



Canada Foundation for Innovation
Fondation canadienne pour l'innovation

Brief to the
Standing Senate Committee
on National Finance

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1. Overview of the Canada Foundation for Innovation

The Canada Foundation for Innovation (CFI)—established as a foundation by the Government of Canada in 1997—has the mandate to strengthen the capacity of Canadian universities, colleges, research hospitals, and other non-profit research organizations to carry out world-class research and technology development that benefits Canadians. More specifically, the CFI’s focus is on the provision of infrastructure to support leading-edge research.

Eight years into its mandate, the CFI has committed almost \$2.9 billion for 3,891 research infrastructure projects at 128 institutions in 62 municipalities. Including accumulated interest, this leaves approximately \$1.6 billion for continued infrastructure support over the next five years.

Sound decisions on such investments require advice from people knowledgeable in matters related to research and its potential benefits, as well as to the infrastructure needed to support this research. The CFI Board makes the final decisions on all projects following an independent and competitive process that involves an in-depth and rigorous review by experts and multidisciplinary committees made up of individuals from Canada and abroad.

Through a unique funding partnership, the CFI funds up to 40% of a project’s infrastructure costs. The funded institution commits its own resources and works with its partners—provincial governments, municipal governments, private sector, federal departments, and the voluntary sector—to generate the remaining balance required to complete these projects.

Investments from the CFI and partners have had a significant impact on the capacity of the Canadian research community to compete internationally. State-of-the-art infrastructure is helping to:

- transform the way research is done;
- create a strong and vibrant research environment across Canada;
- attract and retain excellent researchers;
- enhance research productivity and the training of highly qualified people;
- build new national and international networks and partnerships.

The research enabled by this infrastructure is also generating benefits for Canadians through the creation of spin-off ventures, the commercialization of discoveries, as well as better health, environment, and public policy for the benefit of all Canadians.

Because of its unique status as an independent organization entrusted with large amounts of public money, the CFI places paramount importance on operating in an economical, effective, and transparent manner, and to communicating its activities and results to a wide audience. The CFI also requires institutions to be accountable and to report publicly on results.

This document will respond to the four key issues raised by the Standing Senate Committee:

- Reporting to Parliament—“...through corporate plans and annual reports on the extent to which they have achieved their federal public policy purposes, on their spending and investment of federal public money, and on their stewardship of federal assets.”
- Ministerial oversight—“...the federal government’s arrangement with foundations does not provide for departmental direction or corrective action; federal ministers have almost no power to intervene short of taking legal action if the funding agreement is breached.”
- External auditing—“...independent, comprehensive audits that go beyond auditing the financial statements; compliance or value-for-money in the use of federal funds. And, the authority of the Auditor General to audit the operations of the foundations once the money has been transferred from the federal government.”
- Accounting practices—“...federal funds are being transferred to foundations as a lump sum many years before its ultimate intended recipients – e.g., students, health care providers, etc. – need or receive the funding.”

More information on the CFI, its programs, and its results is available on the CFI website: www.innovation.ca.

2. CFI Governance and Accountability Structure

The CFI's Governance and Accountability Structure is summarized in the chart on the following page and is briefly described below.

2.1 Governance

The CFI is governed by a Board of Directors which makes final decisions on projects to be funded, and sets strategic objectives in the context of the funding agreement between the CFI and the federal government.

