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NORTHEASTERN RECREATION RESEARCH MEETING POLICY STATEMENT

The Northeastern Recreation Research meeting seeks to foster quality information exchange between recreation and travel resource managers and researchers throughout the Northeast. The forum provides opportunities for managers from different agencies and states, and from different governmental levels, to discuss current issues and problems in the field. Students and all those interested in continuing education in recreation and travel resource management are particularly welcome.

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PROCEEDINGS of the 1992 NORTHEASTERN RECREATION RESEARCH SYMPOSIUM

April 5-7, 1992

**State Parks Management and Research Institute
Saratoga Springs, New York**

Compiled and Edited by:

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National Forest Service - 100th Anniversary: Perspectives from the Front Lines. Rick D. Cables, White Mountain National Forest

Combined Papers (Concerns of the Remote Tourism Industry as Partner in Integrated Resource Management; The Government's Current Timber Planning and Management Framework with Special Consideration of the Remote Tourism Industry; The Choice Behavior of Remote Tourists in North Algoma). Presented by Wolfgang Haider, Ontario Ministry of Natural Resources

Panel Discussion: Managers/Researchers Round Table. Fred Kacprzynski, White Mountain National Forest

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After 10 and 50: A Self-Critique of the Visitor Services Project. Gary Machlis, University of Idaho

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Interpreting Historic Values of High Elevation Recreation Shelters and Cabins in the White Mountain National Forest. Karl Roenke, White Mountain National Forest

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The Challenge of Self-Sufficiency: The New Hampshire Model. Wilbur LaPage, New Hampshire Division of Parks and Recreation; James R. Averill, University of Massachusetts

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Describing Travelers' Emotional States: An Exploratory Analysis. Richard Gitelson, The Pennsylvania State, University; David Klenosky, DePaul University

TRAVEL AND TOURISM

Quality of Life Indicators in Rural, Tourist and Non-tourist Communities. Lawrence Klar, Jr. and Rodney B. Warnick, University of Massachusetts

The Impact of Resource-based Industries on Employment Stability in Northern New Hampshire. Donald G. Hodges, Mississippi State University; A. E. Luloff, The Pennsylvania State University

TRAVEL and TOURISM

DOMESTIC TRAVEL TRENDS: AN EXPLORATORY REVIEW AND ANALYSIS OF THE NORTHEAST MARKET

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The purpose of this study was to examine and explore domestic travel trends, from 1986 through 1989 within the Northeast Region of the U.S.; and to determine if trend patterns existed within selected travel variables when compared to the national patterns. Different trends exist between U.S. and Northeast Regional trends when domestic travel variables were examined. Implications and discussion points were provided. Keywords: Domestic travel, trends, Northeast U.S., volume segmentation, travel variables, and market implications.

Introduction

The travel industry plays a major role in the economic well being of the Northeastern United States. Tourism and related recreation businesses and attractions are key catalysts within this region's state economies and specifically dominant within Maine, New Hampshire, Vermont and Rhode Island. Each of the Northeast states, while facing a major economic recession within recent years, have continued to aggressively pursue the attraction of visitors. New York, New Jersey and Massachusetts have increased spending on state tourism promotion. While funding nationwide has increased for marketing state tourism, an important yet often overlooked use of funding is quality research and trend analysis. Carr (1990) indicated that a successful tourism research program should include market analysis, trend tracking and industry monitoring. Trend analysis can become an important tool in understanding travel markets.

Trend analysis plays an important role in nearly all organizations. The examination of trends in the tourism sector must be made for decision-making, planning, marketing and economic development to occur. Important among the trends analyzed is the examination of changing characteristics and patterns of the traveling public (Harris, et al. 1990 and Carr 1990). Evidence indicates that demographic shifts in the population age structure will affect many businesses and activities, especially tourism, as significant portions of the population have more time to travel (Research Alert 1990). This will be particularly true as baby boomers reach older age cohorts. The distinct differences in travel-specific behavior and participation rates exhibited by changes over time will likely shape future demand for these activities.

