

# **Market Potential Study for the Center for Technology and Innovation**

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## **EXECUTIVE SUMMARY**

### **Center for Technology and Innovation**

This report evaluates the market potential of the proposed new Center for Technology and Innovation to be located in Binghamton, New York. This report reflects the project as currently conceived. Refinement to the design of the facility, facility size and program of spaces and exhibit content as well as capital costs will occur subsequently. This analysis provides a basis for evaluating requirements for project development and the magnitude of the market opportunity.

#### **Project and Site Description**

The Trolley Barn building is a landmark that is expected to be successfully and attractively remodeled to house the Center for Innovation and Technology. The 2.56 acre CT&I site proposed at 375 State Street shows potential as a museum location, as key improvements are made on-site and in the immediate area surrounding. The site will have close proximity to the riverfront which will become increasingly visible as it is improved with pedestrian/bike paths and other attractive changes.

The museum building is not easily visible from major highways, so it will be important that signage on and off the highway clearly direct drivers to the site. The site is just north of downtown Binghamton, so it is in close proximity to the minor league ball park, restaurants, and other leisure spots in the area. The presence of the railroad depot cuts off access to the site from downtown, except via State St and Chenango St., which is less direct. Improvements to the streetscape along State will enhance the CT&I site from a walkability standpoint, making the area more inviting. Adequate parking is also needed for its success as a visitor attraction. The number of required parking spaces for the CT&I based on projected attendance estimates is discussed in Section VI.

#### **Resident and Visitor Markets**

The Resident Market Area population will comprise a significant portion of the attendance to the Center for Technology and Innovation. The overall Resident Market Area is defined as thirteen counties within close proximity of the proposed CT&I site. This area is comprised of two sub-markets. The more proximate Primary Market Area consists of Broome and Tioga Counties in New

York, as well as Susquehanna County in Pennsylvania. The Secondary Market Area is comprised of the Chemung, Chenango, Cortland, Delaware, Otsego and Tompkins Counties in New York, as well as Bradford, Lackawanna, Wayne, and Wyoming Counties in Pennsylvania. This market area extends approximately 50 to 60 miles from the site of the proposed CT&I. In the overall Resident Market Area, there were an estimated 1,046,100 residents in 2005. The area has a slow rate of population growth.

Important audiences for the proposed Center for Technology and Innovation will be school students, adults in their 30s and 40s with children, and adults over 50 who have more time and disposable income for leisure activities of this type. The Resident Market Area has an age profile that is generally older than the age profile of the State and U.S. The proportion of the population over 50 is significantly higher, and the proportion under 17 is significantly lower in the Resident Market Area. This is an age profile consistent with a slow growth population – which indicates the market for the CT&I will remain relatively fixed over a period of time. There are currently an estimated 165,100 school-age children in the overall Resident Market Area. It will be important the CT&I draw a broad audience to realize the full market potential.

The Resident Market Area has median household EBI<sup>1</sup> levels that are lower than that of the State of New York and of the U.S. as a whole, with an estimated weighted median EBI of \$32,316 in the overall Resident Market Area, compared to \$38,462 in New York State. Careful planning for ticket prices, programs and marketing policies will be necessary to maintain the affordability for area residents to visit the proposed Center for Technology and Innovation.

Tourists are also expected to comprise a part of the visitation to the proposed Center for Technology and Innovation. There are not any available estimates of visitation to the Binghamton or the Central Leatherstocking region, though Central Leatherstocking is ranked 5<sup>th</sup> out of 11 regions in the State in terms of regional overnight leisure visitation. Binghamton's location puts in within range – and serves as a pass-through region for several other tourist destinations; the Finger Lakes, the Catskills, and the Endless Mountains in Pennsylvania. Market analysis is informed by survey data on visitors

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<sup>1</sup> Measured as "Effective Buying Income," personal income less personal tax and non-tax payments (disposable income), a proprietary measure developed by Sales & Marketing Management.

to the Central Leatherstocking, as well as the market for local attractions. The majority of travelers to the region are leisure oriented (81%). A high percentage of visitors arrive by automobile (78%). With adequate signage and marketing, the Museum can draw a portion of tourists to the region and a portion of those that are passing through the region. Additionally, the facility will itself be a catalyst for tourism in Binghamton and the region, contributing to the critical mass of activity needed to create a family destination. While this region is a relatively affordable destination for tourists, it will be important for the Center for Technology and Innovation to be competitively priced within the context of the existing attractions in Binghamton.

### **Industry Benchmarks**

Market analysis for the proposed Center for Technology and Innovation draws substantial insights into its attendance and operations potential based on the review of comparable science centers. Aspects of comparability used in selecting these institutions include: size of facility; resident market area population, attendance levels, and ticket prices.

Overall, the selected comparable facilities for the CT&I are located in small to mid-sized metro areas ranging in size from 124,500 to 480,000 residents. On-site attendance at the profiled facilities ranges from approximately 42,100 to approximately 161,000. Students are an important component of on-site attendance at these facilities; on-site school group attendance averages over 20,000, and represents approximately a quarter all attendees.

Market capture rates can vary widely among different science/discovery centers and museums depending on their size, locational context and project orientation. Further affecting their capacity to capture resident and tourist markets are the characteristics of these markets, market competition, the extent of marketing expenditures by the facility and other factors particular to individual science centers and museums. Overall market capture at the facilities profiled ranges from 10.8 percent to 93.2 percent. The weighted average market capture rate for these museums is 29.4 percent.

Admission pricing at the profiled facilities ranged from \$4.00 to \$12.00 for adults and from \$3.50 to \$12.00 for children, with an overall average of approximately \$6.69 for adults and \$5.58 for children. As the size, mission, and offerings of the facilities vary, so do the operating income and

expenses. The percent of income from earned revenue of the profiled facilities ranged from 33.6 percent to 74.4 percent, with an overall weighted average of approximately 54.8 percent. Annual operating expenses at the profiled facilities range from about \$352,000 to approximately \$1.98 million. A number of important operating benchmarks are calculated and presented in the reports which help to inform understanding of the operating costs of such facilities.

The experience of comparable facilities profiled provide an indication of the typical operating parameters for museums that are sized similarly in small to medium sized markets. Within these general parameters, their benchmark data tend to vary; this is due to the unique circumstances of each museum. The averages, ranges, and benchmark indicators provide comparisons and standards by which to inform assumptions about attendance and operations at CT&I.

### **Attendance Potential**

Attendance potential analysis is based on assumptions of a first rate design, development, and operation of the Center for Technology and Innovation. Estimations of attendance at CT&I have been calculated using available market data analysis, comparison to comparable attractions, and review of the proposed facility and success factors. Total attendance potential at the Center for Technology and Innovation in a stable year (year 4) is estimated at 43,500 to 99,100 with a mid-range of 71,300. It is estimated that approximately 65 percent of visitation will be from the Resident Market Areas in the mid-range scenario. Approximately 35 percent of attendance is estimated to come from the visitor market and people passing through the region. In early years, there may be higher attendance due to opening year “excitement” and a high degree of interest in the project. Over time, the attendance patterns will move toward the “stable” attendance level. It is projected that the summer months of June, July, and August will be peak attendance periods as children and families have more leisure time, and tourism is at its peak. April and May will also experience high visitation patterns.

Peak-period attendance analysis was calculated to provide an indication of space requirements. During peak periods, 106 to 201 visitors will be circulating through the facility, requiring circulation

space of 2,650 and 5,020 square feet. Total facility size is estimated to be at least three to four times the circulation space, ranging from 7,950 to 20,100 square feet.

Based on the estimated peak-period attendance, an assumption of 2.5 passengers per car during the peak period, and 95 percent auto usage, an estimated 42 to 80 parking spaces are required during the design day periods.

**Section I**  
**INTRODUCTION AND ASSUMPTIONS**

This report evaluates the market for the proposed new Center for Technology and Innovation (CT&I) to be located in Binghamton, New York. This report reflects the project as currently proposed by CT&I. Refinement to the facility size and program of spaces and exhibit content as well as capital costs may occur subsequently. This analysis provides a basis for evaluating the magnitude of the market opportunity for the development of CT&I.

**ASSUMPTIONS**

In preparing this report, the following assumptions were made. This study is qualified in its entirety by these assumptions.

1. The size and design of CT&I will serve to create a high quality, stimulating attraction. CT&I will be a unique attraction in its marketplace. This distinction will give it further visibility as a “must-see” attraction. The entrances to the site will be highly visible and well signed. Additional land on the site will be used in a manner advantageous to the success of the project.
2. Competent and effective management of CT&I is assumed in this study. An aggressive promotional campaign will be developed and implemented. This program will be targeted to prime visitor markets. The admission price for the elements of the facility will be consistent with the entertainment and educational value offered, and with current attraction admissions prices for other comparable visitor attractions.
3. There will be no physical constraints to impede visitors to CT&I such as major construction activity. Changes in economic conditions such as a major recession or major environmental problems that would negatively affect operations and visitation will not occur in the near future.
4. Every reasonable effort has been made in order that the data contained in this study 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.

5. Possession of this report does not carry with it the right of publication. This report will be presented to third parties in its entirety and no abstracting of the report will be made without first obtaining permission of ConsultEcon, Inc., which consent will not be unreasonably withheld.
6. This report 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.
7. Outputs of computer models used in this report are rounded. These outputs may therefore slightly affect totals and summaries.
8. This report was prepared during the period March through May 2006. It represents data available at that time.

## Section II

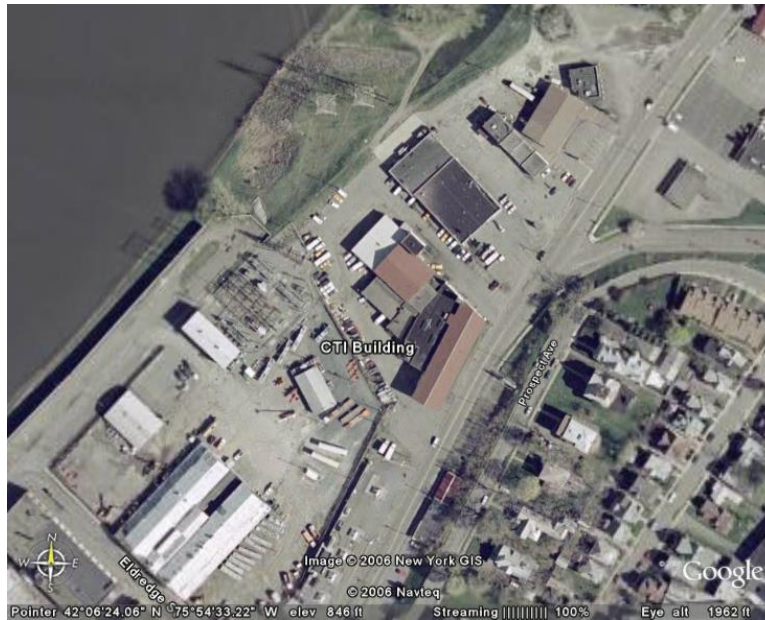
### EVALUATION OF MUSEUM LOCATION, SITE AND PROGRAM

This section reviews the Center for Technology and Innovation's site characteristics from a visitor market perspective. In addition to CT&I's design, size and exhibits, the location and site of a museum are central to its success. The design, programming and exhibits of the museum itself must provide an interesting, enjoyable and repeatable experience. The proposed site for the Center for Technology and Innovation is the 2.56-acre parcel at 375 State St. located north of downtown Binghamton, on the east side of the Chenango River. The site is currently occupied by a 45,840 square foot historic building that once served as a trolley barn. A companion report by Bucher/Borges Group PLLC provides a building assessment for the Trolley Barn Complex.

An interesting and compelling museum design and program is planned. Exhibits and interpretation will focus on the "intersection of creativity and technology that originated from this region". These concepts are outlined in a companion report on Exhibition Programming and Concepts by Eisterhold Associates. A phase 1 project is proposed at approximately 22,000 square-feet, with approximately 14,600 square-feet of exhibit space, 4,700 square-feet of visitor services space, and 2,700 square-feet of curatorial space. The plan currently calls for a retail sales and food service area as part of the visitor services space. The remainder of the property would be developed by the Museum at a later time.

**Figure II-1** provides an aerial view of the site and surrounding areas including the CT&I site at 375 State St. **Figure II-2** is a photograph of the Trolley Barn building, future home of CT&I.

**Figure II-1**  
**CT&I Site From Above**



Source: Google Earth.

**Figure II-3**  
**Photo of the Trolley Barn / CT&I Building**



Source: Press & Sun-Bulletin

### **Regional Location and Accessibility**

Although Binghamton is located in a relatively lightly populated part of New York, it is well served by the interstate and state highway networks. Given its location at the intersection of I-81 and I-88, it is an important pass-through point for travelers making their way to Syracuse or Albany from Pennsylvania (or vice versa) and along Rt. 17 from New York City westerly along the southern tier

of New York. With adequate signage along the interstates and major highways there is potential to draw some unplanned visits by travelers through the area.

