

## Memorandum

**To:** S.I. Sherwood, Executive Director, Center for Technology and Innovation

**From:** ConsultEcon, Inc.

**Date:** December 18, 2006

**RE:** Economic Potential of the Center for Technology and Innovation

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This memorandum provides a preliminary analysis of operating parameters and financial potential of the proposed Center for Technology and Innovation. The assumptions made are based on the market potential identified for the project, the proposed facility size, and additional research on operating and development factors that would be associated with an attraction of the profile being considered. This analysis will require refinement as the project moves forward, and the project moves into later programming and design phases.

### Operating and Revenue Assumptions

As a major visitor attraction, the Center for Technology and Innovation would operate under the norms of such facilities nationally, adjusted for local conditions. The operating assumptions are as follows:

- ◆ The Center for Technology and Innovation is assumed to operate as a private, not-for-profit enterprise. As such, this analysis does not include any property or corporate taxes, nor does it include depreciation, bond or mortgage payments, or management fees. It focuses on estimating net operating income.
- ◆ The Center for Technology and Innovation will be well designed and constructed. It will be of a scale in size and in quality to be recognized nationally as a facility of excellence. This operations analysis assumes a facility with approximately 22,000 square feet, with public exhibit space of 14,600 square feet. A document, Exhibition Programming and Concepts, prepared by Eisterhold Associates informs this operating plan.
- ◆ Attendance potential at the Center for Technology and Innovation was evaluated in a prior report from ConsultEcon, Inc. Attendance is a function of the available markets and the size and scope of the project, its location, its marketing profile, and ticket prices. The mid-range attendance potential level from the market analysis of 71,300 is used in this analysis. Based on the experience of other facilities, a surge in attendance during the first few years of operation is assumed before reaching stable attendance.

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- ◆ The Center for Technology and Innovation will be open year-round, seven days a week. In addition, special events and facility rentals could occur at the facility when they do not disrupt regular visitation.
- ◆ The proposed project will be well managed. The structure, its exhibits, finishes, mechanical equipment, and support systems will be well maintained to minimize insurance risks and unexpected repair and maintenance expenditures. Maintaining the exhibits in excellent condition is central to customer satisfaction. The Center for Technology and Innovation will develop a positive reputation, with a compelling organizational vision, strong and distinguished advisors and staff, and it will have a broad base of community support. The project will be used for special events and cultural activities after hours to promote community support and generate additional income. Educational groups will be invited to visit at discounted prices, and will receive a worthwhile and enjoyable educational experience. Community outreach will be a cornerstone of the programming effort.
- ◆ The Center for Technology and Innovation will develop an aggressive marketing program to achieve and maintain attendance and continually attract new visitors. Ticket pricing will be attractive and commensurate with overall visitor experience and value delivered. The project will also be managed to provide dynamic and effective educational programs and dramatic and continually evolving new exhibits.
- ◆ Numbers cited in the text are rounded from those numbers that appear in the tables. Some outputs of computer models used in this report are rounded. These outputs may therefore slightly affect totals and summaries.
- ◆ Every reasonable effort has been made in order that the data contained in this memorandum reflect the most accurate and timely information possible and it is believed to be reliable. This study is based on estimates, assumptions and other information developed by ConsultEcon, Inc. from its independent research efforts, general knowledge of the industry, and consultations with the client. No responsibility is assumed for inaccuracies in reporting by the client, its agents and representatives, or any other data source used in the preparation of this study. No warranty or representation is made that any of the projected values or results contained in this study will actually be achieved. There will usually be differences between forecasted or projected results and actual results because events and circumstances usually do not occur as expected. Other factors not considered in the study may influence actual results.
- ◆ Possession of this memorandum does not carry with it the right of publication. This memorandum will be presented to third parties in its entirety and no abstracting of the memorandum will be made without first obtaining permission of ConsultEcon, Inc., which consent will not be unreasonably withheld.
- ◆ This memorandum may not be used for any purpose other than that for which it was prepared. Neither all nor any part of the contents of this study shall be disseminated to the public through advertising media, news media or any other public means of communication without the prior consent of ConsultEcon, Inc.
- ◆ This report was prepared during the period November 2006 through December 2006. It represents data available at that time.

## **Operating Revenues**

Operating revenues of the Center for Technology and Innovation will be derived mainly from ticket sales, but substantial additional revenue will be derived from sources such as gift shop sales, memberships, and use of the facility for receptions and special events. Following is a review of the revenue potential of the Center for Technology and Innovation.

