GLOBAL INSIGHT

THE POWER OF PERSPECTIVE

Factors Influencing Visitor's Choices to Visit Urban Destinations

PREPARED FOR:
Ontario Ministry of Tourism and Recreation
Canadian Tourism Commission
Canadian Heritage
Parks Canada

PREPARED BY:
Global Insight, Inc.

June 2004

Table of Contents

I. EXECUTIVE SUMMARY 1

Highlights 1
Study Summary 1
Recommendations 2
Next Steps 3

II. INTRODUCTION 4

III. STUDY OBJECTIVE 4

IV. METHODOLOGY 5

A. LITERATURE REVIEW 6
Introduction 6
Key Findings 7
B. SELECTION OF NORTH AMERICAN CITIES 7
C. DEVELOPING AN ATTRACTIONS MATRIX 8
D. ECONOMETRIC APPROACH 9
E. DATA COLLECTION 10
Visitations Data 10
Attractions Data 10
Non-Attraction Variables 12
F. TRAVEL PUBLICATIONS 14
Michelin 14
Frommer's 15
Fodor's 15
G. MEASURES OF ATTRACTION COUNT 15
Number of Attractions 16
Normalized Attractions 16
Normalized Share of Attractions 16
H. DISCUSSION OF RESULTS 17
Key Findings 17
I. INTERPRETATION OF REGRESSION RESULTS 21
Regression-Specific Conclusions 22
J. ANALYSIS OF MODEL RESIDUALS 27
K. IMPACT OF ATTRACTION TYPE ON VISITATIONS 30
Attraction Elasticities for Ottawa and Toronto 31
Marketing Budgets Elasticities 32

V. OUR RECOMMENDATIONS 33

VI. NEXT STEPS 34

VII. TECHNICAL APPENDIX 35

A. ATTRACTIONS MATRIX EXAMPLES 35
Arts and Culture 35
Environment and Built Form 35
Entertainment 36
Accommodation and Food 37
B. REGRESSION RESULTS 38
C. LITERATURE REVIEW 42
Tourism Attractiveness Literature 42
Destination Competitiveness Literature 45
Urban Tourism Marketing Literature 48
Tourism Demand/Econometric Modelling Literature 53
Bibliography: 58
D. VISITATIONS DATA 60
E. STATISTICAL CONCEPTS 64

I. Executive Summary

Highlights

The recent decline in both tourist visits and tourism spending in Ontario has sparked an interest in evaluating Ontario's tourist attractions base of its major centres, namely Toronto and Ottawa. This includes assessing the gaps of each city's product offering relative to other North American tourist centres. To help understand this issue, the Ontario Ministry of Tourism and Recreation (the Ministry) in partnership with Canadian Tourism Commission, Canadian Heritage, and Parks Canada commissioned Global Insight to develop an econometric study to quantify the relative importance of a range of factors that influence tourists' decisions to visit a particular destination within North America.

The main objective of this study was to estimate the impact of building additional attractions on increasing tourist visitations to selected North American cities and, in particular, to Toronto and Ottawa. This study did not consider visitor spending or length of stay. The study objective was achieved by establishing a database of the attractions offered to tourists visiting the selected North American cities and the number of leisure visitors to each city. Utilizing this database, Global Insight built a series of cross-sectional econometric models to examine the deviation among leisure visitation among these cities. The estimated coefficients from these models provided an assessment of the relative importance of various attractions in explaining the number of tourist visitations.

Global Insight's major findings include:

- Popular entertainment attractions are the most consistent draw.
- Attractions complement and supplement each other.
- Rated attractions perform significantly better than non-rated attractions.
- A number of smaller, mostly Canadian cities receive fewer visitors than their attractions' portfolio would warrant.
- Cities have the most to gain by diversifying their attraction base.

Study Summary

The first step in Global Insight's approach was to conduct a literature review to become familiar with the most recent research regarding the appropriate attractiveness indicators to be utilized, the schemes to quantify them for modelling purposes, and the type of data that were used.

An attractions matrix was developed to classify the attractions into four of the most obvious categories that are known to draw tourists and are consistent across cities. The purpose of designing an attractions matrix was to include a wide range of attractions that are generally believed to stimulate tourist visitations. Using this attraction matrix, the appropriate attractions data were collected for each city. The total tourist visitations and relevant non-attractions data were also assembled.

Global Insight selected a cross-sectional approach to econometric modelling. This approach allowed Global Insight to use a multi-city modelling methodology to exploit economies of scale by pooling data across 50 cities and estimating one equation for each structural relationship. Finally, Global Insight developed five robust econometric models with unique characteristics.

The assembled attractions database and five econometric models (via the estimated coefficients) provided a wealth of information concerning the importance of each type of attraction in generating tourist visits to selected North American cities.

However, these coefficients were estimated based on a sample of 50 cities and provided an average estimate across all cities in the sample. Therefore, additional analysis using the elasticity concept calculated the implied impacts on Toronto and Ottawa.

Recommendations

The results of our study suggest that Toronto and Ottawa would both gain the largest number of additional visitors by concentrating their future attractions portfolio development on the following types of quality attractions:

- Three-star rated amusement parks.
- Three-star and one-star shopping areas.
- Three-star-specific structures (i.e. CN Tower or Sky Dome).
- They would also benefit from the construction of one- and two-star-rated attractions from a popular entertainment category (amusement and theme parks, and from casinos).

Furthermore, this tourism strategy should also stress the following aspects:

- Increasing marketing budgets in both cities. It was found that information available to the traveller prior to departure, as well as the presentation of this information, is important in determining the destination for many travellers. Furthermore, based on experience of several other Canadian cities, Toronto and Ottawa could receive substantial returns from increasing their marketing budgets.
- New attractions need to be added with careful consideration to the supporting tourist infrastructure needs, such as public transportation and hotels rooms, to maximize tourists' overall experience with the new attraction.
- The high U.S. population density is a plus in providing visitors to U.S. cities. This is another argument for increasing the promotion to U.S. markets and adopting schemes to encourage U.S. visitors to travel north. Joint air travel/hotel stay packages for U.S. visitors that feature incentives, such as reduced attraction admission fees or food and beverage vouchers, could be utilized in this regard.
- Complementarity or interaction of multiple sites at the destination is crucial. Both cities should be careful to maintain a balance among a variety of attraction types when adding new attractions.

Next Steps

This project has surfaced a good deal of information about the types of attractions that are successful in attracting visitors to North American cities. However, by design, it has focused solely on the number of additional leisure visitors that could be enticed with a new attraction in Toronto or Ottawa. Notably, it has not considered visitor spend or length of stay. Nor has it shed light on the behaviour of local residents to the addition of new attractions. It has ignored individuals visiting friends and relatives and business travellers who indulge in non-business activities during their stay. Consequently, there is a range of potential follow-on analysis that could be considered as the Ministry formulates future plans to bring more visitors to Ontario. Some of the possible extensions to this project include:

- Addressing behavioural differences among visitor segments such as business travellers, travellers visiting friends and relatives, and the interaction of convention and business travellers with non-business attractions.
- Separating the tourist visitations data to look at the preferences of visitors from different origins (Europe, North America, Latin America or Asia).
- Examining visitor spending patters and how this affects overall tourist revenue.
- Studying the length of visits and the impact on the tourist visitations.
- Examining the actual experience of cities that have added the attraction types that might be considered by Toronto and Ottawa.

II. Introduction

Tourism is a vital element of Ontario's highly diversified and dynamic economy. The tourism sector accounts for roughly 4.5% of Ontario's GDP and employment. However, recent external shocks have thrown this sector into a sharp decline. The lingering impact of 9/11, the recent U.S. recession, appreciation of the Canadian dollar, military intervention in Iraq, and SARS have all contributed to a sharp fall in visitors to Ontario's major metropolitan centres in 2003. Global Insight estimates that both visitor arrivals to Ontario and total visitor spending in Ontario declined by 10% in 2003[1].

Fortunately, Ontario's major urban centres offer a remarkably broad range of features that will help offset these negative shocks and rebuilt tourism to the region. Unfortunately, the significance of any particular feature or combination of features on travel demand is not well understood. Consequently, tourism promotion strategies and decisions related to the development of the attraction portfolio in Ontario are made with only a partial understanding of the impact these decisions may have on prospective visitors.

The Ontario Ministry of Tourism and Recreation (the Ministry) in partnership with the Canadian Tourism Commission, Canadian Heritage, and Parks Canada commissioned Global Insight to develop an econometric model to quantify the relative importance of the range of attractions that influence tourists' decisions to visit a particular destination within North America. This model will be used to better understand the attractiveness of Toronto and Ottawa as visitor destinations relative to competing North American destinations and to facilitate the decision-making process of the Ministry as it develops guidelines to encourage visitors to come to Ontario.

In particular, the econometric model or models will help to:

- Assess gaps in the product offering of particular tourism centres;
- Quantify the potential returns from proposed product development;
- Identify synergies between particular mixes of features; and
- Establish objective criteria for product development priorities.

III. Study Objective

The main objective of this study was to estimate the impact of building additional attractions on increasing tourist visitations to the selected North American cities. This study did not consider visitor spend or length of stay. The objective was achieved by:

- Establishing a database of the attractions offered to tourists visiting the selected North American cities and the number of leisure visitors to each city.
- Utilizing this database to build a series of cross-sectional econometric models to examine the deviation among leisure visitation among these cities. The estimated

[1] Global Insight estimates that in 2004, visitor arrivals to Ontario will see a significant growth of 13%, while the total visitor spending in Ontario will experience a modest growth of 5%.

coefficients from these models provided an assessment of the relative importance of various attractions in explaining the number of tourist visitations.

IV. Methodology

Global Insight's approach to this project was to initially conduct a literature review to become familiar with the most recent research regarding the appropriate attractiveness indicators to be utilized, the schemes to quantify them for modelling purposes, and the type of data that were used.

Subsequently, Global Insight selected a sample of 50 major metropolitan areas in North America with the population size of 500,000 or more to be covered in the attractions database. Ten of these cities were in Canada, while 40 were in the United States. These cities were those that offered a broad range of attractions by themselves. Global Insight did not include cities that developed a large visitation count by virtue of one main type of attraction or that relied on attractions that were close to, but not a part of, the metropolitan area itself.

Then, Global Insight developed an attractions matrix to classify the attractions into four categories that are recognized to draw tourists and consistent across cities. Using this attraction matrix, the appropriate attractions data were collected for each city. The total leisure tourist visitations and additional non-attractions data were also assembled.

Travel reviews published by Michelin, Frommer's, and Fodor's were selected in order to populate the attractions matrix with relevant data for each city. These publications provided Global Insight with the wealth of information about various types of attractions and their quality ratings across the 50 North American cities.

Because city attraction portfolios change slowly over time, Global Insight selected a cross-sectional approach to econometric modelling. This approach allowed Global Insight to pool data across the 50 cities and estimate one equation for each structural relationship.

The methodology section of the report will review tasks one through seven. Tasks eight and nine will be discussed in the third section of the report "Discussion of Results."

Table 1: Required Tasks

Task #	Description
1	Literature Review
2	Select North American Cities
3	Implement an Attraction Classification Scheme
4	Choose an Econometric Approach
5	For Each City, Collect Travel Visitation Data, Attraction Data, and Non-attraction Data
6	Select Travel Publications
7	Select Measures of Attraction Count
8	Construct Economic Model or Models
9	Identify High-Return Attractions

Source: Global Insight, Inc.

A. Literature Review

Introduction

Global Insight conducted a literature review in order to complement Global Insight's understanding of past efforts to evaluate the attractiveness characteristics of individual cities. The literature review focuses on identifying key articles in the tourism literature and describing the main findings from these articles. Many of the articles Global Insight reviewed were survey articles that summarized the range of current and past research reported. In this way, Global Insight reviewed key elements of the extensive set of literature published on tourism attraction over the past decades. Information gleaned from this review influenced the structure of our empirical modelling work in that portion of the project. Global Insight's research included articles from the following four categories of tourism-related research:

- Tourism Attractiveness Literature;
- Destination Competitiveness Literature;
- Urban Tourism Marketing Literature;
- Tourism Demand/Econometric Modelling Literature.

Tourism Attractiveness Literature focuses on a discussion of factors that influence the attractiveness of the destination such as culture, infrastructure, price levels, and attitudes towards tourists. More recently, some articles define "tourist attraction systems" that consider how these factors influence tourists through marketing and promotion of the site.

Destination Competitiveness Literature describes key foundations for developing a comprehensive tourism model. Not only the core resources and attractors of the destination are important, but also elements such as destination management, destination policy, and contributing macro and microenvironment factors. "Competitiveness in the tourism sector is defined as the ability of the tourism market environment and conditions, tourism resources, tourism human resources, and tourism infrastructure in a country to create an added value and increase national wealth. That is to say, the competitiveness in the tourism sector is not only a measure of potential ability, but also an evaluation of present ability and tourism performance."[2]

Urban Tourism Marketing Literature examines the marketing strategies undertaken by urban authorities and tourism marketers. "A destination that has a tourism vision, shares this vision among all stakeholders, understands both its strengths and its weaknesses, develops an appropriate marketing strategy, and implements it successfully may be more competitive than one which has never examined the role that tourism is expected to play in its economic and social development."[3]

Tourism Demand/Econometric Modelling Literature uses econometric techniques and models to forecast tourism demand. Econometric techniques range from statistical time

[2] Kim (2000).
[3] Dwyer and Kim (2001).

series, simple autoregressive and "no change" models, to more complicated error-correction models.

Key Findings

The most common, recurring themes evident in the literature review are identified in the following summary points[4]. The key findings highlight the importance of:

Promotion: Information available to the traveller prior to his departure, and the presentation of this information, is important in determining the destination for many travellers.

Quality: The tourist is searching for a high-quality travel experience. Quality is shaped by all elements affecting the tourist at the site, and it is primarily by offering a high-quality experience that destinations compete.

Entertainment: The "entertainment value" of a destination is important to many tourists—even at museums and other "cultural" sites.

Shopping Atmosphere: Shopping is an important element to a tourist, but it must help to deliver the "atmosphere" of the destination to the visitor.

Tourism Infrastructure: The destination's tourism infrastructure (generally speaking, elements that ease the tourists access to the destination—hotels, transportation, attitudes of locals towards tourists, etc.) is a very important contributor to the tourist's overall experience.

Multiple Attractions: Complementary or interaction of multiple sites at the destination is important.

B. Selection of North American Cities

For the purpose of this study, Global Insight selected the sample of 50 major metropolitan areas[5] (MSA), including 40 U.S. and 10 Canadian cities. The selected cities each offer a broad range of attractions by themselves, and do not rely on attractions near that are not a part of the metropolitan area. All 50 cities have a population of 500,000 or more. Global Insight did not consider a number of cities that develop a significant amount of leisure visitation by virtue of one main type of attraction.

[4] Please refer to the Technical Appendix for a full coverage of Literature Review.
[5] In Canada, these areas are called census metropolitan areas (CMA).

Table 2: List of Selected North American Cities

Canada (10)	United States (40)			
Toronto	Orlando	Los Angeles	Milwaukee	Fort Lauderale
Montreal	Las Vegas	Seattle	Tampa	Oklahoma City
Vancouver	Austin	St. Louis	Washington	Minneapolis
Ottawa-Hull	New York City	Portland	Boston	Cleveland
Calgary	San Diego	Indianapolis	Columbus	Sacramento
Edmonton	Chicago	Houston	Detroit	Denver
Quebec	San Antonio	Dallas	Philadelphia	Pittsburgh
Winnipeg	Atlanta	New Orleans	Miami	Charlotte
Victoria	Kansas City	Salt Lake City	Baltimore	Phoenix
Halifax	San Francisco	Nashville	Cincinnati	Memphis

C. Developing an Attractions Matrix

The purpose of this study was to quantify the relative importance of a range of factors that influence tourists' decisions to visit a particular destination within North America. In order to achieve this goal, Global Insight developed an empirical scheme describing the attractions offered by each city. Global Insight's scheme also incorporated a combination of the quantity of attraction (i.e. number of amusement parks) and the quality of the attraction (i.e. rating of an amusement park). Global Insight collected the city attraction data in concordance with the structure of the attractions matrix.

