

**Item No. 9.1.4**  
**Audit & Finance Standing Committee**  
**March 5, 2014**

**TO:** Chair and Members of Audit & Finance Standing Committee  
Original Signed

**SUBMITTED BY:** \_\_\_\_\_  
Greg Keefe, Director of Finance & ICT/CFO

**DATE:** February 11, 2014

**SUBJECT:** Discovery Centre Funding Request – Capital & Operating Contributions

**ORIGIN**

February 5, 2013 – MOVED by Councillor Adams, seconded by Councillor Walker to request a staff report on the request from the Discovery Centre for HRM to increase its current support of its operations to \$220,000 annually as well as to provide a capital investment of \$2 million and property tax relief for the Discovery Centre’s proposed new facility in the Nova Scotia Power building on Lower Water Street. The staff report should address alignment between Discovery Centre objectives and outcomes with HRM priorities, including economic development, and should address HRM’s ability to respond to the request. MOTION PUT AND PASSED.

June 2013 – Discovery Centre funding request for an HRM contribution of \$2 million towards its capital costs and an increase in the Municipality’s annual contribution to \$220,000. Discovery Centre has, since the initial motion was made by Councillor Adams, withdrawn its request for tax relief.

**LEGISLATIVE AUTHORITY**

HRM Charter, S.N.S. 2008, c. 39, section 79(1)(av)(v) and (vii) respecting grants and contributions to educational or registered Canadian charitable organizations.

## **RECOMMENDATION**

It is recommended that Audit and Finance Standing Committee recommend that Regional Council:

1.     (1)     Authorize a \$2 Million (\$2,000,000) contribution to the Discovery Centre, to be funded from the current projected surplus, for capital costs relating to a purpose-built facility in Block D of Nova Scotia Power's building on Lower Water Street, subject to the conditions set out in Attachment A; and
- (2)     Approve the transfer of the above noted \$2,000,000 to Q310 – Service Improvement Reserve for future disbursement contingent on meeting the conditions and following the payment schedule as set out in Attachment A; and
- (3)     Authorize staff to negotiate a funding agreement between HRM and Discovery Centre, to facilitate the disbursement of the \$2 Million (\$2,000,000) contribution towards capital costs, consistent with the funding terms set out in Attachment A, and authorize the Mayor and Municipal Clerk to execute said agreement.
2.     (1)     Authorize an operating contribution of \$145,000 to Discovery Centre for fiscal 2014-2015; and
- (2)     Authorize staff to negotiate a contribution agreement between HRM and Discovery Centre, to facilitate the operating contribution of \$145,000 to Discovery Centre for fiscal 2014-2015, and authorize the Mayor and Municipal Clerk to execute said agreement.
- (3)     Direct staff to withhold disbursement of the operating contribution of \$145,000 to Discovery Centre for fiscal 2014-2015 pending execution of a contribution agreement.

## **BACKGROUND**

### **Discovery Centre**

Established in 1985, the Discovery Centre is a registered not-for-profit organization. Discovery Centre's Board of Directors brings together leading members of the academic, public and corporate communities to share their time and talent.<sup>1</sup> The Board provides strategic direction and support to the Discovery Centre's staff. The organization's mission is to stimulate interest, enjoyment and understanding of science and technology through innovative and hands-on experiences. The Centre has travelling and permanent exhibitions, science demonstrations, a digital planetarium, and science programming.

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<sup>1</sup> Board members have a range of competencies, including accounting, legal, HR, scientific, business management and marketing expertise. A complete list of the Discovery Centre Board of Directors may be viewed online at the following URL <http://www.discoverycentre.ns.ca/about/72-2>

## **HRM Support – Historical Operational Funding**

HRM has a longstanding history of supporting Discovery Centre. In 2000 the municipality waived \$170,000 in rental arrears owed to HRM by Discovery Centre (accrued between 1997 and 2000 on an HRM-owned-property sub-let by Discovery Centre). Since 2000, HRM has provided Discovery Centre with annual operational funding. Operational funding was requested by Discovery Centre at the same time as the rental arrears waiver was requested. Council approved operational funding, conditional on it being subject to an annual review during the budget process. In fiscal 2012-2013 HRM's annual contribution was \$145,000. Historically, HRM's operational-based funding support for Discovery Centre has been endorsed annually by Council during the budgetary approvals process.

## **Purpose-Built Facility**

Discovery Centre currently operates from leased premises on Barrington Street. Pending termination of the Centre's lease, and pending redevelopment of the Barrington Street property, has prompted Discovery Centre to search for a new location. The Nova Scotia Power building on Lower Water Street offers Discovery Centre an opportunity to move into a purpose-built facility.

The proposed facility is double the size of the current facility. The conceptual design includes an atrium, and a series of galleries focusing on water, health, energy, flight, and a children's gallery. The approach to gallery design and content development is being shaped by a consultative process with science leaders in our region. The proposed facility would address constraints facing the Discovery Centre in its current location including limited space and accessibility concerns (e.g. school bus pick up and drop off issues). A more detailed description of the conceptual design of the proposed facility is attached (see Attachment B).

## **Status of Project Funding Efforts**

Discovery Centre has embarked on a Capital Campaign to raise the \$18.5 Million (\$18,500,000) needed to renovate and relocate to Lower Water Street.<sup>2</sup> Discovery Centre's goal is to raise \$9.5 million (\$9,500,000) from the private sector and municipal sources and \$9 Million (\$9,000,000) in combined federal and provincial contributions. Discovery Centre's fund-raising efforts have secured numerous commitments to provide in-kind services or make donations.

The following is a summary of Discovery Centre's capital campaign fundraising efforts to date:<sup>3</sup>

- 25-year gratis lease of 40,000 square feet from Nova Scotia Power.
- \$4 Million in confirmed pledges from private donations including \$1 Million from Nova Scotia Power and \$1 Million from Medavie Foundation.

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<sup>2</sup> Discovery Centre's initial request and submission to HRM referred to a \$20 million renovation. Discovery Centre has since revised its estimated construction cost to \$18.5 million.

<sup>3</sup> Per the Discovery Centre's unsolicited submission titled Halifax Regional Municipality Development – Partnership Proposal – The New Discovery Centre (see Attachment B) and updates from the Discovery Centre.

- \$2 Million in additional private sector commitments contingent on secured funding from government sources.
- \$6 Million commitment from the Province of Nova Scotia.
- Up to \$3 Million from the Government of Canada through the 2007 Building Canada Fund – Major Infrastructure Component.
- Application made to the HRM for \$2 Million in funding is currently under consideration.

Discovery Center is also requesting a \$75,000 increase in HRM's annual contribution – from the current level of \$145,000 to \$220,000.

### **Unsolicited Submission**

Staff has received an unsolicited document authored by the Discovery Centre. That document is entitled Submission to Halifax Regional Municipality Development – Partnership Proposal – The New Discovery Centre (see Attachment B).

### **Council Motion**

The Motion of February 5, 2013 requested a staff report on the request from the Discovery Center and alignment with HRM priorities and outcomes. Staff has provided a recommendation to enable Council to discuss and debate the request of Discovery Center and to provide a response to their funding request of June 2013.

## **DISCUSSION**

### **PART I: ALIGNMENT BETWEEN DISCOVERY CENTRE & HRM PRIORITIES**

#### **HRM Priorities**

Regional Council has established their priority outcomes and directed staff to develop plans to advance those outcomes. The priority outcomes serve to focus efforts in areas that Council considers most important for the community. The priority outcomes are not tactical; they describe a desired state or outcome sought. The tactics used to advance these outcomes are considered annually by Regional Council as part of the Budget and Business Planning Process. They have been informed in large part by the Regional Plan, Economic Strategy and 2012 Citizen Survey.

#### **Response to HRM Auditor General**

Discovery Centre's funding request follows the Auditor General's Halifax Seaport Farmer's Market report and the Auditor General's Grants and Contributions report. In the Farmers' Market report the Auditor General recommends that HRM align grants and contributions programs with HRM strategic priorities, calls for improved scrutiny of funding proposals and argues for clear evaluation criteria. The Auditor General's report on Grants and Contributions speaks to the need for increased classification, formalization, organization and in some cases rationalization of HRM's financial support.

### **Alignment of Discovery Centre Objectives/Outcomes and HRM Priorities - Economic Strategy**

In response to Council's motion and the AG's recommendations, HRM staff undertook a review of Discovery Centre's alignment with HRM priorities. The Discovery Centre is acknowledged as a project that can provide broad community benefit and may merit municipal assistance.

Multiple points of intersection can be found between the proposed New Centre and HRM's 2011-2016 Economic Strategy. The relevant strategic objectives relate specifically to Talent, Brand and the Regional Centre.

#### **Economic Strategy Goals – Regional Centre**

- Build a vibrant and attractive Regional Centre<sup>4</sup> that attracts more investment and residents.

Under the Regional Centre objective, the economic strategy calls for enabling a rich variety of cultural and creative opportunities.<sup>5</sup> The short term Regional-Centre-related objectives from the economic strategy include the following:

- Enable public investment and funding for cultural institutions, programs, and public gathering spaces, informed by municipal cultural investment study being undertaken and HRM's Regional Plan review.

The Discovery Centre capital investment would be in line with these economic strategy objectives. The New Centre represents an almost \$20 million direct investment in a cultural/educational institution located in the heart of the Regional Centre. An HRM investment in the New Centre would be an incremental step towards increasing the overall level of public investment in cultural institutions.

- Make available Regional Centre municipal public spaces with public art, cultural and, educational programs.

Discovery Centre projects a 45% increase in annual visitation at the new facility (115,000 vs. 80,000). If this visitation projection is realized, Discovery Centre will play a key role in "activating" the Regional Centre.

The New Discovery Centre will be a state-of-the-art facility. In addition to its exhibit space, the concept incorporates three unique spaces which will be the first of their kind in Atlantic Canada – an Immersive Dome Theatre, an Aquarium and an Innovation Lab. The Immersive Dome

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<sup>4</sup> Regional Centre is defined as the Halifax Peninsula and Dartmouth within the arc of the circumferential highway.

<sup>5</sup> HRM's cultural planning model is informed by the international Creative City movement which highlights the role of municipalities in fostering creativity and innovation. The Creative Class encompasses individuals, organizations and enterprises that create, or foster, creativity, imagination or innovation – including scientists and researchers. Viewed in this fashion, science is part of a broadly defined concept of culture and the creative economy.

Theatre can act as an artistic and cultural space, providing a wide selection of cinematic experiences and functioning as a venue for local digital artists to present their productions.

- Work with federal and provincial government to explore development opportunities for vacant public and private lands in the Regional Centre for cultural institutions, public spaces and private mixed uses

An HRM capital investment would transform a vacant, former industrial turbine plant into an iconic, public space offering cultural and educational programming. As the Discovery Centre has pointed out, relocation of the Discovery Centre to the Nova Scotia Power site would also facilitate repurposing the Barrington Street premises as a mixed residential and commercial development.