In addition to the interstate connectivity, Binghamton is served by bus – though it is unlikely there will be many CT&I visitors arriving by bus. Shortline/Coach USA services the region, with daily departures from Binghamton to Olean, Elmira, Turning Stone Casino, Utica, Atlantic City, Monticello, and New York City. Data in **Table II-1** show the proximity of Binghamton to other locations by driving distances.

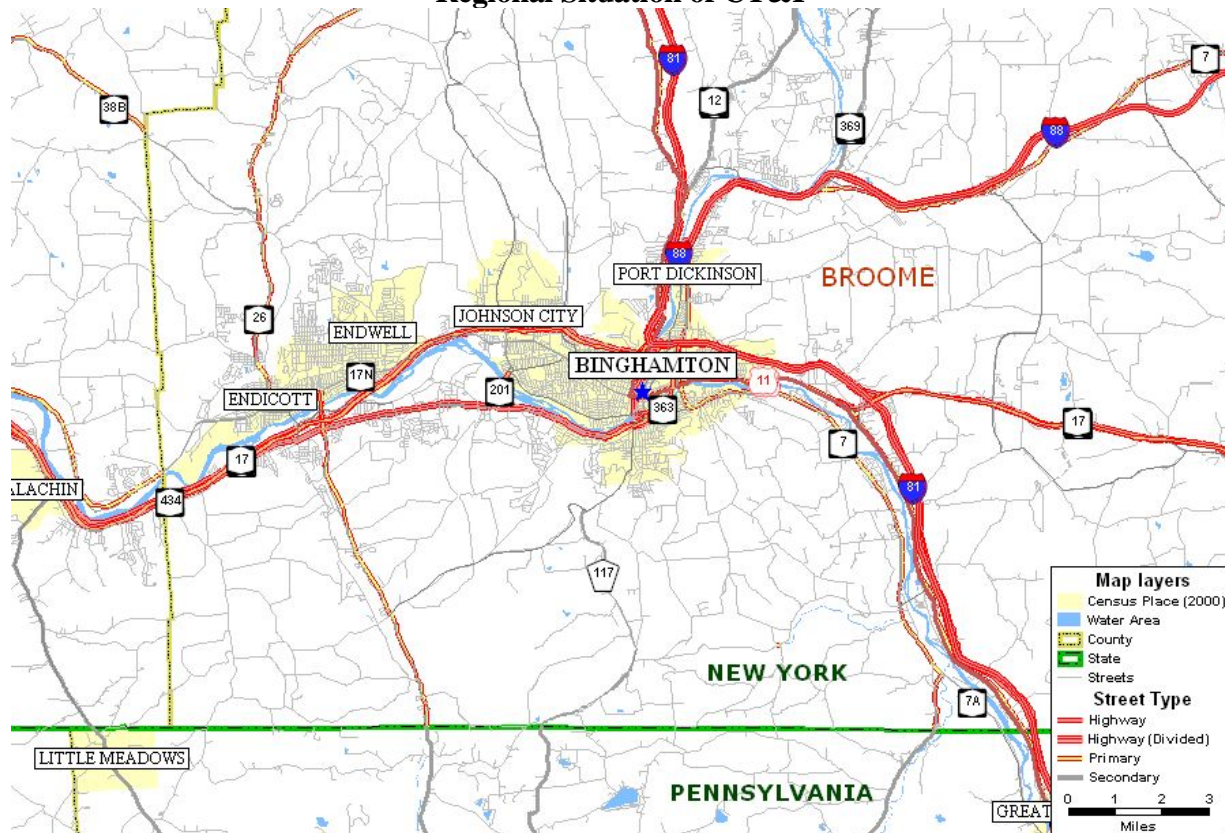
**Table II-1**  
**Driving Distances to CT&I**  
**From Selected Locations**

<b>Location</b>	<b>Driving Distance to CT&amp;I (minutes)</b>	<b>Driving Distance to CT&amp;I (miles)</b>
Endicott, NY	12	10
Scranton, PA	66	60
Ithaca, NY	61	49
Elmira, NY	61	57
Syracuse, NY	71	73
Wilkes-Barre, PA	84	79
Albany, NY	133	140

Source: GoogleEarth.

There are a number of other metro areas within an hour's drive of Binghamton. Syracuse (pop. 656,900) is located about 73 miles away, and Scranton/Wilkes Barre (pop. 549,400) is located about 70 miles away. **Figure II-3** shows the location of Binghamton and major interstates within Broome County, as well as the site for the CT&I project.

**Figure II-3**  
**Regional Situation of CT&I**

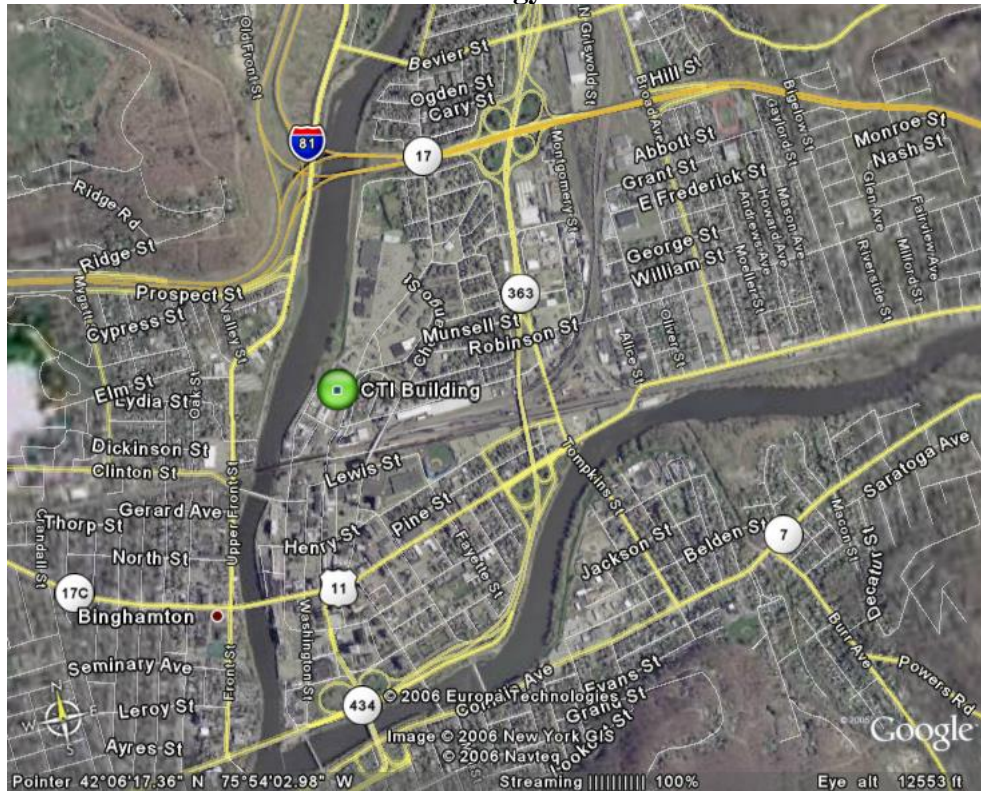


Source: Maptitude.

### Auto Accessibility

The ability of drivers to easily locate and park conveniently near the CT&I site is essential to its success. The site is about .7 miles from the Broome County Courthouse, which is a landmark in Binghamton. From 375 State St, just a quarter mile to the East is the interchange of I-81, and Route 7/363. Route 7/363 is an important throughway for traffic coming off I-81 to access central Binghamton. As the CT&I is an urban site, there are several means by which to get to the site depending on the direction of origin. This location if properly signed, and with any needed traffic and signalization improvements, will have good accessibility within Binghamton, and within the region. Wayfinding signs will be very useful, especially for aiding tourists in locating the museum. **Figure II-4** shows the site location in the context of the downtown area and major travel routes.

**Figure II-4  
Center for Technology and Innovation**



Source: Google Earth.

Following are directions from points outside the City (source GoogleEarth). These help to show the relative ease/complexity of finding the site.

*Directions from North* – If coming from I-88 and points northward, exit Rt. 7 south, and follow that for 2.3 miles. Then take a right on Frederick St., followed by another right on W.State. Follow for .5 mile south.

*Directions from South and East (Rt. 17)/ or I-81* – Take Rt. 17 / I-81 south exit 4S to Binghamton. Then take a right on Frederick St., followed by another right on W.State. Follow for .5 mile south.

Another route from the South / West is to take Court St., via Broad St. Court St. runs north of the train tracks, before going underneath (south). Take a right at Fayette (pass the stadium). Take a left on Lewis, followed by a right on State; then follow to 375 St.

*Directions from West (Rt. 17)* – Take the US 11 exit (#72). Follow 11 south passed the train tracks. Take a left on Clinton St. Take another left on Washington, followed by another left on State.

### **Parking**

As the site will primarily be accessed via auto-trips, and will have school group visitation, adequate parking on-site or nearby will be necessary. The current users and uses of the site currently occupy much of the available nearby parking. It is assumed that the eventual relocation of these industries will also free up room for parking near the Center. A preliminary estimate of the potential availability of additional parking spaces on the site indicates the potential for up to 50 spaces. Data in Section VI detail parking requirements based on attendance estimates for the Museum.

### **Visibility**

State St. is a relatively well traveled route within Binghamton as it leads from downtown areas north to I-81 and extends past the Binghamton Plaza shopping center. In 1999, a traffic survey indicated State St. at Chenango (located just north of the CT&I site) had an average annual daily traffic (AADT) of 9,760; this made it one of the more heavily trafficked streets in central Binghamton. Generally, high traffic counts are a positive factor in that they allow good visibility (i.e. free promotion) for the museum.

### **Walkability**

Walkability is not a major determinant of attendance, as most visitors are likely to drive, but it is a factor in the way the museum site relates to downtown, as there is often the potential for an unplanned visit when an attraction is clustered near other destinations, such as a baseball field or riverfront. The railroad tracks and train depot south of the site largely cut the CT&I building off from the more commercial and pedestrian friendly areas of downtown. As the CT&I building is within walking distance, there would be some benefit in making the route from downtown to CT&I more inviting, safer, and more pleasant through the use of streetscape improvements. Additionally, the use of signage visible by pedestrians to direct visitors to the CT&I building would be helpful in encouraging walkers to the site.

There are currently a number of important urban design improvements planned in Binghamton which will have a very positive impact on the CT&I site. The Chenango riverfront is being enhanced with pedestrian and bike pathways, plantings, and other park amenities. The riverfront park will extend from the confluence to the Binghamton Plaza, and will be completed in the second

half of 2006. Additionally, there is a streetscape improvement planned for State St. which will provide trees, additional lighting, improved sidewalks and street furniture, and new signage. Together these two enhancements to the area will greatly benefit the CT&I site from an accessibility, visibility, and aesthetic viewpoint.

### **Adjacent Uses**

The Trolley Barn at 375 State St. is bounded by several geographic features. The Chenango River is located to the immediate west. To the north about .7 miles away is I-81. To the south, less than a quarter mile away is a railroad track and depot. To the east about a half mile away is Route 7 / 363. Within this area, there are two schools; St; Paul's School and Edison School. Directly adjacent land uses to the CT&I site include the following:

**North** – strip retail

**East** – W. State St. Residential uses on the other side.

**South** – Vacant Amerada Hess lot and New York State Electric power substation.

**West** – Public land along the Chenango River

About a half mile north of the CT&I on State St. is Binghamton Plaza – an auto-oriented, 'big box' retail center with a Kmart and a number of smaller tenants. While these stores do bring shoppers pass the CT&I site – thereby increasing visibility – they do not provide any added benefits for museum visitation, and do not assist promotion of the area as a destination for tourists. There are currently plans underway to improve the physical design of the retail area to the north of the museum site. Mayor Ryan's 2006 State of the City address included the following comments on Binghamton Plaza:

“Right now, this plaza projects an image of disrepair and neglect to more than a million commuters and tourists who pass by every year. I pledge to change that. Picture how a Binghamton Plaza, fully restored and turned around, linked to an improved Cheri Lindsay Park, would project an image of renewal. We could lure hundreds of commuters and visitors to our city every month. I have already begun conversations with the plaza owners, and my administration will work diligently to ensure that these plans move forward, and that any redevelopment is attentive to the needs and interests of the North side neighbors.”

## **SUMMARY OF SITE ANALYSIS**

The Trolley Barn building is a landmark that is expected to be successfully and attractively remodeled to house the Center for Innovation and Technology. The 2.56 acre CT&I site proposed at 375 State Street shows potential as a museum location, as key improvements are made on-site and in the immediate area surrounding. The site will have close proximity to the riverfront which will become increasingly visible as it is improved with pedestrian/bike paths and other attractive changes.