The attractions base can be defined as broadly as possible. The purpose of developing an attractions matrix is to include a wide range of attractions that are generally believed to stimulate tourist visitations. Therefore, a tourist attractions matrix was constructed for the four most obvious categories that are known to draw tourists and are consistent across cities: Arts and Culture; Environment and Built Form; Entertainment; and Accommodation and Food. Each attraction category included several sub-categories, which were subsequently broken down to specific types of attractions. Once again, these sub-categories and specific types of attractions are consistent across cities.

Table 3: Attractions Matrix[6]

Arts & Culture	Environment & Built Form	Entertainment	Accommodation & Food
◆ Museums ◆ History museums ◆ Historic sites ◆ Other ◆ Visual Arts ◆ Art galleries ◆ Art-related events & festivals	◆ Physical Setting ◆ Waterfronts & beaches ◆ Other geographic features ◆ Urban Amenities ◆ Parks & green spaces ◆ Shopping areas ◆ Business districts ◆ Built Form ◆ General building architecture ◆ Specific structures of interest	◆ Popular Entertainment ◆ Amusements & theme parks ◆ Spectator sports ◆ Casinos ◆ Participation sports opportunities ◆ Events & festivals ◆ Night clubs ◆ Cultural Entertainment ◆ Opera ◆ Theater ◆ Ballet ◆ Orchestra	◆ Accommodation ◆ Luxury hotel rooms ◆ Food ◆ High-end restaurants ◆ Food-related events & festivals ◆ Range of restaurants

D. Econometric Approach

Before turning to the discussion of how the knowledge base represented by the database and model will be leveraged to provide a conceptual framework and practical guidance for the development of a tourism strategy, it will be useful to briefly consider the basic elements of our technical approach.

Because attraction portfolios tend to change slowly over time, Global Insight took the approach to pool data across 50 North American cities and estimated a series of equations relating the city attraction portfolios to leisure visitations.

In cases where there were missing data for certain types of attractions, this econometric approach allowed Global Insight to obtain robust results. More substantively, the cross-sectional sample means that the model reflects a much greater range of tourism experience than possible in a single-city approach. Furthermore, the methodology permits more credible measures of potential changes in future attractions or tourism promotional initiatives outside the range of the historical experience in the data for a single city.

With the guidance from the literature review and collected attraction and non-attraction data, a series of cross-sectional models were estimated. These models estimated the number of leisure tourist visitations as a function of the attractions defined for each of the selected North American cities in 2002. Non-attraction variables were also included in the model for the same period of time.

The structure of the model enabled Global Insight to identify and rank the relative return offered by each type of attraction in terms of the number of visitations it can generate. Based on these observations, Global Insight was able to identify a subset of the most

[6] Please refer to Appendix A for a detailed category listing.

reasonable attraction types for Toronto and Ottawa to pursue in expanding its attraction portfolio to enhance future visitations.

E. Data Collection

The data required for this study can be classified into three categories: visitations data, attraction data, and non-attraction data.

Visitations Data

The visitations data Global Insight analyzed focused on tourists travelling for leisure (excluding trips to visit friends and relatives) and travelling at least 50 miles from their origin. These visits were totalled regardless of the visitor source—whether domestic or international. The data sources included D.K. Shifflet, the Office of Travel and Tourism Industries, and Statistics Canada. Global Insight focused only on the most recent year of data, which was 2002. (Please see the Technical Appendix for more information about the visitations data.)

Attractions Data

For the purpose of this study, the attractions database was created for each selected North American city. The attractions data were the independent (or explanatory) variables in our regression analysis. The database contained (1) the total count of attractions (i.e. the number of amusement parks); and (2) the quality-rated attractions for each category, sub-category, and type of attraction.

Since some travel publications[7] provided consistent quality ratings of attractions across the selected North American cities, Global Insight utilized these ratings to rank tourist attractions. The quality rating of attractions ranged from a no-star to a three-star rating, with no star indicating a "worth seeing" attraction (value of zero was assigned to this type of attraction) and a three-star indicating a "highly recommended" attraction (value of three was assigned to this type of attraction). To capture the quality ratings of tourist attractions in the database, the value of three was assigned to a three-star rating, value of two to a two-star rating, value of one to a one-star rating and value of zero to the type of attraction that was not rated by either travel guide, but is considered worth seeing. The attractions were totalled for each category, sub-category, and type of attraction. The totals were calculated for the total count of attractions, three-star, two-star-, and one-star-rated attractions. For each city, a summary sheet was also included to show the total count, the total count of three-star, two-star, and one-star-rated attractions across all categories.

Tourist visitations data was separately regressed on the attraction categories, the attraction sub-categories and the specific types of attractions. For example, the number of tourist visitations was regressed on the number of attractions in the arts and culture category. Secondly, the visitations data was regressed on the number of museum sub-categories. Finally, tourist arrivals were regressed on the number of history museums.

[7] Please see "Publications" section of the report for more information about these travel publication sand how they were selected.

The tourist visitations data was also regressed on the number of quality-rated attractions (three-, two-, or one-star rated) using the attractions categories, the attractions sub-categories, and the specific types of attractions. For example, the number of tourist visitations was regressed on the number of three-star-rated attractions in the arts and culture category. Secondly, the visitations data was regressed on the number of three-star-rated museums. Finally, tourist arrivals were regressed on the number of three-star-rated history museums.

Table 4: City Attractiveness Database for New York (Extract)

Count	Arts&Culture	*Museums*	General History Museums	Historic Sites	Other Themed Museums	*Visual Arts*	Art Galleries	Arts related events and festivals
			2 2	1 1 2 0 1 2 2 1 1 1 0 2 2 2 2 2 2	2 2 0 0 3 0 0 0		1 3 3 3 2 2 1	
Total Count of Attractions by Category	**34**	**27**	**2**	**17**	**8**	**7**	**7**	**0**
Total number of attractions with a three-star rating	**4**	**1**	**0**	**0**	**1**	**3**	**3**	**0**
Total number of attractions with a two-star rating	**15**	**13**	**2**	**9**	**2**	**2**	**2**	**0**
Total number of attractions with a one-star rating	**8**	**6**	**0**	**6**	**0**	**2**	**2**	**0**
Examples			The NY Historical Society	South Street Seaport; Lower Manhattan; Downtown and the Neighborhoods; East Village; Soho; Cathedral of St. John the Divine	Ellis Island Immigration museum; the South Street Seaport Museum; Lower East Side Tenement Museum; American Museum of Natural History		Museum for African Art; Museum of Modern Art	

Source: Global Insight, Inc.

Table 5: Summary Sheet for New York

NEY	Overall score - Conde Naste Traveller Overall score - Michelin	82.70% 3
Total count of attractions Number of attractions with *** rating Number of attractions with ** rating Number of attractions with * rating		**294** **61** **81** **23**
Public Transportation/Infrastructure Large hub (yes-1, no-0) International airport, nonstop international destination (yes-1, no-0)	Overall score - Places Rated Almanac	99.43% 1 1
Number of Missing Attractions (tcma)		**7**

Source: Global Insight, Inc.

Non-Attraction Variables

The number of visits was not only regressed on different types of attractions, but also on a variety of non-attraction variables. These variables were included to control for variations in other visitor influences from city to city; and to include measures of tourism infrastructure that also varied among the 50 cities. The literature review had suggested the importance that infrastructure plays in attracting tourists and contributing to the overall experience. Consequently, Global Insight added measures of hotel property count, hotel room count, and public transportation score to the modelling process.

A number of these variables ultimately proved useful in our analysis, while others did not. The detailed discussion of our modelling results will refocus on the usefulness of these non-attraction variables.

Table 6: Non-Attraction Variables

Type of Variable	
Overall City Score	Filter Variable for a Large Hub Airport
Population by State or Province	Total Count of Missing Attractions
Hotel Room Count	Population Density
Property Count	Proximity to Major Metro Areas
Public Transportation Score	City-by-city Marketing Budgets
Filter Variable for International Airport	

Overall City Score: The overall city score captures the quality rating for a particular city. This variable was obtained from Michelin's travel guide, which provided a consistent ranking for all 50 cities. The overall score ranges from a three-star rating to a one-star rating. Global Insight assumed that a higher overall score would increase the number of tourists.

Population by State or Province: Population data was obtained from Statistics Canada and Global Insight databanks. The data were obtained for 2002.

Hotel Room Count and Hotel Property Count: These are supply-side variables, which measure the number of hotel rooms and hotel properties available in each city. The number of rooms or properties is generally positively correlated with visitations. Although the data were available from 1998 to 2002, Global Insight used a five-year average.

Public Transportation Score: Many of the articles examined by Global Insight as part of the literature review noted the importance of an efficient transportation system in influencing the urban tourism experience. Using data published in the *Places Rated Almanac* for the year 2000, Global Insight was able to incorporate the influence this variable has on urban visitations. *Places Rated Almanac* provides a public transportation score for 354 North American metro areas. The score is based on three weighted factors: commute time (30%), connectivity (60%), and centrality (10%).

Table 7: Public Transportation Score

Commute Time (30%)	Round-trip commuting time + local public transit mileage.
Leaders:	Small and mid-sized Canadian metro areas (Edmonton, Halifax).
Connectivity (60%)	Combines national highways, passenger rail departures, and nonstop airline destinations.
Leaders:	New York, Chicago, Toronto, and Los Angeles.
Centrality (10%)	Metropolitan proximity to other metro areas.
Leaders:	Memphis, Cincinnati, and Indianapolis.

Source: Places Rated Almanac, 2000.

Filter Variable for International Airports: This variable was obtained from the *Places Rated Almanac* publication. If the city had an international airport where non-stop international flights were available, the value of "1" was assigned. If the opposite was true, the value of "0" was given. Our hypothesis is that cities with international airports attract more tourists than cities without these types of airports.

Filter Variable for a Large Hub Airports: This variable was obtained from the *Places Rated Almanac* publication. If the city had a large hub airport, the value of "1" was assigned. If the opposite was true, the value of "0" was given. *Places Rated Almanac* defines large hub airports as those attracting at least 1% of total tourist flows for the country. Our hypothesis is that cities with large hub airports should be positively correlated with city visitations.

Total Count of Missing Attractions: This variable was constructed using the data from the attractions database. An attraction was considered missing if it was not mentioned in any of the travel publications. The value "1" was assigned to missing attractions, and the value "0" was assigned to attractions that were present in the database. Our hypothesis is that a larger number of missing attractions suggests a less diverse attraction portfolio in a particular city, reducing the number of tourist visitations to a city.

Population Density: A higher population density should contribute to a higher tourist count. The average population density for the United States is 29.4 residents per square kilometre, while the average density for Canadian cities is only 3.1. The population density data were obtained from Statistics Canada.

Proximity to Population Centres: This variable was constructed to measure the proximity of each city to population centres. For the eastern block of cities, the distance in miles was measured relative to New York City, and for the western block of cities relative to Santa Barbara. As the distance from major metro areas increases (in our case relative to New York City and Santa Barbara), the number of tourist visitations should decline.

City-by-city Marketing Budgets: City-by-city budgets were available from the International Association of Conventions and Visitor Bureaus (IACVB) survey[8]. Not all of the 50 cities responded to this survey, and this is why the sample of only 33 cities was considered. The data were available for 2003. Our hypothesis is that a larger marketing budget should increase the number of tourist visits to a city.

Table 8: List of 33 North American Cities

U.S. Cities				Canadian Cities
Phoenix, AZ	Chicago, IL	New York City, NY	Austin, TX	Montreal, QC
San Diego, CA	Indianapolis, IN	Columbus, OH	Salt Lake City, UT	Vancouver, BC
San Francisco, CA	Detroit, MI	Cleveland, OH	Seattle, WA	Calgary, AB
Los Angeles, CA	Minneapolis, MN	Oklahoma City, OK	Milwaukee, WI	Quebec, QC
Denver, CO	Kansas City, MN	Philadelphia, PA		Victoria, BC
Orlando, FL	St. Louis, MO	Pittsburgh, PA		
Tampa, FL	Charlotte, NC	Nashville, TN		
Atlanta, GA	Las Vegas, NV	San Antonio, TX		

F. Travel Publications

Travel publications by Michelin, Frommer's, and Fodor's were used to populate the attractions matrix with relevant data for each city. These publications provided Global Insight with the wealth of information about various types of attractions and their quality ratings across the 50 North American cities. Global Insight selected these publications based on their extensive and consistent coverage of major metropolitan areas across North America and their high on-line sales ranking. Global Insight believes that these are consistently the most influential publications for the 50 cities under study.

Michelin

The Michelin travel publication was our main source of attractions and quality ratings. Michelin provided the overall rating for each city and consistently provided three-star, two-, and one-star quality ratings of attractions. Global Insight assigned a 0-rating to the attractions that were not rated.

[8] The results of the survey were provided by the Orlando / Orange County Convention & Visitors Bureau.

Table 9: Michelin's Ratings

Rating	Symbol	Text
3-star	***	Highly recommended / Worth a journey
2-star	**	Recommended / Worth a detour
1-star	*	Interesting / Interesting

Source: Michelin, 2003.

Michelin contained a comprehensive list of accommodations and restaurants and provided a rating for these attractions.

Table 10: Michelin's Ratings for Accommodations and Restaurants

Hotels	Prices	Hotel Rating	Restaurants	Prices	Restaurant Rating
$$$$$	over $300	3	$$$$	over $50	3
$$$$	$200-$300	2	$$$	$35-$50	2
$$$	$125-$200	1	$$	$20-$35	1
$$	$75-$125	1	$	under $20	0
$	under $75	0			

Source: Michelin, 2003.

Frommer's

Frommer's was a secondary source and was used to complement Michelin's travel guide. Frommer's contained a comprehensive list of sport events, festivals, and theatre, ballet, and opera performances available in each city.

Fodor's

Fodor's was used to complement the attractions data obtained from Michelin and Frommer's. Fodor's contained a comprehensive list of accommodations and restaurants and ranked these attractions in a manner consistent with Michelin.

Table 11: Fodor's Ratings for Accommodations and Restaurants

Hotels	Prices	Hotel Rating	Restaurants	Prices	Restaurant Rating
$$$$	over $250	3	$$$$	over $32	3, 2
$$$	$170-$250	2	$$$	$22-$32	1
$$	$90-$170	1	$$	$13-$21	0
$	under $90	0	$	under $13	0

Source: Fodor's, 2002.

G. Measures of Attraction Count

Three types of attraction count were used to identify the types of attractions that were important in explaining tourist visitations[9]. This approach was taken because our analysis centred on the influence of attractions (and some non-attraction type variables) in determining city visitations. Because this project chose not to focus on economic or other influences of travel, Global Insight did not expect to develop an optimum model to

[9] To some extent, Global Insight used Richard Florida's approach to develop these three types of attraction count.

explain city visitations. Consequently, Global Insight focused on a series of models that employ several attraction count methodologies. It was gratifying that all three measures of attraction count yielded generally consistent results.

Number of Attractions

The first type of attraction count was a simple measure of the number of attractions:

$$\textbf{Visitors}_{city} = F(\textbf{\# of Attractions}_{city}) \quad (1)$$

This specification postulates a direct relationship between attractions and the number of visits. As the number of tourist attractions increases, the number of visits will also increase. This formula was used to estimate an individual relationship between tourist visits and each attraction category, sub-category, and types of attractions using the attractions matrix.

