending

Ministries are required on a quarterly basis to:

- assess and report to the Secretariat on progress and risks against their funding allocations;
- update their plans to ensure adherence to their approved 10-year allocations; and
- provide a projection of year-end financial performance on their infrastructure spending to the Secretariat.

The objective of this reporting is to identify areas of potential savings and cost pressures so that each ministry can manage its planned programs and projects within its funding allocation and take action when needed. Ministries are expected to find the additional amounts they need within their allocations before asking the Treasury Board for more funding. The role of the Secretariat is to ensure that capital spending remains within the allocations provided.

In our review of the quarterly reports from the ministries to the Secretariat, we noted that information is generally reported at a program-level only. That is, these reports do not provide details on individual projects within a program (for example Full Day Kindergarten) to allow for effective monitoring; ministries report project-level details only when Treasury Board specifically asks for it.

The Secretariat does not maintain a list of approved individual infrastructure projects in the province, nor does it track the progress of these projects, with the exception of those delivered under the AFP model. It relies on ministries to monitor project delivery. It becomes concerned only when ministries inform Treasury Board of project cost overruns that cannot be offset from other projects.

All the ministries we visited had processes in place to monitor the status of their ongoing projects. However, the ministries' focus is on ensuring that project costs remain within the allocated funding. When cost overruns are experienced on projects, including those managed by the broader-public-sector entities, the ministries try and manage these overruns by either reducing the scope of the project or by identifying other sources of funding, which may entail reallocating funds from other ministry programs or projects where it is permitted to do so.

In the three ministries that we examined in detail we asked for the status of existing projects currently under construction or that had been completed within the last five years.

At the Ministry of Health and Long-term Care, the final settlement amount had not been determined for many completed projects. But for those projects where the final settlement had been determined we did not see significant overruns between the initial approved funding and the actual spent.

At the Ministry of Education all projects currently underway or completed within the last five years had a spent to date amount. But again, we did not note any that had significantly exceeded the amount initially approved for the project.

At the Ministry of Transportation, 39 highway expansion projects completed in the last five years, totaling about $2 billion had cost overruns totaling $123 million or about 6% over the initial budgeted amount. The Ministry managed these cost overruns from within its overall capital allocation.

RECOMMENDATION 6

To ensure adequate monitoring of infrastructure investments in the province, the Treasury Board Secretariat should require ministries to report information on project cost overruns and delays to inform future decisions and to monitor the status of significant infrastructure projects under way in the province.

SECRETARIAT RESPONSE

The Secretariat acknowledges that there are unique risks associated with major public infrastructure projects and is taking steps to strengthen project oversight.

In August 2015, Treasury Board/ Management Board of Cabinet issued a new Directive for Major Public Infrastructure Projects that requires ministries to report quarterly on the status of major projects that are in procurement, under construction or recently completed.

The Directive supports the tracking of progress against approved budgets and timelines and enables an examination of options if a significant delay or cost overrun occurs on a given project. By using a risk-based approach, the Directive focuses on those projects with the greatest potential impact to Ontario's fiscal plan and policy objectives.

To further strengthen project oversight, the reporting requirements set out in the Directive will be administered by an Infrastructure Delivery Leadership Council, providing a dedicated forum for monitoring project performance. The Secretariat expects to have the Council established and the reporting process implemented in 2016/17.

Appendix—Key Parties Involved with Infrastructure Planning

Source of data: Treasury Board Secretariat