The museum building is not easily visible from major highways, so it will be important that signage on and off the highway clearly direct drivers to the site. The site is just north of downtown Binghamton, so it is in close proximity to the minor league ball park, restaurants, and other leisure spots in the area. The presence of the railroad depot cuts off access to the site from downtown, except via State St and Chenango St., which is less direct. Improvements to the streetscape along State will enhance the CT&I site from a walkability standpoint, making the area more inviting. Adequate parking is also needed for its success as a visitor attraction. The number of required parking spaces for the CT&I based on projected attendance estimates is discussed in Section VI.

### Section III

## RESIDENT MARKET OVERVIEW

The resident market for the proposed Center for Technology and Innovation (CT&I) is defined as the area whose residents would visit the CT&I as a primary purpose or an important part of a day-trip. Resident markets are analyzed within a “gravity model” context; that is, the closer residents live to the attraction, the more likely they are to visit. On its periphery, the resident market changes over to the visitor (or tourist) market. Depending on the individual market circumstances, resident markets can extend up to 100 miles, or be as narrow as 25 miles. The definition can take into account such factors as physical barriers (bodies of water, mountains, etc.), traffic networks, local orientation, travel patterns, and regional competition, among others. Most people in resident market areas would expect to have relatively short travel times, extending up to one or two hours at most. These travel times are thought of as door-to-door travel times.

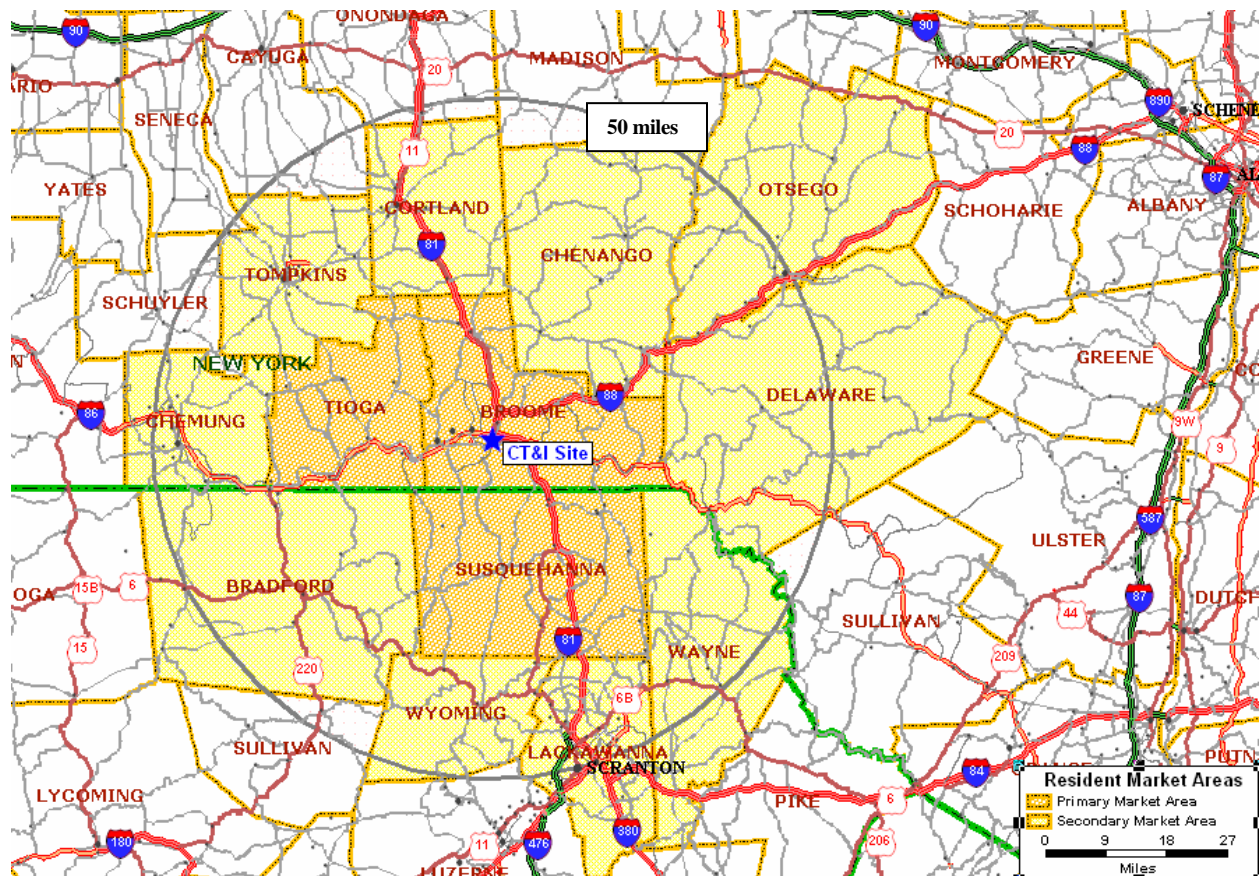
### Resident Market Definition

The CT&I’s resident market population and demographic characteristics are reviewed in this section. Based on the location of Binghamton, very near the State line between New York and Pennsylvania, the defined Resident Market population for the CT&I includes counties in both of these states. For the purposes of this report, the Resident Market includes area counties that extend approximately 50 miles surrounding the proposed site; residents of areas beyond that range are considered to be part of the visitor or “tourist” market, and are discussed in a subsequent chapter of this report. The Resident Market Area for this project is divided into Primary and Secondary Market Areas that are indicative of differing travel patterns and differing market potential. The Resident Market Area for the proposed CT&I is defined as:

- ◆ **Primary Market Area** - Broome and Tioga Counties in New York, and Susquehanna County, Pennsylvania.
- ◆ **Secondary Market Area.** Chemung, Chenango, Cortland, Delaware, Otsego and Tompkins Counties in New York, and Bradford, Lackawanna, Wayne and Wyoming Counties in Pennsylvania.

Figure III-1 shows the Primary and Secondary Market Areas as defined for the proposed Center for Technology and Innovation.

**Figure III-1**  
**Resident Market Areas**  
**Center for Technology and Innovation**



Source: ConsultEcon, Inc.

### Population

Data in **Table III-1** show the estimated 2005 and projected 2010 population of the overall Resident Market Area for the proposed Center for Technology and Innovation. In the overall Resident Market Area, there were an estimated 1,046,100 residents in 2005. The Primary Market Area had a population of 292,100 comprising approximately 28 percent of the overall Resident Market population. The Secondary Market Area had an estimated population of 754,000 comprising approximately 72 percent of the overall Resident Market population in 2005. The Resident market

Area is generally a slow growth region. Between 2005 and 2010, population is projected to decline 0.4 percent in the Primary Market Area, and to increase by 0.6 percent in the Secondary Market Area. The population in the overall Resident Market Area is projected to increase slightly, by 0.3 percent.

**Table III-1**  
**Resident Market Area Estimated 2005 and Projected 2010 Population**  
**Center for Technology and Innovation**

<b>Resident Market Area</b>	<b>2005 Estimated</b>	<b>2010 Projected</b>	<b>Percent Change</b>
<i><b>Primary Market Area</b></i>			
Broome County, NY	198,700	196,700	-1.0%
Tioga County, NY	51,800	51,800	0.0%
Susquehanna County, PA	41,600	42,390	1.9%
<b>Total Primary Market Area</b>	<b>292,100</b>	<b>290,900</b>	<b>-0.4%</b>
<i><b>Secondary Market Area</b></i>			
Chemung County, NY	90,100	89,000	-1.2%
Chenango County, NY	51,900	52,300	0.8%
Cortland County, NY	48,800	49,000	0.4%
Delaware County, NY	47,000	47,300	0.6%
Otsego County, NY	62,500	63,400	1.4%
Tompkins County, NY	103,600	111,100	7.2%
Bradford County, PA	62,600	62,500	-0.2%
Lackawanna County, PA	209,400	205,600	-1.8%
Wayne County, PA	49,800	50,100	0.6%
Wyoming County, PA	28,300	28,500	0.7%
<b>Total Secondary Market Area</b>	<b>754,000</b>	<b>758,800</b>	<b>0.6%</b>
<b>Total Resident Market Area Population</b>	<b>1,046,100</b>	<b>1,049,700</b>	<b>0.3%</b>

Source: Sales and Marketing Management, 2005 Survey of Buying Power.

### **Age Profile**

The proposed Center for Technology and Innovation is expected to attract audiences of all ages. The audience mix and profile will be influenced by the exhibits, interpretive techniques, and marketing approaches used at the CT&I. Family attendance and children in school groups are anticipated, as well as adults in private parties and groups.

Data in **Table III-2** provide an analysis of resident age profile for the Resident Market Area. This table also compares the age distribution of the Resident Market Area to the State of New York, and to the United States as a whole.

**Table III-2**  
**Estimated 2005 Age Distribution for the Resident Market Areas**  
**Center for Technology and Innovation**

	Years of Age					Total
	0 to 17	18 to 24	25 to 34	35 to 49	50 +	
Primary Market Area	21.8%	10.7%	11.3%	21.9%	34.3%	100.0%
Secondary Market Area	20.9%	12.1%	12.0%	20.8%	34.1%	100.0%
<b>Total Resident Market Areas</b>	<b>21.2%</b>	<b>11.8%</b>	<b>11.8%</b>	<b>21.1%</b>	<b>34.2%</b>	<b>100.0%</b>
<i>New York State</i>	<i>24.0%</i>	<i>9.6%</i>	<i>13.8%</i>	<i>22.8%</i>	<i>29.8%</i>	<i>100.0%</i>
<i>United States</i>	<i>24.8%</i>	<i>9.9%</i>	<i>13.5%</i>	<i>22.4%</i>	<i>29.4%</i>	<i>100.0%</i>

Source: Sales and Marketing Management, *2005 Survey of Buying Power*, and ConsultEcon, Inc.

The Resident Market Areas have an age group profile with the highest percentage of people in the 50+ age category, followed by people in the 0-17 and 35 to 49 age categories. The Resident Market Area is similar to that of the State of New York and the U.S. as a whole, but with a slightly higher percentage of population in the 50+, and slightly fewer in the 0-17 category. Efforts to appeal to all ages will help to realize the full market potential of the proposed CT&I.

### School-Age Children

Students will be an important component of the market for CT&I for several reasons. First, families with school-age children might be frequent visitors to this type of facility as parents seek educational as well as entertaining family outings. Second, school groups are an important component of visitation, particularly during off-peak periods and on weekdays when general visitation numbers are lower. In addition, visits to an attraction such as the CT&I by children in school groups can result in word-of-mouth advertising to friends and family. This in turn leads to both repeat visitation and new visitation. Data in **Table III-3** provide an estimate of the number of school-age children in the Resident Market Area.

**Table III-3**  
**Estimated School Age Children in the Resident Market Area, 2005**  
**Center for Technology and Innovation**

	<b>School Age Children</b>
Primary Market Area	46,900
Secondary Market Area	118,200
<b>Total Resident Market Areas</b>	<b>165,100</b>

Source: Sales and Marketing Management, *2005 Survey of Buying Power*, and ConsultEcon, Inc.

In 2005, the Primary Market Area is estimated to have 46,900 school-age children, while the Secondary Market Area school-age population is estimated at 118,200 school-age children. The total estimate of 165,100 school-age children in the overall Resident Market Area is expected to support student and family-group visitation to the proposed CT&I. The attendance impact of school children is, however, very much dependent on how well the CT&I can attract and organize field trips from Resident Market Area school districts, including those from counties in Pennsylvania.

### **Households**

Data in **Table III-4** show the number of households and the average household sizes in the Resident Market Area. In 2005, there were an estimated 416,400 households in the overall Resident Market Area. Average household size in the Resident Market Area is 2.51 – somewhat lower than that of the State of New York and the U.S. average.

**Table III-4**  
**Estimated Households in the Resident Market Area in 2005**  
**Center for Technology and Innovation**

	<b>Estimated Number of Households</b>	<b>Average Household Size</b>
Primary Market Area	117,800	2.48
Secondary Market Area	298,600	2.53
<b>Total Resident Market</b>	<b>416,400</b>	<b>2.51</b>
<i>New York State</i>		2.68
<i>United States</i>		2.66

Source: Sales and Marketing Management, 2005 Survey of Buying Power, and ConsultEcon, Inc.

### Household Income

Higher income levels are associated with visitation to attractions such as the proposed CT&I, both in terms of the ability to visit (disposable income, transportation and leisure time) and the desire to visit, as higher incomes frequently reflect higher educational attainment. Data in **Table III-5** provide median income characteristics of households within the Resident Market Area, as compared to the State of the New York and the U.S. as a whole.

**Table III-5**  
**Estimated Median Household Income Summary**  
**Center for Technology and Innovation**

	<b>Median Household EBI</b>
Primary Market Area	\$32,366
Secondary Market Area	\$32,296
<b>Total Resident Market Areas</b>	<b>\$32,316</b>
<i>New York State</i>	\$38,462
<i>United States</i>	\$39,324

Note: Resident market area summary data are expressed as the weighted averages of the median incomes of individual Counties by number of households.

Source: Sales and Marketing Management, 2005 Survey of Buying Power, and ConsultEcon, Inc.