Normalized Attractions

The second type of attraction count normalized the attraction count by city population in order to reduce the influence of a city's size or population in determining visitor counts:

$$\textbf{Visitors}_{city} = F(\textbf{\# of Attractions}_{city} / \textbf{Population}_{city}) \quad (2)$$

The count of attractions is often affected by the population size of the MSA or CMA. For example, the total count of attractions in New York is close to 300 and the population base is about 9.5 million, while the attractions count in Edmonton is 60 with the population size close to 1 million.

To correct for the population bias, the first equation was normalized by the population size. In the new equation, there is a direct relationship between the attractions count per capita and the number of visits. Therefore, as the number of attractions per capita increases, the number of visits will also increase.

Normalized Share of Attractions

The third type of attraction count measures shares of both visitors and normalized attractions:

$$\frac{\textbf{Visitors}_{city}}{\textbf{Visitors}_{NA}} = \frac{F(\textbf{\# of Attractions}_{city} / \textbf{\# of Attractions}_{NA})}{(\textbf{Population}_{city} / \textbf{Population}_{NA})} \quad (3)$$

This formula is a location quotient that measures the percentage of a total attraction count in a particular city compared to the North American (NA) total count of attractions divided by the percentage of total population in this city compared to the total North American population. It is important to note that the left-hand side of this equation is slightly different from two previous notations. This time the left-hand side measures the number of visits to a particular city compared to the total number of visits to North America.

This measure is a ratio. If the value of this ratio is greater than one, this shows that a particular city has a greater share of attractions than the North American average, while a

value below one suggests that the share of attractions for this city is below the North American average.

H. Discussion of Results

The analysis proceeded in three steps to arrive to the set of five econometric models that yielded robust results[10]. The structure of these models allowed Global Insight to identify and rank the relative return offered by each type of attraction in terms of the number of visitations it can generate. Based on these models, Global Insight can identify a subset of the most important attraction types for generating city visits. Furthermore, Global Insight can recommend an effective attractions development and promotional tourism strategy for Toronto and Ottawa to enhance future visitations. It is important to emphasize that all five models were robust and contained unique characteristics

Key Findings

Step 1: For this step, Global Insight used all three measures of attraction count. Leisure visitations were regressed against each of these measures of attraction count (i.e. number of attractions, normalized attractions, and normalized share of attractions) for each type of attraction, attraction category, and sub-category according to the structure of the attractions matrix. Global Insight modelled total count of attractions and quality-rated attractions (i.e. Q3, Q2, and Q1) separately. Table 12 summarizes our findings. In this table, areas highlighted with dark colour represent statistically significant results with t-statistics above 2, while areas highlighted with light colour show marginally significant results with t-statistics between 1 and 2[11]. Please note that the quality count of casinos, opera, and theatre performances was not available. Conversely, the following table summarizes the types of attractions, attraction categories, and sub-categories that did not work for all three types of attraction measures.

Note that there is a consistent statistical significance among all three attraction count measures for physical setting, urban amenities, built form, and popular entertainment. In this step, these categories and their related subcategories seemed to be the most highly correlated with leisure visitation, regardless of the attraction count measure used.

[10] These results were robust in terms of individual t-statistics for different types of tourist attractions and adjusted R^2.

[11] t-statistics refer to a statistical "goodness-of-fit" measure that indicated the likelihood that the coefficient estimated for the explanatory variable is, in fact, greater than 0. Thus, very low t-statistics suggest that there is no meaningful causation implied between the explanatory variable (the attractions variable) and the independent variable (the number of visitations). t-statistics greater than 2.0 are generally regarded as highly significant.

Table 12: Modelling Tourist Visitations on Individual Attractions – Significant Results

Type of Attraction	Count				Normalized Count				Normalized Share			
	TC	*Q3*	*Q2*	*Q1*	*TC*	*Q3*	*Q2*	*Q1*	*TC*	*Q3*	*Q2*	*Q1*
Arts&Culture												
Museums												
General History Museums												
Historic Sites												
Other Themed Museums												
Visual Arts												
Art Galleries												
Environment and Built Form												
Physical Setting												
Waterfronts & Beaches												
Urban Amenities												
Parks and Green Spaces												
Shopping Areas												
Business Districts												
Built Form												
General Building Architecture												
Specific Structures of Interest												
Entertainment												
Popular Entertainment												
Amusement and Theme Parks												
Casinos		X	X	X		X	X	X		X	X	X
Cultural Entertainment												
Opera		X	X	X		X	X	X		X	X	X
Theatre		X	X	X		X	X	X		X	X	X
Accommodation and Food												
Accommodation												
Luxury Hotel Rooms												
Food												
High-End Restaurants												

Source: Global Insight, Inc.

Conversely, the attraction categories shown in Table 13 generally did not exhibit a consistent statistical significance in their correlation with attractions.

Table 13: Individual Attractions That Did Not Work

Arts & Culture	**Entertainment**
Visual Arts	***Popular Entertainment***
Arts Related Events and Festivals	Spectator Sports Opportunities
	Popular Events or Festivals
Environment and Built Form	Night Clubs
Physical Setting	***Cultural Entertainment***
Geographic Features	Ballet PA
	Symphony Orchestra PA
Accommodation and Food	
Food	
Food Related Events and Festivals	
Range of Restaurants	

Source: Global Insight, Inc.

Step 2: From Step 1, the attractions with positive, statistically significant coefficients and relatively high adjusted R-squared were sequentially combined into a regression with each of the other attractions. Global Insight found that this significantly increased the values of the adjusted R^2. Table 14 summarizes the equations with two types of attractions that yielded relatively high adjusted R^2 [12]. Combining two types of attractions significantly improved the adjusted R^2. Please note that at this stage, Global Insight decided to proceed with only one measure of attraction count–Number of Attractions. When the total count of attractions was used, a wide variety of attractions turned out to be significant. The other two measures of attraction count confirmed our findings but limited the range of attractions. Since Global Insight wanted to ascertain the most complete list of attractions possible, only total count of attractions was selected for further analysis.

Table 14: Combining Two Types of Attractions–Significant Results[13]

Type of Attraction	Type of Second Attraction	Adj.R^2
Casinos (TC)	Shopping Areas (TC)	0.14
Specific Structures (TC)	Amusement Parks (TC)	0.15
Casinos (TC)	***Built Form (TC)***	0.15
Casinos (TC)	Specific Structures (TC)	0.20
Popular Entertainment (Q1)	Waterfronts & Beaches (Q1)	0.33
Popular Entertainment (Q1)	Shopping Areas (Q1)	0.39
Amusement Parks (Q3)	***Urban Amenities (Q3)***	0.50
Amusement Parks (Q3)	Visual Art Galleries (Q3)	0.52
Amusement Parks (Q3)	Shopping Areas (Q3)	0.52

Source: Global Insight, Inc.

[12] The adjusted R^2 statistic indicates the degree to which the variation of the independent variable (visitations) from its mean is explained by the dependent variables used in the regression. An adjusted R^2 value of 0.9 indicates that 90% of the variation is explained.

[13] Q3 = three-star rating, Q2 = two-star rating, Q1 = one-star rating, and TC = total count.

Step 3: In Step 3, more attraction variables were tried in the equations summarized in Table 14. In addition, non-attraction variables were also examined to see whether by adding them in these regressions the adjusted R^2 was improved.

Table 15: Non-Attraction Variables

Type of Variable	Significance
Overall City Score (from Michelin)	No
Population by State or Province	Yes
Hotel Room Count	Yes
Property Count	Yes
Public Transportation Score	Yes
Filter Variable for International Airport	No
Filter Variable for a Large Hub Airport	No
Total Count of Missing Attractions	No
Population Density	Yes
Proximity to Major Metro Areas	No
City-by-city Marketing Budgets	Yes

Source: Global Insight, Inc.

Having completed these three steps, the following combinations of attraction and non-attraction variables emerged. Table 16 presents five equations that proved to be the most promising in explaining the variation of leisure visitors among the 50 North American cities.

Table 16: Significant Results[14]

Equation	Type of Attraction	Type of Second Attraction	Attraction and Non-Attraction Variables	Adj. R^2
(1)	Popular Entertainment (Q1)	Shopping Areas(Q1)	Room Count	0.69
(2)	Popular Entertainment (Q2)	-	Room Count	0.70
(3)	Amusement Parks (Q3)	Specific Structures (Q3)	Casinos (TC), Shopping Areas (Q3) & Properties Count	0.76
(3B)	Amusement Parks (Q3)	Specific Structures (Q3)	Casinos (TC), Shopping Areas (Q3), Properties Count & Pop. Density	0.84
(4)	Amusement Parks (Q3)	Specific Structures (Q3)	Casinos (TC), Public Transportation Score & Pop. Density	0.78
(5)	Amusement Parks (Q3)	Specific Structures (Q3)	Shopping Areas (Q3) & Room Count	0.88
(5B)	Amusement Parks (Q3)	Specific Structures (Q3)	Shopping Areas (Q3), Room Count & Pop. Density	0.90
(5C)	Amusement Parks (Q3)	Specific Structures (Q3)	Shopping Areas (Q3), Room Count & Marketing Budgets	0.90

Source: Global Insight, Inc.

I. Interpretation of Regression Results

Results from our analysis support many of the common themes found in the literature review. Empirically, Global Insight was able to confirm the following propositions from the literature review.

- Tourists are looking for a **"quality" experience**, not merely to visit a site.
- Combinations of **quality-rated attractions** explain more variation in visits than total count of these types of attractions.
- **Clustering** plays an important role. Interaction of multiple sites at the destination is crucial.
- **Combination** of quality-rated attractions produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important. Sufficient tourist infrastructure is necessary to maximize tourists' participation in and enjoyment of the destination.
- **Hotel room and property count** were statistically significant.

[14] Q3 = three-star rating, Q2 = two-star rating, Q1 = one-star rating, and TC = total count.

- **Public transportation score** obtained from "Places Rated Almanac" publication was marginally significant.
- **Urban Tourism Marketing** plays an important role in attracting more tourists. Tourism marketing contributes to the increase in visits across 33 cities included in the sample.
- Tourists want to be **entertained**. For example, the combination of casinos with amusement parks and specific structures (i.e. Statue of Liberty or CN Tower) supports the argument that tourist wants to be entertained.
- **Quality shopping** is an important part of the tourism experience. Quality-rated shopping areas explain more variation in visits than total count of this type of attractions.

Regression-Specific Conclusions

In this section, Global Insight addresses the regression-specific results for five econometric models.

Model 1: In Model 1, the number of visits was regressed on the number of popular entertainment types of attractions with the one-star rating, the number of shopping areas with the one-star rating, and the number of hotel rooms. The adjusted R^2 for this model is 69%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building a one-star attraction from a popular entertainment category, the number of visitors will increase by **600,000**.
- On average across all cities, by building a one-star shopping area, the number of visitors will increase by **1.15 million**.
- On average across all cities, by increasing the number of hotel rooms by 100, the number of visitors will increase by **10,000**.
- Combination of one-star attractions from the popular entertainment category with one-star shopping areas supports the argument that tourists want to be **entertained**.
- **Quality-rated** shopping areas and attractions from the popular entertainment category explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of quality-rated shopping areas and attractions from the popular entertainment category produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since hotel room count was statistically significant.

Model 2: In Model 2, the number of visits was regressed on the number of popular entertainment types of attractions with the two-star rating and the number of hotel rooms.

The adjusted R^2 for this model is 70%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building one, two-star attraction from a popular entertainment category of attractions, the number of visitors will increase by **520,000**.
- On average across all cities, by increasing the number of hotel rooms by 100, the number of visitors will increase by **10,000**.
- Statistical significance of two-star attractions from the popular entertainment category of tourist attractions supports the argument that tourists want to be **entertained**.
- **Quality-rated** attractions from the popular entertainment category of tourist attractions explain more variation in visits than total count of attractions in this category.
- **Infrastructure** is important in explaining tourist visitations since hotel room count was statistically significant.

Model 3: In Model 3, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the total count of casinos, the number of shopping areas with the three-star rating and the number of properties. The adjusted R^2 for this model is 76%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building one three-star specific structure, the number of visitors will increase by **1.95 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **6.67 million**.
- On average across all cities, by building one casino, the number of visitors will increase by **430,000**.
- On average across all cities, by building one three-star shopping area, the number of visitors will increase by **810,000**.
- On average across all cities, by building one hotel, the number of visitors will increase by **7,000**.
- Combination of casinos with amusement parks, specific structures (i.e. Statue of Liberty or CN Tower) and shopping areas supports the argument that tourists want to be **entertained**.
- **Quality-rated** amusement parks, specific structures and shopping areas explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of casinos with amusement parks, specific structures, and shopping areas produces higher adjusted R^2 than these types of attractions taken individually.

- **Infrastructure** is important in explaining tourist visitations since property count was statistically significant.

Model 3B[15]**:** In Model 3B, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the total count of casinos, the number of shopping areas with the three-star rating, the number of properties and the population density. The adjusted R^2 for this model is 84%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building one three-star specific structure, the number of visitors will increase by **1.88 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **6.69 million**.
- On average across all cities, by building one casino, the number of visitors will increase by **410,000**.
- On average across all cities, by building one three-star shopping area, the number of visitors will increase by **760,000**.
- On average across all cities, by building one hotel, the number of visitors will increase by **5,000**.
- On average across all cities, by increasing population density by one person per km^2, the number of visitors will increase by **130,000**.
- Combination of casinos with amusement parks, specific structures (i.e. Statue of Liberty or CN Tower) and shopping areas supports the argument that tourists want to be **entertained**.
- **Quality-rated** amusement parks, specific structures, and shopping areas explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of casinos with amusement parks, specific structures and shopping areas produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since property count was statistically significant.
- **Population density** variable corrects some of the bias for Canadian cities and increased adjusted R^2.

Model 4: In Model 4, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the total count of casinos, the public transportation score and the population density. The adjusted R^2 for this model is 78%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

[15] This is model 3 but with the addition of the population density variable.

- On average across all cities, by building one three-star specific structure, the number of visitors will increase by **2.87 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **7.09 million**.
- On average across all cities, by building one casino, the number of visitors will increase by **390,000**.
- On average across all cities, by improving public transportation score by 1%, the number of visitors will increase by **70,000**.
- On average across all cities, by increasing population density by one person per km^2, the number of visitors will increase by **140,000**.
- Combination of casinos with amusement parks and specific structures (i.e. Statue of Liberty or CN Tower) supports the argument that tourists want to be **entertained**.
- **Quality-rated** amusement parks and specific structures explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of casinos with amusement parks and specific structures produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since public transportation score obtained from "Places Rated Almanac" was marginally significant.
- **Population density** variable improves adjusted R^2.

Model 5: In Model 5, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the number of shopping areas with the three-star rating, and the number of hotel rooms. The adjusted R^2 for this model is 88%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building one three-star-specific structure, the number of visitors will increase by **1.05 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **4.71 million**.
- On average across all cities, by building one three-star shopping area, the number of visitors will increase by **630,000**.
- On average across all cities, by increasing the number of hotel rooms by 100, the number of visitors will increase by **10,400**.
- Combination of amusement parks with specific structures (i.e. Statue of Liberty or CN Tower) and shopping areas supports the argument that tourists want to be **entertained**.

- **Quality-rated** amusement parks, specific structures and shopping areas explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of amusement parks, specific structures and shopping areas produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since hotel room count was statistically significant.