### **Ticket Revenues**

Average per capita admissions revenue is a product of ticket prices and the mix of ticket types sold (adults, children, etc.). Ticket prices are assumed to be \$6.50 for adults. Discounts for children, youth, seniors, and groups would be offered. This is a ticket pricing policy designed to reflect the quality experience proposed, but also to encourage strong attendance levels. Higher ticket prices would likely result in lower attendance levels. Ticket price assumptions used in this report are in current dollars. Ticket prices are assumed to increase at a rate of 8 percent every other year, a rate above inflation. Since the Center for Technology and Innovation is a new attraction, ticket prices are value priced in early years to encourage attendance, and to escalate above inflation rate over time to match the value the museum offers as it becomes established in the marketplace.

Data in **Table 1** present the assumed cost and distribution of tickets and ticket sales by visitor type. Members are assumed to enter free of charge. There is also provision made for a limited number of complimentary and VIP tickets. These are included in the Complimentary category, which is largely composed of children under the age of 5 who would attend for free.

Student group attendance will be an important component of visitation. Based on market size, the new facility's student groups are assumed to number 10,695 annually in a stable year. Ten-year attendance, ticket revenue, and membership assumptions at the Center for Technology and Innovation are presented in **Table 2**.

Data in **Table 3** provide a range of operating and revenue assumptions for the operating and financial analysis. These assumptions form the basis for the revenue potential for the Center for Technology and Innovation. In general, they are informed by the experience of comparable facilities nationally and regionally. Other revenue assumptions are described in more detail below.

**Table 1**  
**Admissions and Membership Analysis for Stabilized Year in Current Dollars**  
**Center for Technology and Innovation**

	<u>% to Total Attendance</u>	<u>Attendance By Type</u>	<u>Ticket Price <sup>1/</sup></u>	<u>Achieved Per Capita</u>	<u>Cap % to Total</u>
Adult	38.0%	27,094	\$6.50	\$2.47	55.7%
Seniors / Youth	12.0%	8,556	\$5.00	\$0.60	13.5%
Children (5-12)	21.0%	14,973	\$4.00	\$0.84	18.9%
School Group	15.0%	10,695	\$3.50	\$0.53	11.8%
Members	9.0%	6,417	\$0.00	\$0.00	0.0%
Rentals	1.0%	713	\$0.00	\$0.00	0.0%
Complimentary <sup>2/</sup>	4.0%	2,852	\$0.00	\$0.00	0.0%
<b>Total</b>	100.0%	71,300		\$4.44	100.0%

  

<b>Memberships Estimates</b>	<b>Total</b>	<b>Membership Types</b>	<b>Percent to Total</b>	<b>Estimated Number of Memberships</b>	<b>Average Price By Type</b>
No. of Member Attendances	6,417	Individual	20.0%	152	\$25
Less Assumed Corporate Member Attendances <sup>3/</sup>	300	Family	73.0%	555	\$50
Average Annual Attendances Per Membership <sup>4/</sup>	<u>8</u>	Sponsor	4.0%	30	\$450
<b>Est. Total Memberships</b>	760	Patron	<u>3.0%</u>	23	\$700
Membership Revenue <sup>5/</sup>	\$61,150	<b>Total</b>	100.0%	760	\$80
		Corporate Memberships		10	\$1,000

1 Ticket prices in current dollars, with prices increase at rate of 8% every other year.

2 Complimentary - includes children under 5, VIPs, special guests etc.

3 Assumes 30 visits per Corporate Membership.

4 Typical families assumed at 4 persons. Does not include Corporate Memberships.

5 Does not include Corporate Membership revenue.

Source: ConsultEcon, Inc.