The median household income as expressed by “EBI”<sup>2</sup> is estimated at \$38,462 for the State of New York, and \$39,324 for the U.S. as a whole in 2005. The median income in the Primary Market Area is \$32,366; the Secondary Market Area median is similar at \$32,296. The overall Resident Market Area has a median household income of \$32,316, significantly lower than the State and National medians. In order to assure maximum attendance potential, admission fees for CT&I should be set at an affordable price for this market.

Data in **Table III-6** show household income distributions for the Resident Market Area and comparisons. The distribution of income levels in the Resident Market Area generally lower than that of the State of New York and of the U.S. as a whole.

**Table III-6**  
**Estimated 2005 Median Household Income Distributions**  
**Center for Technology and Innovation**

	Median Household Income			
	Less than \$20,000	\$20,000- \$34,999	\$35,000- \$49,999	\$50,000+
Primary Market Area	27.1%	26.5%	20.5%	25.9%
Secondary Market Area	27.6%	26.4%	20.0%	26.0%
<b>Total Resident Market Areas</b>	<b>27.5%</b>	<b>26.4%</b>	<b>20.2%</b>	<b>25.9%</b>
<i>New York State</i>	<i>24.0%</i>	<i>20.7%</i>	<i>18.2%</i>	<i>37.1%</i>
<i>United States</i>	<i>21.5%</i>	<i>22.5%</i>	<i>19.3%</i>	<i>36.7%</i>

Note: Resident market area summary data are expressed as the weighted averages of the median incomes of individual Counties by number of households.

Source: Sales and Marketing Management, *2005 Survey of Buying Power*, and ConsultEcon, Inc.

## **RESIDENT MARKET SUMMARY**

The Resident Market Area population will comprise a significant portion of the attendance to the Center for Technology and Innovation. The overall Resident Market Area is defined as thirteen counties within close proximity of the proposed CT&I site. This area is comprised of two sub-

<sup>2</sup> Measured as "Effective Buying Income," personal income less personal tax and non-tax payments (disposable income), a proprietary measure developed by Sales & Marketing Management.

markets. The more proximate Primary Market Area consists of Broome and Tioga Counties in New York, as well as Susquehanna County in Pennsylvania. The Secondary Market Area is comprised of the Chemung, Chenango, Cortland, Delaware, Otsego and Tompkins Counties in New York, as well as Bradford, Lackawanna, Wayne, and Wyoming Counties in Pennsylvania. This market area extends approximately 50 to 60 miles from the site of the proposed CT&I. In the overall Resident Market Area, there were an estimated 1,046,100 residents in 2005. The area has a slow rate of population growth.

Important audiences for the proposed Center for Technology and Innovation will be school students, adults in their 30s and 40s with children, and adults over 50 who have more time and disposable income for leisure activities of this type. The Resident Market Area has an age profile that is generally older than the age profile of the State and U.S. The proportion of the population over 50 is significantly higher, and the proportion under 17 is significantly lower in the Resident Market Area. This is an age profile consistent with a slow growth population – which indicates the market for the CT&I will remain relatively fixed over a period of time. There are currently an estimated 165,100 school-age children in the overall Resident Market Area. It will be important the CT&I draw a broad audience to realize the full market potential.

The Resident Market Area has median household EBI levels that are lower than that of the State of New York and of the U.S. as a whole, with an estimated weighted median EBI of \$32,316 in the overall Resident Market Area, compared to \$38,462 in New York State. Careful planning for ticket prices, programs and marketing policies will be necessary to maintain the affordability for area residents to visit the proposed Center for Technology and Innovation.

## Section IV VISITOR MARKET PROFILE

This section reviews the visitor or tourist<sup>3</sup> markets available to the proposed Center for Technology and Innovation (CT&I) in Binghamton. The City of Binghamton's location for the museum will allow it to draw from the visitors to the Central Leatherstocking region as well as tourists who are passing through Binghamton. This section reviews the tourist markets available to the proposed Center for Technology and Innovation (CT&I) in Binghamton. For this study, important tourist market segments for CT&I include:

- ◆ Destination leisure visitors to the area, particularly for area events or touring vacations;
- ◆ Individuals visiting friends and relatives (VFRs) in the area
- ◆ Visitors traveling with children; and
- ◆ Pass through visitors.

“Leisure” visitors may include couples and families on vacation, seasonal visitors, regional day trip visitors, and persons visiting friends and relatives (VFRs). Leisure travelers would be prime candidates for visitation to the proposed CT&I. This travel market segment is the most likely to visit a museum or other public attraction as they have the time, desire, and the financial resources. Leisure visitors who are visiting friends and relatives (VFRs) are also an important group for visitation to attractions such as the CT&I, as hosts often bring their guests to visit the best attractions a region has to offer.

Business travelers are typically less likely to visit attractions such as museums because they usually have limited time and interest, although the topic of technology might be more likely to interest some business travelers. There is a greater possibility of visitation by convention visitors. Often conventions hold special events or evening functions at museums, or conventions may host tours at a museum for spouses or families of participants. In addition, convention visitors often have free time during the day and may use this as an opportunity to visit local attractions. As CT&I is a technology related museum and relates well to the industries that have been historically established

in the region, there will be more likelihood for events or general interest by business travelers, and local business groups in general, compared to other museums.

### **Tourism Infrastructure in Binghamton**

Binghamton, Endicott, and Johnson City ("the Triple Cities")--along with suburban Vestal--make up Greater Binghamton, offering cultural activities, spectator sports and accessible outdoor recreation. The City serves as a regional center for business, shopping, health care and recreation. Several theaters, a professional opera company, symphony and pops orchestras, the Roberson Museum, and the Kopernik Observatory are supported by the community. The Broome County Arena, home to the Binghamton Senators hockey team, also hosts popular rock, country, and pop concerts. The Binghamton Mets play ball in a new baseball stadium downtown. The area also offers restaurants, shopping malls, and many urban and wooded parks and picnic areas. In addition to these attractions, the hotel base in Binghamton consists of more than 26 hotels and approximately 2,400 rooms. There are also a number of smaller accommodations such as B&B's. According to the Binghamton CVB, in calendar year 2005, there were more than 160 conventions and events held in Binghamton, with over 66,000 attendees and economic impacts in excess of \$20 million. There are no estimates of total visitors to the City.

### **Tourism in the Region**

Binghamton is in the Central Leatherstocking tourism region of New York. It's location, however, is at the edge of this tourism region. Binghamton is also very close to the Catskills and the Finger Lakes Regions, as well as the Northeast Pennsylvania Mountains tourist region of Pennsylvania. Sub regions in the Northeast Pennsylvania Mountains region nearest Binghamton are the Endless Mountains and Coal Region, an area that includes Susquehanna County in the primary resident market area, and the Lackawanna County area, which is centered on Scranton. All of these destination areas bring substantial numbers of visitors through the Binghamton area. Analysis of traffic counts provided by the New York State Department of Transportation indicate that there is a seasonal distribution of traffic. Traffic counts are highest between July and October, which are the prime months for visitors driving to the area, as well as to destinations within the larger region. Regionally, traffic and tourism tends to be at its lowest levels between December and February.

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<sup>3</sup> The terms visitor and tourist are used interchangeably.

Following are brief descriptions of the surrounding tourism regions, each of which will potentially bring drivers through the Binghamton area on their way to or from the destination.

*Catskills* – Popular day-trip and overnight destination, especially for NYC metro residents (65%). Tourism emphasis is on outdoor activities in the mountains, skiing, and summer cultural events. In 2000, it ranks 10<sup>th</sup> among New York’s 11 regions in overnight leisure visits. <sup>4</sup>

*Finger Lakes* – The second most visited destination in the State after NYC (2000). Primary attractions include the lakes themselves and vineyards. Also, it is a major destination for persons visiting friends and relatives. The region drew an estimated 23 million visitors in 2000; roughly two thirds were leisure trips. Binghamton is a gateway to this region, particularly for traffic from New York City and the areas to the south such as Scranton, Allentown, and Philadelphia.

*Northeast Pennsylvania Mountains / Endless Mountains and Coal Region* – This region hosted an estimated 3.3 million overnight visitors in 2003. Over 50 percent of visitors were visiting friends and relatives.

### **Tourism in the Central-Leatherstocking Region**

For the purposes of this report, relevant data from the “*Central-Leatherstocking Region Top Line Visitor Profile 2002*” by D.K. Shifflet were used. There are no definitive data available on the volume of tourists, however this study makes use of a survey of visitors to Central Leatherstocking region which provides a comparison of demographics and trip characteristics between visitors to the region, New York State visitors, and overall U.S. travelers. The ‘Central-Leatherstocking Region’ is defined by the NY State Tourism Board as the counties of Broome (location of Binghamton), Chenango, Madison, Montgomery, Oneida, Herkimer, Otsego and Schoharie. Binghamton is a principal city in the region. The map in **Figure IV-1** shows the location of the Central Leatherstocking region, in the central part of the State.

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<sup>4</sup> NYS Regions Year 2000 Travel. D.K. Shifflet & Associates.

**Figure IV-1**  
**Central Leatherstocking Tourism Region, with the State**



Source: I Love New York

The Central Leatherstocking region was ranked 5<sup>th</sup> in visitation among the 11 regions, in terms of overnight leisure travel, according to a 2000 D.K. Shifflet & Associates study<sup>5</sup>; though actual estimates of visitation are not available. Important attractions within the region include Cooperstown, Turning Stone Casino, historic towns, and Binghamton, its largest city.

A traveler is defined as any person who took at least one trip to the Central Leatherstocking region for the purpose of leisure or business travel, which included either an overnight stay or a day-trip. Data in the following tables describe the demographic profile and visitation characteristics of travelers to the Central-Leatherstocking region as compared to the State of New York and the U.S. as a whole.

### **Trip Purpose**

Data in **Table IV-1** show trip purpose for visitors to Central Leatherstocking. Survey results indicate 81 percent were leisure travelers, while 19 percent were business travelers. This ratio is more leisure oriented than the State overall, and a good sign for museum visitation. Of the leisure visitors, the most common purpose was visiting friends and relatives (29%); this purpose is conducive to museum visitation, as friends and family often incorporate leisure activity into their

visits. Persons on a getaway weekend (7%) and general vacation (13%) were relatively low compared to the State and national results.

**Table IV-1**  
**Visitor Trip Purpose**

	<b>Leather- stocking Region</b>	<i>State of New York</i>	<i>US as a whole</i>
<b>Leisure Travelers</b>	<b>81%</b>	77%	75%
Getaway weekend	7%	9%	11%
General vacation	13%	12%	17%
Visiting friend/relative	29%	34%	28%
Special Event	15%	12%	10%
Other personnel	17%	10%	9%
<b>Business Travelers</b>	<b>19%</b>	23%	25%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002*, D.K. Shifflet & Associates, Ltd.

### Visitor Characteristics

Data in **Table IV-2** describe the average age and life stage (children/no children/income levels) of travelers to the region.

<sup>5</sup> NYS Regions Year 2000 Travel. D.K. Shifflet & Associates.

**Table IV-2**  
**Age and Life Stage Characteristics of Travel Parties**

	<b>Central- Leather- stocking Region</b>	<i>State of New York</i>	<i>US as a whole</i>
<b>Age</b>			
18-34 years	35%	31%	34%
35-54 years	42%	47%	44%
55+ years	23%	22%	22%
<b>Average Age</b>	<b>43</b>	<b>42</b>	<b>43</b>
<b>Lifestage</b>			
18-34, no children	13%	14%	14%
18-34, with children	21%	17%	20%
35-54, no children	12%	20%	19%
35-54, with children, low income	8%	7%	6%
35-54, with children, high income	22%	20%	18%
55+, no children, low income	9%	7%	8%
55+, no children, high income	14%	13%	13%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd.*

As shown by data in the table, the average age of travelers to the Central Leatherstocking region was 43 years, with the largest concentration of visitors in the 35 to 54 age segment (high income with children) and the 18-34 age segment (with children). The overall breakdown is similar to that of the State of New York and the U.S. as a whole, but indicates a slightly higher-income traveler profile, and a slightly higher likelihood of traveling with children in the region. It should also be noted that these surveys are not perfectly representative of all travelers; rather they capture only persons who participated in the survey. Data in **Table IV-3** provide information regarding education and income characteristics of travelers to Central Leatherstocking.

**Table IV-3**  
**Education, and Income Characteristics of Travel Parties**

	Central-Leatherstocking Region	State of New York	US as a whole
<b>Education</b>			
No college	20%	27%	29%
Some college	36%	24%	27%
College graduate	44%	49%	45%
<b>Income</b>			
Less than \$25,000	12%	12%	12%
\$25,000-\$49,999	31%	23%	25%
\$50,000-\$74,999	25%	24%	24%
\$75,000+	31%	41%	39%
<b>Income (average)</b>	<b>\$62,000</b>	<b>\$71,000</b>	<b>\$69,000</b>

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002*, D.K. Shifflet & Associates, Ltd..