Model 5B[16]**:** In Model 5B, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the number of shopping areas with the three-star rating, the number of hotel rooms and the population density. The adjusted R^2 for this model is 90%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- On average across all cities, by building one three-star specific structure, the number of visitors will increase by **1.14 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **4.96 million**.
- On average across all cities, by building one three-star shopping area, the number of visitors will increase by **610,000**.
- On average across all cities, by increasing the number of hotel rooms by 100, the number of visitors will increase by **9,100**.
- On average across all cities, by increasing population density by one person per km^2, the number of visitors will increase by **80,000**.
- Combination of amusement parks with specific structures (i.e. Statue of Liberty or CN Tower) and shopping areas supports the argument that tourists want to be **entertained**.
- **Quality-rated** amusement parks, specific structures and shopping areas explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of amusement parks, specific structures and shopping areas produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since hotel room count was statistically significant.
- **The population density** variable corrects for bias in residuals of all eight Canadian cities and improves adjusted R^2. Please see **Residuals** Section of the report for more information.

[16] This is model 5 with the addition of the population density variable.

Model 5C[17]**:** In Model 5C, the number of visits was regressed on the number of amusement parks with the three-star rating, the number of specific structures with the three-star rating, the number of shopping areas with the three-star rating, the number of hotel rooms and the marketing budgets. The adjusted R^2 for this model is 90%. For more details about this model see Technical Appendix Section B. The main conclusions of this model are as follows:

- A smaller sample was used for this model, since the city-by-city marketing budgets were only available for **33 cities**.
- On average across all cities, by building one three-star specific structure, the number of visitors will increase by **1.02 million**.
- On average across all cities, by building one three-star amusement park, the number of visitors will increase by **4.52 million**.
- On average across all cities, by building one three-star shopping area, the number of visitors will increase by **690,000**.
- On average across all cities, by increasing a marketing budget by $1 million, the number of visitors will increase by **100,000**.
- On average across all cities, by increasing the number of hotel rooms by 100, the number of visitors will increase by **7,900**.
- Combination of amusement parks with specific structures (i.e. Statue of Liberty and CN Tower) and shopping areas supports the argument that tourists want to be **entertained**.
- **Quality-rated** amusement parks, specific structures and shopping areas explain more variation in visits than total count of these types of attractions.
- **Clustering** of attractions is important. Combination of amusement parks with specific structures and shopping areas produces higher adjusted R^2 than these types of attractions taken individually.
- **Infrastructure** is important in explaining tourist visitations since hotel room count was statistically significant.
- **Urban tourism marketing** contributes to the increase in visits across 33 cities included in the sample.

J. Analysis of Model Residuals

In the cross-sectional analysis, it is important not only to look at the adjusted R^2 and individual t-statistics associated with both attraction and non-attraction variables, but also to examine the individual residuals (model errors) for all 50 North American cities included in the sample. It is expected that the residuals would follow a random pattern. However, if the residuals are not random, then this may indicate that an important variable was omitted from the model.

[17] This is model 5 with the addition of the marketing budget variable.

The conclusions presented in this section are based upon an analysis of Models 5 and 5B. (Please note that similar arguments can be made for Models 3 and 3B.)

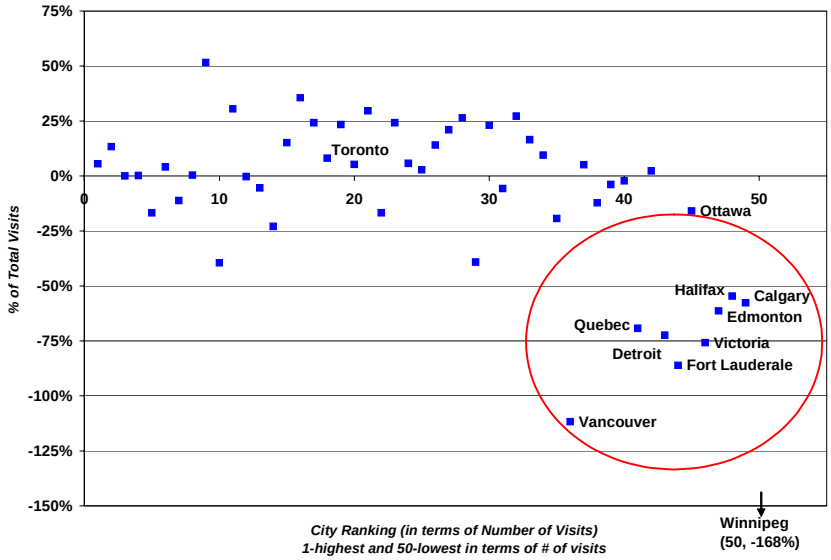
To analyze the residuals associated with 50 cities, the following formula was used:

Residuals = Actual – Fitted (4)

If the residuals were positive, the model under-estimated the number of visits. Conversely, if residuals were negative, the model over-estimated the number of visits.

The residuals for the 50 North American cities are illustrated in terms of a percentage of the total visits. While the residuals for most cities fall within a similar range and look randomly distributed from one city to the next, the model overestimates visits for a group of cities plotted at the right of the figure. Interestingly, seven out of ten Canadian cities are part of this group.

Figure 1: Residuals as a Percentage of Total Visits in Model 5



Source: Global Insight, Inc.

Table 17: Residuals as a Percentage of Total Visits in Model 5

City	# of Visits (In Millions)	Residuals, % of # of Visits
Vancouver	4.29	-111.72%
Quebec City	3.37	-69.26%
Detroit	3.26	-72.33%
Fort Lauderale	2.51	-86.09%
Victoria	1.70	-75.77%
Edmonton	1.69	-61.31%
Calgary	1.65	-54.59%
Halifax	1.32	-57.64%
Winnipeg	0.95	-168.64%

Source: Global Insight, Inc.

The model overpredicts the number of visits to cities that are primarily smaller in terms of population size. As well, in seven out of the nine cases, the cities were Canadian. In considering these results, Global Insight developed an additional hypothesis to explain this behaviour. Most of these cities are relatively isolated from the major population bases, and this could be a significant barrier to attracting more tourists. Model 5 does not capture this factor.

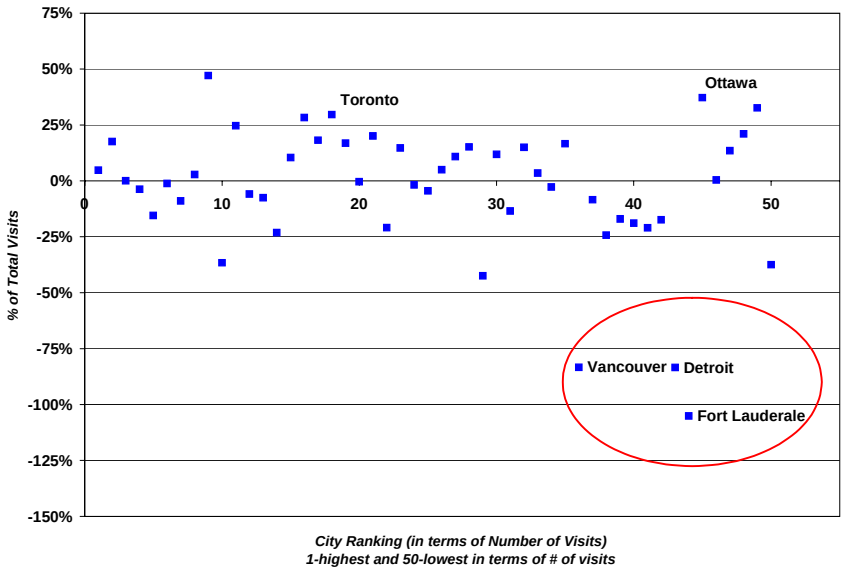
The addition of a population density variable to Model 5 results in Model 5B. This new model has a higher adjusted R^2 and greatly (although not entirely) improves the residual pattern—only three cities have non-random residuals. (Please see Table 18 and Figure 2) The population density variable measures the number of people per square kilometre in the United States and Canada. For the U.S. cities this value was 29.4 residents per square kilometre, and for the Canadian cities this number was only 3.1. In Model 5B, only three out of ten North American cities suffer from extreme overprediction, and only one of these is Canadian.

Table 18: Comparison of Models 5 and 5B

Type of Attraction	Type of Second Attraction	Attraction and Non-Attraction Variables	Adj. R^2
Amusement Parks (Q3)	Specific Structures (Q3)	Shopping Areas (Q3) & Room Count	0.88
Amusement Parks (Q3)	Specific Structures (Q3)	Shopping Areas (Q3) Room Count & Pop. Density	0.90

Source: Global Insight, Inc.

Figure 2: Residuals as a Percentage of Total Visits in Model 5B



Source: Global Insight, Inc.

Table 19: Residuals as a Percentage of Total Visits in Model 5B

City	# of Visits (In Millions)	Residuals, % of # of Visits
Vancouver	4.29	-83.42%
Detroit	3.26	-83.49%
Fort Lauderale	2.51	-105.17%

Source: Global Insight, Inc.

K. Impact of Attraction Type on Visitations

One of the key objectives of this study was to use the attractions database to build cross-sectional econometric models to explain the impact of attractions on visitations. The estimated coefficients from these models provided an assessment of the relative importance of various attractions in explaining the number of tourist visitations. However, these coefficients were estimated based on a sample of 50 cities and provided an average estimate across all cities included in the sample. Therefore, additional analysis was done to better understand the implied impacts on Toronto and Ottawa.

For this analysis, Global Insight has utilized the concept of elasticity. For this study, elasticity is defined as the percentage change in visitors divided by the percentage change in attractions.

$$\text{Elasticity}_{\text{city}} = \frac{\%\ \text{change in visitors}_{\text{city}}}{\%\ \text{change in \# of attractions}_{\text{city}}} \qquad (5)$$

If we assume that the new attractions would be typically added only one at a time, the definition of elasticity reduces to the following equation.

$$\text{Elasticity}_{\text{city}} = \beta * (A_0 / V_0) \qquad (6)$$

Where:

A_0 - the current number of like attractions in a particular city;[18]

V_0 - the current number of visits in a particular city;

β - the estimated coefficient from one of the model equations.

A higher existing ratio of visitors per attraction will result in a lower elasticity (in the equation (6) a lower value of attractions per visitor). This means that if a city already has a good return on its current base of attractions, it will have a lower response from adding an additional attraction of the same type relative to other cities.

[18] In the case where the current number of like attractions is zero (i.e., no such attraction exists in the city of interest), Global Insight uses the average of the current number (zero) and the number after the addition (one) for A_0. In this case, $A_0 = 0.5$.

Attraction Elasticities for Ottawa and Toronto

This section of the report focuses on the range of attraction elasticities for Toronto and Ottawa that were found to be significant in our previous analysis. These elasticity values give a sense of the impact of adding an attraction of the listed type relative to the existing attraction base and visitor count in each city. For example, a 1% increase in the number of amusement parks (Q3) would yield a 0.94% to 1.48% increase in visitations to Ottawa depending on what model is used. The elasticity measure for Toronto would be less.

Table 20: Attraction Elasticities for Toronto and Ottawa

Type of Attraction	Ottawa	Toronto
Amusement Parks (Q3)	0.94 ≤ ap ≤1.48	0.33 ≤ ap ≤ 0.52
Shopping Areas (Q3)	0.13 ≤ sa ≤ 0.17	0.05 ≤ sa ≤ 0.06
Specific Structures (Q3)	0.21 ≤ ss ≤ 0.60	0.22 ≤ ss ≤ 0.63
Casinos (TC)	0.08 ≤ ca ≤ 0.09	ca = 0.03
Popular Entertainment (Q2)	pe = 0.11	pe = 0.04
Popular Entertainment (Q1)	pe = 0.13	pe = 0.04
Shopping Areas (Q1)	sa = 0.24	sa = 0.08

Note: ap-amusement parks, sa-shopping areas, ss-specific structures, ca-casinos, pe-popular entertainment

Source: Global Insight, Inc.

Table 21: Visitor Impact for Ottawa and Toronto

Type of Attraction	Visitor Impact
Amusement Parks (Q3)	4.52 ≤ ap ≤ 6.69
Shopping Areas (Q3)	0.61 ≤ sa ≤ 0.81
Specific Structures (Q3)	1.02 ≤ ss ≤ 2.87
Casinos (TC)	0.39 ≤ ca ≤ 0.43
Popular Entertainment (Q2)	pe = 0.52
Popular Entertainment (Q1)	pe = 0.60
Shopping Areas (Q1)	sa = 1.15

Note: ap-amusement parks, sa-shopping areas, ss-specific structures, ca-casinos, pe-popular entertainment

Source: Global Insight, Inc.

From this analysis, Global Insight's findings are:

- A smaller city like Ottawa has a lower attraction base than Toronto. Consequently, the addition of a tourist attraction will generate a higher marginal response in percentage terms in Ottawa than in Toronto.
- The response from adding amusement parks and specific structures is higher than the response from adding shopping areas and casinos in both cities.
- The response from adding amusement parks and casinos in both Ottawa and Toronto is lower than the North American average.
- The response from adding specific structures and shopping areas in both Ottawa and Toronto is lower than the North American average for all five models.

- Although the elasticity values are different among cities because the starting values for the number of attractions and for the number of visitors are different, keep in mind that the actual visitor impact will be the same. This result derives from the cross-sectional nature of the analysis, which yields the same impact for a given change in the base attraction count for all cities. For example, a 1% increase in the number of new amusement park (Q3) in Ottawa would yield a 0.94% to 1.48% increase in visitations to Ottawa depending on what model is used. The percent increase in visitations would result in an increase of 4.5 to 6.7 total visitors, depending on the model used. For Toronto, the 1% increase would yield a 0.33% to 0.52% increase in visitations, and the impact on the total number of visitors would be in the same range of 4.5 to 6.7 visitors.

Marketing Budgets Elasticities

The data for marketing budgets was available for only 33 North American cities instead of 50. Model 5C includes an estimated coefficient for the marketing budgets. Using formula (7) for the elasticity calculation, individual elasticities can be estimated for all 33 cities.

$$\textbf{Elasticity}_{\text{city}} = \beta^{*}(MB_0 / V_0) \qquad (7)$$

Where:

MB_0 - a current amount spent on marketing in a particular city;

V_0 - the current number of visits in a particular city;

β - the estimated coefficient from the model equation.

If the marketing budget in Atlanta increases by 1%, the number of visits to Atlanta will increase by 0.08%. It is worthwhile to note that Chicago and Seattle would have the lowest response to the increase in the existing marketing budgets, while Las Vegas and Montreal would benefit the most from additional spending on marketing. One of the reasons for such a low response in both Chicago and Seattle is perhaps that these cities already have a good return on their current marketing budgets (a high ratio of V_0/MB_0) and thus will have a lower response from increasing marketing budgets relative to other cities.

Table 22: Marketing Budget Elasticities for 33 Cities

City	Elasticity	City	Elasticity
Atlanta, GA	0.08	Orlando, FL	0.10
Austin, TX	0.06	Philadelphia, PA	0.10
Charlotte, NC	0.06	Phoenix, AZ	0.12
Chicago, IL	0.04	Pittsburgh, PA	0.08
Cleveland, OH	0.06	Salt Lake City, UT	0.06
Columbus, OH	0.04	San Antonio, TX	0.08
Denver, CO	0.06	San Diego, CA	0.10
Detroit, MI	0.17	San Francisco, CA	0.11
Indianapolis, IN	0.06	Seattle, WA	0.04
Kansas City, MN	0.07	St. Louis, MO	0.08
Las Vegas, NV	0.33	Tampa, FL	0.05
Los Angeles, CA	0.07	Montreal, QU	0.27
Milwaukee, WI	0.06	Vancouver, BC	0.07
Minneapolis, MN	0.08	Calgary, AB	0.10
Nashville, TN	0.09	Quebec, QU	0.21
New York City, NY	0.04	Victoria, BC	0.05
Oklahoma City, OK	0.03		

Source: Global Insight, Inc.