### **Economic Strategy Goals – Talent**

- Create a welcoming community where the world's talent can find great opportunities, engaged employers and resources for career advancement

Discovery Centre cites research which shows that individuals in STEM (Science, Technology, Engineering and Math) careers attribute their career choice to informal science learning activities offered at science centres. In addition to being a venue to showcase examples of local excellence in STEM, the Centre will include an Innovation Gallery where young inventors can work to being their “ideas to invoice” as a means of fostering innovation at early ages.

### **Economic Strategy Goals – Brand**

- Support a unique, international brand for Halifax

Discovery Centre's relocation adjacent to the Halifax Seaport and International Cruise terminal, has the potential to further distinguish the Halifax waterfront as a vibrant Atlantic Canada destination and add to the overall resident and visitor experience. By showcasing local innovation in marine science, health sciences, energy and aviation, the New Discovery Centre can help to reinforce Halifax's international brand and attractiveness as a city in which to live, work and play.

### **Economic Benefits of Investment**

If Discovery Centre's operational plan and long-term growth projections are realized, the new Discovery Centre will have significant economic benefits. As a \$20 Million (\$20,000,000) project, the new Discovery Centre would have an economic impact both during its one-year period of construction and gallery fabrication and during its operation thereafter. The Discovery Centre projects the creation of six new full-time and six new part-time positions.



Discovery Centre has retained Canmac Economics Limited to produce an economic impact study.<sup>6</sup> Canmac's approach assembles Discovery Centre's data into a consistent accounting format and then conducts a simulation with the Nova Scotia Input-Output Model.

Canmac projects that the construction phase and first 10 years of operation will account for:

- \$38,077,872 in total GDP;
- \$28,123,632 in total household income;
- 66.1 full time equivalent jobs;
- 876 in total person years of employment.

These economic impact assessment calculations account for direct, indirect and induced impacts attributable to the Discovery Centre's construction and operation.

## **PART II: HRM ABILITY TO RESPOND TO FUNDING REQUEST**

### **Grants to Educational and Charitable Organizations**

Section 79(1)(av)(v) and 79(1)(av)(vii) of the HRM Charter permit HRM to provide a grant or a contribution to a number of different organizations, including "educational organizations" and "charitable organizations", as well as a "registered Canadian charitable organization". The Discovery Centre is a Nova Scotia Society under the Societies Act, is registered as a charitable organization with the Canada Revenue Agency, and could be considered an educational organization. Therefore, HRM has the legislative authority to expend funds on a grant or contribution to the Discovery Centre.

### **Capital Funding Request – Existing Policy Framework**

HRM has a number of existing grants and contributions programs established by Council to which the Discovery Centre could apply. Both the Community Grants Program and the Community Facilities Partnership Fund provide capital funding. Neither of these two programs, however, provides authority for the \$2,000,000 in capital funds requested by Discovery Centre.

The Community Grants Program would provide a maximum of \$25,000 in capital funding. With respect to capital funding, the Community Grants Program requires that the property receiving the funding be owned by the applicant. Nova Scotia Power owns the Lower Water Street property. As such, Discovery Centre would be ineligible for capital funding under the Community Grants Program.

The Community Facilities Partnership Fund would provide a maximum of \$1,000,000 in capital funding to community non-profit and public institutions for major capital initiatives undertaken under a formal partnership agreement. The Fund requires a minimum 20 year leasehold interest for capital funding. Therefore, with a 25 year lease from Nova Scotia Power, the Discovery Centre would be eligible for capital funding through the Community Facilities Partnership Fund.

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<sup>6</sup> See Attachment C –Canmac Economics Limited Impact Assessment – Discovery Centre | 2013.

Pending resolution of program administration and program design deficiencies noted in the Auditor General's Halifax Seaport Farmer's Market report, the Community Facilities Partnership Fund's activities were suspended in 2011. Should Council decide to reactivate this fund,<sup>7</sup> there has been no annual budget allocation to it since its suspension; consequently, the Community Facilities Partnership Fund's reserve balance is insufficient to cover Discovery Centre's \$2 million capital funding request.

### **Operating Funding Request – Existing Policy Framework**

With respect to ongoing operating funding, the Community Grants Program explicitly excludes the provision of core operating assistance. Likewise, the Community Facilities Partnership Fund does not provide operating funding. Therefore, there is no HRM program to which the Discovery Centre may apply for an ongoing operating grant or contribution.<sup>8</sup>

### **Operating and Capital Funding Request – Prospective Policy Framework**

HRM staff are currently reviewing the municipality's approach to grants and contributions. Staff are assessing HRM's current capacity to consider diverse funding requests that differ in scope (dollar value) and nature (capital/project-based/operating). The intent is to rationalize HRM's grants and contributions funding approach to:

- allow for increased consistency;
- facilitate assessment of relative merit; and
- encourage equal access by parties applying for municipal funding.

At this time HRM is not in a position to assess the relative merit of the Discovery Centre request in the context of a redesigned HRM process/program. Given the immediacy of the Discovery Centre's request (pending expiration of existing lease and redevelopment of Barrington Street the property), staff do not recommend that the Discovery Centre funding request be deferred pending the prospective program redesign.

### **Source of Funds**

Regional Council could instruct staff to provide Discovery Centre with ad hoc capital funding through HRM's operating budget. This would require staff to offset these costs through operating savings. The most immediate way to achieve this would be to fund the request through the current projected surplus.

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<sup>7</sup> Reinstatement of the Community Facilities Partnership Fund would require work on the part of staff to address the recommendations made in both the Auditor General's Halifax Seaport Farmer's Market report and the Auditor General's Grants and Contributions report.

<sup>8</sup> The current operating grant to Discovery Centre is approved annually by Council during the budget process. Council has authority to make grants and contributions to educational or registered Canadian charitable organizations, outside of its formal grant program guidelines, pursuant to section 79(1)(av)(v) and (vii) of the Charter.



## **Leveraging HRM Investment**

As articulated in the background to this report, Discovery Centre anticipates leveraging funds and resources from individual donations and gifts, corporate sponsorships, other orders of government, investments by the private sector and the creation of earned revenue streams. Staff recommends that HRM's capital funding be conditional on proof of federal and provincial investment. Minimally, the federal and provincial capital costs contributions should be on par with HRM's capital cost contribution. However, staff recommends that \$9 Million (\$9,000,000) in combined committed federal and provincial capital project investment be confirmed prior to disbursement of HRM's \$2 Million (\$2,000,000) capital contribution. Staff further recommends that HRM's investment be contingent on confirmation of \$7.5 Million (\$7,500,000) in additional private sector investment. Discovery Centre's business case is based on a \$18.5 Million (\$18,500,000) leasehold improvement budget to construct a purpose-built facility. Failure to secure \$18.5 Million (\$18,500,000) in funding will negatively impact the feasibility of both the capital project itself and the ongoing operational feasibility of the New Centre.

## **Review of Discovery Centre Business Model**

Discovery Centre's business plan calls for significant growth in operational revenues (from increased visitation and memberships, use of venue space for hosting events and expanded programming). Discovery Centre maintains that the new space will enable a broader range of business offerings than is possible with the current facility, which, over time, should serve to grow revenues and reduce reliance on funding from public sources.

Five year financial projections have been prepared on behalf of Discovery Centre by Grant Thornton. These projections include two years of operations at the Barrington Street location and three years at the Nova Scotia Power building on Lower Water Street. Overall, the operations at the new science centre are projected to produce a surplus of revenues over expenditures (before amortization) for the March 31, 2014 to March 31, 2016 fiscal years.

To assist it in developing design plans and cost estimates for the new facility, galleries and program content, Discovery Centre has retained the services of Barrie and Langille Architects Ltd. in association with Moriyama & Teshima Architects and AldrichPears Associates. The design team has considerable experience in public building, gallery and visitor experience design, and is currently working to complete detailed design development along with Class "B" construction estimates.

Given the scale of the requested municipal investment in the project – \$3.45 Million (\$3,450,000) over 10 years in capital and operating contributions<sup>9</sup> – due diligence on HRM's part is warranted. Finance staff will review and evaluate the Discovery Centre design plans, cost estimates and business plan to ensure the plans adequately demonstrate the sustainability of the

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<sup>9</sup> This 10-year funding commitment calculation assumes annual operational contributions at the current level of \$145k per annum. It should be noted that this report recommends funding for 2014-2015 only. Further operational contributions are to be reconsidered by Council on an annual basis.

proposed new centre. Staff will, as required, work with Discovery Centre, Grant Thornton and others as required to complete a full evaluation and assessment.

### **HRM Financial Support – Increased Operational Funding**

As stated in the background to this report, Discovery Centre is requesting a \$75,000 increase in HRM's annual contribution – from the current level of \$145,000 to \$220,000. Discovery Centre has stated that a funding increase is necessary to defray increased staffing and facility-maintenance costs associated with operating the roughly fifty percent (50%) larger purpose-built facility.

The business plan provided by the Discovery Centre shows an increase in operating costs projected with the move to the new centre but this appears to be more than offset by projected increases in earned revenues (includes admissions, memberships, programs, birthday parties and retail).

While the level of government funding Science Centres varies widely, the Discovery Centre shows a higher than average level of revenue from government sources when compared against operating revenues from public sources for science centres as reported by the Association of Science Technology Centres.

Given the above, staff recommend that no increase in operating funding be provided in 2014/2015. Further, the contribution agreement must acknowledge that HRM is not responsible for any operating losses.

### **Contribution Agreement – Operational Funding**

Discovery Centre currently operates independently of HRM and has no accountability to the municipality. To date, no formal written agreement has been entered into between HRM and Discovery Centre governing the annual expenditure of HRM-provided operational funding. In the absence of a formal agreement, staff has historically requested, and received, financial and programming information prior to the release of operational funds to Discovery Centre. Formalizing the business relationship between HRM and Discovery Centre through a contribution agreement will, however, enable the Municipality to articulate operational-funding-specific expectations, deliverables and measures, in order to ensure that municipal taxpayers receive value for investment.

From an oversight and management perspective, the execution of a formal operational-funding-specific contribution agreement between HRM and Discovery Centre introduces a number of accountability measures in relation to the annual contribution. For example, the contribution agreement can:

- Articulate clearly defined operational-specific outcomes and measures;
- Require the preparation and presentation to Regional Council an annual business plan and budget to ensure alignment between the contribution agreement and HRM corporate outcomes;

- Mandate an annual report on activities and outcomes of the contribution agreement;
- Stipulate that audited financial statements be produced in accordance with accounting principles established by the Canadian Institute of Chartered Accountants and be provided to HRM
- Confer on HRM an ability to audit Discovery Centre's financial records, if an audit was warranted.

Staff recommend that the \$145,000 contribution be governed by the terms and conditions of a contribution agreement entered into between HRM and Discovery Centre. In order to facilitate this drafting process, staff further recommend that Council authorize staff to enter into discussions with Discovery Centre for the purposes of drafting a contribution agreement and to authorize the Mayor and Municipal Clerk to execute a contribution agreement.