The education levels of travelers to the Region are highest in the college graduate category, although that profile is slightly lower than the State and the U.S. However, the “some college” category is somewhat higher than that of the State and the U.S. A higher education level is a positive indicator for interest in an attraction such as the proposed CT&I, as a technology based museum, it will interest an educated market.

Household income levels also are an important consideration in planning for potential visitation and ticket pricing. While the income levels shown for travelers to the region are slightly lower than the State and U.S. profiles, admission prices will reflect local buying power.

Data in **Table IV-4** show the breakdown mode of travel and accommodations used for travelers to the Central-Leatherstocking Region compared to New York State and the U.S. as a whole.

**Table IV-4  
Accommodations and Travel Mode of Survey Participants**

	<b>Leather- stocking Region</b>	<b>State of New York</b>	<b>US as a whole</b>
<b>Transportation</b>			
Air	15%	21%	20%
Auto	78%	69%	72%
Bus	2%	3%	2%
Train	*	2%	*
Other	5%	5%	6%
<b>Accommodations</b>			
Paid hotel/motel	38%	39%	45%
Paid non hotel/motel	12%	10%	13%
Private home	29%	39%	32%
Other	21%	12%	10%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd.*

Travelers to the region most typically arrive by automobile (78%). This will require adequate signage on highways and within the City to help direct out-of-town drivers to the museum site.

A majority of visitors to Central Leatherstocking stay in paid accommodations (38%), there is also a significant number who stay in private homes (29%), indicating that they are likely visiting friends and relatives.

Travel party size, average length of stay, and distance traveled are shown by data in **Table IV-5**.

**Table IV-5**  
**Travel Party Size, Length of Stay and Distance Traveled**

	Central- Leather- stocking Region	State of New York	US as a whole
<b>Travel Party Composition</b>			
One adult	40%	44%	41%
Couple	21%	24%	25%
2 males or 2 females	6%	6%	6%
3 or more adults	4%	5%	5%
Families	29%	21%	22%
<i>Average persons/trip</i>	<b>2.23</b>	<b>1.96</b>	<b>2.11</b>
<b>Length of Stay</b>			
<i>Average (days)</i>	<b>2.25</b>	<b>2.12</b>	<b>2.18</b>
Day-trip	48%	53%	52%
1-3 nights	39%	35%	36%
4-7 nights	10%	9%	9%
8+ nights	3%	2%	3%
<b>Distance traveled (one-way, miles)</b>			
<i>Average Distance</i>	<b>498</b>	<b>525</b>	<b>522</b>
Less than 100 miles	15%	21%	17%
101-300 miles	56%	37%	35%
301-500 miles	6%	13%	14%
501-1,000 miles	8%	11%	17%
1,001+ miles	16%	18%	16%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd.*

The average number of travelers in a party traveling to the Central Leatherstocking is 2.23, which is slightly higher than the numbers in the State of New York and in the U.S. as a whole, at 1.96 and 2.11, respectively. This is an indicator of a somewhat higher number of parties traveling with children.

Visitors to the Central-Leatherstocking Region stay an average of 2.25 days, which is slightly longer than the typical stay in the State of New York and the U.S. as a whole. The majority of trips to the region, however, are day-trips (48%). The average distance traveled is 498 miles in the Central-Leatherstocking Region, slightly less than the average miles traveled in the State of New York and the U.S. These averages include business travelers who are more likely originating from around the country. Leisure visitors most likely travel from a closer, more regional distance.

**Visitor Origin**

The top feeder markets for travel to the Region are shown by data in **Table IV-6**.

**Table IV-6  
Origins of Travelers to Region and State**

	Central-Leather stocking Region	State of New York
<b>Origin Markets</b>		
<i>Top States</i>		
New York	58.1%	41.5%
California	4.9%	NA
Texas	NA	NA
New Jersey	3.8%	6.7%
Florida	NA	6.0%
<i>Top DMA's</i>		
New York, NY	14.9%	20.2%
Rochester, NY	12.1%	7.2%
Albany-Schenectady-Troy	8.3%	NA
Buffalo, NY	NA	5.7%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd.*

As shown by data in the table, the majority of travelers (58%) to the Region come from within the State, with top DMA's of origin being New York City, Rochester, and Albany-Schenectady-Troy. These will be key out-of-town markets for visitation to the CT&I. An earlier study showed Pennsylvania also being an important feeder market to the Central-Leatherstocking Region. Important feeder markets for the Finger Lakes Region, in contrast, are focused to the south, with New York, Florida and North Carolina being important feeder states. Much of this traffic to the Finger Lakes Region will arrive through Binghamton.

**Visitor Activities**

Data in **Table IV-7** show the types of activities in which travelers participated during their trips to the region. As with many destinations, dining, sightseeing and shopping are the most popular activities among travelers to the region (and also to the State and in the U.S. as a whole).

**Table IV-7**  
**Activities of Travelers Visiting the Region**

Activities	Leather- stocking Region	State of New York	US as a whole
Dining	28%	31%	31%
Sightseeing	28%	26%	23%
Shopping	24%	24%	26%
Entertainment	20%	24%	22%
Visit historic site	12%	8%	5%
Concert, play, dance	9%	10%	5%
Festival, craft fair	9%	6%	5%
Nightlife	9%	8%	7%
Gamble	7%	NA	NA
Hike, bike	7%	NA	NA
Parks (national/state)	NA	6%	6%
Beach/waterfront	NA	5%	8%
Attend sports event	NA	NA	5%
Theme/amusement park	NA	NA	7%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd..*

Data in **Table IV-8** show the breakdown of spending by category for visitors to the region, as compared to those in the State and the U.S. as a whole.

**Table IV-8**  
**Daily Visitor Expenditures**

Expenditures	Central- Leather- stocking Region	State of New York	US as a whole
<b>Average per person/day</b>	<b>\$87.40</b>	<b>\$105.30</b>	<b>\$102.50</b>
Food	23.5%	23.4%	22.6%
Accommodations	21.9%	20.3%	19.9%
Transportation	20.9%	25.4%	25.5%
Shopping	16.7%	17.2%	17.5%
Entertainment	10.8%	13.1%	13.4%
Miscellaneous	5.1%	4.6%	5.0%

Source: *Central-Leatherstocking Region Top Line Visitor Profile 2002, D.K. Shifflet & Associates, Ltd..*

Average expenditures per person per day in the Central Leatherstocking were \$87.40, somewhat less than the average daily expenditures by travelers in the State and the U.S. as a whole. This region is relatively affordable compared to the State and U.S. The majority of expenditures in the region were for food, as opposed to higher transportation expenditures in the State and the U.S. Entertainment comprises a smaller share of spending in this region than in the State as a whole.

### **LOCAL ATTRACTIONS**

The Center for Technology and Innovation will complement the existing attractions located in the City of Binghamton and the region. Data in **Table IV-9** provide an admission and attendance profile of some of the area's most popular attractions.

Attendance at some of the more popular area attractions ranges from 4,000 at the Vestal Museum to approximately 90,000 at the Binghamton Zoo at Ross Park; regional attractions attendance is modest. In addition to these attractions, there are a number of sports events that also draw significant visitation. Adult admission pricing is generally in the \$4.00 to \$6.00 range at local attractions; this is a relatively affordable ticket pricing for this market. The proposed Center for Technology and Innovation will be priced competitively to fit within the context of the existing local attractions.

Table IV-9  
Binghamton Area Attractions

	Annual Attendance	Adult Admission	Senior Admission	Child Admission	Family Membership Price	Description
Binghamton Zoo at Ross Park; Binghamton	90,000 est.	\$5.50	\$4.00	\$4.00	\$45.00	Zoo located in Ross Park, with collections including native & exotic animals, picnic facilities, café, gift shop, carousel. Open daily April-Nov. 10-5. Offer joint membership with Discovery Center.
Roberson Museum and Science Center / Link Planetarium / Kopernik Observatory and Binghamton Visitor Center; Binghamton	70,000	\$6.00	\$4.00	\$4.00	\$50.00 <sup>1/</sup>	Located at historic Roberson Mansion, this is an art, folk art, history and science museum featuring decorative arts, American art, mounted specimens of birds & mammals, local and regional history, ethnological and archaeological collections. Planetarium shows are an additional \$1.00; entry to the Binghamton Visitor Center is free. Open Mon.-Sat. 10:30-4:30 and Sun. 12-4:30.
Kopernik Space Education Center	Included in Roberson Attendance	\$3.50	\$2.50	\$2.50	\$50.00 <sup>1/</sup>	The Kopernik Space Education Center is situated atop a 1,720 foot hill in Vestal, 13 miles Southwest of Binghamton, NY. Facilities include Observatory and Portable Telescopes, Computer Lab, Space Science Lab with Multimedia Center, Physics/Laser Lab, Photographic Darkroom, Complete Weather Station, 20 Acre Dark Site, Outdoor Learning Area, NASA Satellite Downlink, Earthquake Station, Science/Media Library.
Discovery Center of the Southern Tier; Binghamton	49,872	\$4.50	\$4.50	\$5.50	\$55.00	Hands-on interactive children's museum located in Ross Park, with collections of fossils, minerals, natural science, shells, African artifacts, textiles, children's material; 200-seat theater, café, gift shop. Open Tues.-Fri. 10-4; Sat. 10-5; Sun. noon-5. Offer joint membership with Zoo.
Cutler Botanic Garden; Binghamton	15,000 est.	Free	Free	Free	\$25.00	Botanical garden at Broome County extension of Cornell University features beds of annuals, perennials, herbs, vegetables, rock garden, All-America display garden, seasonal theme gardens, demonstration composting site. Open June-Oct. daily during daylight hours.
Vestal Museum; Vestal	4,000	Free	Free	Free	\$10.00	The Vestal Museum is located in the original 1881 Vestal Train Station which was located on the Delaware, Lackawanna and Western Railroad. Exhibits include turn-of-the-century household items, railroad memorabilia, graphic illustrations, native American tools. The Museum is open Tues.-Sat. 11-3 in Mar.-Apr. and Nov.-Dec. and 10-3 May-Sept.; closed in January except for tours.
Phelps Mansion Museum; Binghamton	NA <sup>2/</sup>	\$4.00	\$3.00	Free under 12	NA <sup>3/</sup>	Historic 1870 mansion with furnishings, chandeliers, period toys. Education program for children features tour, interactive games, etc. Regular tours on Sundays and Tuesdays, 1-3.
Susquehanna Heritage Area	NA	NA	NA	NA	NA	The Susquehanna Heritage Area focuses on Immigration & Migration and Labor & Industry. Antique carousels, factories, ethnic neighborhoods and gold-domed churches tell the story of the thousands of immigrants drawn to the industries of Binghamton, Endicott, and Johnson City in Susquehanna's "Valley of Opportunity"

1/ The Roberson Museum and Science Center and the Kopernik Space Education Center are both included for the family membership price.

2/ Museum tours begun Jan. 2006 - no annual account yet. Average 10-12 visitors on a Sunday; fewer on Tuesdays. Most visitation is for weddings/events rentals

3/ Membership is offered to the "Monday Afternoon Club/Phelps Mansion Foundation" at \$260 per person annually, plus \$25 application fee.

Source: Official Museum Directory, 2006; facilities listed and ConsultEcon, Inc.

## **SUMMARY OF TOURISM**

Tourists are expected to comprise a part of the visitation to the proposed Center for Technology and Innovation. There are not any available estimates of visitation to Binghamton or the Central Leatherstocking region, though Central Leatherstocking is ranked 5<sup>th</sup> in the State in terms of regional overnight leisure visitation. Market analysis is informed by survey data on visitors to the region, as well as the market for local attractions. The majority of travelers to the region are leisure oriented (81%). A high percentage of visitors arrive by automobile (78%). With adequate signage and marketing, the Museum can draw a portion of tourists to the region and a portion of those that are passing through the region. Additionally, the facility will itself be a catalyst for tourism in Binghamton and the region, contributing to the critical mass of activity needed to create a family destination. While this region is a relatively affordable destination for tourists, it will be important for the Center for Technology and Innovation to be competitively priced within the context of the existing attractions in Binghamton.

## **Section V**

### **INDUSTRY BENCHMARKING**

As the proposed Center for Technology & Innovation (CT&I) contains some proposed components that are comparable to those included within other science centers, this section of the report reviews the industry experience of comparable hands-on science/technology/discovery centers and provides insights into ways in which these industry data inform the market potential for the CT&I.

#### **Overview of Science/Discovery Center Trends**

Over the past two decades, hands-on education attractions based on science and technology have become a popular attraction type, and in recent years many expansions to existing facilities and construction of new facilities have taken place. The Association of Science and Technology Centers (ASTC) is one of the leading science center and museum member organizations, with more than 540 members in 40 countries. The ASTC tracks industry trends, and its members include not only science-technology centers and science museums, but also nature centers, aquariums, planetariums, zoos, botanical gardens, space theaters, and natural history and children's museums.