V. Our Recommendations

The results of our study suggest that Toronto and Ottawa would both gain the largest number of additional visitors by concentrating their future attractions portfolio development on the following types of quality attractions:

- Three-star-rated amusement parks.
- Three-star and one-star shopping areas.
- Three-star specific structures.
- They would also benefit from the construction of one- and two-star-rated attractions from popular entertainment category (amusement and theme parks and from casinos[19].

Furthermore, this tourism strategy should also stress the following aspects:

- Increasing marketing budgets in both cities, since information available to the traveller prior to his departure, and the presentation of this information, is important to the determination of destination for many travellers. Furthermore, based on experience of several other Canadian cities (see Table 21), Toronto and Ottawa could get substantial returns from increasing their marketing budgets.
- New attractions need to be added with careful consideration to supporting tourist infrastructure needs such as public transportation and hotels rooms to maximize tourists' overall experience with the new attraction.
- The high U.S. population density is a plus in providing visitors to U.S. cities. This is another argument for increasing the promotion to U.S. markets and adopting

[19] Only total count of casinos was available.

schemes to encourage U.S. visitors to travel north. Joint air travel/hotel stay packages for U.S. visitors that feature incentives, such as reduced attraction admission fees or food and beverage vouchers, could be utilized in this regard.

- Complementarity or interaction of multiple sites at the destination is crucial. It is important to consider the impact of what the starting attraction portfolio base looks like when considering new attractions. Both cities should be careful to maintain a careful balance among a variety of attraction types when adding new attractions.

VI. Next Steps

This project has surfaced a good deal of information about the types of attractions that are successful in attracting visitors to North American cities. However, it has focused solely on the number of additional leisure visitors that could be enticed with the addition of a new attraction in Toronto or Ottawa. Notably, it has not considered visitor spend or length of stay. Nor has it shed light on the behaviour of local residents to the addition of new attractions. It has ignored tourists visiting friends and relatives and business travellers who indulge in non-business activities during their stay. Consequently, there is a range of potential follow-on analysis that could be considered as the Ministry thinks about formulating future plans to bring more visitors to Ontario. Some of the possible extensions to this project include:

- Addressing behavioural differences among visitor segments such as business travellers, travellers visiting friends and relatives, and the interaction of convention and business travellers with non-business attractions.
- Separating the tourist visitations data to look at the preferences of visitors from different origins (Europe, North America, Latin America, or Asia).
- Examining visitor spending patters and how this affects overall tourist revenue.
- Studying the length of visits and its impact on the tourist visitations.
- Examining the actual experience of cities that have added the attraction types that might be considered by Toronto and Ottawa.

VII. Technical Appendix

A. Attractions Matrix Examples

Arts and Culture

1. Museums

1.1 History museums
- The New York Historical Society
- McCord Museum of Canadian History in Montreal
- National Archives in Ottawa
- The Royal Ontario Museum

1.2 Historic sites
- Fort York
- Toronto's First Post Office

1.3 Other themed museums
- Hockey Hall of Fame
- Metro Toronto Zoo
- Aquariums

2. Visuals Arts

2.1 Art galleries
- Thomson Gallery
- Gardiner Museum of Ceramic Art
- Art Gallery of Ontario

2.2 Art-related events and festivals
- The Stratford Festival
- Fringe Theatre Festival
- Folk Festival

Environment and Built Form

1. Physical Setting

1.1. Waterfronts and beaches
- The Toronto Waterfront
- English Bay Beach in Vancouver
- West End Beaches in Vancouver

1.2 Other geographic features
- Vancouver is a gateway to Vancouver Island
- Toronto is a gateway to the Niagara Falls
- Orlando is a gateway to Walt Disney World

2. Urban Amenities

2.1 Parks and green spaces
- Montreal Botanical Garden
- Toronto Islands

- High Park
- Stanley Park

2.2 Shopping areas
- Eaton Centre
- Yonge and Eglinton
- Queen Street

2.3 Business districts
- Financial District
- Wall Street

3. Built Form

3.1 General building architecture
- TD Centre
- Roy Thomson Hall

3.2 Specific structures of interest
- CN Tower
- Sky Dome
- City Hall

Entertainment

1. Popular Entertainment

1.1 Amusement and theme parks
- Ontario Place
- Canada's Wonderland
- Seaworld Adventure Park in Orlando

1.2 Spectator sports
- Baseball
- Football

1.3 Casinos
- Great Canadian Casino in Vancouver

1.4 Participation sports opportunities
- biking
- horseback riding
- skating

1.5 Events and festivals
- Gay Pride Parade
- Caribana
- Toronto International Film Festival

1.6 Night clubs
- The Laugh Resort
- The BamBoo
- The Rivoli

2. Cultural Entertainment

2.1 Opera
- Canadian Opera House

- Metropolitan Opera House in New York
- Montreal Opera

2.2 Theatre

- Princes of Wales
- Royal Alexandra Theatre
- Medieval Times

2.3 Ballet

- Toronto Dance Theatre
- National Ballet of Canada
- The American Ballet Theatre in New York

2.4 Orchestra

- Carnegie Hall
- Toronto Symphony Orchestra
- Montreal Symphony Orchestra

Accommodation and Food

1. Accommodation

1.1 Luxury hotel rooms

- Sutton Place
- Windsor Arms
- The Sheraton Centre

2. Food

2.1 High-end restaurants

- 360 Revolving Restaurant
- Far Niente
- Canoe

2.2 Food-related events and festivals

- Taste of Little Italy
- Wine Festival
- Festival of Beer

2.3 Range of restaurants

- Little Italy
- West Indian food
- Chinatown

B. Regression Results

Model 1: One-Star Quality-Rated Popular Entertainment and Shopping Areas

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	1.11	0.71	1.56
Popular Entertainment (Q1)	0.60	0.73	0.83
Shopping Areas (Q1)	1.15	0.58	1.97
Room Count	0.0001	0.00002	7.04
Adj. R-sq	***0.69***	***S.E. of Reg.***	***2.82***

Source: Global Insight, Inc.

Model 2: Two-Star Quality-Rated Popular Entertainment

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	1.40	0.68	2.07
Popular Entertainment (Q2)	0.52	0.21	2.49
Room Count	0.0001	0.00002	8.42
Adj. R-sq	***0.70***	***S.E. of Reg.***	***2.74***

Source: Global Insight, Inc.

Model 3: Three-Star Quality-Rated Attractions, Total Count of Casinos and Properties Count

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	2.76	0.68	4.08
Specific Structures (Q3)	1.95	0.54	3.60
Amusement Parks (Q3)	6.67	0.76	8.76
Casinos (TC)	0.43	0.10	4.31
Shopping Areas (Q3)	0.81	0.26	3.06
Properties Count	0.007	0.002	3.50
Adj. R-sq	***0.76***	***S.E. of Reg.***	***2.44***

Source: Global Insight, Inc.

Model 3B: Three-Star Quality-Rated Attractions, Total Count of Casinos, Properties Count, and Population Density

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	-0.04	0.79	-0.05
Specific Structures (Q3)	1.88	0.44	4.27
Amusement Parks (Q3)	6.69	0.62	10.84
Casinos (TC)	0.41	0.08	5.00
Shopping Areas (Q3)	0.76	0.21	3.56
Properties Count	0.005	0.002	3.54
Population Density	0.13	0.03	4.89
Adj. R-sq	***0.84***	***S.E. of Reg.***	***1.98***

Source: Global Insight, Inc.

Model 4: Three-Star Quality-Rated Attractions, Total Count of Casinos, Public Transportation Score, and Population Density

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	-5.42	4.97	-1.09
Casinos (TC)	0.39	0.10	4.01
Amusement Parks (Q3)	7.09	0.74	9.56
Specific Structures (Q3)	2.87	0.44	6.47
Public Trans. Score	7.48	5.55	1.35
Population Density	0.14	0.03	4.23
Adj. R-sq	***0.78***	***S.E. of Reg.***	***2.38***

Source: Global Insight, Inc.

Model 5: Three-Star Quality-Rated Attractions and Room Count

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	1.75	0.43	4.10
Shopping Areas(Q3)	0.63	0.19	3.40
Amusement Parks (Q3)	4.71	0.58	8.14
Specific Structures (Q3)	1.05	0.40	2.59
# of Hotel Rooms	0.000104	0.00001	10.12
Adj. R-sq	***0.88***	***S.E. of Reg.***	***1.74***

Source: Global Insight, Inc.

Model 5B: Three-Star Quality-Rated Attractions, Room Count, and Population Density

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 50			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	0.37	0.57	0.64
Shopping Areas(Q3)	0.61	0.17	3.66
Amusement Parks (Q3)	4.96	0.53	9.35
Specific Structures (Q3)	1.14	0.37	3.11
# of Hotel Rooms	0.000091	0.00001	9.07
Population Density	0.08	0.023	3.27
Adj. R-sq	***0.90***	***S.E. of Reg.***	***1.57***

Source: Global Insight, Inc.

Model 5C: Three-star Quality-Rated Attractions, Room Count and Marketing Budgets

Dependent Variable: Total Number of Visits (Millions of Visitors)			
Sample: 2002			
Number of Observations: 33			
Variable	**Coefficient**	**Std. Error**	**T-Stat**
Constant	2.26	0.60	3.77
Amusement Parks (Q3)	4.52	0.62	7.25
Specific Structures (Q3)	1.02	0.46	2.21
Shopping Areas(Q3)	0.69	0.20	3.50
Marketing Budgets	0.10	0.05	2.24
# of Hotel Rooms	0.000079	0.00002	4.15
Adj. R-sq	***0.90***	***S.E. of Reg.***	***1.81***

Source: Global Insight, Inc.

C. Literature Review

Tourism Attractiveness Literature

Tourism Attractiveness Literature focuses on a discussion of the range of factors that influence the attractiveness of a destination. More formally, Leiper (1990) develops the idea of a tourist attraction system, comprised of *"…3 elements: a tourist or human element, a nucleus or central element, and a marker or informative element. A tourist attraction comes into existence when all 3 elements are connected."*

"Culture as a Determinant of the Attractiveness of a Tourism Region"

Ritchie and Zins (1978) examined factors that influence the overall attractiveness of a tourism region and measured the relative contribution of different social and cultural elements to the attractiveness of a tourism region.

A survey of 201 informed individuals representing a wide range of tourism and cultural development sectors was conducted in the province of Quebec. The results of this study suggest that general factors such as natural beauty and climate were the most important determinants of the attractiveness in the region followed in order by cultural and social characteristics, attitudes towards tourists, accessibility of the region, infrastructure of the region, price levels, sport/recreational facilities, and shopping/commercial facilities.

One of the significant drawbacks[20] of this study is related to sample bias. The individuals who participated in this survey represented a particular group of tourism professionals rather than users of culture-tourism facilities.

"A Framework of Tourist Attraction Research"

Lew (1987) summarizes a range of approaches from previous research to categorize the attractions. In particular, Lew identified three approaches to the topic and called these approaches the ideographic perspective, the organizational perspective, and the cognitive perspective.

1. *The ideographic perspective* refers to the general attributes of a place, including natural beauty, climate, culture, social customs, etc. The ideographic perspective does not provide an assessment of quality of a particular attraction, quality of management, tourist motivation, and preference for different attraction. Moreover, there is no discussion of spatial relationship between different locations.

2. *The organizational perspective* does not necessarily examine the attractions themselves, bur rather focuses on spatial elements (i.e. in relation to other attractions), capacity to accommodate large number of tourists and provide with services (i.e. lodging, food, merchandise), and the temporal nature of attractions (a year-round flow of tourists vs. seasonal flow). Scale is used to categorize the spatial relationship of an attraction to other attractions. The bottom line of this approach is to provide insight into the organization of tourist attractions.

[20] Pointed out by Zins (1978).

3. *The cognitive perspective* involves categorizing attractions according to "tourist perceptions and experiences." Cognitive perspective is inter-mixed with the ideographic perspective. For example, "campground" is an ideographic attraction. However, "camping" is more of an experience where participation makes these sites more than just sites to be observed.

Lew applies this framework to the previous studies. Lew uses Piperoglou (1966) and Ferrario's (1976) evaluations of tourist attractions of Western Greece and South Africa to illustrate the usefulness of the proposed framework.

"Tourist Attraction Systems"

Leiper (1990) provides a tourism framework/model defined as an empirical relationship between a tourist, a site and a marker—a piece of information about a site. In his paper, Leiper introduces a more complete definition of an attraction system by synthesizing the definitions from the past literature: *"A tourist attraction is a system comprising 3 elements: a tourist or human element, a nucleus or central element, and a marker of informative element. A tourist attraction comes into existence when all 3 elements are connected."*

Travellers and Tourists: are people who are away from home to the extent that their behaviour is motivated by leisure-related factors. This avoids any questions related to the purpose of the trip/visit. The touristic behaviour is related to a search for satisfying leisure away from home. Touristic leisure means a search for suitable attractions and a search for personal experience of attraction systems' nuclear elements. Tourists have a range of recreational and creative needs that need to be satisfied. This implies a very wide range of attractions.

Nucleus: refers to a central element in a tourist attraction system; it might be any feature or characteristic of a place that a traveller wants to visit. Leiper relies on the three categories of nuclear elements that were developed by Lew (1987). (Please see the discussion above.)

Markers: are items of information about any attraction that is a potential nuclear element in a tourist attraction. Leiper introduces three categories of markers—generating markers, transit markers, and contiguous markers. *Generating markers* are referred to the information received before setting off to an attraction site/nucleus (i.e. information received via internet or newspaper). *Transit markers* are related to the information found during the trip leading to the nucleus to which this information refers. *Contiguous markers* are related to the information found at the attraction site/nucleus.

"Tourism Attraction Systems: Exploring Cultural Behaviour"

Richard (2002) builds on Leiper's model and provides empirical evidence to support this framework. His paper discusses the results from the survey taken in 2000 of 6,000 tourists travelling to 43 cultural attractions in Europe and three in Australia. The cultural attractions include museums, monuments, art galleries, heritage centers, performing art venues, and festivals. Respondents were asked at what point they had made their decision to visit the interview location ("before leaving home," "during the trip," "when I arrived to the area"), to what extent the attraction had influenced their visit, motivation for the

visit, socio-economic background, and trip characteristics. The answers to these questions helped Richard study all three elements of attraction systems developed by Leiper (1990).

Sample: The research population included all visitors aged 16 years or older. Tourists were defined as respondents not resident or working in the local area. Exit interviews were also conducted. The selection of a population sample is a significant improvement over the sample used by Ritchie and Zins (1978).

Characteristics: Almost half of respondents were aged between 20 and 40. Respondents tended to be relatively well-educated people from a professional background with high incomes.

Markers: Almost half of respondents indicated that they decided to visit the attraction before the departure, which supports the wide use of generating markers. Moreover, the use of generating markers increases with distance between origin and destination. Generating markers were more likely to be used by older, retired, and less well-educated tourists and those with higher incomes. Day-trippers were more likely to use generating markers due to their limited length of stay. People on holiday (43%) were more likely to use generating markers than those on business (30%) or visiting friends and relatives (30%). The latter group was more likely to rely on their friends and relatives for information (60%).

Motivation: 46% of respondents indicated that they were visiting the site to be entertained, pointing to the importance of mixing culture and entertainment.

Time and money: both are also important in determining attraction visitations and use of markers.

Other pertinent survey results: Not everyone was motivated primarily by culture when visiting the cultural sites. Almost 40% of respondents indicated that they were neutral to the statements such as "I am visiting this attraction to find out about local culture" and "I want to learn something about the history of this place."

Only a third of respondents indicated that they "usually" took cultural holidays and only 27% classified their trip as cultural. People who viewed their trips as more cultural were women, older people, highly educated people, professionals and managers, and those with cultural occupations.