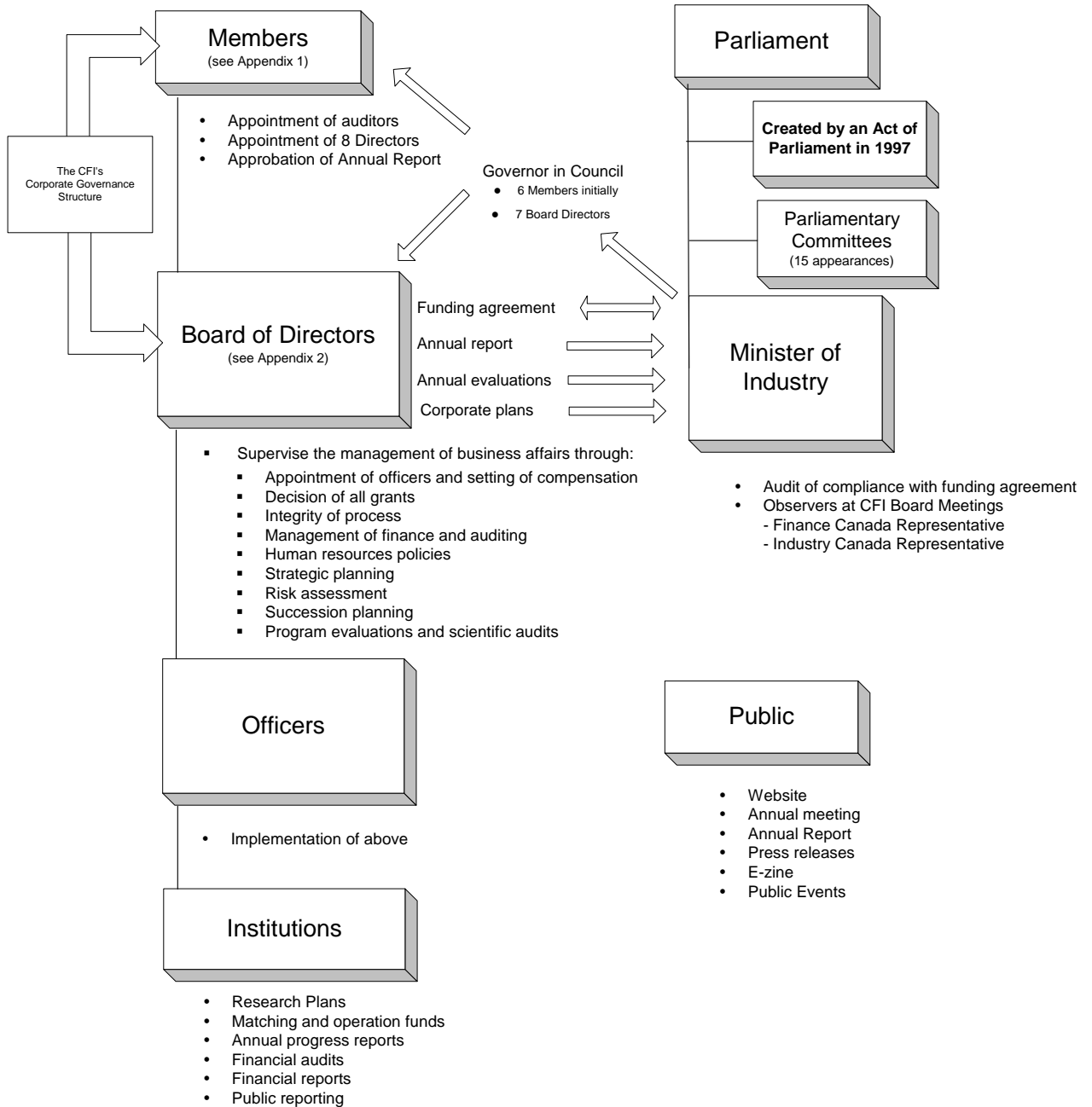
The Board of Directors also oversees management's responsibilities for financial reporting through its Audit and Finance Committee. The Audit and Finance Committee reviews the financial statements and provides recommendations to the Board of Directors. The Committee's other key responsibilities include reviewing the budgets, internal control procedures, investments, and advising the Directors on auditing matters and financial reporting issues.

The Board of Directors reports to 15 Members—a higher governing body similar to a company's shareholders, but representing the Canadian public. The first six Members of the CFI were appointed by the Governor in Council. Their first responsibility was to appoint nine other Members.

The Members are responsible for the appointment of eight of the 15 Directors of the Board. The seven others, including the Chair, are appointed by the Governor in Council. Members also appoint individuals to replace Members whose term has expired.

The Board of Directors, staff, and reviewers sign a *Statement on Ethics* to deal with any conflict of interest issues.