The examination of travel trends in the past has been confined to the macro reporting of the U.S. Travel Data Center's ongoing analysis (See U.S. Travel Data Center's Reports 1991). With the advancement of the tourism field in the last decade has come the increased interest in the topic of marketing tourism and travel. This interest has fueled the growth of state tourism promotional budgets and the economic development initiatives of numerous regions, cities and rural towns and areas. However, there has been relatively little in-depth analysis of the regional trends beyond the initial counts and monitoring of travel patterns (Harris, et al. 1990). Therefore, this exploratory analysis of domestic travel within a specific region was undertaken.

Purposes of Study

The purposes of this study were three-fold: 1) to examine U.S. citizen domestic travel patterns in the United States in general and specifically to the Northeast during the period of 1986 to 1989; 2) to identify changing patterns in these travel trends by examining such variables as: number of travelers, purpose(s) of trip(s); nights away; trip volume or number of trips; trip purposes and travel destinations of the U.S. and specifically within the Northeast travel market; and 3) to explore the changes in travel volume markets within the Northeast domestic travel market as compared to the overall U.S. domestic travel market.

Methods

To understand the nature of domestic travel and participation, two major components of travel demand must be understood. First, there is the definition of domestic travel. "Domestic travel" is defined as "any trip(s) of over 100 miles (one way) within the continental 48 coterminous U.S. states taken in the previous 12 month period." This definition of domestic travel includes all types of travel taken which fits the mileage and regional description; but excludes all types of travel taken of distances shorter than 100 miles. Second, there is the "number of people who participate in the domestic travel." This statistic is called "market size." Often, much is made of this statistic; however, in and of itself it is somewhat less meaningful than a statistic which more specifically quantifies demand. "Travel days" or "trips taken" is a much more meaningful statistic for tourism agencies and businesses. This addresses the actual volume of travel occurrences. In this study, both domestic travel market size and volume were examined.

For the analysis of domestic travel, data were drawn from *Study of Media and Markets* (Simmons Market Research Bureau, Inc. 1986-1989). These annual market studies were stratified, national random probability samples for each year from 1986 through 1989. The methods included the distribution of self-administered questionnaires and follow-up telephone interviews. Sample sizes ranged from approximately 19,000 to 21,000 adults. The sample statistics were then extrapolated to the U.S. adult population of 18 years of age and older. The data were made available through Simmons Market Research Bureau of New York and the University of Massachusetts Library. Within this study only travelers who reside in the Northeast were examined. Excluded from this analysis were travelers who visited the Northeast U.S. from other countries and other U.S. regions (i.e., South, Midwest, etc.).

Definitions of terms used in this study include: a) market size -- the number of U.S. citizens who traveled domestically at least once; b) number of trips -- descriptive categories; c) purpose of the trip -- includes personal, business, business and pleasure, spouse-related travel, vacation; d) nights away -- four broad categories (30 or more, 15-29, 8-14, or less than 8 nights away); e) destination -- specific regions within the U.S.; f) trip volume -- total number of nights away; and g) travel group size -- 1, 2, 3, 4, 5 or more. Within some variables, categories were collapsed by Simmons for the Northeast (e.g., travel group size was available for 1, 2, 3 or more categories). The Northeast Travel Market includes travelers from the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, and New Jersey. The travel destination regions are defined as states of primary trip destination and include the following defined regions: a) New England Region; b) Middle Atlantic Region; c) East North Central Region; d) West North Central Region; e) South Atlantic Region; f) East South Central Region; g) West South Central; h) Mountain Region; and i) Pacific Region. A detailed description of these regions may be found in Simmons Technical Guide (1989). The three travel volume segments examined within this study were 1) "light" -- those who took one domestic travel trip; 2) "moderate" or "medium" -- those who took two to three domestic trips; and 3) "heavy" -- those who took four or more domestic travel trips within the previous 12 month period. Other variables included in the tables, but not

discussed in this study, were time of the year trip(s) taken and use of travel agency for domestic travel.

The data were analyzed using an average annual growth rate which is defined as the percent change in terms of the size of the market or travel volume. It is derived by taking the current year number (market size or market volume) subtracting the previous year number and dividing by the previous year number; percent change from year to year was then averaged over the study period of 1986 through 1989. Percent changes were compared to the national trends for each of the domestic travel variables to determine if trends in the Northeast were different than the U.S. domestic travel trends. A secondary statistic was also provided in the tables to measure trend changes. This statistic was a two-point moving average. This percentage change statistic is used to average sizes (market size or volume size) from year-to-year and then a percent change is calculated based on these two-point (two years) averages. This statistic is often used in business trend analysis when period-to-period changes fluctuate wildly or growth/decline or decline/growth patterns occur repetitively.