The level of cultural motivation varied across regions. Tourists from Europe and Latin America were more likely to classify their trips as being cultural than tourists from other geographic locations. The most important motivation for visiting cultural attractions was to learn new things and experience "the atmosphere" of the place. Highly educated people with higher incomes were significantly more interested in visiting cultural attractions.

Relevance to Our Research

The results obtained by Richard (2002) confirmed the significance of generating markers originally proposed by Leiper (1990)—information about the sight available prior to the trip. This suggests the ease with which a prospective tourist can discover such a marker is important. Promotion of attractions would be key to this process. Richard's results (2002)

also found that almost half of the visitors to a cultural sight expected to be entertained. Other motivations included a visit in order to learn new things and experience "the atmosphere" of the place.

Lew's work (1987) focused on the attractors of a rural destination and ranked a range of general factors that influence the attractiveness of a destination. The most important factors were the natural beauty and climate followed in order by cultural and social characteristics, attitudes towards tourists, accessibility of the region, infrastructure of the region, price levels, sport/recreational facilities and shopping/commercial facilities. All of these results relate to the quality of the tourist's experience at the attraction itself, and suggest the importance of measuring this quality in classifying an attraction.

Destination Competitiveness Literature

Destination Competitiveness Literature describes key foundations for developing a comprehensive tourism model. Not only the core resources and attractors of the destination are important, but also the destination management, destination policy and macro and microenvironment help to define a successful tourism sector. "Competitiveness in the tourism sector is defined as the ability of the tourism market environment and conditions, tourism resources, tourism human resources, and tourism infrastructure in a country to create an added value and increase national wealth. That is to say, 'the competitiveness in the tourism sector' is not only a measure of potential ability, but also an evaluation of present ability and tourism performance[21]". Articles by Kim (2000), Crouch and Ritchie (1999 and 2000) and Dwyer and Kim (2001) provide a valuable discussion on this topic.

"A Study on an Evaluation Model for Competitiveness of the Tourism Industry"

Kim (2000) developed a competitiveness model for the tourism industry and its indicators. The model has four dimensions of competitiveness including primary resources of competitiveness (i.e. environment and resources); secondary sources (i.e. tourism planning, tourism management, and tourism investment, etc.); tertiary sources (i.e. tourism infrastructure, attractiveness of resources, reception system, etc.); and a fourth level of sources related to tourism demand, tourism employment and tourism export. These four categories determine the competitiveness of a tourism industry.

Criticism: One of the main criticisms[22] of this model is that the categories used to define the components of this model are somewhat arbitrary. There is no justification to the assignment of resources to each level (primary, secondary, tertiary, and level four). In particular, there is some inconsistency as to how the "resources" are defined among the four categories. Some overlap appears to occur.

Similar to the Crouch-Ritchie model, Kim's model is linear and thus it fails to acknowledge potential interactive effects between different sources of destination competitiveness[23].

[21] Kim (2000).
[22] Ibbd.
[23] Ibbd.

"Tourism, Competitiveness, and Societal Prosperity and the Competitive Destination: A Sustainability Perspective"

Ritchie and Crouch (1999 and 2000) made a significant contribution to the literature on this topic by providing the most detailed model of the destination competitiveness. This model was first developed in 1993, but was modified over the years. In 2000, Ritchie and Crouch added another category to the model 'Destination Policy, Planning and Development'. They felt that it was necessary to emphasize tourism policy as a separate major element in the model and to include it in this new category. They stressed the importance of this category, since the objective of tourism policy is to create an environment where "tourism can flourish in an adaptive sustainable manner." The category "Destination Management" in the earlier model did not incorporate issues related to the tourism policy.

Ritchie and Crouch model (2000) includes the following components: Core Resources and Attractors; Supporting Factors and Resources; Destination Management; Destination Policy, Planning and Development; Qualifying and Amplifying Determinants; and Competitive Micro and Macro Environment.

1. *Core Resources and Attractors* represent factors that have appeal to tourists. In particular, the authors highlight physiography of destination, culture and history, market ties, mix of activities, special events, entertainment, and infrastructure.
2. *Supporting Factors and Resources* provide the necessary foundations for a strong tourism sector. These resources include infrastructure, accessibility, facilitating resources, hospitality, and enterprise.
3. *Destination Management* includes the resources that shape and influence a destination's competitive strength. The focus here is on resources stewardship, marketing, finance, venture capital, quality of service, and visitor management.
4. *Destination Policy, Planning, and Development*—the new category in the model—describes the process that seeks to create an environment within which "tourism can flourish in an adaptive manner." Some of the factors include development, monitoring and evaluation, audit, and philosophy.
5. *Qualifying and Amplifying Determinants* are constraints that influence a destination's competitive potential. These constraints are location, interdependencies, safety/security, and awareness/image.
6. *Competitive Micro Environment* comprises the most important stakeholders such as members of the travel trade, citizen groups, media, financial institutions, government departments, etc. As components of the tourism system, these stakeholders shape the immediate environment within which the destinations must compete.
7. *Competitive Macro Environment* tourism destination is influenced by a global environment and global forces such as economic restructuring, concern for environment, shifting demographics, spread of democracy, etc. The destination needs to adapt to these global forces to successfully compete with other destinations.

Criticism[24]**:** This is once again a linear, sequential model with no effort to describe potential interactions between different components of the model.

[24] Pointed out by Dwyer and Kim (2001).

Also, the model seems to completely neglect the demand side of competitiveness destination. The model discussed below addresses this shortcoming.

The Crouch-Ritchie model does not have a separate category for shopping, and fails to recognize shopping as a major attraction that substantially influences visitor flows to a destination.

"Destination Competitiveness: Development of a Model with Application to Australia and the Republic of South Korea"

Dwyer and Kim (2001) evaluate Australia and Korea in terms of destination competitiveness is based on the model developed by Ritchie and Crouch (1999 and 2000) with some modifications. This approach allows a direct comparison of the two counties with each other and facilitates an understanding of the set of factors that influence tourists to visit these countries.

The model includes the following eight categories:

1. *Inherited (Endowed) Resources* include Natural Resources (i.e. comfortable climate for tourists, cleanliness/sanitation of a place, natural wonders, national parks, flora and fauna) and Culture and Heritage (i.e. variety of cuisine, history, customs, architectural features, and artwork).
2. *Created Resources* incorporates Tourism infrastructure (i.e. accommodation facilities, food, fast food outlets, travel agents), Special Events, Range of Available Activities (i.e. mix of activities within a destination), Entertainment (i.e. theatre and film festival) and Shopping[25] (i.e. opportunity to shop for duty free items, opportunity to shop at an exotic location). Shopping is particularly important for Asian tourists.
3. *Supporting Factors and Resources* provide a foundation for successful tourism. These factors are general infrastructure (i.e. road network, airports, train system, sanitation, health care facilities), quality of service, accessibility of destination, hospitality towards tourists, market ties (i.e. tourism to Monaco is dependent on tourism numbers to French and Italian Riviera).
4. *Destination Management* is related to factors that enhance the appeal of the core resources and attractors. The paper primarily relies on the definition and perspective provided by Ritchie and Crouch (1999). "A destination that has a tourism vision, shares this vision among all stakeholders, understands both its strengths and its weaknesses, develops an appropriate marketing strategy and implements it successfully may be more competitive than one which has never examined the role that tourism is expected to play in its economic and social development [26]". The paper stresses five different types of destination management: destination marketing management; destination policy; planning and development; destination management organization; human resource development; and environmental management.
5. *Situational Conditions* represent matters that moderate, mitigate, or modify the destination competitiveness by filtering the impact of other groups of factors. These conditions include destination location (i.e. proximity to other destinations, travel

[25] According to Singapore Tourism Board 2000, over 50% of visitor expenditures in Singapore is on shopping items.
[26] Dwyer and Kim (2001).

time from major origin markets), competitive microenvironment, global macro environment, security and safety, and price competitiveness.

6. *Demand Conditions*. This paper emphasizes the importance of demand conditions. The destination may be competitive to one group of tourists, but not to another. The authors suggest that it is domestic tourism that triggers the nature and structure of a nation's tourism industry. Once domestic demand is established, foreign demand starts to develop. In addition, the paper provides some discussion as to the difference between pull and push factors that motivate tourists to travel. "Pull" factors can be regarded as destination attributes that fulfill visitor travel motives. "Push" factors are forces that arise from individuals and from individuals' social context. "Push" factors are real motives for people to determine a destination's competitiveness and to make their decision to travel. Demand conditions are a reflection of push factors. These include tourist preferences, international awareness of destination, overall destination image and international awareness of the destination's specific product offerings.
7. *Objective Performance Indicators of Destination Competitiveness*. The purpose of these indicators is to measure the destination competitiveness. First of all, performance can be measured statistically by using visitor statistics (number of visitors and their expenditures). Secondly, contribution of domestic and foreign tourism to an economy can be estimated by looking at the contribution of tourism to value added, employment, and the productivity of tourism industry sectors. Thirdly, it is important to know the amount of investment in the tourism sector; also price competitiveness indexes, the extent of government support, and financial incentives for tourism.
8. *Indicators of Economic Prosperity* are aggregate level of employment, rate of economic growth, and per capita income.

Relevance to Our Research

This research attempts a very broad collection of factors that affect the relative competitiveness of destinations. They acknowledge the complexity of the dynamics of tourism attraction and attempt to provide a guide to begin to measure this process. Although this complexity goes beyond the scope of our project, there are several elements of these models that will help guide our classification of attractions.

Dwyer and Kim's latest model allows for the interaction of different components, and Global Insight believes some indication of the complementarity of city attractions will be important to our classification. Additionally, Dwyer and Kim indicate the importance of shopping as an important part of tourist attractors. Their emphasis on infrastructure attests to the importance of the ease with which tourists are able to access the attractions they want to visit.

Urban Tourism Marketing Literature

Urban Tourism Marketing Literature provides a discussion of marketing strategies undertaken by urban authorities and tourism marketers. Essentially, the idea behind marketing is to make a tourist model—which was discussed in the previous section—attract more tourists and generate more revenue to the local economy. "A destination that has a tourism vision, shares this vision among all stakeholders, understands both its

strengths and its weaknesses, develops an appropriate marketing strategy and implements it successfully may be more competitive than one which has never examined the role that tourism is expected to play in its economic and social development[27]". An extension to the Ritchie and Crouch model is also discussed in this section.

"Scanning Museum Visitors: Urban Tourism Marketing"

Jansen-Verbeke and Van Rekom (1996) evaluate the role that the Rotterdam "museum park" (a set of museums including a museum for modern architecture, a museum of natural history, a local art museum, a gallery for contemporary art exhibitions, and a fine arts museum) could play in attracting visits to Rotterdam. Rotterdam is known as a working city, and has a low profile as a tourist destination (Much of historical Rotterdam was destroyed in the Second World War).

Background: According to Smith (1994), a museum is often regarded as an intermediary in the process of creating a final tourism product, offering a valuable set of experiences for cultural tourists. Many tourism-marketing plans emphasize museums as a core characteristic in the urban attraction and a critical element in generating a "high-quality" urban environment. The purpose of this paper was to investigate whether the Museum of Fine Arts could benefit from the promotion of other local museums. A two-step survey was used to identify the motives behind the decision to visit a museum and to assess their relative importance.

Results: 53.5% of survey participants indicated that their primary purpose in coming to Rotterdam was to visit the fine arts museum. 23.1% of the respondents mentioned the intention to visit more than one museum, although only 16% of respondents actually visited more than one.

Most museum visitors were not fully aware of the range of museums included in the museum park, even though a majority visited with the primary intention to visit a museum. This suggests that Rotterdam promotion authorities had not yet successfully incorporated the idea of the museum park in their marketing strategies, and that further synergies could be realized from emphasizing the museum cluster in future marketing materials designed to reach museum-going tourists, and by focusing on the motivations that visitors reported as encouraging their travel to Rotterdam's museums.

"The Destination Product and its Impact on Traveller Perceptions"

Murphy et al. (2000) examine the influence of environmental and social factors on the tourism's experience, and compare the tourism experience to retail experience. The primary objective of this paper is to examine the relationship between perceived quality and value of a trip and tourist intention to return. The model was applied to Victoria, consistently rated as one of the premier world destinations by the readers of Conde' Naste magazine. The exit survey sample conducted by Tourism Victoria included people living in British Columbia and surrounding states of Alberta, Washington and Oregon.

Model: Hypotheses were tested to assess the drivers of tourists' intention to return to Victoria within two years.

[27] Dwyer and Kim (2001).

H1: Positive experience with elements of the destination's macro-environments will positively affect perceptions of trip *quality*.

H2: Positive experience with elements of the service infrastructure will positively affect perceptions of trip *quality*.

H3: Positive experience with elements of the destination's macro environments will positively affect perceptions of trip *value*.

H4: Positive experience with elements of the service infrastructure will positively affect perceptions of trip *value*.

H5: Perceived trip *quality* will positively affect perceived trip *value*.

H6: Perceived trip *quality* will positively affect traveller *intentions to return*.

H7: Perceived trip *value* will positively affect traveller *intentions to return*.

Results: The seven hypotheses described were tested with Partial Least Squares analysis (PLS), a second-generation estimation technique that can simultaneously estimate measurement and structural parameters. PLS is based on iterative OLS regression and is primarily used in studies concerned with prediction as well as model fit. Structural parameters show the strength of relationships between variables.

Table 23: Measurement Attributes

Items from Questionnaire	Description
Environment Victoria has	- overall environment - pleasant climate - attractive scenery - clean city - heritage ambience - friendly people
Infrastructure Victoria has	- overall infrastructure - good food - interesting attractions - good hotels
Quality Victoria has	- overall quality - overall satisfaction - quality relative to United States
Value Victoria offers	- overall value - reasonable prices - value for the money - value for trip - value relative to United States
Intention to Return	- overall - return to Victoria within two years - return to other island destination within two years

Source: Murphy et al. (2000)

Key structural findings are as follows:

- Quality was a key predictor of intention to return within two years, but perceived trip value was not (this finding supports H6 but rejects H7).
- Quality of destination had an indirect effect on intention to return through its influence on value of a trip. This means that quality should be a central focus of destination marketing and cities should concentrate on improving service quality of a tourist destination (this finding supports H5). Destination marketers gain less by focusing their promotion efforts primarily on value.
- Tourism infrastructure was found to be an important predictor of both value and quality. This implies that destination marketers should seek to improve general infrastructure such as hotels, restaurants, attractions, etc. (this finding supports H2 and H4).
- Environment in terms of climate, scenery, friendliness, and cleanliness was found to be a key predictor of quality, but only a modest predictor of value (this finding supports H1 but only modestly H3).

These findings support the idea that macroeconomic environment and infrastructure are important to the appeal of destination product and to tourist satisfaction. Both environment and infrastructure factors can be linked to value and quality as perceived by tourists. At least in terms of intention to return, quality is the more important of the two.

Retail Environment and Tourism Experience: Tourism product experience was compared to the retail store experience. Baker, Grewal, and Parasurman (1994) found that the store environment (store design, social characteristics, etc.) and in-store service affect shoppers' experience. However, Echtner and Ritchie (1993) pointed out an important difference between local retail and tourism retail experience. While local residents visit the store to buy products or services, tourists primarily visit place to consume the "atmosphere" provided by a destination. The importance of atmosphere can then be tied to a destination image. According to Kotler, Haider and Rein (1993) destination image is a "sum of beliefs, ideas and impressions that people have of a place."

"Marketing the Competitive Destination of the Future"

Buhalis (2000) introduces the idea of the destination life cycle, and notes how the marketing requirements change with the life-cycle stage (the article also notes how the life-cycle affects the local impact of the destination shifts through the life cycle).