Governance and Accountability Structure



2.2 Accountability

The CFI accountability structure includes accountability to Parliament, accountability to the government (represented by the Minister of Industry), an internal accountability mechanism, accountability of award recipients, and accountability to the public.

2.3 Accountability to Parliament

As required by the legislation, annually, the CFI reports publicly on its activities and performance as part of its evaluation framework and conveys it to the Government via the Minister of Industry. The annual report identifies and includes the following:

- Financial statements, prepared in accordance with generally accepted accounting principles, as approved by the Board and the report of the external auditors respecting those statements;
- Detailed statement of the CFI's investment activities during the year, its investment portfolio (in generic terms in accordance with the Funding Agreement guidelines), and its investment policies, standards, and procedures;
- Detailed statement on its activities;
- Summary of the evaluation of the overall results achieved by the funding of research infrastructure during the year and since its inception;
- Corporate plans including planned expenditures, objectives, and performance expectations;
- Disclosure of compensation for officers of the corporation.

In addition, the CFI has made 15 appearances before parliamentary committees since its inception in 1997 and has a process in place to provide briefings to Members of Parliament, Senators, and senior government officials.

2.4 Accountability to the Minister of Industry

The Funding Agreement between the CFI and the Government of Canada, approved by Treasury Board, sets out the terms and conditions under which the CFI must operate—including investments, eligible recipients, eligible projects and costs, selection criteria, and evaluation.

The CFI submits to the Minister the results of independent third-party evaluations of its grants in accordance with a framework and timeframe approved by the Board of Directors. These evaluations assess the overall

performance in achieving the national objectives identified in the Funding Agreement.

The CFI's Funding Agreement with the Government of Canada has been amended a number of times to strengthen the accountability provisions—in particular with respect to annual reporting requirements and to enable the government to have audits carried out or, to ask the Board to have audits carried out, to ensure compliance with the terms of the Funding Agreement.

More specifically, the Minister may require that an audit of the books and records of the CFI be carried out by such person appointed by the Minister, or he may request that the Board have an independent audit of the books and records carried out, to ensure compliance with the terms of the Funding Agreement.

The CFI provides a corporate plan annually to the Minister of Industry. Such corporate plans include planned expenditures, objectives, and performance expectations relating to the federal funding received. The summaries of the corporate plans are made public and are provided to Parliament by the Minister.

The Funding Agreement also provides that, where the Minister is concerned about the probability of default, the Minister will discuss the concerns and work to rectify within 30 days. In the event that the default has not been rectified to the Minister's satisfaction, the Minister may require the CFI to repay all or part of the Grant, or any related revenue not otherwise committed.

Also important to note is that if the CFI is wound up or dissolved, any remaining amounts not otherwise committed may be repaid to the government or, at the discretion of the Minister, distributed among all the eligible recipients that have received grants from the CFI in proportion to the grants received.

Representatives of Industry Canada and Finance Canada attend meetings of the CFI's Board of Directors as observers.

2.5 Internal Accountability Mechanisms

2.5.1 Merit Review Process

Eligible Canadian universities, colleges, research hospitals, and non-profit research organizations can apply for CFI funding. Before submitting proposals to the CFI, institutions must prepare strategic research plans that outline their priorities for research and infrastructure.

Applications must meet the three CFI criteria:

- Quality of research and need for infrastructure;
- Contribution to strengthening the capacity for innovation;
- Potential benefits of the research to Canada.

The assessment process involves the rigorous and independent evaluation of each project's strengths and weaknesses against the three criteria. This task is accomplished by experts in the relevant fields, either alone or in committee, depending on the size and complexity of the project. Decisions are made by the Board of Directors.

Committee members come from every region of Canada and from around the world. They are selected for their broad experience and expertise in research, research management, and the use of research results. When selecting these volunteer members, the CFI strives to achieve a reasonable balance between language, gender, region, sector of the economy, discipline, and type of institution. Committee membership is posted on the CFI's website. It should be noted that proposals submitted by colleges and smaller universities are evaluated by separate committees composed of persons who are familiar with the research environment in such institutions.

2.5.2 Financial Controls

CFI financial statements and processes are reviewed annually by the independent external audit firm Ernst and Young. They report directly to the Audit and Finance Committee of the Board of Directors.