### **Funding Agreement – Capital Contribution**

HRM must demonstrate due diligence in making a capital cost contribution to Discovery Centre.. Consequently, if Council approves a capital cost contribution, staff recommend that a formal capital-cost-contribution-specific funding agreement be entered into between Discovery Centre and HRM. To facilitate drafting of such an agreement, staff further recommend that Council authorize staff to enter into funding agreement negotiations with Discovery Centre and authorize the Mayor and Municipal Clerk to execute a contribution agreement. Attachment A reflects key capital-cost-contribution conditions that staff recommend be incorporated into any funding agreement entered into with Discovery Centre. Since the funding agreement will only concern the one-time capital contribution and given the alignment with the Economic Strategy, no deliverables, except for construction of the custom-built-facility will be written into the capital-cost-contribution funding agreement.

### **FINANCIAL IMPLICATIONS**

Council endorsement of the staff recommendation to fund the contribution to the Discovery Centre from the current projected surplus will decrease the projected surplus in 2013/14 by \$2,000,000. This transfer will increase the projected March 31, 2014 reserve balance. For 2014/15 a commitment of the \$2,000,000 will be placed on the reserve to secure the funds until such time as a suitable resolution is arranged.

### **COMMUNITY ENGAGEMENT**

None.

### **ENVIRONMENTAL IMPLICATIONS**

The New Centre will be located within a former industrial building once occupied by an electrical turbine plant. Re-development of the site, as a science centre, would convert a “brownfield” building to a publically-accessible cultural venue. Design plans for the New Centre call for integration with Nova Scotia Power's LEED Platinum-certified building's heating, cooling and electrical systems.

### **ALTERNATIVES**

- 1) Council could direct staff to discontinue HRM's annual contribution to Discovery Centre.
- 2) Council could allocate less than \$145,000 to HRM's annual contribution to Discovery Centre.
- 3) Council could decline Discovery Centre's request for capital cost funding.
- 4) Council could allocate less than \$2,000,000 towards Discovery Centre's anticipated capital costs.
- 5) Council could defer the decision to fund Discovery Centre pending possible grants and contributions program redesign.

### **ATTACHMENTS**

Attachment A: Capital Contribution Conditions

Attachment B: Discovery Centre Submission to HRM (Unsolicited)

Attachment C: Canmac Economics Limited Economic Impact Assessment – Discovery Centre |  
2013

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A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/index.html> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Maggie MacDonald, Government Relations & External Affairs, 490-1742,  
Scott Sheffield, Government Relations & External Affairs, 490-3941

Original Signed

Report Approved by:

\_\_\_\_\_  
Jennifer Church, Managing Director, Government Relations and External Affairs, 490-3677

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\_\_\_\_\_  
Brad Anguish, Director, Community and Recreation Services, 490-4933

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Financial Approval by:

\_\_\_\_\_  
Greg Keefe, Director of Finance & ICT/CFO, 490-6308

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## **Attachment A**

### **Capital Contribution Conditions**

HRM's contribution to be contingent on:

- 1) the execution of a funding agreement between HRM and Discovery Centre, to facilitate the disbursement of the \$2 Million (\$2,000,000) contribution toward capital costs. The Funding Agreement entered into between Discovery Centre and HRM shall include:
  - a requirement for the retention of a professional project manager for the duration of the project;
  - a requirement that Discovery Centre provide HRM with indemnification;
  - a payment schedule whereby an initial payment of \$600,000 is made on proof of construction readiness, with subsequent payment of \$700,000 upon proof that 50% of the construction is complete, and payment of a further \$700,000 upon proof that the balance of the project is complete;
  - a requirement that HRM shall have the right to approve any significant changes in construction of the Discovery Centre facility, such as the level of debt incurred, the total cost of the project, or any other aspect of the construction project which might affect HRM's decision to contribute;
  - that payments by HRM, totaling \$2,000,000, shall represent the complete capital-related financial commitment for HRM. There shall be no supplemental or incremental funds available to Discovery Centre;
  - that HRM shall not be liable for any losses incurred by Discovery Centre in relation to the construction or operation of the new Discovery Centre facility, to be located with Block D of Nova Scotia Power's Lower Water Street building;
  - that in return for HRM's financial contribution, Discovery Centre shall provide recognition commensurate with the level of investment; and
  - HRM shall not be a guarantor of the Discovery Centre, nor shall there be any contingent or direct liability either implied or express; and
- 2) fulfillment of the following funding conditions:
  - a) Discovery Centre shall provide HRM with a facility maintenance plan.
  - b) Discovery Centre shall use the capital funding provided by HRM solely for the construction of the Discovery Centre facility to be located with Block D of Nova Scotia Power's Lower Water Street building.
  - c) Discovery Centre shall provide HRM with a copy of the 25 year lease agreement between Nova Scotia Power and Discovery Centre, regarding the Nova Scotia Power building on Lower Water Street, prior to the disbursement of any of HRM's capital cost contribution.
  - d) Discovery Centre shall provide HRM with proof of commitments with respect to the following funding for the new Discovery Centre facility, to be located within Block D of Nova Scotia Power's Lower Water Street building, such proof to be in a form satisfactory

to HRM's Director of Finance and to be provided prior to the disbursement of any of HRM's capital cost contribution:

- i. \$6,000,000 in capital cost funding from the Provincial Government; and
  - ii. Up to \$3,000,000 in capital cost funding from the Federal Government.
- e) Discovery Centre shall provide HRM with a detailed plan, in a form satisfactory to HRM's Director of Finance, for fundraising no less than \$7,500,000 in capital cost funding from the private sector for the new Discovery Centre facility, to be located within Block D of Nova Scotia Power's Lower Water Street building, prior to the disbursement of any of HRM's capital cost contribution.
- f) Discovery Centre shall provide HRM with design plans and cost estimates regarding the Nova Scotia Power building on Lower Water Street prior to the disbursement of any of HRM's capital cost contribution.





Submission To Halifax Regional Municipality  
Development Partnership Proposal  
The New Discovery Centre

***Discovery Centre, 1593 Barrington Street  
Halifax, NS B3J 1Z7  
902-492-4422    [www.thediscoverycentre.ca](http://www.thediscoverycentre.ca)***

***June, 2013***

## EXECUTIVE SUMMARY

The Discovery Centre and Halifax Regional Municipality (HRM) have, for over 27 years, partnered on inspiring young people in Halifax and Nova Scotia to learn about science in a fun and immersive environment. The Discovery Centre's leased facility on Barrington Street has outlived its useful life and the property is under plans for redevelopment. The Centre requests the Municipality's continued support for a new, \$20 Million Science Centre through an HRM contribution of \$2 million towards its capital costs and an increase in the Municipality's annual grant to \$220,000, an amount equivalent to the Province of Nova Scotia's annual grant.

This submission is supplementary to an information package submitted previously to HRM staff that provided the following details:

- Background on the project and status of funding efforts;
- Business plan prepared for the New Centre;
- Master Plan for building and visitor experience design;
- Project budget with Class "C" construction estimates; and
- Schedule for construction.

Discovery Centre has reviewed various Regional Council agendas and reports tabled with Council on the matters related to municipal priority outcomes and civic partnerships and the information provided in this submission suggests that the development and operation of the new Discovery Centre aligns to many areas of municipal interest and priority outcomes. The most compelling reasons for supporting the project can be summed up as follows:

- *High yield* – HRM's \$2 Million investment would leverage an estimated \$20 Million capital project with its associated direct, indirect and spin-off economic benefits and produce a state-of-the-art community facility that celebrates local innovation, citizens can take pride in and visitors can delight in and learn from.
- *Inspiring young minds and local creativity* – The project's focus is be about taking experiential learning to the next level, making science fun for all ages and increasing STEM knowledge in Halifax and Nova Scotia, helping to advance HRM's and the Province's economic and cultural agendas.
- *Seizing the moment* - A rent-free 25-year lease in a facility along the waterfront for a community facility is not likely to present itself again anytime in the near future and HRM can play an important role in making it happen while supporting community development outcomes.
- *Low cost* - The building shell already exists and the plan is to integrate building systems with NSP's LEED Platinum building systems not only to minimize capital outlay but conserve and save on energy costs over the long-term operation of the facility.
- *A sound and sustainable business model* – Discovery Centre is a non-profit organization supported by private donations, government funding and revenues from operations. Our business plan for the New Centre calls for significant growth in operational revenues from increased visitation, expanded programming including a dome theatre and use of venue space for hosting events. The New Centre will enable a broader range of business offerings than is capable with the current facility that over time should serve to grow revenues and reduce reliance on funding from public sources.

The new Discovery Centre is on the precipice of something monumental. We believe our new venue will be an iconic addition to the regional landscape and will bring significant economic, cultural and educational benefits to the city. HRM's support for this landmark facility would show visionary leadership and demonstrate an investment in the Municipality's growth and future.

The Discovery Centre hopes that the information in this submission will be of benefit to HRM staff's analysis and recommendation to Regional Council. We would welcome an opportunity to discuss its contents in more detail at any time that is convenient to HRM.

Respectfully submitted,

Original Signed

Dov Bercovici  
President, CEO  
The Discovery Centre

## 1.0 Introduction

Discovery Centre is pleased to have had an opportunity to share with Municipal staff information on our vision for the New Discovery Centre on the Halifax waterfront along with a summary of many of the benefits that the new facility would offer HRM citizens. We trust that the information submitted to date has helped staff gain a better understanding of the many community and regional benefits associated with our project and how our government partners and private sponsors are aligning in their efforts to support this venture.

We understand that HRM staff will be submitting a report in response to Regional Council's request for a staff recommendation on Councilor Adams's motion that HRM support the project. The following offers supplementary information about the project and its linkages to the Municipality's economic growth and community development agendas in order to provide staff with additional perspective in responding to Council's request.

## 2.0 Discovery Centre – Who We Are and What We Do

The Discovery Centre has been a pillar of scientific discovery in Nova Scotia, pollinating 1.4 million minds over 27 years by reinforcing curiosity, knowledge and innovation. As an award-winning leader in experiential science education, the Discovery Centre has evolved from a travelling science show to the largest science centre in Atlantic Canada and one of the region's most loved family institutions. By cultivating a positive learning environment that gives children the opportunity to ask "why" and see "how", the Discovery Centre offers unlimited possibilities for young minds to learn about the world around them and, in turn, embark on a life-long journey of discovery that encourages them to become the region's next generation of visionaries, innovators and leaders.

The Centre is a registered not-for-profit organization with oversight by a volunteer board representing leaders from business, government and academia. The organization's mission is to stimulate interest, enjoyment and understanding of science and technology through innovative and hands-on experiences for all Nova Scotians. Annually, Discovery Centre recognizes the achievements of the science heroes that live and work in Nova Scotia at its signature event – the *Discovery Awards for Science and Technology*. This prestigious event brings together the worlds of academia, government and the private sector to recognize excellence in research, development and innovation. Through its sponsorship of Discovery Centre, HRM is connected to a network comprising individuals and organizations that are leading the way in making Halifax and Nova Scotia more competitive globally through science, innovation and technology.

The Centre's work is helping to build the base of STEM (science, technology, engineering and mathematics) literacy in Nova Scotia, which in turns helps make the province more competitive regionally, nationally and globally. As the municipality with the largest school-aged population of any in Nova Scotia, HRM and its citizens derive significant benefit from the Centre's Halifax location and its various programs that include outreach to rural communities.