**Table 2**  
**Attendance, Ticket Revenue, and Membership Assumptions**  
**Center for Technology and Innovation**

% to Total Attendance	Year 1	Year 2	Year 3	Stable						
				Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Adult	41.6%	40.4%	39.2%	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%
Seniors / Youth	13.0%	12.7%	12.3%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Children (5-12)	23.0%	22.3%	21.7%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
School Group	9.0%	11.0%	13.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Members	8.7%	8.8%	8.9%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Rentals	0.7%	0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Complimentary	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Attendance By Type</b>										
Adult	32,627	31,110	29,347	27,094	27,094	27,365	27,365	27,636	27,636	27,907
Seniors / Youth	10,196	9,780	9,208	8,556	8,556	8,642	8,642	8,727	8,727	8,813
Children (5-12)	18,039	17,172	16,246	14,973	14,973	15,123	15,123	15,272	15,272	15,422
School Group	7,059	8,470	9,732	10,695	10,695	10,802	10,802	10,909	10,909	11,016
Members	6,823	6,776	6,663	6,417	6,417	6,481	6,481	6,545	6,545	6,610
Rentals	549	616	674	713	713	720	720	727	727	734
Complimentary	3,137	3,080	2,995	2,852	2,852	2,881	2,881	2,909	2,909	2,938
<b>Total</b>	<b>78,430</b>	<b>77,004</b>	<b>74,865</b>	<b>71,300</b>	<b>71,300</b>	<b>72,013</b>	<b>72,013</b>	<b>72,726</b>	<b>72,726</b>	<b>73,439</b>
<b>Percentage of Adult Ticket Price</b>										
Adult	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Seniors / Youth	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%
Children (5-12)	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
School Group	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
Members	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Rentals	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Complimentary	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Ticket Price Analysis <sup>1/</sup></b>										
Adult	\$6.50	\$6.50	\$7.02	\$7.02	\$7.58	\$7.58	\$8.19	\$8.19	\$8.84	\$8.84
Seniors / Youth	\$5.00	\$5.00	\$5.40	\$5.40	\$5.83	\$5.83	\$6.30	\$6.30	\$6.80	\$6.80
Children (5-12)	\$4.00	\$4.00	\$4.32	\$4.32	\$4.67	\$4.67	\$5.04	\$5.04	\$5.44	\$5.44
School Group	\$3.50	\$3.50	\$3.78	\$3.78	\$4.08	\$4.08	\$4.41	\$4.41	\$4.76	\$4.76
Members	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Rentals	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Complimentary	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Per Capita Average Revenue</b>	<b>\$4.59</b>	<b>\$4.54</b>	<b>\$4.84</b>	<b>\$4.79</b>	<b>\$5.17</b>	<b>\$5.17</b>	<b>\$5.59</b>	<b>\$5.59</b>	<b>\$6.03</b>	<b>\$6.03</b>
<b>Membership Analysis</b>										
Membership Attendance	6,823	6,776	6,663	6,417	6,417	6,481	6,481	6,545	6,545	6,610
Memberships	820	810	790	760	760	770	760	770	770	770
Average Membership Fee	\$80	\$80	\$87	\$87	\$94	\$94	\$102	\$102	\$110	\$110
<b>Corporate Membership Analysis</b>										
Corporate Membership Attendance	300	300	330	330	360	360	390	390	420	420
Number Corporate Memberships	10.0	10.0	11.0	11.0	12.0	12.0	13.0	13.0	14.0	14.0
Avg. Corporate Membership Rate <sup>2/</sup>	\$1,000	\$1,000	\$1,080	\$1,080	\$1,170	\$1,170	\$1,260	\$1,260	\$1,360	\$1,360

<sup>1/</sup> Ticket prices are in current dollars in Year 1. Ticket prices are assumed to increase at a rate of 8% every other year.

<sup>2/</sup> Memberships and corporate membership rates are assumed to increase 8% every other year. Membership fees are rounded to the nearest dollar.

Source: ConsultEcon, Inc.

**Table 3**  
**Operations Analysis Assumptions in Stabilized Year Current Dollars**  
**Center for Technology and Innovation**

<i><b>General</b></i>	
Gross Square Footage of Phase 1 <sup>1/</sup>	22,000
Exhibit Square Feet	14,600
Mid-Range Attendance	71,300
Rate of Inflation	2.5%
Annual Attendance Growth after Year 5	1% every other year
Other Revenue As a % of Earned Revenue <sup>2/</sup>	1.0%
<i><b>Admission Fees and Revenue</b></i>	
Adult Ticket Price	\$6.50
Per Capita Ticket Revenue	\$4.44
Ticket Price and Membership Price Increase % every other year	8.0%
<i><b>Retail</b></i>	
Per Capita Retail Sales	\$2.50
Cost of Goods Sold as a % of Retail Sales	52%
<i><b>Food Service</b></i>	
Percentage Buying Food / Drink	50%
Average Sale	\$3.00
Per Capita Café/Kiosk/Vending Sales	\$1.50
Facility Share of Gross Sales	15%
<i><b>Special Programs</b></i>	
Special programs are an important component of future operations of CTI. Their scale and focus have not been determined yet. These may add earned revenues and grants & gifts, and corresponding program expenses.	
<i><b>Family &amp; Supportive Memberships</b></i>	
Number of Individual, Family & Supportive Memberships	760
Average Membership Fee	\$80
Annual Attendances Per Membership	8
<i><b>Corporate Memberships</b></i>	
Number of Corporate Memberships	10
Number Increase in Corporate Memberships Every Other Year	1
Avg. Corporate Membership Rate	\$1,000
Attendances Per Corporate Membership	30
<i><b>Facility Rentals and Receptions</b></i>	
Facility Rentals Per Year	15
Number of Attendees Per Facility Rental <sup>3/</sup>	48
Target Attendance in Stable Year	713
Average Net Revenue per Rental	\$1,000

1/ From Exhibition Programming and Concepts by Eisterhold Associates.

2/ Other revenue includes incidentals such as stroller rentals, cloak room collections, etc.

3/ Number is rounded, derived from target attendance and number of facility rentals.

Source: Eisterhold Associates and ConsultEcon, Inc.

## Retail and Other Sales

Gift store sales are an important revenue source for many museums and visitor attractions.

Following is a discussion of some of the issues relating to retail shop sales volume.