#### **Benchmark Analyses**

The following industry benchmark analyses review market and financial characteristics of hands-on educational science-related attractions that have comparable components to the proposed Center for Technology & Innovation. Twelve projects were selected to create a base of comparable facilities to inform this market analysis and operating plan. Aspects of comparability used in selecting these institutions include: size of facility; resident market area population, attendance levels, and ticket prices. In this section, averages and weighted averages are used to summarize industry trends. An 'average' is the simple average of the data points included in the table. The weighted averages are used when there are multiple components to a calculation; such as 'visitors per square foot.' The weighted average calculation divides total visitors by total square feet. This calculation tends to 'smooth out' averages in which there are big outliers. Both regular averages and weighted averages are presented in this section for comparative purposes.

### Attendance Benchmarks

Data in **Table V-1** show the attendance composition at selected comparable science, technology, and discovery centers around the U.S. As shown by data in the table, the average on-site attendance at the profiled facilities is over 83,200, with school group attendance representing approximately a quarter of all attendees.

**Table V-1**  
**Attendance Composition at Selected Science and Technology Museums**

	<b>Total On-Site Attendance</b>	<b>Students Served in On-site School Groups</b>	<b>Students as a Percent of Total On-Site Attendance</b>
Alfred P. Sloan Museum; Flint, MI	117,984	17,484	14.8%
Discovery Center at Murfree Spring; Murfreesboro, TN	70,000	16,978	24.3%
Discovery Center Museum; Rockford, IL	110,456	21,066	19.1%
Explorium of Lexington; Lexington, KY	61,274	14,630	23.9%
Impression 5 Science Center; Lansing, MI	71,012	22,516	31.7%
Montshire Museum of Science; Norwich, VT	161,000	18,500	11.5%
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	112,745	54,689	48.5%
ScienceWorks Hands-on Museum; Ashland, OR	43,000	7,000	16.3%
SciTech Hands-On Museum; Aurora, IL	52,045	26,990	51.9%
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	89,654	30,505	34.0%
Virginia Discovery Museum; Charlottesville, VA	42,126	2,461	5.8%
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	67,742	11,556	17.1%
<b>Average</b>	<b>83,253</b>	<b>20,365</b>	<b>24.9%</b>
<b>Weighted Average</b>			<b>24.5%</b>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, *Survey of Buying Power*; facilities profiled; and ConsultEcon, Inc.

Data in **Table V-2** describe some additional benchmarks of attendance at the same set of comparable science centers/museums. Data in this table describes the size of the primary market or service area, on-site attendance, and various factors relating to attendance including market penetration and various other operating characteristics.

**Table V-2  
Attendance Benchmarks at Selected Science and Technology Museums**

	Service Area Population	On-site Attendance	Market Penetration in Service Area	Number of Attendees per Gross Sq. Ft.	Number of Attendees per Interior Sq. Ft.	Earned Income per Attendee	Operating Revenue per Attendee	Operating Expenses per attendee	Number of Attendees per FTE <sup>1</sup>
Alfred P. Sloan Museum; Flint, MI	444,900	117,984	26.5%	1.3	3.2	\$3.14	\$9.37	\$12.48	5,755
Discovery Center at Murfree Spring; Murfreesboro, TN	211,700	70,000	33.1%	3.9	7.0	\$4.54	\$9.26	\$9.26	5,000
Discovery Center Museum; Rockford, IL	336,300	110,456	32.8%	1.1	4.8	\$4.65	\$9.65	\$10.26	3,156
Explorium of Lexington; Lexington, KY	270,400	61,274	22.7%	3.1	4.1	\$5.10	\$10.02	\$10.08	5,106
Impression 5 Science Center; Lansing, MI	283,100	71,012	25.1%	1.3	2.7	\$5.01	\$8.29	\$9.41	7,475
Montshire Museum of Science; Norwich, VT	172,700	161,000	93.2%	4.6	11.5	\$9.48	\$13.57	\$12.30	5,750
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	244,900	112,745	46.0%	2.8	5.6	\$10.26	\$13.78	\$11.88	5,369
ScienceWorks Hands-on Museum; Ashland, OR	194,400	43,000	22.1%	1.7	8.3	\$6.14	\$11.84	\$12.11	6,143
SciTech Hands-On Museum; Aurora, IL	480,000	52,045	10.8%	1.2	1.6	\$8.03	\$21.54	\$21.45	955
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	444,500	89,654	20.2%	1.3	3.0	\$7.47	\$13.89	\$13.59	3,736
Virginia Discovery Museum; Charlottesville, VA	185,700	42,126	22.7%	4.2	10.5	\$4.70	\$8.33	\$8.36	5,617
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	124,500	67,742	54.4%	4.5	8.5	\$6.34	\$13.90	\$12.55	5,018
<b>Average</b>	<b>282,758</b>	<b>83,253</b>	<b>34.1%</b>	<b>2.6</b>	<b>5.9</b>	<b>\$6.24</b>	<b>\$11.95</b>	<b>\$11.98</b>	<b>4,923</b>
<b>Weighted Average</b>			<b>29.4%</b>	<b>1.9</b>	<b>4.5</b>	<b>\$6.54</b>	<b>\$11.94</b>	<b>\$11.93</b>	<b>4,053</b>

<sup>1</sup> FTE is full-time equivalent staff.

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

Attendance per square foot of total interior public space ranges from 1.6 visitors per square foot at the SciTech Hands-On Museum in Aurora, IL to 11.5 visitors per square foot at the Montshire Museum of Science in Norwich, VT, with an overall average of 5.9 visitors per square foot; the weighted average is 4.5 visitors per square foot.

### Market Capture Rates

Market capture rates (sometimes called “market penetration rates”) for the comparable science centers are also shown by data in Table V-2. Overall market penetration at the facilities profiled ranges from 10.8 percent at the SciTech Hands-On Museum in Aurora, IL to 93.2 percent at the Montshire Museum of Science in Norwich, VT. The average ratio of attendance to metro population among these museums was 34.1 percent; the weighted average was 29.4 percent. Market penetration rates can vary widely among different science/technology/discovery centers and museums depending on their size, locational context and project orientation. Further affecting their capacity to penetrate resident and tourist markets are the characteristics of these markets, market competition, the extent of marketing expenditures by the facility and other

factors particular to individual science centers and museums. The comparatively lower rates of market penetration of resident and tourist markets in larger markets might occur for a number of reasons, including:

- ◆ More competition for leisure time and dollars.
- ◆ Longer travel time and more difficulty in accessing the facility.
- ◆ The facility may not be the “first day” attraction in a larger market.

### **Ticketing Characteristics of Science/Discovery Centers**

Data describing the admissions and membership characteristics of the selected comparables are included in **Table V-3**. Adult general admission at the profiled facilities ranges from \$4.00 at the Virginia Discovery Museum in Charlottesville, VA to \$12.00 at the SciTech Hands-On Museum in Aurora, IL. Average adult admission among the profiled facilities is approximately \$6.69 and average youth (child) admission is approximately \$5.58. Combination tickets or up-charges<sup>6</sup> are offered at those facilities with additional large format film, planetarium show, simulator ride and other special admissions. Although the number and type of memberships vary at these institutions, the average price of a family membership, or equivalent family membership, is approximately \$71 and ranges from \$55 to \$100 among the profiled facilities.

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<sup>6</sup> Up-charges are enhanced revenue opportunities tied to admission prices.

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**Table V-3**  
**Admission Pricing at Selected Science and Technology Museums**

	On-site Attendance	Adult Admission	Child Admission	Family Membership
Alfred P. Sloan Museum; Flint, MI	117,984	\$6.00	\$5.00	\$60.00
Discovery Center at Murfree Spring; Murfreesboro, TN	70,000	\$5.00	\$5.00	\$60.00
Discovery Center Museum; Rockford, IL	110,456	\$5.00	\$4.00	\$60.00
Explorium of Lexington; Lexington, KY	61,274	\$5.00	\$5.00	\$75.00
Impression 5 Science Center; Lansing, MI	71,012	\$5.00	\$3.50	\$55.00
Montshire Museum of Science; Norwich, VT	161,000	\$7.50	\$6.50	\$85.00
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	112,745	\$6.75	\$4.50	\$80.00
ScienceWorks Hands-on Museum; Ashland, OR	43,000	\$7.50	\$5.00	\$60.00
SciTech Hands-On Museum; Aurora, IL	52,045	\$12.00	\$12.00	\$75.00
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	89,654	\$10.00	\$7.00	\$100.00
Virginia Discovery Museum; Charlottesville, VA	42,126	\$4.00	\$4.00	\$60.00
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	67,742	\$6.50	\$5.50	\$80.00
<i>Average</i>	<i>83,253</i>	<i>\$6.69</i>	<i>\$5.58</i>	<i>\$70.83</i>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

### Revenue Sources

As the size, mission, and offerings of the facilities vary, so do their revenue sources. Data in **Table V-4** show total operating revenue, earned income, and contributed income (public and private) among the comparable museums; it also breaks down these types of income as a percent of total. Earned revenue of the profiled facilities ranged from 33.6 percent at the Alfred P. Sloan Museum in Flint, MI to 74.4 percent at Science Station-McLeod/Busse IMAX Dome Theatre in Cedar Rapids, IA, with an overall weighted average of approximately 54.8 percent.

**Table V-4**  
**Revenue Composition at Selected Science and Technology Museums**

	<b>Earned Income</b>	<b>Public Contributed Income</b>	<b>Private Contributed Income</b>	<b>Other Revenue</b>	<b>Operating Revenue</b>
Alfred P. Sloan Museum; Flint, MI	\$371,029	\$0	\$694,177	\$40,488	\$1,105,694
Discovery Center at Murfree Spring; Murfreesboro, TN	\$317,817	\$27,596	\$290,349	\$12,260	\$648,022
Discovery Center Museum; Rockford, IL	\$513,437	\$457,618	\$94,369	\$1,026	\$1,066,450
Explorium of Lexington; Lexington, KY	\$312,798	\$237,500	\$61,019	\$2,424	\$613,741
Impression 5 Science Center; Lansing, MI	\$355,808	\$44,144	\$188,508	\$0	\$588,460
Montshire Museum of Science; Norwich, VT	\$1,526,000	\$339,000	\$203,000	\$117,000	\$2,185,000
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	\$1,156,594	\$298,640	\$98,856	\$0	\$1,554,090
ScienceWorks Hands-on Museum; Ashland, OR	\$264,219	\$13,300	\$231,747	\$0	\$509,266
SciTech Hands-On Museum; Aurora, IL	\$418,063	\$367,671	\$335,158	\$0	\$1,120,892
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	\$669,794	\$508,435	\$66,801	\$0	\$1,245,030
Virginia Discovery Museum; Charlottesville, VA	\$197,851	\$18,149	\$135,056	\$0	\$351,056
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	\$429,281	\$47,034	\$465,407	\$0	\$941,722
<b>Weighted Average</b>	<b>\$544,391</b>	<b>\$196,591</b>	<b>\$238,704</b>	<b>\$14,433</b>	<b>\$994,119</b>
	<b>Earned Income % of Total</b>	<b>Public Contributed Income % of Total</b>	<b>Private Contributed Income % of Total</b>	<b>Other Revenue % of Total</b>	<b>Operating Revenue</b>
Alfred P. Sloan Museum; Flint, MI	33.6%	0.0%	62.8%	3.7%	100.0%
Discovery Center at Murfree Spring; Murfreesboro, TN	49.0%	4.3%	44.8%	1.9%	100.0%
Discovery Center Museum; Rockford, IL	48.1%	42.9%	8.8%	0.1%	100.0%
Explorium of Lexington; Lexington, KY	51.0%	38.7%	9.9%	0.4%	100.0%
Impression 5 Science Center; Lansing, MI	60.5%	7.5%	32.0%	0.0%	100.0%
Montshire Museum of Science; Norwich, VT	69.8%	15.5%	9.3%	5.4%	100.0%
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	74.4%	19.2%	6.4%	0.0%	100.0%
ScienceWorks Hands-on Museum; Ashland, OR	51.9%	2.6%	45.5%	0.0%	100.0%
SciTech Hands-On Museum; Aurora, IL	37.3%	32.8%	29.9%	0.0%	100.0%
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	53.8%	40.8%	5.4%	0.0%	100.0%
Virginia Discovery Museum; Charlottesville, VA	56.4%	5.2%	38.5%	0.0%	100.0%
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	45.6%	5.0%	49.4%	0.0%	100.0%
<b>Average</b>	<b>52.6%</b>	<b>17.9%</b>	<b>28.6%</b>	<b>0.9%</b>	<b>100.0%</b>
<b>Weighted Average</b>	<b>54.8%</b>	<b>19.8%</b>	<b>24.0%</b>	<b>1.5%</b>	<b>100.0%</b>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

## Revenue Benchmarks

Data in **Table V-5** shows revenue and earned income benchmarks. Total operating revenue ranges from approximately \$351,000 to just under \$2.19 million, with an average of approximately \$994,000, as shown in the previous Table V-4. Annual earned income at the profiled facilities ranges from about \$198,000 at the Virginia Discovery Museum in Charlottesville, to approximately \$1.56 million at the Montshire Museum of Science in Norwich, VT. Earned income per attendee at the profiled facilities ranged from \$3.14 at the Alfred P. Sloan Museum in Flint, MI to \$10.26 per attendee at Science Station-McLeod/Busse IMAX in Cedar Rapids, with an overall average of approximately \$6.54. Weighted and non-weighted averages are provided for these operating benchmarks.