As a founding member of the Discovery Centre, HRM has been a strong partner for over 27 years and the Centre acknowledges and sincerely appreciates the support and funding it has received during this time. HRM currently supports the Centre's ongoing operation with a \$145,000 annual grant that enables core funding for educational programs and community outreach that inspires thousands of children each year.

The Centre respectfully requests the Municipality's continued support for its new \$20 Million venue through an HRM contribution of \$2 million towards its capital costs and an increase in the Municipality's annual grant to \$220,000, an amount equivalent to the Province of Nova Scotia's.

## 2.1 Financial Snapshot & Re-Location Imperative

Discovery Centre has no long-term debt and has recorded consecutive surpluses over the last several years. Since 2006, the Centre has experienced unprecedented growth, increasing revenues by over 70% to approximately \$2.4 million. Earned and private sector revenues have grown by over 95% during the same period as the Centre strives to become more self-sufficient. Surpluses realized by the Centre are re-invested in the facility, exhibits and programming to further enhance the visitor experience.

While earned and private sector revenues have grown since 2006, revenues from government sources have decreased. Last year, ACOA withdrew its operational grant. The Province of Nova Scotia's annual grant, while significant, is relatively low in comparison to grants made to other museums and in comparison to provincial grants made to science centres in other provinces. HRM's grant has remained at the same level since the Centre's inception with no adjustment for inflationary costs. Although revenues from operations for the New Centre are expected to grow over time, they are unlikely to sufficiently cover the costs of operating a new facility twice as large particularly in the initial years of operation while transitional and development costs associated with the new facility are being incurred.

Discovery Centre currently operates from leased premises on Barrington Street in a building currently under a development agreement approved by Regional Council prior to adoption of the *HRM by Design* planning strategy. Discovery Centre has long expressed a desire to occupy a purpose-built facility as a means of growing the Centre's offering in the community and as a means of enhancing the visitor experience. The uncertainty over the future use of the current building prompted Discovery Centre to begin an active search for a new location. Additionally, operating and leasehold costs associated with the current premises comprise a major proportion of the Centre's annual costs and continue to increase, making it difficult to rationalize making any major tenant leasehold improvements. Also, the current facility is located on Barrington Street, next to a Metro Transit bus stop, making it difficult to accommodate school bus groups and to load traveling exhibits and other large artifacts into and out of the building.

The Nova Scotia Power building offers Discovery Centre an excellent opportunity to move into a purpose-built facility and to change the way science and technology is both presented and perceived in Nova Scotia and by visitors to the region (Figure 1). NSP's offer of a 25-year, rent-free lease of Block D in its waterfront headquarters, along with a \$1 million sponsorship of the Energy Gallery in the New Centre presents a once-in-a-lifetime opportunity to re-position the Discovery Centre as an exciting visitor experience for all ages at a fraction of the capital cost of similar facilities recently constructed in Canada<sup>1</sup>. Additionally, as the mechanical, heating and electrical systems for the new facility will be integrated with those of NSP's LEED Platinum building, the Centre is seeking to reduce operational costs associated with building systems despite a doubling of building floor space as compared to the current facility.

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<sup>1</sup> Calgary's new science centre cost \$160 million to construct and was funded with equal contributions from federal, provincial, city and private sectors.

**Figure 1- Exterior Design Concept - Block “D”, NSPI Waterfront Complex**



## **2.2 Business Planning and Economic Outcomes**

Discovery Centre retained Grant Thornton to prepare a financial analysis and business plan for an expanded facility at the NS Power location. A copy of the Grant Thornton Business plan has been provided to HRM staff under separate cover. The business plan identified the following factors as being critical to the relocation of the Centre and its success:

- **Physical space** - The increasing number of visitors has put a serious strain on the current Barrington Street facility. In addition, the current facility was not a purpose built science centre. It has become clear that to accommodate future growth the physical size of the Centre must increase. The move will allow Discovery Centre to almost double its current size. A larger facility will accommodate more visitors, bring in larger exhibits, increase the current program offering, and allow the Centre to reach more communities in Nova Scotia and Atlantic Canada.
- **Location / accessibility** - The current location faces significant accessibility issues. There is no parking, nor is there a suitable location to drop off visitors. This is inconvenient for visitors and poses safety concerns. The New Science Centre will be accessible by bus, car, bike or foot. Its location offers easy access to surface parking available in the area and a large drop-off area for buses, creating a safe environment for children and students. In addition, the current location is not-highly visible. By locating on the Halifax Waterfront, the new science centre can grow the number of visitors by attracting more tourists. A new, more inviting facility will help attract tourists and make the Centre a tourist destination in Halifax.
- **Investing in our youth / investing in innovation** - The New Science Centre will allow Discovery Centre to provide a place where young people can thrive and evolve into future corporate leaders, politicians, scientists, teachers and innovators. The success of Halifax and Nova Scotia depends on the ability to encourage, develop and support the next generation of scientists and innovators.



The science learning in science centres is changing. The new interactive, collaborative approach to science learning will provide a vision for the New Centre. The addition of a research lab will allow the Centre to work with local universities and research facilities to develop a space to study, assess and prove that learning at the New Centre has a direct impact on behaviour. The domed theatre will provide a venue in which to showcase innovation within an immersive, awe-inspiring environment.

- **Economic benefits** - The New Science Centre will make a tremendous impact on Halifax and Nova Scotia, not only as a leader in informal education but as part of Nova Scotia's strategy to grow the economy and attract and retain talented professionals, particularly in the innovation sector. The New Centre is projected to produce significant direct, indirect and induced economic benefits over its period of construction, gallery fabrication and long term operation, including creating six new full-time and six new part-time positions<sup>2</sup>. By investing in the New Centre, the Province and the Halifax Regional Municipality will be demonstrating their commitment to a broader strategy to create new jobs and retain talented professionals.
- **Long-term sustainability** - Five year financial projections have been prepared, which include two years of operations at the Barrington Street location and three years at the NSPI building on Lower Water Street. Overall, the operations at the new science centre are projected to produce a surplus of revenues over expenditures (before amortization) for the March 31, 2014 to March 31, 2016 fiscal years.

### 3.0 The Vision For a New Science Centre

*"Discovery Centre has an opportunity to reinvent itself as a landmark cultural attraction on the Halifax Waterfront, renowned for its signature location, unique facility and leading science-based learning. This New Centre will inspire Nova Scotians to enact exciting positive changes through a deeper understanding of how science and technology are part of our everyday lives."*  
*Vision statement from Discovery Centre Master Plan document*

From the entrance to the Atrium to the galleries to the programming rooms, the design approach for the New Centre is based on a desire to instill a sense of awe and inspire visitors of all ages (Figure 2). The approach to gallery design and content development is being shaped by a process that entails consulting with science leaders in our region in order to explore ways to showcase examples of science innovation from the region, to retain the hands-on, minds-on approach to science learning that has become synonymous with Discovery Centre and to broaden overall content in order to appeal to visitors of all ages.

To assist it in developing design plans and cost estimates for the new facility, galleries and program content, Discovery Centre has retained the services of Barrie and Langille Architects Ltd. in association with Moriyama & Teshima Architects and AldrichPears Associates. The design team has considerable experience in public building, gallery and visitor experience design, and is currently working to complete detailed design development along with Class "B" construction estimates. As the building shell already exists, the plan is to undertake a sustained level of construction activity throughout the approximate one-year period of construction.

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<sup>2</sup> Discovery Centre has retained the services of Canmac Economics Ltd. to prepare an economic impact analysis for the New Centre. The analysis will be completed by June 30, 2013.

**Figure 2 – Interior View of Dome Theatre and Atrium**



The New Discovery Centre is truly unique in its potential to reach residents and visitors through its unique venue, world-class exhibits, community outreach programming, immersive educational experiences and private sector engagement in the fields of science, technology and innovation. This impressive addition to the region's infrastructure will encourage and showcase innovation, STEM learning, and engagement at all levels while being accessible to everyone. Indeed, this is an investment in our region's future generations and, in turn, our economic growth and prosperity.

#### **4.0 Alignment With Municipal Priority Outcomes**

Discovery Centre recognizes that despite its longstanding funding relationship with HRM, the parties do not have a service level agreement that sets out expectations and outcomes for the Municipality's annual grant to Discovery Centre operations. We also recognize that HRM has similar relationships with other community organizations and that several other organizations are seeking municipal support for other projects that offer community benefits. We have reviewed past Council agendas and reports from staff and from the Municipal Auditor General and also understand that the Municipality may be considering adoption of a municipal policy framework in respect to partnering with non-profit organizations on community-based infrastructure. In reference to the above we offer the following observations on how our project supports HRM priority outcome areas.

In a recent exercise in preparation for development and consideration of HRM's 2013/14 Operating and Capital Budgets, Municipal staff and Council identified a number of priority outcomes for the upcoming year. Among the various priority outcome areas identified were several that would be supported by an investment made in the New Centre.<sup>3</sup> Specifically, these are:

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<sup>3</sup> Halifax Regional Municipality, December 4, 2012 Committee of the Whole meeting minutes and staff report

- **HRM Economic Strategy outcomes serving to:**
  - *Build a vibrant and attractive Regional Centre that attracts more investment and residents.* The New Centre represents a \$20 million reinvestment in the centre of the region and is expected to generate a 45% increase in annual visitation from 80,000 to 115,000 visits annually compared to the current facility.<sup>4</sup> It would also facilitate repurposing of the current premises on Barrington Street as a mixed residential and commercial development in accordance with an existing, approved development agreement.
  - *Foster a welcoming community where talented people can find great opportunities.* There is a clear link between early engagement at science centres and choosing a career path in science and technology. Research shows that individuals in STEM (Science, Technology, Engineering and Math) careers attribute their inspiration to pursue careers in science to informal science learning activities offered at science centres. In addition to being a venue to showcase examples of local excellence in STEM, the Centre will include an Innovation Gallery where young inventors can work to bring their “ideas to invoice” as a means of fostering innovation at early ages.
  - *Support a unique, international brand for Halifax* – Discovery Centre’s location on the Halifax waterfront adjacent to the Halifax Seaport and International Cruise terminal will serve to further distinguish the Halifax Waterfront as a world-class, vibrant and unique destination in the region and Canada and add to the overall visitor experience in that area and the city in general. As well, by showcasing and celebrating local innovation in areas of marine science, health sciences, energy and aviation, the New Discovery Centre is reinforcing Halifax’s international brand and attractiveness as a city in which to live, work and play.
- **An HRM by Design Centre Plan outcome to:**
  - *Improve architectural and community design and heritage protection* – The New Centre would transform a vacant, former industrial turbine plant into an iconic, exciting public space in manner that celebrates its industrial heritage, leverages electrical and mechanical systems of Nova Scotia Power’s adjoining LEED Platinum certified building while blending in with its modern design and the character of the surrounding area. The exterior design features a vibrant facade and kinetic wall near the building entrance<sup>5</sup> that we anticipate to become an iconic presence in the city.
- **An Arts and Culture outcome to:**
  - *Fully engage the Arts and Culture community through partnerships, funding and national associations in an effort to become a cultural capital of Canada* – The New Discovery Centre will be a state-of-the-art facility. In addition to its incredible exhibit space, it will be home to three unique spaces which will be the first of their kind in Atlantic Canada - an Immersive Dome Theatre, an Aquarium and an Innovation Lab – all of which be attractions for both residents and visitors alike.