Buhalis emphasized Ritchie and Crouch's (1993) comprehensive model of destination competitiveness for tourism organizations. According to Buhalis, the Ritchie and Crouch model is theoretically sound since it is based on the idea that it is a combination of factors and their synergies that determine the attractiveness of a region (destination). Noting that the Ritchie and Crouch model fails to prioritize the importance of the elements, Buhalis suggests that "a dissimilar rating should be adopted by different destinations depending on the types of markets they attract, their life cycle stage and specific characteristics."

Relevance to Our Research

These articles attest to the importance of creative marketing to the tourist. The Rotterdam experience noted by Jansen-Verbeke and Van Rekom indicates how the failure of city promotion authorities to note similar institutions to the primary destination in their marketing probably limited tourist visits and spending in the city. They also point out how this indicated a failure of city promotion officials to adequately consider the motivations of many Rotterdam visitors.

Buhalis takes this idea much further by suggesting that, in addition to understanding the motivations of potential visitors, tourism marketers need to understand the life cycle stage of the destination to be promoted, and to adopt their promotional strategies to shifts between stages in order to maximize both visits and spending by tourists.

In his study of intentions to return, Murphy and colleagues provided more evidence for the importance of the quality of the tourism experience, and how it should be a central focus of destination marketing. Consequently, cities should concentrate on improving service quality to their tourists. The article also emphasized how quality should extend beyond the attraction itself to elements of tourist infrastructure.

Tourism Demand/Econometric Modelling Literature

Tourism Demand/Econometric Modelling Literature provides a range of econometric techniques and models used to forecast tourism demand. Since most of the empirical work that was found was focused on determining tourist demand, Global Insight included the two together in this one category. Econometric techniques range from statistical time series that include simple ARIMA, autoregressive and "no change" models to more complicated error-correction models. Typical tourism demand models focus on the origin-destination pair of countries.

"A Review of International Tourism Demand Models"

Lim (1997) provides a comprehensive summary of 100 articles on the topic of tourism demand modelling published over the period 1961-94. Lim presents an overview of the most commonly used explanatory variables; classification by type of data used; dependent variables modelled; model specifications; and the qualitative factors that influence tourism demand.

Data Description: More than 50% of tourism studies used annual data. While the number of annual observations ranged from 5 to 28, the most common number of observations was 16. This small number of observations questions the reliability of regression estimates for many of the studies. To address this concern, some studies used monthly or quarterly data, cross-section data, or pooled time-series data.

Model Specification: Typical tourism demand model focuses on the origin-destination pair of countries. The general demand model that is typically estimated is presented below:

$DT_{ij} = F(Y_j, TC_{ij}, RP_{ij}, ER_{ij}, QF_i)$

Where:

DT_{ij} - demand for international travel services by origin j for destination i;

Y_j – income of origin j;

TC_{ij} – transportation cost between destination i and origin j;

RP_{ij} – relative prices (i.e. the ratio of prices in destination i to prices in origin j and in alternative destinations);

ER_{ij} – currency exchange rate, measured as units of destination i's currency per unit of origin j's currency;

QF_i – qualitative factors in destination i.

Table 24: Model Specifications

Model Specification	Number of Studies Using this Model Specification
Log-linear single equations	56%
Only linear-single equations	11%
System of equations (i.e. complete demand model)	14%
Other (combination of different models)	7%
No model was used	2%

Source: Lim (1997)

The main reason for using a log-linear model was related to the ease of interpretation of the coefficients as estimated elasticities. More than 80% of studies used OLS method of estimation, either alone or in conjunction with other methods.

Dependent Variable: The number of tourist arrivals and/or tourist departures was the most commonly used dependent variable. Other variables included the number of tourists per capita on independent travel; share of tourist arrivals; proportion of tourists to a particular destination; visit rate; and the proportion of recreational and business tourists. One study used conference attendance as a dependent variable. Tourist expenditures and/or receipts expressed in nominal or real terms are also used to measure tourism demand. Bakkal and Scaperlanda (1991) suggested that the number of nights spent at tourist accommodation is superior to other proxies, because it accounts for time spent at a hotel excluding stay with friends and relatives.

Number of explanatory variables: The number of independent variables used in the studies ranges from one to nine. Typically, four explanatory variables were included in the regression. Some studies used more than one qualitative factor. Qualitative factors included tourists' attributes (i.e. age, level of education, gender and employment/profession); household size; population and population change in the origin; trip motive or frequency; *destination attractiveness*; *political, social, and sporting events in a destination*. Destination attractiveness refers to climate, culture, history, and natural environment.

Table 25: Types of Explanatory Variables

Explanatory Variable	How Many Studies Used This Variable?
Income	84%
Relative Prices	73%
Transportation Costs	55%
Exchange Rates	25%
Trend	25%
Dynamics[28]	26%
Competing Destinations/Goods	15%
Seasonal Factors	14%
Marketing Expenditures	7%
Migration	5%
Business Travel/Trade	5%
Economic Activity Indicators	3%
Qualitative Factors	60%
Other[29]	27%

Source: Lim (1997)

Qualitative factors: Qualitative factors were typically accommodated with the use of dummy variables. Time trend variables are often included to capture secular changes in tourist tastes for foreign travel (i.e. population increase, change in the age structure of a population, the increase in the length of paid holidays). Dummy variables are also used to capture seasonal variations in the tourism demand.

"Cointegration Versus Least Squares Regression"

Kulendran and Witt (1997) compared the forecasting performance of error correction models to simple OLS models, naïve "no change" models, and statistical time-series models to help determine whether models incorporating contemporary econometric theory can help provide more accurate forecasts of tourism demand. Having examined visits from the United Kingdom to eight European nations over 1978-95, Kulendran and Witt found error correction models to be superior to OLS models in 75% of the cases. However, the "no change" and some statistical time-series models were often more accurate still.

Explanatory variables (not seasonally adjusted) include:

- UK real personal disposable income per capita;

[28] Dynamics is captured by lagged effects, such as the previous values of income, relative prices, exchange rates, and foreign investment.

[29] Other variables include real tourist expenditure; supply/capacity constraints on tourist accommodation; exchange rate reforms or foreign exchange restrictions; cross-price elasticities of vacation goods; and the average propensity to consume tourism goods.

- The cost of living for tourists in the destination country relative to the cost of living for tourists in the United Kingdom (proxied by the consumer price index adjusted by the exchange rate with the origin country);
- The cost of living for tourists in the destination country relative to a weighted average of the cost of living in nine other competing foreign destinations;
- Real standard air fare from the United Kingdom to the destination country; and
- The airfare from the United Kingdom to the destination relative to a weighted average of airfares to competing foreign destinations.

Seasonal dummies were also included in the model to capture seasonal fluctuations of the dependent variable.

The authors concluded that future studies should pay more attention to recent developments in econometric theory in constructing tourism demand models.

"Why People Travel to Different Places"

Papatheodorou (2001) indicates the importance of including supply side factors such as product differentiation and corporate power exercised by tourism product providers in demand models. According to Papatheodorou, traditional demand theory, as it is utilized in most existing tourism demand models, is not sufficient to explain the direction of tourism flows. He notes several drawbacks of using tourism demand systems to forecast the market shares of destinations:

The assumption of a representative tourist is highly unrealistic given a heterogeneity nature of a specific leisure tourist or group of tourists.

The static nature of the traditional demand theory cannot account for the evolutionary features of the tourism product (i.e. appearance of new resorts). It is also important to differentiate one tourism product from the other (i.e. Greek tourism product is different from Mexican or Chinese product).

Third, the traditional demand theory can only work within a competitive environment where the producers act as price takers who cannot manipulate tourists to accept higher prices for a tourism product. In reality, however, the trend towards global consolidation between tourism product providers creates opportunities for oligopoly. The establishment of oligopolistic power in the market is detrimental to a consumer.

"Forecasting Tourist Arrivals"

Lim and McAleer (2001) used various exponential smoothing models to forecast quarterly tourist arrivals to Australia from Hong Kong, Malaysia, and Singapore. The models were estimated over the period of 1975-99 using quarterly data. One-quarter ahead international tourism forecasts for the period 1998(1)-2000(1) were evaluated in terms of the forecasting accuracy using root mean squared error criterion (RMSE).

Models: The exponential smoothing models tested include the single-equation models as follows: the Holt-Winters additive and multiplicative seasonal models, single, double, and the Holt-Winters non-seasonal exponential smoothing models.

Results: Lim and McAleer found that the Holt-Winters additive and multiplicative seasonal models outperform the single, double, and the Holt-Winters non-seasonal exponential smoothing models. This finding suggests that forecasters should be concerned with seasonality of tourism demand data in Australia.

Another finding of this paper is that forecasting the first difference of tourist arrivals performs worse than forecasting its levels. This result means that forecasters should not adjust for the presence of unit root in the tourist arrival data.

"SFTIS[30]: A Decision Support System for Tourism Demand Analysis and Forecasting"

Petropoulos et al. (2003) believe that it is important to separate the decision by consumers to travel in two separate stages. In the first stage, consumers decide whether they are going to travel or stay at home. In the second stage, those who have decided to travel choose a destination of interest. At each stage, different factors influence the consumers' decision to travel. This approach allowed Petropoulos et al. to include a variety of explanatory variables in the total system, a desirable attribute given the numerous factors that affect the travel decision, but limit the number that appear in any one equation in order to control statistical problems such as multicollinearity and heteroscedasticity.

Relevance to Our Research

Unlike the theoretical work quoted earlier, much of the empirical work noted in this section focuses on the determination of tourism demand for a specific destination, rather than an examination of why tourists select one destination over others, the goal of this project. Consequently, the empirical research Global Insight reviewed seems of very limited interest to this project. Lulendran and Witt's look at the usefulness of error correction models does emphasize the need to consider newly developed econometric techniques in modelling tourist behaviour. Papatheodorou criticises many of the demand studies for failing to take into account the degree to which the tourist travel market differs from the simple competitive situation; but his article is theoretic, and he does not offer his own version of a model approach. A number of authors suggest that various time-series approaches can be superior to a structural (econometric) demand model.

[30] Innovative decision support system used to forecast tourism demand for Greece.

Bibliography:

Baker, J., Grewal, D. and Parasuraman, A. (1994). "The Influence of Store Environment on Quality Inferences and Store Image". Journal of the Academy of Marketing Science, 22(4), pp. 328-339.

Buhalis, Dimitrios. (2000). "Marketing the Competitive Destination of the Future". Tourism Management (21), pp. 97-116.

Crouch, G. I., and Ritchie, J. R. Brent. (2000). "The Competitive Destination: A Sustainability Perspective". Tourism Management (21), pp. 1-7.

Crouch, G. I., and Ritchie, J. R. Brent. (1999). "Tourism, Competitiveness, and Societal Prosperity". Journal of Business Research (44), pp. 137-152.

Echtner, C.M. and Ritchie, J. R. Brent. (1993). "The Measurement of Destination Image: An Empirical Assessment". Journal of Travel Research (31), pp. 3-13.

Ferrario, Francesco. (1976). "The Tourist Landscape: A Method of Evaluating Tourist Potential and its Application to South Africa". Ph.D. dissertation, Department of Geography, University of California, Berkley.

Jansen-Verbeke, Myriam and Johan Van Rekom. (1996). "Scanning Museum Visitors: Urban Tourism Marketing". Annals of Tourism Research (23), pp. 364-375.

Kim, C.W. (2000). "A Study on an Evaluation Model for Competitiveness of the Tourism Industry". http://www.ktri.re.kr/eng/rep/a2000_02.htm

Kotler, P., Haider, D. H. and Rein, I. (1993). "Marketing Places". New York: Free Press.

Kulendran, Nada and Stephen F. Witt. (2001). "Cointegration Versus Least Squares Regression". Annals of Tourism Research (28), pp. 291-311.

Lieper, Neil. (1990). "Tourist Attraction Systems". Annals of Tourism Research (17), pp. 367-384.

Lim, Christine. (1997). "Review of International Tourism Demand Models". Annals of Tourism Research (24), pp. 835-849.

Lim, Christine and Michael, McAleer. (2001). "Forecasting Tourist Arrivals". Annals of Tourism Research (28), pp. 965-977.

Lew, Alan A. (1987). "A Framework of Tourist Attraction Research". Annals of Tourism Research (14), pp. 553-575.

Murphy, Peter et all (2000). "The Destination Product and Its Impact on Traveller Perceptions". Tourism Management (21), pp. 43-52.

Papatheodorou, Andreas. (2001)."Why People Travel to Different Places". Annals of Tourism Research (28), pp. 164-179.

Petropoulos, C. et all (2003)."SFTIS: A Decision Support System for Tourism Demand Analysis and Forecasting". Journal of Computer Information Systems.

Piperoglou, John. (1966)."Identification and Definition of Regions in Greek Tourist Planning". Regional Science Association 18: 169-76.

Richards, Greg. (2002). "Tourism Attraction Systems: Exploring Cultural Behaviour". Annals of Tourism Research (29), pp. 1048-1064.

Ritchie B. R. and M. Zins. (1978)."Culture as a Determinant of the Attractiveness of a Tourism Region". Annals of Tourism Research (5), pp. 252-267.

Smith, S. L. J. (1994). "The Tourism Product". Annals of Tourism Research (21), pp. 582-595.

Dwyer L. and C.W. Kim (2001). "Destination Competitiveness: Development of a Model with Application to Australia and the Republic of Korea." Report prepared for Department of Industry Science and Resources, Australia and Korea Tourism research Institute, Ministry of Tourism.