**Table V-5**  
**Revenue Benchmarks at Selected Science and Technology Museums**

	<b>Earned Income</b>	<b>Earned Income per Attendee</b>	<b>Earned Income as a % of Operating Revenue</b>	<b>Earned Income as a percent of Operating Expenses</b>	<b>Earned Income per FTE</b>
Alfred P. Sloan Museum; Flint, MI	\$371,029	\$3.14	33.6%	25.2%	\$18,099
Discovery Center at Murfree Spring; Murfreesboro, TN	\$317,817	\$4.54	49.0%	49.0%	\$22,701
Discovery Center Museum; Rockford, IL	\$513,437	\$4.65	48.1%	45.3%	\$14,670
Explorium of Lexington; Lexington, KY	\$312,798	\$5.10	51.0%	50.6%	\$26,067
Impression 5 Science Center; Lansing, MI	\$355,808	\$5.01	60.5%	53.2%	\$37,453
Montshire Museum of Science; Norwich, VT	\$1,526,000	\$9.48	69.8%	77.1%	\$54,500
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	\$1,156,594	\$10.26	74.4%	86.4%	\$55,076
ScienceWorks Hands-on Museum; Ashland, OR	\$264,219	\$6.14	51.9%	50.7%	\$37,746
SciTech Hands-On Museum; Aurora, IL	\$418,063	\$8.03	37.3%	37.4%	\$7,671
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	\$669,794	\$7.47	53.8%	55.0%	\$27,908
Virginia Discovery Museum; Charlottesville, VA	\$197,851	\$4.70	56.4%	56.2%	\$26,380
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	\$429,281	\$6.34	45.6%	50.5%	\$31,799
<b>Average</b>	<b>\$544,391</b>	<b>\$6.24</b>	<b>52.6%</b>	<b>53.1%</b>	<b>\$30,006</b>
<b>Weighted Average</b>		<b>\$6.54</b>	<b>54.8%</b>	<b>54.8%</b>	<b>\$26,502</b>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

## Operating Expense Benchmarks

Data in **Table V-6** shows operating expense benchmarks, with weighted and non-weighted averages. Annual operating expenses at the profiled facilities range from about \$352,000 at the Virginia Discovery Museum in Charlottesville to approximately \$1.98 million at the Montshire Museum of Science in Norwich, VT. The average operating cost per attendee of the facilities profiled ranged from \$8.36 at the Virginia Discovery Museum in Charlottesville to \$21.45 per attendee at the SciTech Hands-On Museum in Aurora, IL, with an overall average of approximately \$12.00 per attendee. The average operating cost per total gross square foot of gross space ranged from \$11.33 per square foot at the Discovery Center Museum in Rockford, IL to \$56.68 per square foot at the Wonderlab Museum of Health, Science and Technology in Bloomington, IN, with a weighted average of approximately \$22.84 per square foot. The average operating cost per square foot of interior exhibition space ranged from \$25.71 per square foot at the Impression 5 Science Center in Lansing, MI to \$141.43 per square foot at the Montshire Museum of Science with an overall weighted average of approximately \$53.15 per square foot.

**Table V-6**  
**Operating Expense Benchmarks at Selected Science and Technology Museums**

	Total Operating Expenses	Total Oper. Expense per Gross Sq. Ft.	Total Oper. Expense per Interior Exhib. Sq. Ft.	Total Oper. Expense per Attendee	Total Oper. Expense per FTE
Alfred P. Sloan Museum; Flint, MI	\$1,472,074	\$16.42	\$40.13	\$12.48	\$71,808
Discovery Center at Murfree Spring; Murfreesboro, TN	\$648,056	\$36.00	\$64.81	\$9.26	\$46,290
Discovery Center Museum; Rockford, IL	\$1,132,954	\$11.33	\$49.26	\$10.26	\$32,370
Explorium of Lexington; Lexington, KY	\$617,872	\$30.89	\$41.19	\$10.08	\$51,489
Impression 5 Science Center; Lansing, MI	\$668,437	\$11.94	\$25.71	\$9.41	\$70,362
Montshire Museum of Science; Norwich, VT	\$1,980,000	\$56.57	\$141.43	\$12.30	\$70,714
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	\$1,339,129	\$33.48	\$66.96	\$11.88	\$63,768
ScienceWorks Hands-on Museum; Ashland, OR	\$520,869	\$20.03	\$100.17	\$12.11	\$74,410
SciTech Hands-On Museum; Aurora, IL	\$1,116,381	\$26.58	\$34.89	\$21.45	\$20,484
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	\$1,217,953	\$17.40	\$40.20	\$13.59	\$50,748
Virginia Discovery Museum; Charlottesville, VA	\$352,115	\$35.21	\$88.03	\$8.36	\$46,949
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	\$850,268	\$56.68	\$106.28	\$12.55	\$62,983
<i>Average</i>	<i>\$993,009</i>	<i>\$29.38</i>	<i>\$66.59</i>	<i>\$11.98</i>	<i>\$55,198</i>
<i>Weighted Average</i>		<i>\$22.84</i>	<i>\$53.15</i>	<i>\$11.93</i>	<i>\$48,341</i>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

**Personnel Benchmarks**

Data in **Table V-7** shows benchmark data on personnel. The average operating cost per full-time equivalent (FTE) employee ranged from \$20,484 at the SciTech Hands-On Museum in Aurora, IL to \$71,808 at the Alfred P. Sloan Museum in Flint, MI, with an average of \$48,341 per FTE.

**Table V-7**  
**Personnel Benchmarks at Selected Science and Technology Museums**

	Full-time Employees	Part-time Employees	Full-time Equivalent (FTE)	Volunteers	Gross Bldg. Sq. Ft. per FTE	Interior Exhib. Sq.Ft. per FTE	Attendance per FTE	Total Oper. Rev. per FTE	Total Oper. Exp. Per FTE
Alfred P. Sloan Museum; Flint, MI	15	11	21	147	4,372	1,789	5,755	\$53,936	\$71,808
Discovery Center at Murfree Spring; Murfreesboro, TN	8	12	14	250	1,286	714	5,000	\$46,287	\$46,290
Discovery Center Museum; Rockford, IL	10	50	35	48	2,857	657	3,156	\$30,470	\$32,370
Explorium of Lexington; Lexington, KY	7	10	12	564	1,667	1,250	5,106	\$51,145	\$51,489
Impression 5 Science Center; Lansing, MI	8	3	10	318	5,895	2,737	7,475	\$61,943	\$70,362
Montshire Museum of Science; Norwich, VT	14	28	28	291	1,250	500	5,750	\$78,036	\$70,714
Science Station - McLeod/Busse IMAX Dome Theatre; Cedar Rapids, IA	7	28	21	25	1,905	952	5,369	\$74,004	\$63,768
ScienceWorks Hands-on Museum; Ashland, OR	4	6	7	150	3,714	743	6,143	\$72,752	\$74,410
SciTech Hands-On Museum; Aurora, IL	12	85	55	25	771	587	955	\$20,567	\$20,484
SciWorks, the Science Center and Environmental Park; Winston-Salem, NC	17	14	24	91	2,917	1,263	3,736	\$51,876	\$50,748
Virginia Discovery Museum; Charlottesville, VA	6	3	8	136	1,333	533	5,617	\$46,807	\$46,949
Wonderlab Museum of Health, Science and Technology; Bloomington, IN	8	11	14	1,255	1,111	593	5,018	\$69,757	\$62,983
<i>Average</i>	<i>10</i>	<i>22</i>	<i>21</i>	<i>275</i>	<i>2,423</i>	<i>1,027</i>	<i>4,923</i>	<i>\$54,798</i>	<i>\$55,198</i>
<i>Weighted Average</i>					<i>2,116</i>	<i>909</i>	<i>4,053</i>	<i>\$48,395</i>	<i>\$48,341</i>

Source: ASTC Sourcebook of Science Center Statistics & Analysis 2005; 2005 Sales & Marketing Management, Survey of Buying Power; facilities profiled; and ConsultEcon, Inc.

**SUMMARY OF INDUSTRY BENCHMARKING**

The proposed Center for Technology and Innovation can gain substantial insights into its attendance and operations potential based on the analysis of comparable science centers. Aspects of comparability used in selecting these institutions include: size of facility; resident market area population, attendance levels, and ticket prices.

Overall, the selected comparable facilities for the CT&I are located in small to mid-sized metro areas ranging in size from 124,500 to 480,000 residents. On-site attendance at the profiled facilities ranges from approximately 42,100 to approximately 161,000. Students are an important component of on-site attendance at these facilities; on-site school group attendance averages over 20,000, and represents approximately a quarter all attendees.

Market capture rates can vary widely among different science/discovery centers and museums depending on their size, locational context and project orientation. Further affecting their capacity to capture resident and tourist markets are the characteristics of these markets, market competition, the extent of marketing expenditures by the facility and other factors particular to individual science centers and museums. Overall market capture at the facilities profiled ranges from 10.8 percent to 93.2 percent. The weighted average market capture rate for these museums is 29.4 percent.

Admission pricing at the profiled facilities ranged from \$4.00 to \$12.00 for adults and from \$3.50 to \$12.00 for children, with an overall average of approximately \$6.69 for adults and \$5.58 for children. As the size, mission, and offerings of the facilities vary, so do the operating income and expenses. The percent of income from earned revenue of the profiled facilities ranged from 33.6 percent to 74.4 percent, with an overall weighted average of approximately 54.8 percent.

Annual operating expenses at the profiled facilities range from about \$352,000 to approximately \$1.98 million. The following operating expense benchmarks were calculated.

- The average operating cost per attendee of the facilities profiled ranged from \$8.36 to \$21.45 per attendee, with an overall weighted average of approximately \$11.93 per attendee.
- The average operating cost per total gross square foot of gross space ranged from \$11.33 to \$56.68 per square foot, with a weighted average of approximately \$22.84 per square foot.
- The average operating cost per square foot of interior exhibition space ranged from \$25.71 to \$141.43 per square foot, with an overall weighted average of approximately \$53.15 per square foot.
- The average operating cost per full-time equivalent (FTE) employee ranged from approximately \$20,484 to \$70,808, with an average of approximately \$48,341 per FTE.

The experience of comparable facilities profiled in this section provide an indication of the typical operating parameters for museums that are sized similarly in small to medium sized markets. Within these general parameters, their benchmark data tends to vary; this is due to the

unique circumstances of each museum. The averages, ranges, and benchmark indicators provide comparisons and standards by which to inform assumptions about attendance and operations at CT&I.

## Section VI

### VISITOR PROJECTIONS

The following is an assessment of the attendance potential of the Center for Technology & Innovation. It is based on current concepts of the development and interpretive program for the new facility based on work to date. These initial concepts are outlined in a companion report by Eisterhold Associates. However, as information on the development and interpretive program becomes more refined in subsequent phases of work, the attendance potential for the facility could vary and should also be refined as needed. This attendance projection assumes a first-rate science & technology museum facility, a distinctive architectural presence based on the reuse of the historic Trolley Barn, and a high quality marketing and operating program.

#### **Project Success Factors**

Planning, creating, and operating a cultural attraction today is a substantial challenge. Audiences are exposed to extremely high production values in the electronic media and in various entertainment and educational attractions. They have probably visited theme parks, aquariums, national parks, and other such attractions, or at least seen them on television and magazines. Most people travel nationally and internationally than ever before. The expectations of audiences for leisure time products are very high. A successful visitor attraction must meet audience expectations of value provided in both money and time spent. To achieve its goals for interpretive and economic success, a cultural attraction area or venue must fulfill a minimum of the following criteria.

- ◆ **Authenticity and Quality** – The interpretive elements should have a high degree of interest and/or relevance to the audience. Audience expectations of content and presentation have risen dramatically.
- ◆ **Scale** – The scale of the project needs to be large enough to create a length of stay that makes it worth visitors spending time to reach the Museum.
- ◆ **Site** – The site needs to be sufficient in size to provide for all program elements, including parking. The site must be easily accessible from major roadways. As outlined in an earlier section of this report, the site appears to be adequate to support the program although parking adequacy will need to be tested in future planning.