The Immersive Dome in particular has incredible potential as an artistic and cultural space through a wide selection of cinematic experiences (examples are provided via link below)<sup>6</sup>, as well as a venue for local digital artists to present their productions (examples of this can be viewed via link below). These and all of the Centre’s public spaces will be a dynamic and creative addition to the cultural landscape of downtown Halifax and Nova Scotia.

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<sup>4</sup> Discovery Centre Business Plan prepared by Grant Thornton, 2012.

<sup>5</sup> Many examples of kinetic wall architecture can be found on the internet, including on YouTube at: <http://www.youtube.com/watch?v=OWIhkvvg6MQ>

<sup>6</sup> Examples of full-length theatre productions can be found at: <http://www.thinktank.ac/nwshowing.asp?section=578&sectionTitle=Available+at+any+time+for+planetarium+group+bookings>

Jim – I didn’t mean to delete these footnotes!! Renée

- **Other areas of municipal interest:**

- *Engaging youth in positive and constructive activities* - The Barrington Street facility has a long history of engaging school-aged children in hands-on science learning. Although the planned Children's Gallery in the New Centre is designed to continue this experience, the overall strategy is to appeal to a broader audience particularly high-school aged youth seeking to better understand the world around them.
- *Environmental stewardship and community development* – The New Centre will be located within a former industrial building once occupied by an electrical turbine plant. Re-development of the site to a science centre offers an opportunity to interpret the property's industrial heritage and present use while converting it from a "brownfield" building to an exciting public venue.

Design plans for the New Centre call for integration of its heating, cooling and electrical systems with existing systems within NSPI's LEED Platinum-certified building. This serves to minimize construction costs and translate into savings in long term operating costs. It also provides opportunity to interpret, or tell the buildings "story" to visitors in an interactive environment.

An investment in the New Centre provides HRM with an opportunity to see many of its priority outcomes associated with environmental stewardship, energy conservation, excellence in building design and cultural development interpreted as part of the overall visitors' experience. Topics such as water and energy conservation and healthy lifestyle choices are central gallery themes and align with strategies and outcomes that are also of interest to HRM. The concept of modeling the Children's gallery around what could be any street in any town in Nova Scotia will expose children to the community in which they live, how it functions and how they can interact with others to affect positive change. The Water, Energy and Children galleries also provide venues in which topical themes like watersheds, "solar city" and "community energy" can be interpreted and explored.

- *Healthy, vibrant communities encouraging awareness about sustainability and healthy lifestyle choices* – All of the planned galleries, particularly the Health and Children's galleries, are being designed to inform and educate visitors about healthy lifestyle choices and the effects they have on personal health, our community and our world.
- *"Smart City" marketing of Halifax for growth opportunities in the high wage fields of science, health services, financial services, engineering and technology* – the Discovery Centre's venue and programming, which focuses on science, technology, engineering and math (STEM) aligns perfectly with the Smart City themes noted here.

## 5.0 Status of Project Funding Efforts

Discovery Centre has embarked on a robust Capital Campaign to raise the \$20 million needed to fund the project. The Centre has set a goal to raise \$8 Million from the private sector and community sources and \$12 Million in combined federal and provincial contribution. Discovery Centre's community fund-raising efforts, led by a private sector Campaign Council, have secured interest and/or commitments to contribute to the construction of the New Centre and its content. In addition to Nova Scotia Power, many other private sector partners have made cash donations to the project. Others have offered in-kind services, such as IT, while others have expressed interest in making significant donations contingent on commitments of government funding. Recently, the Medavie Health Foundation committed \$1 Million to the Health Gallery.

Following is a summary of fundraising efforts to date:

- 25-year gratis lease of 40,000 square feet courtesy of NS Power.
- \$4 Million in confirmed pledges from private donations including \$1 Million from NS Power and \$1 Million from Medavie Foundation.
- \$2 Million in additional private sector commitments contingent on secured funding from government sources.
- \$6 Million commitment from the Province of Nova Scotia contingent on matching contribution from the Government of Canada.
- Application made to the Government of Canada for \$6 Million in funding is currently under consideration.

The \$2 Million capital contribution that Discovery Centre is requesting from HRM comprises a significant part of the funding being raised from community sources that in turn would leverage \$12 Million in federal and provincial funding for the project. In order to operate a completely new science centre within a purpose-built facility that is twice as large as the current facility, Discovery Center also requests a \$75,000 increase in HRM's annual operating grant from the current level of \$145,000 to \$220,000. This would be the first increase in the annual HRM grant since its inception and would make HRM's annual grant equal to that of the Province.

## **6.0 Accountability, Financial Management and Outcomes**

In December 2011 the Municipal Auditor General released a report on HRM's contribution to the Halifax Seaport Farmers' through its Community Facility Partnership Fund. The Auditor General's report takes a critical view of the process and arrangement made with the Farmers' Market. It offers recommendations for any future decisions made by the Municipality to fund capital construction and/or operational aspects of community facilities through this civic partnerships program.

Discovery Centre recognizes that in preparing the report to Regional Council HRM will be considering the recommendations of the Auditor General's report. Discovery Centre is prepared to provide any documentation or assurances that may be required to ensure that HRM's funding contribution to Discovery Centre aligns with the Municipality's strategic priorities, delivers on any outcomes deemed appropriate by the Municipality and is consistent with any risk and financial management policies that encourage transparency, accountability and value for any public money spent.

Discovery Centre would welcome further discussions with the Municipality on the subject of establishing a "civic partnership" based on clear lines of reporting, risk management, accountability and outcome measurement. For example, a partnership along lines similar to that of the Calgary Telus Science Centre/City of Calgary may be worth considering as a means to ensure the centre's outcomes align with HRM priorities and are reported on annually to Regional Council and citizens.

### **6.1 Possible Outcome Measures**

Discovery Centre is prepared to work with HRM staff to determine outcomes that the Centre could target and report on annually in order to ensure that HRM's investment in the New Centre yields positive outcomes that align with municipal priorities and objectives. For example, a variety of outcomes could be tracked and reported on, including:



- % Increase in visitors to new vs. current Discovery Centre
- % Increase in visits by children aged 0-3 years
- % Increase in visits by youth aged 10-20 years
- % Increase in visits by Grades P-9 school groups
- % Increase in visits by Grades 10-12 school groups
- % Increase of rural communities served by Science on the Road
- % Of total construction costs spent on environmental remediation
- % Decrease in greenhouse gas emissions of new vs. existing Centre
- % Reduction in carbon footprint of new vs. existing Centre
- % Increase in individual awareness about pertinent environmental stewardship, personal health and other issues after visiting New Centre
- # New partnerships with other organizations with mandates to attract business and visitors to HRM i.e. museums, TCL, DH, GHP, etc.

## 6.0 Conclusion

The New Discovery Centre is on the precipice of something monumental. We believe our new venue will be an iconic addition to the region's landscape and will bring significant economic, cultural and educational benefits to the city. HRM's support for this landmark facility would show visionary leadership and demonstrate an investment in the Municipality's growth and future.

To summarize, the most compelling reasons for supporting the project can be summed up as follows:

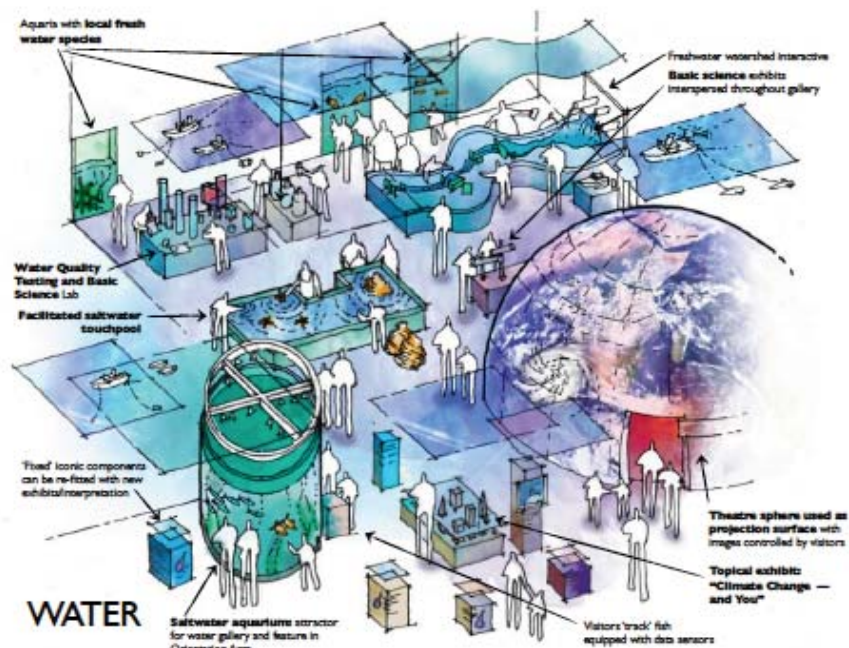
- *High yield* – HRM's \$2 Million investment would leverage an estimated \$20 Million capital project with its associated direct, indirect and spin-off economic benefits and produce a state-of-the-art community facility that celebrates local innovation, citizens can take pride in and visitors can delight in and learn from.
- *Inspiring young minds and local creativity* – The project's focus is be about taking experiential learning to the next level, making science fun for all ages and increasing STEM knowledge in Halifax and Nova Scotia, helping to advance HRM's and the Province's economic and cultural agendas.
- *Seizing the moment* - A rent-free 25-year lease in a facility along the waterfront for a community facility is not likely to present itself again anytime in the near future and HRM can play an important role in making it happen while supporting community development outcomes.
- *Low cost* - The building shell already exists and the plan is to integrate building systems with NSP's LEED Platinum building systems not only to minimize capital outlay but conserve and save on energy costs over the long-term operation of the facility.
- *A sound and sustainable business model* – Discovery Centre is a non-profit organization supported by private donations, government funding and revenues from operations. Our business plan for the New Centre calls for significant growth in operational revenues from increased visitation, expanded programming including a dome theatre and use of venue space for hosting events. The New Centre will enable a broader range of business offerings than is capable with the current facility that over time should serve to grow revenues and reduce reliance on funding from public sources.



The Discovery Centre recognizes that the Municipality must consider this request against precedent, enabling legislation, other worthy projects and its own fiscal capacity. We hope that the information in this submission is of benefit to HRM staff's analysis and recommendation to Regional Council. We would welcome an opportunity to discuss its contents in more detail at any time that is convenient to HRM.