Awards are paid only when all conditions are met, including a statement that the partner funding has been secured. The CFI estimates that approximately \$1.5 billion will have been paid by March 31, 2005. Funds held by the CFI are invested in low-risk securities, in accordance with strict guidelines outlined in the Funding Agreement. An external advisor provides advice to the Board, through the Audit and Finance Committee, with respect to compliance of investments with the terms of the Funding Agreement. Since 1997, the return on the investment has averaged 5.73% per annum.

2.5.3 Auditing

Consistent with the practices of well-managed organizations, the CFI has implemented a strong internal control environment to carry out its activities. This environment was created to ensure an appropriate segregation of duties, as well as a thorough review process and an

adequate approval process over cash disbursements and investment decisions (i.e., appropriate checks and balances are in place to ensure that the funds are properly handled).

The internal controls implemented at the CFI are widely accepted in the business and public community and are reviewed by external auditors as part of their annual external audit of the CFI's financial statements.

Given the recent events in the accounting and reporting environment in North America, the Board has taken prudent measures to ensure that adequate accountability and governance practices are in place, as well as to ensure that there is adequate auditor independence.

In addition to external audits, since our inception, internal audits have been conducted by independent external audit firms.

Auditors reviewed, as two separate internal audit engagements, the CFI's approval process as well as the award disbursement process. The reviews concluded that the controls in place were sufficient and adequate, and suggestions were implemented.

The Board approves a risk management plan on an annual basis. The internal auditor has established an internal audit charter, and has reviewed and proposed a risk management plan. The charter was approved by the Audit and Finance Committee, allowing the internal control environment to be reviewed thoroughly by the auditor, in the priority sequence identified by the Board.

The CFI also carries out audits of awards (see below) and is developing a process for scientific audits of completed infrastructure projects.

2.6 Accountability of Awards Recipients

All approved projects with a CFI contribution greater than \$4 million are subject to independent audits (conducted by an external audit firm) at the institution. In addition, a sampling of all other projects is audited internally by the CFI. Audits conducted to date concluded that institutions use CFI funding in a responsible manner. The CFI also conducts regular monitoring visits to confirm the soundness of financial accounting practices at the institutions.

Institutions themselves have their own boards and have independent auditors that review their financial statements. In other words, there is also an independent financial audit process at each institution.

2.7 Accountability to the Public

Keeping Canadians informed about the impact of investments in research infrastructure continues to be a top CFI priority.

The following are examples of the CFI's commitment to public accountability:

- The CFI's Annual Report, which includes our corporate plan, is distributed to over 3,000 individuals (in hard copy), and to another 3,000 electronically via CFI's website.
- An annual public meeting is held each year and is widely publicized in several of Canada's leading newspapers. Over 1,000 invitations were sent out last year.
- The CFI's website includes comprehensive information on the CFI, its programs, and its review processes. It includes lists of awards, and a searchable database of awards, as well as evaluation reports, institutional reports, and analyses of progress reports.
- The CFI publishes InnovationCanada (www.InnovationCanada.ca), an electronic magazine demonstrating benefits of research to Canadians. This bi-monthly online magazine receives 3 million hits annually.
- The CFI has an ongoing municipal outreach initiative aimed at informing municipalities of the impacts of the CFI investments in their communities and participates every year in the Federation of Canadian Municipalities' annual conference.
- The CFI recognizes that institutions have the responsibility to report to the public on the research enabled by infrastructure and strongly encourages them to do so.
- The CFI continues to organize or be involved in over 100 events annually. These events provide opportunities for Members of Parliament and government representatives to join the CFI in showcasing the research enabled through CFI investments.
- Every CFI news release announcing new investments includes a Government of Canada approved quote. This quote is usually attributed to the Minister of Industry.
- The CFI also encourages all its institutional clients receiving new investments to issue a concurrent regional news release containing a quote from the local Member of Parliament.
- As part of our ongoing effort to inform Canadians on the benefits of research, the CFI has initiated many partnership projects including: a supplement in Maclean's Magazine; a supplement in Canadian Technology and Business Magazine; a half hour television program that aired nationally on the CanWest Global television network; the provision of camera-ready success stories for use in MP Householders.