<b>Issue</b>	<b>Discussion</b>
The size of the gift store and its ability to accommodate peak period audiences.	The program for the proposed project should provide enough retail space to support peak period attendance. The proposed program of spaces for the Trolley Barn includes 650 square feet. The bulk of gift store square footage should be selling space, which can accommodate a wider variety of merchandise as well as allow more space for customers.
A wide variety of merchandise and knowledgeable and successful merchandising.	An adequately sized gift store should allow for strong depth of presentation in best-selling clothing, souvenir and toy lines, as well as additional merchandise lines in categories such as books, and educational games. Such broad offerings will allow for strong per-capita sales.
The physical location within the facility complex; and the visitor circulation patterns to and through the gift store, its visibility and attractiveness.	The gift store location should foster use of the shop by project visitors. All facility visitors should be able to enter and exit near the gift store. The shop should be designed and fitted out in a first-class fashion.

Visitor spending of \$2.50 per capita is assumed for the gift store for all visitors. Cost of goods sold is estimated at 52 percent of gross sales. The gross sales volume potential in current dollars for a stable year of attendance is estimated at \$178,250 for a 650 square foot store, which equals \$274 in gross sales per square foot per stabilized year. This sales volume per square foot has been achieved at many museums, and indicates sufficient retail store space. The net sales revenue is estimated at \$85,600.

## Food Service

Museum visitors typically desire a drink or a light snack when they visit. However, economies of scale dictate that profitably operating extensive food service facilities typically requires much higher attendance than the attendance potential at the Center for Technology and Innovation. As there are no other food service offerings nearby, this analysis assumes minimal food service in the form of a kiosk or food cart at the Museum for the busiest days of the year, which would

include light snacks and beverages. In addition, vending machines could be offered. The food service could be operated by the facility or through a subcontractor. Based on these factors, per capita food service sales are estimated at \$1.50 per attendee. The Museum's net proceeds are estimated at 15 percent of all sales.

## **Memberships**

Memberships can be an important revenue source. Membership to the Center for Technology and Innovation has good potential, because the type of educational offerings planned are repeatable, and the price of a family membership versus the price of general admission will be favorable. Free admission with the purchase of a membership is an important economic incentive for becoming a member. This analysis has assumed that about 9 percent of attendance will be derived from members, based on about 760 memberships in a stable year, of which about 707 are family and individual memberships and the remainder supportive-type memberships. As shown in Table 1, based on the value of the attraction and the number of memberships forecasted, an average of \$80 per membership is estimated in current dollars. In addition, 10 corporate memberships are assumed.

## **Facility Rentals and Special Programs**

Increasingly, museums are targeting groups, facility rentals, and special events and programs. Rental of the Center for Technology and Innovation for events, along with catering income from groups and events at the facility can be a substantial revenue source. In addition to local business, educational, and social use of the facility, tour groups and university-related groups could also be served at the Center for Technology and Innovation. The assumptions regarding facility rentals are based on a facility design that is assumed to be accommodating to such programs with a moderately scaled lobby, auditorium, outdoor event areas, and a strong outreach and marketing program. An estimate is made of approximately 15 rentals annually, averaging approximately 48 people per rental. As is typical for smaller museums, this analysis assumes that outside "qualified" caterers will be used for events. They would share their proceeds with the Center for Technology and Innovation.

## **Contributed Revenues**

The Center for Technology and Innovation will, and must, be active in generating substantial contributed (non-earned) revenues for the facility. This analysis assumes that the internal capacity to fundraise in the Center for Technology and Innovation will be enhanced. The facility is expected to engage in ongoing fundraising, to establish financial reserves and endowment, and to secure operating grants and government sector support.

Many museums establish endowments / financial reserves. These are essential to providing a predictable source of revenue, and in assuring other funders of the financial viability of the organization. For the purposes of this analysis, the Center for Technology and Innovation is assumed to be a breakeven operation. In other words, this report establishes a minimum amount of contributed revenues that are expected to fill the difference between earned revenues and operating expenses. Contributed revenues comprise approximately 42 percent of total revenues to support the new Museum's operation, and earned revenues comprise 58 percent. As summarized in **Table 4**, an estimated \$368,400 in annual, current dollar contributed income required has been identified.

## **Revenue Potential**

Based on the existing program for the facility, its attendance potential, ticket pricing, memberships, and assumptions regarding contributed revenues, data in Table 4 present a ten-year estimate of revenue potential. The initial years of operation benefit from higher attendance levels than is expected in the stable year. The first year estimate is in current dollars, with future years expressed in "future value of the dollar" assuming a 2.5 percent annual inflation rate. The actual dollar amounts for Year 1 and subsequent years will depend on future rates of inflation, project performance, and the number of years the project takes to develop before opening.