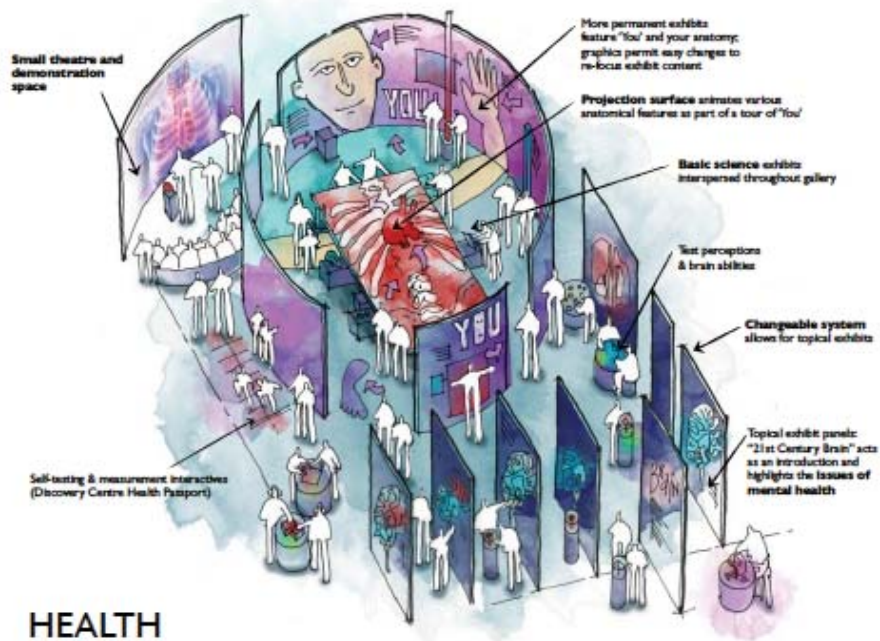
## Appendix A – Gallery Design Concepts

### 1. Water Gallery



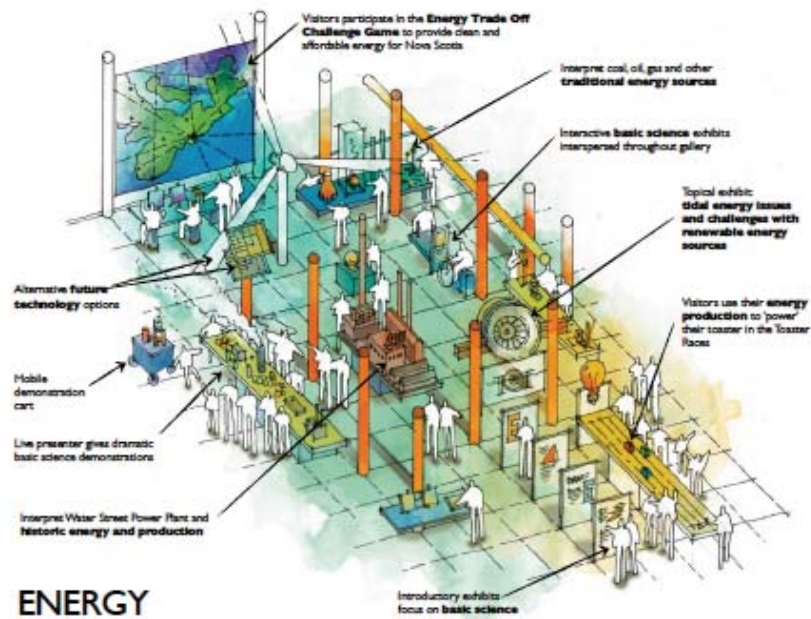
PRELIMINARY PROGRAM AND CONCEPT DEVELOPMENT FACILITY DESIGN AND VISITOR EXPERIENCE MASTER PLAN | DECEMBER 2012 | 37

### 2. Health Gallery



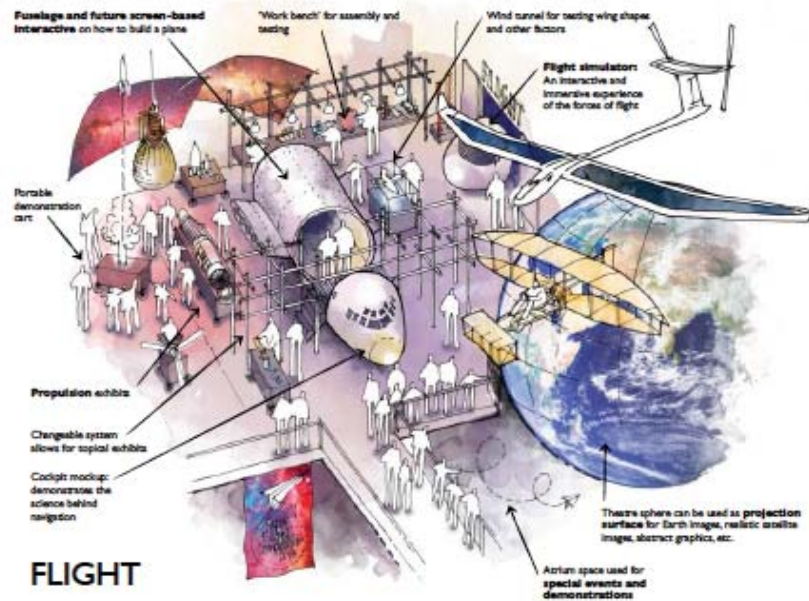
PRELIMINARY PROGRAM AND CONCEPT DEVELOPMENT FACILITY DESIGN AND VISITOR EXPERIENCE MASTER PLAN | DECEMBER 2012 | 38

### 3. Energy Gallery



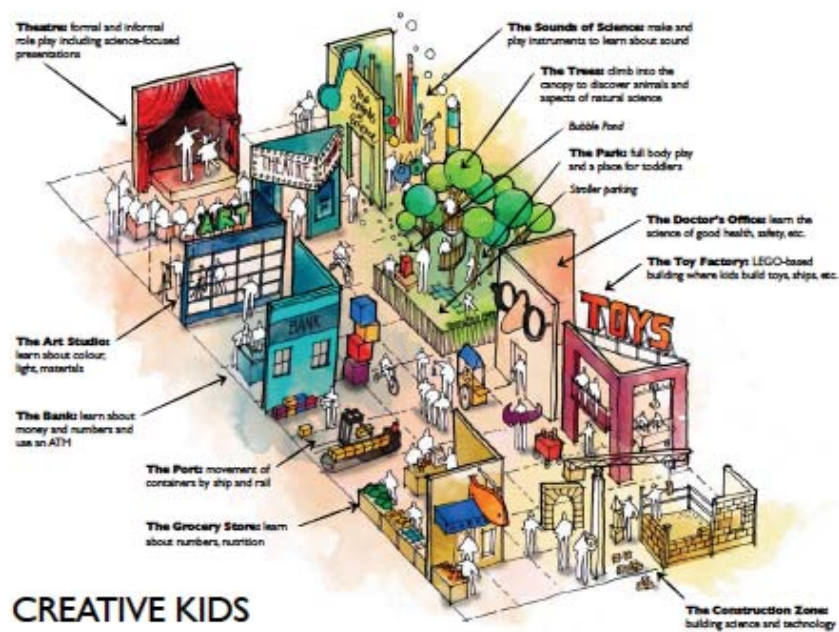
PRELIMINARY PROGRAM AND CONCEPT DEVELOPMENT FACILITY DESIGN AND VISITOR EXPERIENCE MASTER PLAN | DECEMBER 2012 | 49

### 4. Flight Gallery



PRELIMINARY PROGRAM AND CONCEPT DEVELOPMENT FACILITY DESIGN AND VISITOR EXPERIENCE MASTER PLAN | DECEMBER 2012 | 49

## 5. Children's Gallery



PRELIMINARY PROGRAM AND CONCEPT DEVELOPMENT FACILITY DESIGN AND VISITOR EXPERIENCE MASTER PLAN | DECEMBER 2013 | 48



## Appendix B – Examples of Immersive Dome Theatres<sup>7</sup>



<sup>7</sup> More images available via the following link:

<http://www.facebook.com/photo.php?fbid=177674573259&set=a.166867543259.121588.124644083259&type=3&permPage=1>

# ***DISCOVERY CENTRE ECONOMIC IMPACT ASSESSMENT***



Completed By:  
Canmac Economics Limited

July, 2013



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## EXECUTIVE SUMMARY

The purpose of this report is to provide an economic impact assessment of the Discovery Centre. More specifically, the impact assessment addresses the total economic impact as follows:

- direct impacts include the production, jobs and income generated directly by the project.
- Indirect impacts include the production, employment and income changes occurring in other businesses/industries in the community that supplies inputs to the project industry.
- Induced impacts include the effects of spending by the households in the local economy as a result of direct and indirect effects from the project.

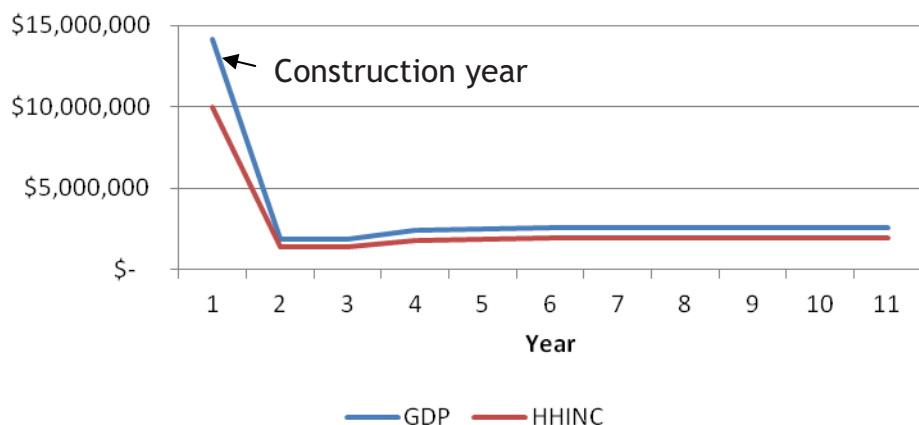
The economic impact is the sum of two phases. First, the construction phase and secondly the operations phase for the project. In addition to the economic impact, legacy impacts are also briefly examined in a qualitative way.

Canmac's approach assembles the client data into a consistent accounting format and then conducts a simulation with the Nova Scotia Input-Output Model.

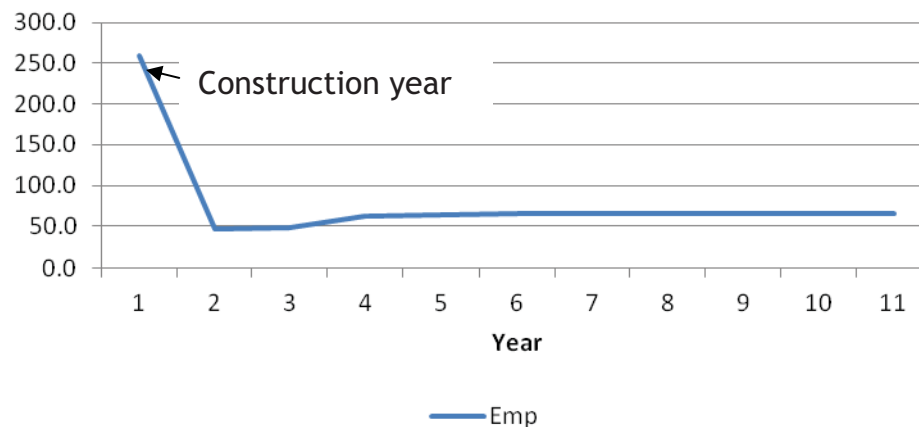
The economic impact, overtime for the next eleven years is shown in charts 3.1 and 3.2. The first year is the construction year, years 2 and 5 are build up years to the steady state. Years 2 to 11 represent the annual operational benefits. Over the 11 year period the Discovery Centre provides (undiscounted) total benefits of:

- \$38,077,872 in total GDP.
- \$28,123,632 in total household income.
- 876 in total employment.