- ◆ **Critical Mass of Attraction Elements** - There must be sufficient attraction content to appeal to a diverse audience with a degree of subject interest, ages and education. There must be a variety and quantity of experiences for the visitor to feel they have visited a special place.
- ◆ **Length of Stay/Attraction Content** - The attraction must have sufficient quality and quantity of content to warrant a special trip, and to possibly forego alternative activities. Typically, this implies two or more hours spent experiencing the attraction. When combined with a meal or snack, some shopping for souvenirs and/or relaxing in a greenspace, the experience must be the focal point of a half-day or full day recreational experience. Most importantly, it must be an entertaining experience.
- ◆ **Repeatability** - For most attractions (except for mega-attractions such as Disney World) the resident market is a substantial portion of total attendance. In order to bring this audience back again and again, the attraction must have elements that are repeatable experiences, and the attraction must periodically create new attraction elements that will provide a reason for the local audience to visit again. Active and interactive exhibitry, demonstrations, changing exhibits, performances, awards ceremonies and special events are proven ways to build repeat audiences.
- ◆ **Opportunities to Spend and to Relax** - A typical leisure time outing includes, of course, the principal trip purpose, but also includes meals and snacking, shopping and relaxing. Provision of on-site and/or proximate retail, restaurant and relaxation opportunities is important to success. Appropriate prices and selection and adequate capacity for peak periods make spending an enjoyable part of the experience. Provision of a park or plaza in which to eat a picnic lunch, let children romp and simply get a little “space” may be important to the overall experience. These supportive activities may be central to the overall perception of the experience. The development of the riverfront area can also be important in this regard.
- ◆ **Serves Resident and Visitor Markets** - Most successful projects serve both resident and visitor markets. Planning for and marketing to both groups ensures maximum visitation, and year-round visitation. From an economic development perspective, retaining local leisure dollars that otherwise would be spent outside of the area is often as important as attracting expenditures from visitors to the area.
- ◆ **Sound Financial Basis** - Appropriate project scale for the potential audience is important so that earned revenues along with gifts, grants and other non-earned revenues can support operations and the physical infrastructure. Entrance fees must be set to maximize revenues while maintaining optimum visitation levels. Operations and marketing must sustain the audience size and the physical infrastructure and provide a quality visitor experience. Meeting these requirements will create a sound financial basis.

- ◆ **Positive Economic Impacts** - A project that attracts visitors to a community and retains resident spending while operating on a sound financial basis clearly provides important economic benefits to a community. Other benefits of this type of project also accrue to a community. Community prestige and pride are promoted and the project becomes a selling point for attracting new businesses and residents. Most importantly, the quality of life for area residents is improved. While these benefits are intangible, they are never the less very real and important. Oftentimes, these economic benefits both financial and intangible warrant financial support by the community to develop and operate the project.

### **Attendance Potential**

The Center for Technology and Innovation has good attendance potential in that it interprets and celebrates the technological heritage of Binghamton (and surrounding areas). The project has significant historical relevance with many themes to draw from as outlined in the companion report on Exhibition Concepts prepared by Eisterhold Associates. As noted in this report, the Southern Tier centered on Binghamton was the Silicon Valley of the last century with major achievements in science, technology, and management. The region has a distinctive tradition that would be of interest to local residents seeking to better understand their heritage. The Center for Technology and Innovation would also appeal to visitors – especially visiting friends and relatives of residents – seeking an ‘edu-tainment’ experience that would provide a better understanding of the history and culture of the region and the sources of its unique traditions.

Total attendance potential at the Center for Technology and Innovation in a stable year (year 4) is estimated at 43,500 to 99,100 with a mid-range of 71,300. It is estimated that about 65 percent of visitation will be from the Resident Market Areas in the mid-range scenario. In the mid-range projection, approximately 35 percent of attendance is estimated to come from the visitor market and people passing through the region.

Data in **Table VI-1** provide a summary of the derivation of the attendance potential for the Center for Technology and Innovation, based on the data and analyses contained in this report, and the proposed program information to date.

**Table VI-1**  
**Visitation Parameters**  
**Center for Technology and Innovation**

	Market Penetration		Visitation Range			
	2010 Population	Low	High	Low Range Attendance	Mid Range Attendance	High Range Attendance
<i>Resident Markets</i>						
Primary Market Area	290,900	6.0%	10.0%	17,454	23,272	29,090
Secondary Market Area	758,800	2.0%	4.0%	15,176	22,764	30,352
<b>Subtotal</b>	1,049,700			32,630	46,036	59,442
Average Penetration Rates for Resident Market		3.1%	5.7%			
Visitor Market as a Percent to Total Attendance Subtotal		25.0%	40.0%	10,877	25,252	39,628
<b>Total Attendance Range</b>				43,500		99,100
<b>Mid Range Attendance</b> <sup>1/</sup>					71,300	

1/ Rounded to nearest 100  
Source: ConsultEcon, Inc.

Defining a range of attendance is useful in providing a baseline for project attendance potential. However, the range of attendance potential may shift depending upon the final program for the Center for Technology and Innovation. The range in the estimate of attendance is based on a number of factors, including the following.

- ◆ Location of the Museum at a high visibility site, such as that proposed at the Trolley Barn.
- ◆ Parking availability. As noted in this study, parking capacity on the site will need to be confirmed.
- ◆ The extent and quality of signage employed to direct visitors to the project.
- ◆ Project size, which may vary based on the exhibit program, the availability of funds, and the optimum use of available capital dollars.
- ◆ How well the concepts proposed for the project are translated into the visitor experience. This analysis is based on a first-rate translation of the preliminary program concepts -- one that delivers a memorable and repeatable experience for visitors. Even after an architectural concept and a detailed interpretive plan have been prepared there is still substantial variability in the type, quantity, impact and focus of exhibitry and interpretation. There is a direct correlation between visitation and the quality of the visitor experience.
- ◆ The extent of special offerings, including events, facility rentals, school group outreach programs, etc.

- ◆ The implementation of a strong marketing campaign prior to opening, cross-promotional opportunities with other area attractions and development of an on-going marketing program aimed at prime audiences are key factors for success.
- ◆ A ticket pricing policy that focuses on a good consumer “value,” with a focus on generating high attendance levels.
- ◆ The quality of operations including interpretation, trained staff, visitor services, maintenance, and continuing reinvestment in new exhibits and public areas over the first decade of operation.

If little marketing and visitor outreach is done, the visitation will be at or below the lower end of the attendance estimate range. Conversely, if a concerted effort to attract visitors through publicity, marketing and visitor outreach is undertaken there is a better opportunity to achieve the high end of the attendance range.

The estimate of attendance potential at the Center for Technology and Innovation discussed above has been prepared through a “gravity model” analytical approach. That is, the propensity to visit the Center for Technology and Innovation is strongest among people who reside the closest, or who are visiting areas closest to the facility. In addition, attendance prospects that are staying overnight in the area are more likely to visit than those people who are simply passing through the area en route to other locations. As well, the estimate of visitation potential is based upon the particular segments of visitation expected to form the audience for the Center for Technology and Innovation and the experience of comparable science and technology museums throughout the United States. Data in **Table VI-2** show potential attendance patterns for the first 10 years of operation. In early years, there may be higher attendance due to opening year “excitement” and a high degree of interest in the project. Over time, the attendance patterns will move toward the “stable” attendance level.

**Table VI-2**  
**Early Year Attendance Patterns**  
**Center for Technology and Innovation**

	Stable Year									
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
	Percentage Difference From Stabilized Attendance									
Percent of Stabilized Attendance	110%	108%	105%	100%	100%	101%	101%	102%	102%	103%
	Annual Attendance Potential									
Annual Attendance	78,430	77,004	74,865	71,300	71,300	72,013	72,013	72,726	72,726	73,439

Source: ConsultEcon, Inc

Data in **Table VI-3** show estimated monthly attendance distribution at CT&I during a stable year. It is projected that the summer months of June, July, and August will be peak attendance periods as children and families have more leisure time, and tourism is at its peak. April and May are also strong attendance periods as the late spring is typically when school field-trips are taken most often.

**Table VI-3**  
**Estimated Monthly Attendance Distribution**  
**Center for Technology and Innovation**

	Low Attendance Scenario		Mid-Range Attendance		High Attendance Scenario	
	Projected Seasonality	Total Attendance	Projected Seasonality	Total Attendance	Projected Seasonality	Total Attendance
January	4%	1,740	4%	2,852	4%	3,964
February	5%	2,175	5%	3,565	5%	4,955
March	7%	3,045	7%	4,991	7%	6,937
April	9%	3,915	9%	6,417	9%	8,919
May	9%	3,915	9%	6,417	9%	8,919
June	11%	4,785	11%	7,843	11%	10,901
July	12%	5,220	12%	8,556	12%	11,892
August	14%	6,090	14%	9,982	14%	13,874
September	7%	3,045	7%	4,991	7%	6,937
October	8%	3,480	8%	5,704	8%	7,928
November	6%	2,610	6%	4,278	6%	5,946
December	8%	3,480	8%	5,704	8%	7,928
<b>Total</b>	100%	43,500	100%	71,300	100%	99,100

Source: ConsultEcon, Inc.

## Peak Day Attendance and Parking Demand

The information provided by data in **Table VI-4** uses the estimated stabilized attendance to prepare space planning parameters and parking requirements for CT&I.

**Table VI-4  
Facility Peak In-House Attendance and Parking Demand Evaluation  
Center for Technology and Innovation**

	<u>Mid-Range Attendance</u>	<u>High-Range Attendance</u>
<b>Annual Visitation</b>	71,300	99,100
Peak period July - August	18,538	25,766
High Week (13%) of peak period	2,410	3,350
Peak day (20%) in high week	482	670
<b>Average Length of Stay</b>	<b>(1.25 hr. stay - 22%)</b>	<b>(1.5 hr. stay - 30%)</b>
<i>Peak in-house population</i>	106	201
<b>Peak Parking Demand <sup>1/</sup></b>	42	80
<b>Public Space Sizing</b>	<b>(25 sq.ft./attende</b>	<b>(25 sq.ft./attende</b>
Range of Public Circulation Space	2,651 SF	5,024 SF
<b>Facility Sizing</b>	<b>3.0 to 4.0 Times</b>	<b>3.0 to 4.0 Times</b>
Total Facility Size Range	7,953 SF	15,073 SF
	to	to
	10,604 SF	20,097 SF

<sup>1/</sup> Based on 95 percent auto usage during peak period weekends (bus usage is higher during the shoulder season weekdays from school groups and tour groups). 2.5 persons per vehicle. Plus 5% turnover requirement. Does not include employee parking.

Source: ConsultEcon, Inc./Office of Thomas J. Martin

A facility-planning factor -- “design day” -- considers both the peak attendance days during the peak season, as well as the larger number of high attendance days that are not at the absolute peak. These might be peak days in a low week in the summer or high attendance days during the year such as school vacations, or a beautiful weekend day in spring and fall. Given this context, a facility attendance and parking analysis has been prepared using the estimate of attendance during the peak months of July and August and a high volume week during that period (13 percent of the period’s visitation) and a high volume weekend day in that week (20 percent) to arrive at appropriate “design day” attendance levels for the proposed facility. A factor of peak in-facility population of 22 to 30 percent of that day’s total attendance is then estimated, given an average length of stay of 1.25 to 1.5

hours. These factors provide an estimate of the “in-house” population on which to base facility and parking planning. At peak periods during summer weekends, the facility could have 106 to 201 visitors in-house. Based on industry standards, this requires between 2,650 and 5,020 square feet of circulation space. Total facility size based on attendance potential analysis is estimated to be a minimum of three to four times the projected circulation space, ranging from 7,950 to 20,100 square feet. At 22,000 square feet, the project building is adequate in size to serve the potential market.

Based on the estimated peak-period attendance, an assumption of 2.5 passengers per car during the peak period, and 95 percent auto usage, an estimated 42 to 80 parking spaces are required during the design day periods; not including parking for staff or business visitors.

### **SUMMARY OF ATTENDANCE POTENTIAL**

Attendance potential analysis is based on assumptions of a first rate design, development, and operation of the Center for Technology and Innovation. Estimations of attendance at CT&I have been calculated using available market data analysis, comparison to comparable attractions, and review of the proposed facility and success factors. Total attendance potential at the Center for Technology and Innovation in a stable year (year 4) is estimated at 43,500 to 99,100 with a mid-range of 71,300. It is estimated that approximately 65 percent of visitation will be from the Resident Market Areas in the mid-range scenario. Approximately 35 percent of attendance is estimated to come from the visitor market and people passing through the region. In early years, there may be higher attendance due to opening year “excitement” and a high degree of interest in the project. Over time, the attendance patterns will move toward the “stable” attendance level. It is projected that the summer months of June, July, and August will be peak attendance periods as children and families have more leisure time, and tourism is at its peak. April and May will also experience high visitation patterns.

Peak-period attendance analysis was calculated to provide an indication of space requirements. During peak periods, 106 to 201 visitors will be circulating through the facility, requiring circulation space of 2,650 and 5,020 square feet. Total facility size is estimated to be at least three to four times the circulation space, ranging from 7,950 to 20,100 square feet.

Based on the estimated peak-period attendance, an assumption of 2.5 passengers per car during the peak period, and 95 percent auto usage, an estimated 42 to 80 parking spaces are required during the design day periods.