The stable Year 4 earned revenue potential for the Center for Technology and Innovation is estimated to be approximately \$550,500, based on the findings and assumptions of this report. This includes total ticket revenue in a stable Year 4 estimated at \$341,500, membership revenue at \$78,000, including corporate memberships, and net retail and food service revenue at \$109,400. Contributed revenue has been estimated at \$394,400 in Year 4.

**Table 4**  
**Operating Revenue Potential**  
**Center for Technology and Innovation**

	Stabilized Year in Current Dollars	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
<b>TOTAL ATTENDANCE</b>		78,430	77,004	74,865	71,300	71,300	72,013	72,013	72,726	72,726	73,439
Per Capita Ticket Revenue	\$4,444	\$4.54	\$4.84	\$4.84	\$4.79	\$5.17	\$5.17	\$5.59	\$5.59	\$6.03	\$6.03
<b>EARNED REVENUE</b>											
Ticket Revenue	\$316,216	\$359,915	\$349,444	\$362,712	\$341,513	\$368,834	\$372,522	\$402,324	\$406,307	\$438,812	\$443,114
Membership Revenue <sup>1/</sup>	61,150	65,978	65,173	68,730	66,120	71,440	72,380	77,520	78,540	84,700	84,700
Corporate Membership Revenue	10,000	10,000	10,000	11,880	11,880	14,040	14,040	16,380	16,380	19,040	19,040
Retail Net of COGS	85,560	94,116	94,715	94,386	92,139	94,442	97,771	100,216	103,738	106,331	110,058
Food Service	16,043	17,647	17,759	17,697	17,276	17,708	18,332	18,790	19,451	19,937	20,636
Special Programs <sup>2/</sup>	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Facility Rental	15,000	15,000	15,375	15,759	16,153	16,557	16,971	17,395	17,830	18,276	18,733
Other Earned Revenue <sup>3/</sup>	5,040	5,627	5,525	5,712	5,451	5,830	5,920	6,326	6,422	6,871	6,963
<b>Total Earned Revenue</b>	<b>\$509,008</b>	<b>\$557,991</b>	<b>\$576,876</b>	<b>\$550,532</b>	<b>\$588,851</b>	<b>\$597,937</b>	<b>\$638,952</b>	<b>\$648,669</b>	<b>\$693,967</b>	<b>\$703,244</b>	
<b>NON-EARNED REVENUE <sup>4/</sup></b>	<b>\$368,418</b>	<b>\$309,144</b>	<b>\$341,371</b>	<b>\$344,969</b>	<b>\$394,360</b>	<b>\$379,663</b>	<b>\$394,790</b>	<b>\$378,594</b>	<b>\$394,315</b>	<b>\$375,091</b>	<b>\$392,541</b>
<b>TOTAL REVENUE</b>	<b>\$877,426</b>	<b>\$899,362</b>	<b>\$921,846</b>	<b>\$944,892</b>	<b>\$968,514</b>	<b>\$992,727</b>	<b>\$1,017,545</b>	<b>\$1,042,984</b>	<b>\$1,069,059</b>	<b>\$1,095,785</b>	

NOTE: Year 1 is in current dollars.

1/ Does not include corporate membership

2/ NC means not calculated at this time. Note that corresponding program costs have not been included in expenses as well.

3/ Other revenue includes incidentals such as stroller rentals, cloak room collections, etc.

4/ The Non-Earned Revenue assumes a breakeven operation. Potential non-earned revenues sources include contributions; sponsorships; outside grants and/or foundations; donations; local, state and federal funding; interest income from endowment and other sources; annual gala and other fundraising events; and other non-earned revenue sources.

Source: ConsultEcon, Inc.

## **OPERATING AND MANAGEMENT PROFILE AND ANALYSIS**

The Center for Technology and Innovation is assumed to provide educational benefits to Binghamton and regional residents, and to be substantially reinforced as a visitor attraction that enhances the city and region's tourism economy.

The projected operating expense estimates of the Center for Technology and Innovation were prepared to reflect the facility program and the experience of other facilities comparable to the Center for Technology and Innovation. The expenses reflect a tightly operated project with a "bottom line" orientation. Inputs to the operating expenses analyses include the experience of comparable facilities and the "metrics" of the new facility — its size, program, and attendance potential. It should be noted, however, that each comparable facility has its unique characteristics, programs and operating procedures — the experience of other comparable facilities should be regarded as a guide for planning only. Increasingly detailed operating expense plans can be made in subsequent planning, design, and construction phases.

Data in Section V of the *Market Potential Study for the Center for Technology and Innovation* provides selected operating data on comparable museums. This data helps set parameters and benchmarks for facilities of this type. While there are no exact comparable facilities, as a group they provide important guidance in establishing appropriate operating parameters for the Center for Technology and Innovation.