**Chart 3.1: Economic Impact - GDP and Household Income Years 1 - 11**



**Chart 3.2: Economic Impact - Employment Years 1 - 11**



In addition to the above quantitative benefits, the Discovery Centre will provide a number of legacy benefits:

- build a strong urban core;
- provide infrastructure for the creative economy, and
- create a strong science based education for the community.

The development and expansion of the Discovery Centre represents a vital community asset to HRM and the Province of Nova Scotia. The benefits will last for many years into the future.

## Chapter 1 - Introduction



Source: Barrie and Langille Architects, Moriyama and Teshima Architects, AldrichPears Associates

## CHAPTER 1 - INTRODUCTION

### 1.1 INTRODUCTION

The purpose of this report is to provide an economic impact assessment of the Discovery Centre. More specifically, the impact assessment addresses the total economic impact as follows:

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The economic impact is the sum of two phases. First, the construction phase and secondly the operations phase for the project. In addition to the economic impact, legacy impacts are also briefly examined in a qualitative way.

### 1.2 PROJECT OVERVIEW

The Discovery Center is a not-for-profit charitable organization whose mission is to stimulate interest, enjoyment and understanding of science and technology through innovative exciting hands-on experience. As the largest science center in Atlantic Canada, the Discovery Center has become one of Nova Scotia's unique educational, tourism and economic development treasures. Since Discovery Center first opened in Scotia Square in 1990, more than 1 million people have come through its doors.

Science centers such as the Discovery Center, are one of the most cost-effective ways of strengthening science culture, they complement the school curriculum and have



been shown to improve performance in science. By investing in the science literacy of our young people, the Discovery Center helps create a culture of inspiration, entrepreneurship and inventiveness.

The Discovery Center requires a new location. Fortunately the Nova Scotia Power Incorporated, a major corporate supporter, has offered Discovery Center a 25 year rent-free arrangement at its headquarters on Lower Water Street, a prime waterfront location in downtown Halifax. The arrangement will allow Discovery Center to build up to approximately 49,000ft.<sup>2</sup> of space.

The overall construction costs for this project is estimated at \$20 million. Of this, \$8.5 million is for the construction of the facility and \$11.5 million is for the cost of new exhibits, galleries, theatre lab's, office and administration areas. Once the project is up and running in its steady-state years operational costs are estimated to be \$2.4 million.

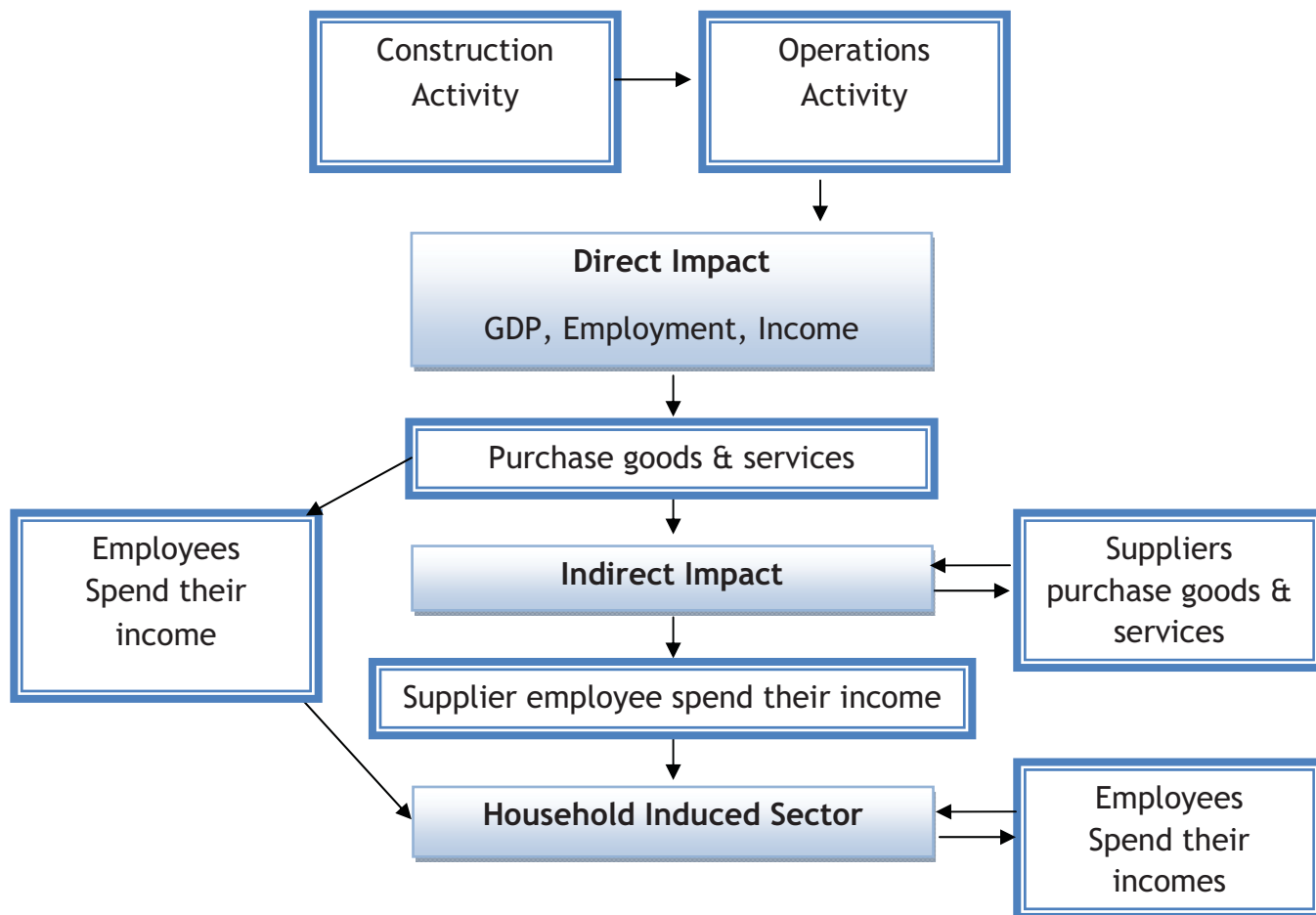
## 1.3 METHODOLOGY

Our economic impact assessment determines the economic importance of the sector by measuring key impact indicators which include:

- Employment
- Household Income
- Gross Domestic Product

These are measured as the sum of direct, indirect and induced effects. Figure 1 provides a schematic of the I-O model process. Canmac's approach assembles the client data into a consistent accounting format and then conducts a simulation with the Nova Scotia Input-Output Model. Impact simulations trace out the indirect and induced effects.

**Figure 1: I-O Model Process**



The economic impact assessment is completed for two phases, 1) the construction phase, and 2) the operations phase. The economic impact assessment measures the increase in provincial Gross Domestic Product (GDP, employment (full time equivalents) and household income. Finally, the report provides in a qualitative way the legacy impact of the project.

## Chapter Two - Economic Impact



Source: Barrie and Langille Architects, Moriyama and Teshima Architects, AldrichPears Associates

## CHAPTER 2 - Economic IMPACT

### 2.1 INTRODUCTION

This chapter sets out the economic impact assessment. As noted in Chapter 1, the economic impact associated with the Discovery Centre is the sum of the construction phase and operational phase. The construction phase is a short term impact whereas the operational phase provides benefits on an annual basis over the life of the project. The next section provides the construction impact, while section 2.3 provides the operational impact, section 2.4 discusses the legacy impact of the Discovery Centre.

### 2.2 CONSTRUCTION IMPACT

Table 2.1 provides the construction impact results based on \$20 million construction project with an assumed construction period of one year. The construction project is expected to be completed in one year. The total impact is expected to generate:

- 259 person years of employment;
- \$9,997,401 million in household income, and
- \$14,128,262 million in GDP.

Table 2.1: Construction Impact - Discovery Centre		
Benefit	Direct Impact	Total (Direct & Spin-off) Impact
Household Income	\$6,010,562	\$9,997,401
Employment (Jobs)	144.0	259
GDP	\$7,517,661	\$14,128,262
Source: computed by Canmac Economics Limited		

## 2.3 OPERATIONAL IMPACT

The operation of the Discovery Centre provides additional economic output, employment and income on an annual basis over the life of the project. Table 2.2 provides estimates of the total operating costs. For the life of the project, annual operating costs are \$2.3 million (2008\$).

Table 2.2 presents the impact results. For a typical year of operation, the Discovery Centre creates:

- total household income of \$1.94 million dollars;
- total GDP of \$2.57 million dollars; and
- total employment of 66.1 full time equivalent jobs.

Table 2.2: Operation Impact - Discovery Centre		
Benefit	Direct Impact	Total (Direct & Spin-off) Impact
Household Income	\$1,342,292	\$1,942,294
Employment (Jobs)	48.8	66.1
GDP	\$1,558,569	\$2,566,291
Source: computed by Canmac Economics Limited		

## 2.4 LEGACY IMPACTS

In addition to the construction and operational economic impacts associated with the Discovery Centre, there are a number of legacy impacts. Legacy impacts refer to the contribution of the Discovery Centre to the broader long term social and economic goals of HRM and Nova Scotia. Legacy impacts are, by definition, more qualitative than the construction and operational impacts.



## **Building a Strong Urban Core**

The HRM's economic development strategy involves the development of a strong urban core as a strategy to attract visitors to the Halifax region. The proposed Discovery Centre project location is a key component of this strategy.

## **Economic Infrastructure for the Creative Economy**

Urban economies, like the HRM, to be successful in the future will move increasingly from an industrial economy to a creative economy. As the city moves in this direction, the importance of the Discovery Centre increases in value. A Discovery Centre becomes a basic economic infrastructure required to grow the creative economy in much the same way that roads support port activity.

## **Community Impact**

Science centres are recognized as one of the most cost-effective ways of strengthening science culture. They complement the school curriculum and have been shown to improve performance in science. By investing in the science literacy of our young people, Discovery Centre helps create a culture of inspiration, entrepreneurship and inventiveness.

A recent research study shows that more than nine in ten Canadian university students stated that visits to science centres increased their interest in science and technology. Further studies show that individuals in science and technology careers state that science centres are the top-ranked informal science learning activity that inspired their lifelong pursuit of scientific endeavours. By making science accessible, affordable and fun, Discovery Centre helps build the base of science literacy, which is essential to making Nova Scotia and Canada competitive in science and technology.

***School programs*** - Approximately 20,000 school children every year across Nova Scotia experience science first-hand through in-class workshops put on by Discovery Centre. In addition, after school programs bring science enrichment to 1,500 children enrolled in after-school programs across the HRM. Discovery Centre is continually meeting or exceeding curriculum outcomes identified by the Department of Education. Most teachers at the elementary and junior high levels do not have science backgrounds. The Centre's role is to complement and enhance the work teachers do in the classroom to increase students' level of excitement towards science and keep them engaged.