The CFI has adopted practices that are consistent with the privacy and access to information policies of the federal government. The CFI also follows the spirit of the Official Languages Act and offers its services in both official languages in the same way as is required by the legislation.

3. Evaluation and Outcomes—Value for Money

As per the Funding Agreement, the overall evaluation framework was developed by external experts for the CFI in 1998 to measure its overall performance in achieving the national objectives identified in the Funding Agreement. This framework is consistent with evaluation practices across the federal government. Similar to evaluation approaches for other R&D support programs, the framework retains a flexibility to incorporate advances in outcome assessment and evaluation. The framework called for a series of program evaluations to be launched over several years. Evaluations have been undertaken for the New Opportunities Fund, Innovation Fund, University Research Fund, and College Research Development Fund. In partnership with the federal granting agencies, an evaluation of the Canada Research Chairs Infrastructure Fund has also just been completed.

The Minister may, after consultation with the CFI, choose to conduct his own evaluations at his own cost.

In addition to these program evaluations, the CFI conducts other forms of analyses for the assessment of outcomes. Institutions receiving CFI support are required to submit an annual report, and to ensure that all projects funded at their institution do likewise, for each of the five years following the CFI award. These projects and institutional reports are reviewed; a summary analysis report is prepared, and posted on the CFI's website. This process has been in operation since 1999. For the year 2003-04, a total of 2,322 project reports and 86 institutional reports were analyzed.

The results of the evaluations and analyses are clear: overall, the programs have had a marked impact and are meeting the objectives set out by the government. The following examples were taken from the *2004 Analysis of Impacts of Funded Projects*.

- CFI's programs have transformed the quality of infrastructure. Where more than half of the infrastructure was poor or fair prior to the awards (and none was world-class), 90% of respondents now rate it as excellent or world-class in the disciplines affected by the awards.
- The opportunities created by the CFI's programs have helped to reinvigorate the R&D climate, and have changed the atmosphere at Canada's research institutions to one of optimism.
- Smaller institutions in particular reported increased visibility and credibility both nationally and internationally as a result of CFI infrastructure.
- The programs were well-designed and are well-delivered, with very few problems being reported in any area.
- Slightly more than 50% of all projects funded by the CFI are now fully developed and operational. This includes projects funded between 1999 and 2004, and therefore many projects, often complex, are being constructed and/or implemented.
- Both implementing the projects and finding financial resources for operations and maintenance have been problematic in some institutions, however, the CFI's Infrastructure Operating Fund which was launched in 2002, is helping to address this issue.

- Maintaining long-term sustainability of the programs will require institutions to convince, among others, their provincial partners to continue to supply matching funds, given that the CFI contributes a maximum of 40% of total project costs.
- There is every indication that ongoing need for infrastructure investment remains high, and may even increase as social sciences and humanities researchers begin to participate more.

In the coming year, the CFI is launching another tool for evaluation—presently called Scientific Audits—which was piloted in 2004. The aim of these Scientific Audits is to assess the results and impacts of infrastructure projects in more depth through site visits including experts. This process will assess whether projects are meeting their objectives in terms of research, training, and innovation capacity, and will document their outcomes in terms of social and economic benefits to Canada. This will give the CFI and the government added assurance that there is value in the funds invested. Given the long-term nature of research, this process will initially look at more mature projects.

Although it is too early to determine the full scope of benefits to Canada from CFI investments, the preliminary signs are very promising. Here are only a few of the hundreds of examples:

- Canada now has a “brain gain.”
 - Over 3,000 new faculty recruited at universities in 2003-04 (including 700 from the U.S. and over 500 from other countries) indicated that the availability of state-of-the-art infrastructure, funded by the CFI, was a major factor in their decision to take the position.
- Canada is now regarded as a significant player in research internationally.
 - In a “*Best Places to Work*” survey of 35,000 researchers from around the world conducted by *The Scientist*, five Canadian universities made the top ten list (excluding the U.S).
 - In the last year, over 1,700 visiting researchers from around the world came to our country to make use of Canada’s state-of-the-art infrastructure.
 - Canada's investments in research have attracted international attention and there is a growing international sense that when it comes to science, “Canada matters.”
- Collaboration with private-sector partners and service agencies is proceeding. In the last year:
 - over 2,200 researchers from the private and public sectors used CFI-funded infrastructure;
 - more than 40 spin-off companies credit the availability of infrastructure as having a significant role in the launch of their companies;
 - there were over 270 instances of production of intellectual property (patents).
- CFI is helping to meet the needs for knowledge workers in Canada.
 - Institutions are now equipped to attract and train the brightest and best students, thanks to the cutting-edge research tools available to them. These students become the knowledge workers for Canada’s R&D-based business, a need that is expressed by many in the private sector.
 - In the last year, 29,000 trainees made use of CFI-funded infrastructure to enhance their training for research and other careers.

- Access to state-of-the-art infrastructure will remain key in attracting the best and in fostering the transfer of research results, including commercialization. There are increasing needs for infrastructure to support the proof-of-concept stage.
- CFI is assisting with community-based technology clusters.
 - CFI-funded projects are located in 62 municipalities across Canada. In many cases, this state-of-the-art infrastructure serves as a magnet for the attraction of investment and talent.
 - Technology clusters, large and small, are developing, centered on domains such as biotechnology, information and communications technology, fuel cells, pharmaceuticals, and more.
- Social and economic benefits are becoming apparent. Research and development in Canada is:
 - generating improvements in engineering design to protect hydroelectric installations from ice storms;
 - producing medical devices to alleviate chronic pain;
 - preserving biodiversity through the integration of aboriginal and scientific knowledge and practice; and
 - assisting policy makers in the mitigation of global warming on the Canadian Arctic and its inhabitants.

4. Benefits of the Foundation Model

The CFI is meeting the objectives set out in its legislation and its Funding Agreement. The CFI is responsible for implementing government policy. The Foundation model enables the CFI to do this well and in the best interest of the public.

The foundation model has enabled the CFI to plan its investments in an orderly manner and to design innovative and flexible programs with a medium and long-term perspective. Most importantly, it has encouraged institutions to develop strategic plans for research and research infrastructure. The transformation of research is a long term process. Knowing that funds will be available in seven years, ten years, and beyond for new infrastructure projects or to provide infrastructure to new researchers is invaluable to institutions and researchers.

It can be challenging to fund major capital projects with annual appropriations when funds have to be spent within a given fiscal year. The foundation model ensures the timely spending of the funds and allows for very effective planning and flexible implementation of research infrastructure projects. This model has made it possible for the CFI to design programs that are well adapted to institutional priority setting and planning processes. For example:

- Holding major competitions over an 18 to 24 month cycle rather than on an annual basis has been beneficial for both the institutions and the CFI. It has enhanced the institutional research planning activities, the merit review of projects using international benchmarks, and the successful implementation of complex projects.
- Recruiting the very best researchers is most challenging at a time of intense international competition. By providing institutions with the flexibility to call on funding at different levels over a number of years, the CFI recognizes the different hiring patterns among the various institutions. This allows them to plan recruitment over the long term so that they hire the best people at the right time.

Furthermore, the CFI can pay the awards when partner funding is secured and when projects are ready to start. Funds can be disbursed in a timely fashion as required by the project implementation schedule. Changes can be made to that schedule and to the cashflow when needed.

The independent merit review process whereby experts make recommendations on the funding of proposals in a highly non-partisan manner is a key benefit of the model. The fact that the CFI's mandate covers all disciplines encourages multidisciplinary research and the sharing of equipment across faculties and departments.

Another major benefit of the model is the development of funding partnerships. Institutions, working with provincial governments, industry, and others have contributed 60% of infrastructure costs. The foundation model greatly facilitates the

leveraging of additional resources as institutions work with their partners to raise the necessary funding.

In summary, our experience of the last eight years has shown that this model can work in an efficient, economical and effective manner, and has resulted in innovative multidisciplinary infrastructure projects that are unlikely to have been funded through other possible mechanisms.

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