### **Personnel**

Personnel are a key component to an operating plan for a new museum. Data in **Table 5** provides an analysis of the recommended staffing plan. The demands of the new facility indicate a need for approximately 9 full-time and 6 part-time positions. Paid staff positions would be supplemented by volunteers, who would have interpretive duties as well as assisting with education, visitor services and other important functions. The total payroll for the Center for Technology and Innovation, based on this staffing profile, is estimated at \$512,400 inclusive of overhead and benefits. Personnel direct salary and fringe benefit costs are approximately 59 percent of total facility operating expenses, which is typical of facilities of this scale.

**Table 5**  
**Operations Analysis Assumptions in Stabilized Year Current Dollars**  
**Center for Technology and Innovation**

<b>Title/Position</b>	<b>Number of Full-Time</b>	<b>Number of Part-Time</b>	<b>Assumed Full-Time Annual Salary</b>	<b>Total Salary</b>
<b>Administration, Finance &amp; Management</b>				
Executive Director	1		\$75,000	\$75,000
Business Manager / Bookkeeper		1	\$42,000	\$21,000
Office Administrator / Receptionist	1		\$28,000	\$28,000
<b>Marketing &amp; Development</b>				
Director of Marketing	1		\$38,000	\$38,000
Development Director / Membership Coordinator	1		\$45,000	\$45,000
<b>Education &amp; Exhibits</b>				
Education and Exhibits Director, and Curator	1		\$42,000	\$42,000
Educator		1	\$28,000	\$14,000
Exhibit and Computer Technician		1	\$35,000	\$17,500
<b>Operations</b>				
Facilities / Maintenance Manager	1		\$32,000	\$32,000
Volunteer Coordinator		1	\$22,000	\$11,000
Custodian / Groundskeeper	1	1	\$19,000	\$28,500
Store Manager / Facility Rental Coordinator	1		\$38,000	\$38,000
Cashiers - Admissions / Retail	1	1	\$20,000	\$30,000
<b>Total Salaries</b>				<b>\$420,000</b>
Percent of Taxes & Fringe of Total Salaries	22%			\$92,400
<b>Total Salaries, Taxes &amp; Fringe</b>				<b>\$512,400</b>
<b>Total Personnel</b>	<b>9</b>	<b>6</b>		
<b>FTE Positions <sup>1/</sup></b>	<b>12.0</b>			

1/ FTE, or Full Time Equivalent, positions are estimated based on full time personnel plus part time workers at 50% of full time. For instance, a 50% position could represent two 25% of full time positions for the cashiers.

Source: ConsultEcon, Inc.

## Non-Personnel Operating Expenses

Data in **Table 6** provide a stable year attendance operating expense estimate in current dollars based on detailed factors for individual expense items for the Center for Technology and Innovation. Expense categories include the following:

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- ◆ **Professional Services** – Includes consulting fees, financial statements and audit, legal fees, security, and temporary office services, office equipment maintenance contracts, consulting contracts for marketing, benefits, information technology, etc.
- ◆ **Supplies and Materials** – Supplies and materials include consumable items such as office supplies, custodial and building maintenance supplies, paper products, educational aids and exhibit tools, estimated at \$18,000. Factors for supplies and materials have been provided for office, curatorial and educational/programming functions as well.
- ◆ **Administrative** – Other administrative expenses include telephone, postage and shipping, equipment rental, travel and development, dues and subscriptions, and other costs. These equal about \$2,000 per FTE, and are estimated at \$24,000 annually. Other operating costs account for operating contingencies and discretionary departmental expenses.
- ◆ **Advertising, Printing and Publications** – Includes the design, production and distribution expenses for newspaper ads, payments for tourism organizations and cooperative advertising, brochures for distribution at visitor centers and hotels, and other printed matter including office stationary and letterhead, press release packages, educational kits, tour guides, and others.
- ◆ **Utilities, Repairs and Maintenance, and Insurance** – The Center for Technology and Innovation estimated utility costs were based on comparable attraction data and current utility costs. As a modern rehabilitated facility, allowances were made for efficiencies within the facility’s design. Further savings are expected from energy conservation and recycling efforts. The utilities budget includes electricity costs (including outdoor lighting), air handling (HVAC), exhibit and general lighting, as well as other uses, energy for heating and cooling, public services, and charges for sewerage. Repairs and maintenance were based on a newly redeveloped building, and insurance costs are based on typical amounts for museums and current experience.
- ◆ **Exhibit Reinvestment** – Reinvestment in the exhibits is essential to maintaining a “fresh” face to the public and in keeping all exhibits in good working order. The full replacement of exhibit areas over time would be based on new capital campaigns, and the costs would be a capitalized expenditure. Annual repair and improvement however should be budgeted as a recurring and ongoing process.
- ◆ **Capital Reserves** – A capital reserves fund should be in place to cover major non-recurring expenses for mechanical, electrical and plumbing repairs, and maintenance contracts. These costs are expected to be less during the early years of operation due to new construction and extended warranty periods. Capital reserves may also contribute to future changing exhibits, minor building improvements, and replacement of large equipment under heavy use such as exhibit lighting and HVAC units. This reserve can also double as an operating expense contingency fund in emergencies. Contributions to this fund are usually made from surplus net operating income, but can also be funded through fundraising. An annual budget of approximately 3 percent of total operating expenses for capital reserves is included in this analysis.