D. Visitations Data

Figure 3: Person Visits in CMAs – Main Purpose: Pleasure
Canadian Travel Survey (80km + Trips) and International Travel Survey
(Excluding Students and Commuters)

Mnemonics	1996	1998	1999	2000	2001	2002
v_can_tor	3,839,870	4,027,592	4,149,858	5,010,669	4,711,145	4,156,254
v_usa_tor	2,032,180	1,521,492	1,740,591	1,584,005	1,699,130	1,656,493
v_ovs_tor	756,333	690,580	706,587	887,518	785,285	678,763
v_tot_tor	6,628,383	6,239,664	6,597,036	7,482,192	7,195,560	6,491,510
v_can_mtl	1,935,436	2,090,426	2,262,376	3,064,599	2,975,239	3,474,133
v_usa_mtl	902,439	897,805	1,048,837	1,080,950	1,122,686	1,234,751
v_ovs_mtl	598,158	530,037	471,086	567,940	493,590	448,583
v_tot_mtl	3,436,033	3,518,268	3,782,299	4,713,489	4,591,515	5,157,467
v_can_vac	1,373,054	1,380,582	1,417,552	1,415,083	1,221,648	1,393,250
v_usa_vac	1,475,619	1,969,901	2,057,211	2,167,470	2,192,107	2,070,949
v_ovs_vac	687,814	665,633	738,716	985,247	921,808	857,511
v_tot_vac	3,536,487	4,016,116	4,213,479	4,567,800	4,335,563	4,321,710
v_can_ott	1,665,632	1,691,062	1,561,518	1,965,833	2,119,599	1,967,926
v_usa_ott	299,821	272,746	283,058	268,112	323,287	297,771
v_ovs_ott	289,495	262,297	237,554	278,040	254,408	220,354
v_tot_ott	2,254,948	2,226,105	2,082,130	2,511,985	2,697,294	2,486,051
v_can_cal	976,230	1,190,656	1,075,317	1,037,128	1,196,011	1,259,527
v_usa_cal	222,581	257,882	220,238	213,999	198,498	189,081
v_ovs_cal	203,800	232,934	255,700	327,739	306,530	272,445
v_tot_cal	1,402,611	1,681,472	1,551,255	1,578,866	1,701,039	1,721,053
v_can_edm	1,103,608	1,322,565	1,513,521	1,544,845	1,790,590	1,349,747
v_usa_edm	108,682	99,080	108,473	92,463	130,451	123,692
v_ovs_edm	98,752	73,266	78,765	86,930	82,898	69,413
v_tot_edm	1,311,042	1,494,911	1,700,759	1,724,238	2,003,939	1,542,852
v_can_que	1,734,025	2,193,711	2,313,127	2,392,479	2,775,180	3,092,909
v_usa_que	410,097	335,122	432,974	425,027	477,298	591,964
v_ovs_que	426,796	380,814	363,554	397,552	351,282	308,292
v_tot_que	2,570,918	2,909,647	3,109,655	3,215,058	3,603,760	3,993,165
v_can_wpg	680,834	675,189	763,294	757,062	904,474	780,235
v_usa_wpg	116,632	157,972	141,601	148,719	153,916	146,953
v_ovs_wpg	25,016	23,714	28,946	23,828	22,972	18,927
v_tot_wpg	822,482	856,875	933,841	929,609	1,081,362	946,115
v_can_hal	796,914	877,899	905,635	1,111,845	1,099,878	1,304,087
v_usa_hal	137,555	175,211	180,252	189,728	192,988	214,405
v_ovs_hal	44,810	65,766	100,607	56,225	59,877	47,640
v_tot_hal	979,279	1,118,876	1,186,494	1,357,798	1,352,743	1,566,132
v_can_vic	587,190	709,016	718,270	650,569	568,597	683,588
v_usa_vic	0	789,194	739,541	664,621	668,376	730,509
v_ovs_vic	0	251,137	287,548	383,966	367,999	309,959
v_tot_vic	587,190	1,749,347	1,745,359	1,699,156	1,604,972	1,724,056

Legend:

	Identifiers
Toronto	TOR
Montreal	MTL
Vancouver	VAC
Ottawa-Hull	OTT
Calgary	CAL
Edmonton	EDM
Quebec	QUE
Winnipeg	WPG
Halifax	HAL
Victoria	VIC
v_tot	total visits
v_usa	visits from US
v_ovs	visits overseas
v_can	visits from Canada

Source: Statistics Canada

Figure 4: Overseas Visitors to U.S. (in millions)

Mnemonics	1998	1999	2000	2001	2002
V_OVS_PHO	0.43	0.29	0.34	0.26	0.25
V_OVS_LOS	3.56	3.57	3.53	2.82	2.26
V_OVS_SAC	0.17	0.22	0.21	0.15	0.13
V_OVS_SAF	2.58	2.79	2.83	1.97	1.64
V_OVS_SAN	0.78	0.81	0.70	0.59	0.44
V_OVS_DEN	0.26	0.27	0.29	0.24	0.25
V_OVS_WAS	1.40	1.30	1.48	1.20	1.03
V_OVS_FOT	0.52	0.47	0.47	0.42	0.29
V_OVS_MIA	3.27	2.86	2.94	2.55	2.20
V_OVS_ORL	2.87	2.86	3.01	2.47	1.87
V_OVS_TAM	0.74	0.49	0.52	0.50	0.36
V_OVS_ATL	0.57	0.54	0.70	0.70	0.54
V_OVS_CHI	1.21	1.27	1.35	1.07	1.01
V_OVS_IND	0.10	0.07	0.08	0.00	0.08
V_OVS_NEO	0.36	0.29	0.36	0.39	0.23
V_OVS_BOS	1.04	1.20	1.33	1.07	0.82
V_OVS_BAL	0.14	0.17	0.18	0.15	0.13
V_OVS_DET	0.26	0.29	0.34	0.28	0.25
V_OVS_MIN	0.19	0.20	0.31	0.26	0.13
V_OVS_STL	0.10	0.15	0.10	0.09	0.06
V_OVS_CHR	0.05	0.07	0.13	0.11	0.08
V_OVS_LAS	1.80	2.25	2.26	1.51	1.22
V_OVS_NEY	5.00	5.51	5.71	4.80	4.24
V_OVS_CIN	0.12	0.12	0.10	0.11	0.10
V_OVS_CLE	0.10	0.10	0.10	0.11	0.06
V_OVS_COU	0.07	0.05	0.08	0.09	0.10
V_OVS_OKL	0.00	0.00	0.00	0.00	0.00
V_OVS_POT	0.19	0.20	0.16	0.11	0.12
V_OVS_PHI	0.36	0.34	0.39	0.42	0.42
V_OVS_PIT	0.12	0.10	0.10	0.11	0.10
V_OVS_MEM	0.10	0.10	0.00	0.00	0.06
V_OVS_NAH	0.10	0.07	0.16	0.00	0.08
V_OVS_AUS	0.12	0.12	0.13	0.13	0.08
V_OVS_DAL	0.40	0.42	0.49	0.35	0.33
V_OVS_HOU	0.50	0.42	0.44	0.42	0.36
V_OVS_SAZ	0.12	0.12	0.00	0.11	0.08
V_OVS_SAY	0.12	0.12	0.16	0.15	0.12
V_OVS_SEA	0.47	0.47	0.42	0.35	0.31
V_OVS_MIL	0.00	0.00	0.00	0.00	0.00
V_OVS_KAN	0.00	0.00	0.00	0.00	0.00

Legend:

Cities	State	City
Phoenix, AZ	AZ	PHO
San Diego, CA	CA	SAN
San Francisco, CA	CA	SAF
Los Angeles, CA	CA	LOS
Sacramento, CA	CA	SAC
Denver, CO	CO	DEN
Washington, DC	DC	WAS
Orlando, FL	FL	ORL
Tampa, FL	FL	TAM
Miami, FL	FL	MIA
Fort Lauderale, FL	FL	FOT
Atlanta, GA	GA	ATL
Chicago, IL	IL	CHI
Indianapolis, IN	IN	IND
New Orleans, LA	LA	NEO
Boston, MA	MA	BOS
Baltimore, MD	MD	BAL
Detroit, MI	MI	DET
Minneapolis, MN	MN	MIN
St. Louis, MO	MO	STL
Charlotte, NC	NC	CHR
Las Vegas, NV	NV	LAS
New York City, NY	NY	NEY
Columbus, OH	OH	COU
Cincinnati, OH	OH	CIN
Cleveland, OH	OH	CLE
Oklahoma City, OK	OK	OKL
Portland, OR	OR	POT
Philadelphia, PA	PA	PHI
Pittsburgh, PA	PA	PIT
Nashville, TN	TN	NAH
Memphis, TN	TN	MEM
San Antonio, TX	TX	SAZ
Houston, TX	TX	HOU
Dallas, TX	TX	DAL
Austin, TX	TX	AUS
Salt Lake City, UT	UT	SAY
Seattle, WA	WA	SEA
Milwaukee, WI	WI	MIL

Source: OTTI website

Figure 5: Total U.S. Cities Visits from Canada: Including En Route, Excluding Same Day Auto and Non-Leisure (in millions)

Mnemonics	2000	2001	2002
V_CAN_PHO	0.24	0.23	0.19
V_CAN_LOS	0.14	0.14	0.12
V_CAN_SAC	0.08	0.07	0.06
V_CAN_SAF	0.17	0.16	0.15
V_CAN_SAN	0.20	0.19	0.17
V_CAN_DEN	0.07	0.06	0.06
V_CAN_WAS	0.08	0.07	0.06
V_CAN_FOT	0.09	0.09	0.08
V_CAN_MIA	0.14	0.13	0.11
V_CAN_ORL	1.23	1.11	0.94
V_CAN_TAM	0.27	0.27	0.24
V_CAN_ATL	0.59	0.63	0.59
V_CAN_CHI	0.22	0.25	0.22
V_CAN_IND	0.18	0.21	0.20
V_CAN_NEO	0.09	0.08	0.06
V_CAN_BOS	0.27	0.28	0.22
V_CAN_BAL	0.34	0.40	0.37
V_CAN_DET	1.10	1.04	1.01
V_CAN_MIN	0.41	0.39	0.38
V_CAN_KAN	0.06	0.05	0.04
V_CAN_STL	0.03	0.03	0.02
V_CAN_CHR	0.59	0.60	0.57
V_CAN_LAS	0.38	0.30	0.26
V_CAN_NEY	0.29	0.25	0.23
V_CAN_CIN	0.16	0.17	0.15
V_CAN_CLE	0.16	0.15	0.13
V_CAN_COU	0.15	0.17	0.17
V_CAN_OKL	0.03	0.03	0.03
V_CAN_POT	0.26	0.23	0.22
V_CAN_PHI	0.41	0.41	0.42
V_CAN_PIT	0.40	0.41	0.37
V_CAN_MEM	0.14	0.16	0.14
V_CAN_NAH	0.21	0.20	0.20
V_CAN_AUS	0.02	0.02	0.02
V_CAN_DAL	0.03	0.03	0.03
V_CAN_HOU	0.03	0.03	0.03
V_CAN_SAZ	0.05	0.05	0.04
V_CAN_SAY	0.12	0.12	0.11
V_CAN_SEA	1.23	1.18	1.17
V_CAN_MIL	0.12	0.10	0.11

Legend:

Cities	State	City
Phoenix, AZ	AZ	PHO
San Diego, CA	CA	SAN
San Francisco, CA	CA	SAF
Los Angeles, CA	CA	LOS
Sacramento, CA	CA	SAC
Denver, CO	CO	DEN
Washington, DC	DC	WAS
Orlando, FL	FL	ORL
Tampa, FL	FL	TAM
Miami, FL	FL	MIA
Fort Lauderale, FL	FL	FOT
Atlanta, GA	GA	ATL
Chicago, IL	IL	CHI
Indianapolis, IN	IN	IND
New Orleans, LA	LA	NEO
Boston, MA	MA	BOS
Baltimore, MD	MD	BAL
Detroit, MI	MI	DET
Minneapolis, MN	MN	MIN
St. Louis, MO	MO	STL
Charlotte, NC	NC	CHR
Las Vegas, NV	NV	LAS
New York City, NY	NY	NEY
Columbus, OH	OH	COU
Cincinnati, OH	OH	CIN
Cleveland, OH	OH	CLE
Oklahoma City, OK	OK	OKL
Portland, OR	OR	POT
Philadelphia, PA	PA	PHI
Pittsburgh, PA	PA	PIT
Nashville, TN	TN	NAH
Memphis, TN	TN	MEM
San Antonio, TX	TX	SAZ
Houston, TX	TX	HOU
Dallas, TX	TX	DAL
Austin, TX	TX	AUS
Salt Lake City, UT	UT	SAY
Seattle, WA	WA	SEA
Milwaukee, WI	WI	MIL

Source: Global Insight, Inc. and Statistics Canada

Figure 6: Cities Person-Trips Volume – Non-Visiting Friends and Relatives Leisure (in millions)

Mnemonics	1998	1999	2000	2001	2002
V_USA_PHO	4.38	4.79	4.61	4.57	4.84
V_USA_LOS	7.25	8.56	7.64	8.34	8.56
V_USA_SAC	3.89	4.12	4.37	4.31	4.50
V_USA_SAF	7.60	8.42	9.03	9.79	10.07
V_USA_SAN	9.73	10.21	10.57	11.43	11.91
V_USA_DEN	4.01	4.35	4.73	5.11	5.54
V_USA_WAS	6.29	6.10	6.50	5.74	5.93
V_USA_FOT	1.85	1.96	1.90	2.03	2.21
V_USA_MIA	2.63	2.74	2.89	2.84	3.06
V_USA_ORL	22.69	24.08	25.85	24.70	26.76
V_USA_TAM	6.01	6.17	5.73	6.09	6.79
V_USA_ATL	9.77	9.50	9.42	9.66	9.94
V_USA_CHI	9.93	10.33	11.22	9.62	9.84
V_USA_IND	6.37	6.22	6.48	7.03	7.10
V_USA_NEO	5.61	6.97	7.16	6.04	6.49
V_USA_BOS	5.54	6.12	5.46	5.72	6.17
V_USA_BAL	5.37	4.96	4.74	5.08	5.09
V_USA_DET	1.75	1.76	1.88	2.07	2.16
V_USA_MIN	4.83	4.77	5.02	5.06	4.77
V_USA_KAN	3.76	4.07	3.98	3.97	4.28
V_USA_STL	6.61	7.01	7.04	7.45	7.76
V_USA_CHR	4.22	4.23	4.63	4.94	5.36
V_USA_LAS	17.15	18.11	18.82	17.92	18.85
V_USA_NEY	13.07	13.67	14.36	14.78	16.17
V_USA_CIN	4.45	4.93	5.40	5.23	5.07
V_USA_CLE	4.47	4.97	5.46	4.85	4.44
V_USA_COU	5.44	5.71	5.23	5.43	5.84
V_USA_OKL	5.06	5.15	4.53	4.96	4.95
V_USA_POT	3.49	3.53	4.06	3.92	3.31
V_USA_PHI	5.74	5.48	5.00	5.00	5.23
V_USA_PIT	4.43	4.50	4.96	4.95	4.60
V_USA_MEM	3.74	4.08	4.37	4.85	4.54
V_USA_NAH	6.16	6.22	6.50	6.31	6.40
V_USA_AUS	4.14	3.95	4.20	4.15	3.77
V_USA_DAL	5.54	6.45	6.41	6.88	7.27
V_USA_HOU	6.63	6.34	6.11	6.95	6.59
V_USA_SAZ	8.62	10.01	9.63	11.10	10.36
V_USA_SAY	3.21	3.32	3.27	3.45	3.41
V_USA_SEA	4.26	3.68	3.74	4.01	3.64
V_USA_MIL	3.06	3.22	3.10	3.23	3.38

Legend:

Cities	State	City
Phoenix, AZ	AZ	PHO
San Diego, CA	CA	SAN
San Francisco, CA	CA	SAF
Los Angeles, CA	CA	LOS
Sacramento, CA	CA	SAC
Denver, CO	CO	DEN
Washington, DC	DC	WAS
Orlando, FL	FL	ORL
Tampa, FL	FL	TAM
Miami, FL	FL	MIA
Fort Lauderale, FL	FL	FOT
Atlanta, GA	GA	ATL
Chicago, IL	IL	CHI
Indianapolis, IN	IN	IND
New Orleans, LA	LA	NEO
Boston, MA	MA	BOS
Baltimore, MD	MD	BAL
Detroit, MI	MI	DET
Minneapolis, MN	MN	MIN
St. Louis, MO	MO	STL
Charlotte, NC	NC	CHR
Las Vegas, NV	NV	LAS
New York City, NY	NY	NEY
Columbus, OH	OH	COU
Cincinnati, OH	OH	CIN
Cleveland, OH	OH	CLE
Oklahoma City, OK	OK	OKL
Portland, OR	OR	POT
Philadelphia, PA	PA	PHI
Pittsburgh, PA	PA	PIT
Nashville, TN	TN	NAH
Memphis, TN	TN	MEM
San Antonio, TX	TX	SAZ
Houston, TX	TX	HOU
Dallas, TX	TX	DAL
Austin, TX	TX	AUS
Salt Lake City, UT	UT	SAY
Seattle, WA	WA	SEA
Milwaukee, WI	WI	MIL

Source: D.K. Shifflet & Associates Ltd.

E. Statistical Concepts

T-statistics: refers to a statistical "goodness-of-fit" measure that indicated the likelihood that the coefficient estimated for the explanatory variable is, in fact, greater than 0. Thus, very low t-statistics suggest that there is no meaningful causation implied between the explanatory variable (the attractions variable) and the independent variable (the number of visitations). T-statistic greater than 2.0 are generally regarded as highly significant.

Adjusted R-Squared: The R-squared indicates the degree to which the variation of the independent variable (visitations) from its mean is explained by the dependent variables used in the regression. An adjusted R^2 value of 0.9 indicates that 90% of the variation is explained.