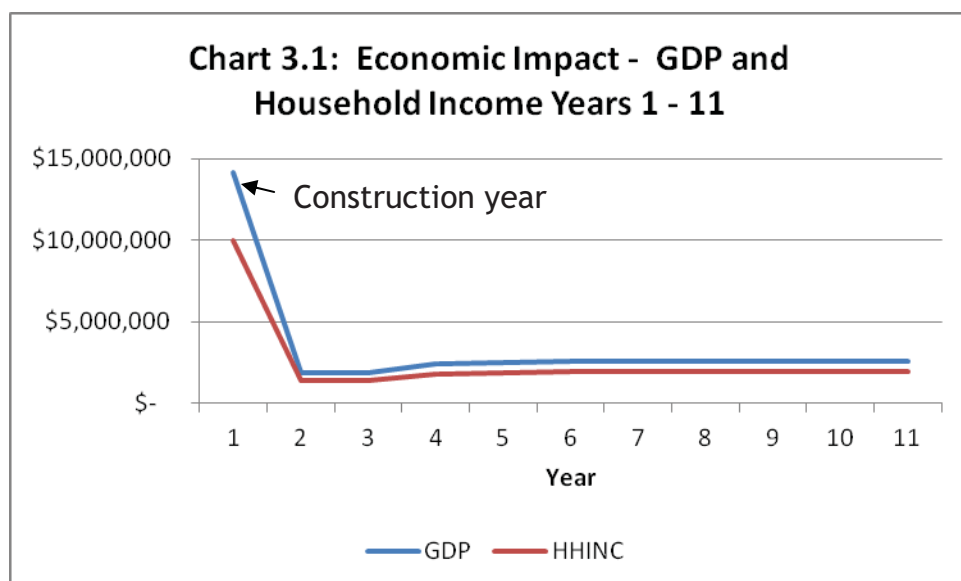
***Discovery Awards and the Science and Technology Hall of Fame*** - As a partner with the broader scientific community in Nova Scotia, Discovery Centre helps raise public awareness of the research and development work done in the region. The annual Discovery Awards and the Science and Technology Hall of Fame celebrate outstanding Nova Scotian achievement in scientific and technological discovery.

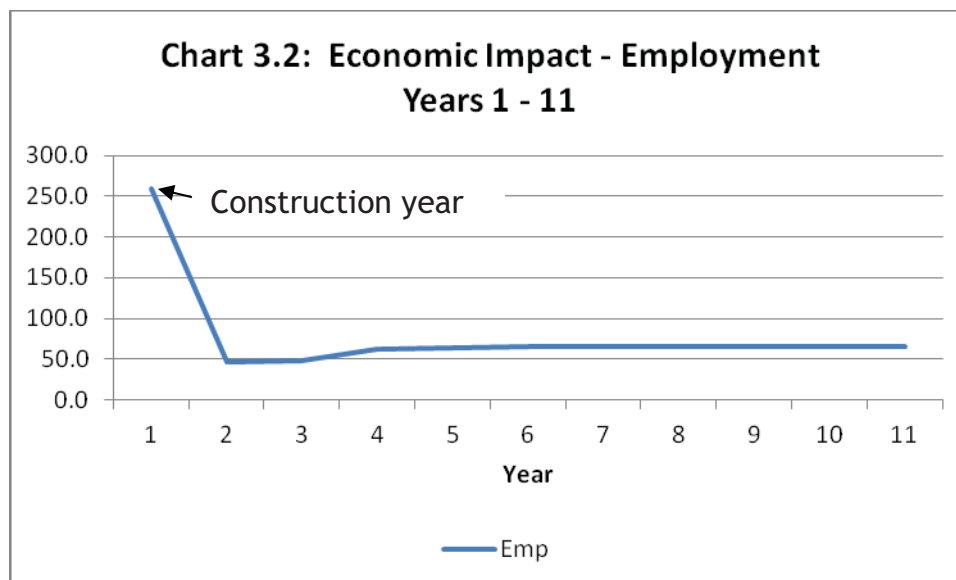
## CHAPTER 3 - SUMMARY AND CONCLUSIONS

### 3.1 SUMMARY

The economic impact, overtime for the next eleven years is shown in charts 3.1 and 3.2. The first year is the construction year, years 2 and 5 are build up years to the steady state. Years 2 to 11 represent the annual operational benefits. Over the 11 year period the Discovery Centre provides (undiscounted) total benefits of:

- \$38,077,872 in total GDP.
- \$28,123,632 in total household income.
- 876 in total employment.





In addition to the above quantitative benefits, the Discovery Centre will provide a number of legacy benefits:

- build a strong urban core;
- provide infrastructure for the creative economy, and
- create a strong science based education for the community.

## 3.2 CONCLUSION

The development and expansion of the Discovery Centre represents a vital community asset to HRM and the Province of Nova Scotia. The benefits will last for many years into the future.

## APPENDIX A - GLOSSARY OF TERMS

### *Glossary of Terms*

#### **Direct Impact**

All 'first round' economic activities which contribute to GDP, employment, household income. These can vary from investment in a new or expanded facility to wages paid to employees directly involved in production of the operation for which an impact statement is required.

#### **Gross Domestic Product (GDP)**

The measure of economic activity in an economy, in this case the Nova Scotia economy. GDP measured on an expenditure basis is expressed as:

$$\text{GDP} = C + G + I - X - M$$

where:

- C = Personal consumption (expenditure) of goods and services.
- G = Government expenditures on goods and services.
- I = Investment in capital, machinery equipment and inventories.
- X = Exports of goods and services.
- M = Imports of goods and services.

GDP is also measured on an income basis and consists of :

- labour income
- corporate profits before taxes
- interest and investment income
- net farm income
- unincorporated business income
- inventory valuation adjustment
- indirect taxes less subsidies
- capital consumption allowance

Gross domestic product of an industry is the value added by labour and capital in transforming inputs purchased from other producers into outputs.

#### **Indirect Impact**

All 'subsequent rounds' of economic activities which contribute to GDP, employment, household income. These activities are not directly associated with the production activity but are a result of direct production activities. These indirect contributions



also include 'induced contributions' which measure the economic activity associated with the respending of wages paid in the direct, indirect, and to a lesser extent earlier rounds of induced activity.

### **Input-Output (I-O)**

The input-output model measures the wide economic impact of a direct economic event by the known inter-industry dependency in the given economy. Different sectors of an economy depend on other sectors of the economy to supply its inputs or purchase its output to varying degrees. The imbalance in this supply/demand relationship is made up by imports (supply) and exports (demand).

The input-output model measures total economic activity defined as direct + indirect + induced activities. For an explanation on direct, indirect and induced activity see preceding GDP definition.

### **Input-Output Multipliers**

Relate the indirect and induced impact by industry to the direct increase or reduction of the output of a given industry. The sum of all industries indirect and induced impacts plus the direct industry impact equals the total impact.

Multipliers are produced for output, income, GDP, and employment.

## APPENDIX B - LIMITATIONS TO I-O MODELS

## **MODEL LIMITATIONS**

An input-output model, like any model, is an approximation to reality. It is built on assumptions that are never fully realized in the real world. While most analysts are well aware of the limitations of any I-O model it may be helpful to the general reader to review these limitations.

### **INPUT-OUTPUT LACKS AN EXPLICIT TIME DIMENSION**

An input-output system provides a snapshot of an economy for a period of time (usually a one-year period). If the economy is in disequilibrium, all future uses of the tables and the related impact models will reflect the structural implications of the atypical year.

Multiplier effects do occur over time. However, the impact models associated with input-output systems imply that the multiplier effects are virtually instantaneous. There is some evidence to show that the multiplier effects take from two or three years to move through an economy.

### **SENSITIVITY TO RELATIVE PRICE CHANGES**

Relative prices between commodities will change from the base year of model construction to the period in which the model is used. Therefore, the analysis of projects via input-output analysis in the future will reflect one set of relative prices, while the direct requirements coefficients in the tables reflect the relative prices of the base year. If the relative price changes are not accounted for, future data supplied to the impact model will produce “incorrect” impact results.

For example, say, in 1984 an industry required \$100 of lumber for every \$1,000 of output (i.e. 10 percent of inputs). If an analysis of the same industry were conducted in 2011, prices for the same volume of lumber may have increased to \$150 while inflation on all other inputs was only 10 percent. Therefore the total output value

(for the same amount of production) is now \$1,140, of which lumber is 13.2 percent of inputs. The relative price change in lumber has caused an increase in the size of its technical coefficient. Using unadjusted data in the 2011 model would produce incorrect impact results to the extent that relative prices change.

### **CONSTANT TECHNOLOGY**

As mentioned earlier, the input-output system is a static model. However, times change and so do the technologies used. To mitigate this limitation, most input-output systems are updated on a periodic basis. The PEI Input-Output system has been updated over the years. Such an update picks up any technology changes in the economy. Between updates no changes in technology are assumed.

### **CONSTANT RETURNS TO SCALE**

Input-output systems assume constant returns to scale; that is, all inputs change in the same proportion as any change in an industry's output. This assumption implies that even for one dollar increase in sales, the model will show impacts on wages, salaries and employment associated with the multiplier effects. However, common sense tells us that this is not true. Such a small increase would not necessarily cause, especially in the short run, generation of a commensurate increase in wages or employment. However, in the long run, it can be assumed that even a small increase in final demand will produce the multiplier effects estimated by an input-output system.

In the short run, industries can draw on inventories, use their labor more efficiently, etc. to increase output with limited impact effects. However, if the new level of final demand is maintained, then firms in the long run will move back to their historical steady-state level of the utilization of factors of production. In the long run, increases in, say, household income due to increases in final demand will reflect

the technical coefficients' relationship between income and output modeled in the input-output system.

## **NO SUPPLY CONSTRAINTS**

Input-output systems assume that whatever is demanded by industries as inputs can be supplied. They assume no productive capability constraints. This problem is not significant when there is excess capacity in an economy. However, when economies are operating at or near capacity, this limitation is important. The multipliers for an economy near capacity will be underestimated. This is because increased final demand will require new capital investment whose own direct and multiplier effects are not captured within the standard input-output system.

## **FIXED CONSUMPTION PATTERNS**

The consumption patterns that result in household re-spending multipliers are assumed to be fixed and linear. As Canadians become “better off” they redirect real growth in income to savings and luxury consumption. Because the input-output system is static, it does not model the effect of non-linear patterns in household consumption (as real incomes increase) within its multiplier estimates. This problem is partially overcome by regularly updating input-output systems.

## **CONCLUSION**

Although the list of limitations may appear long, a similar or longer list is associated with almost any form of economic analysis. The limitations occur in different areas in other analytical tools. No one economic model is expected to provide the comprehensive “answer”. Economic analysis techniques should be used in a complementary fashion to appreciate the full scope of a problem. In a very real sense, then, quantitative economic models should be used to examine the structural implications of changes in an economy and should not be treated as providing “the” answer.