**Table 6**  
**Potential Operating Expenses in Current Dollars <sup>1/</sup>**  
**Center for Technology and Innovation**

<b>Project Parameters</b>			
Project Square Footage (SF)	22,000		
Annual Attendance	71,300		
Full-Time Equivalent Employees (FTEs)	12.0		
<b>Detailed Budgetary Analysis</b>	<b>Annual Amount</b>	<b>Expense Factors <sup>2/</sup></b>	<b>Percent to Total</b>
Salaries (FTE,PTE)	\$420,000	See Personnel Schedule	47.9%
Taxes / Fringe	92,400	@ 22.0% Based on employee mix	10.5%
Professional Services	30,000	@ \$2,500 Per FTE	3.4%
Administrative <sup>3/</sup>	24,000	@ \$2,000 Per FTE	2.7%
Supplies and Materials	18,000	@ \$1,500 Per FTE	2.1%
Advertising	71,300	@ \$1.00 Per Attendee	8.1%
Printing & Publications	28,520	@ \$0.40 Per Attendee	3.3%
Utilities	77,000	@ \$3.50 Per SF Interior	8.8%
Insurance	22,000	@ \$1.00 Per SF	2.5%
Repairs & Maintenance Interior	22,000	@ \$1.00 Per SF	2.5%
Exhibit Reinvestment / Maintenance	35,650	@ \$0.50 Per Attendee	4.1%
Other Miscellaneous / Contingency	11,000	@ \$0.50 Per SF	1.3%
<b>Subtotal Operating Expenses</b>	<b>\$851,870</b>		<b>97.1%</b>
Capital Reserves <sup>4/</sup>	\$25,556	3% of Total Op. Expenses	2.9%
<b>Total Operating Expenses</b>	<b>\$877,426</b>		<b>100.0%</b>
<b>Operating Analysis</b>			<b>Percent to Total</b>
Operating Expense Per SF	\$39.88	Personnel Costs	58.4%
Operating Expense Per Visitor	\$12.31	Non Personnel Costs	41.6%
Attendees Per FTE	5,942		
Op. Exp Per FTE	\$73,119	Taxes & Fringe Per FTE	\$7,700
Square Feet Per FTE	1,833	Taxes & Fringe Per Employee	\$6,160

1/ Operating expenses for Museum only. Does not include site costs.

2/ Factors are estimated on industry standards and the specific attributes of the project and local conditions.

3/ Includes: Telephone, Office Supplies, Postage & Shipping, Equipment Rental, Travel & Development, Dues & Subscriptions etc.

4/ Capital Reserves include funds for equipment replacements and minor capital for building improvements.

Source: ConsultEcon, Inc.

## **Total Operating Costs**

Total operating costs are estimated at approximately \$877,400 in a stable year or about \$39.88 per square foot of interior facility space. The operating expenses are \$12.31 based on a per-visitor cost. These unit expense analyses are within the typical range of comparable museums. Section V of the *Market Potential Study for the Center for Technology and Innovation* analyzes this data to identify industry benchmarks for some of the defining variables of comparable institutions such as operating budget per square foot, or attendees per square foot. It is useful to note that the weighted average ratio of earned revenue to operating expenses at these comparables was about 53 percent. These data underscore the importance of maximizing both earned and contributed revenues. These data are supportive of the findings and estimates of this memorandum.

Data in **Table 7** summarize the projected operating costs of the Center for Technology and Innovation for a ten-year period. It is important to note that Year 1 of the plan is in current dollars. The actual amounts for Year 1 and subsequent years will depend on future inflation, the number of years before opening, and the actual budgets put into place.

Table 7  
 Projected Operating Expenses  
 Center for Technology and Innovation

Operating Expenses <sup>1/</sup>	Stable									
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Personnel Salaries (FTE, PTE)	\$420,000	\$430,500	\$441,263	\$452,294	\$463,601	\$475,191	\$487,071	\$499,248	\$511,729	\$524,522
Taxes and Fringe	92,400	94,710	97,078	99,505	101,992	104,542	107,156	109,835	112,580	115,395
Advertising, Printing & Publication	99,820	102,316	104,873	107,495	110,183	112,937	115,761	118,655	121,621	124,662
Other Operating Expenses	239,650	245,641	251,782	258,077	264,529	271,142	277,921	284,869	291,990	299,290
<b>Total Operating Expenses</b>	<b>\$851,870</b>	<b>\$873,167</b>	<b>\$894,996</b>	<b>\$917,371</b>	<b>\$940,305</b>	<b>\$963,813</b>	<b>\$987,908</b>	<b>\$1,012,606</b>	<b>\$1,037,921</b>	<b>\$1,063,869</b>
<b>Capital Reserves <sup>2/</sup></b>	<b>\$25,556</b>	<b>\$26,195</b>	<b>\$26,850</b>	<b>\$27,521</b>	<b>\$28,209</b>	<b>\$28,914</b>	<b>\$29,637</b>	<b>\$30,378</b>	<b>\$31,138</b>	<b>\$31,916</b>
<b>Total Operating Costs</b>	<b>\$877,426</b>	<b>\$899,362</b>	<b>\$921,846</b>	<b>\$944,892</b>	<b>\$968,514</b>	<b>\$992,727</b>	<b>\$1,017,545</b>	<b>\$1,042,984</b>	<b>\$1,069,059</b>	<b>\$1,095,785</b>

<sup>1/</sup> Year 1 shown in current dollars with assumed inflation rate thereafter.

<sup>2/</sup> Capital Reserves include funds for equipment replacements and minor capital for building improvements.

Source: ConsultEcon, Inc.

## **Project Net Operating Income Potential**

The Center for Technology and Innovation has a strong capacity to generate earned revenue. At the same time, it is a complex operation that will have considerable operating costs. This analysis assumes that the new facility, its organization, and the level of service provision to the community will allow the Center for Technology and Innovation to generate contributed revenues to meet its operational requirements. Earned revenues represent about 58 percent of total needed revenues to support operations in a stable year. Contributed revenues should be targeted at levels higher than contained herein, as these would allow more robust levels of service provision, would create revenues to cover shortfalls in earned revenue that may occur, and could contribute to increasing the financial reserves and endowment the museum should build over time. With the efforts of the facility's board of trustees, as well as with an active development and fundraising program, this should be an attainable goal.

Based on the detailed earned revenue potential and operating expense analyses presented earlier, data in **Table 8** provide combined operating revenue and operating expense scenarios for the project, based on a mid-range attendance scenario. Over a ten-year period there will be some variability in operating performance based on the years' individual circumstances, with higher levels of contributed revenue allowing higher levels of cash flow and/or enhanced operations.

## **Summary**

Based on the analysis in this report, the Center for Technology and Innovation has the potential to operate successfully over time, if the assumptions regarding quality of facility development, operations, and fundraising are met. This project will derive substantial income from tickets, memberships, and retail; however, active and successful fundraising is necessary to sustain the Center for Technology and Innovation. A directed set of fundraising and giving programs will help to accomplish this goal. The operating profile of the facility is similar to many of the comparable institutions, whose operating strategies have been used in preparing the operating plan. Many projects of this type have seen attendance levels fall off substantially from opening year performance. This pattern has been included in this plan, and the operating plan is based on stable year performance. Diversified and creative sources of revenue and sound fiscal management will assist the Center for Technology and Innovation to sustain its operations and provide a valuable center for learning and enjoyment in Binghamton.

Table 8  
Net Income Summary <sup>1/</sup>  
Center for Technology and Innovation

	Stabilized Year in Current Dollars	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
<b>Revenue</b>											
Total Earned Revenue	\$509,008	\$568,282	\$557,991	\$576,876	\$550,532	\$588,851	\$597,937	\$638,952	\$648,669	\$693,967	\$703,244
Total Non-Earned Revenue	368,418	309,144	341,371	344,969	394,360	379,663	394,790	378,594	394,315	375,091	392,541
<b>Total Revenue</b>	<b>\$877,426</b>	<b>\$877,426</b>	<b>\$899,362</b>	<b>\$921,846</b>	<b>\$944,892</b>	<b>\$968,514</b>	<b>\$992,727</b>	<b>\$1,017,545</b>	<b>\$1,042,984</b>	<b>\$1,069,059</b>	<b>\$1,095,785</b>
<b>Total Operating Costs <sup>2/</sup></b>	<b>\$877,426</b>	<b>\$877,426</b>	<b>\$899,362</b>	<b>\$921,846</b>	<b>\$944,892</b>	<b>\$968,514</b>	<b>\$992,727</b>	<b>\$1,017,545</b>	<b>\$1,042,984</b>	<b>\$1,069,059</b>	<b>\$1,095,785</b>
<b>Net Income</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

NOTE: Year 1 is in current dollars.

<sup>1/</sup> This analysis assumes a breakeven operation. To achieve this breakeven operation, the Non-Earned Revenue assumption will need to be met through such potential non-earned revenues sources such as contributions; sponsorships; outside grants and/or foundations; donations; local, state and federal funding; interest income from endowment and other sources; annual gala and other fundraising events; and other non-earned revenue sources.

<sup>2/</sup> Includes Capital Reserves. Capital Reserves include funds for equipment replacements and minor capital for building improvements.

Source: ConsultEcon, Inc.