Selected Findings

Selected findings are presented by travel variable with reference first to the national trends and then the Northeast findings are presented. The overall summary of national trends are found in Table 1 and Northeast travel trends are summarized in Table 2.

U.S. Domestic Travel and Northeast Domestic Travel Market Overview

National Trend: Domestic travel in terms of number of travelers was flat in the late 80s. There were an estimated 86 million domestic travelers in 1986 and approximately the same number in 1989. The number of domestic travelers peaked in 1987 at 87.8 million. Trip volume did increase from 1986 through 1989 at an average annual rate of 1.7%. There were 392.3 million trips taken in 1986 and 410 million trips taken in 1989. It appears that approximately the same number of travelers were traveling slightly more often. The average number of trips taken per traveler increased from 4.6 trips in 1986 to 4.8 trips in 1989.

Northeast Trend: Domestic travel by the Northeast market indicated a decline in both the number of travelers and number of trips. Travel market size in the Northeast declined during the late 80s at a rate of 4.6% per year. In 1986, there were 16.9 million domestic travelers and by 1989 there were 14.5 million. However, the actual number of domestic trips taken did not decline as rapidly. The overall trip volume declined as an average annual rate of 2.1%.

Number of Round Trips

National Trend: The number of round trips taken domestically was up slightly by 1.7%. The number of domestic travelers who took five or more trips per year grew at faster rates than those who took four or fewer trips per year. The travelers who took five or more grew at an annual average rate of 5.5%. In 1986, those domestic travelers who took four or fewer trips per year comprised 77% of the all domestic travelers. By 1989, they comprised only 73%.

Northeast Trend: The number of round trip Northeast domestic travelers declined in all categories (one, two to three, and four or more). The number of domestic round trips taken by the Northeast market also declined at annual average rate of 2.1%. While travel in all categories of this variable indicated a decline; the average number of trips per traveler actually increased. This was due in part to a larger decline in the number of travelers than in the number of trips. The average number of domestic trips taken per Northeast traveler increased at average annual rate of 2.9%. In 1986, the average trips per traveler in the Northeast were 4.2 and in 1989, the average was 4.6.

Trip Volume Segmentation

National Trend: While the overall number of U.S. domestic travelers held constant at about 86 million during this period, there were changes in the distribution of travel volume segments. Nationally, about one-third of all travelers belongs to one of the three travel volume segments of light travelers (traveled only once); moderate (traveled two - three times) and heavy (traveled four or more times) during the previous year. Light travelers comprise 32% of all travelers and 7% of all trips, moderate travelers -- 34% of all travelers and 18% of all trips and heavy travelers -- 34% of all travelers and 75% of all trips. Only the moderate and heavy travel segments grew in terms of number of travelers during this period. The heavy group grew at a rate of 2.4% per year, the moderate group at a rate of 2.0% per year, and the light segment declined at a rate of 3.8% per year from 1986 through 1989. The travel volume based on the different segments indicated a growth in only the heavy segment. The growth rate was 2.7%. The domestic travel volume associated with the other two segments indicated a decline. In 1986, 392.2 million domestic trips of 100 miles or more were taken and 75% (294.6 million trips) were taken by the heavy traveling segment. By 1989, the number of domestic trips increased to 410 million and 77% (315.4 million trips) were taken by the heavy traveling segment.

Northeast Trend. The distribution of travelers within the Northeast is somewhat different than the national characteristics of travel volume segments. In the Northeast, on average through the late 80s, 35% of all travelers from this region were light travelers and they generated 8% of all Northeast domestic trips; 34% were moderate travelers who generated 19% of the trips; and 31% were heavy travelers who generated 73% of the trips. All volume segments of travelers in the Northeast declined in numbers and the biggest decline was within the light travel volume segment. This segment declined in size by an average adjusted rate of nearly 8% per year. The heavy travel segment declined the least in numbers. There was less than a 1% decline per year in this segment's size and travel volume. Travel volume or the number of domestic travel trips taken by the Northeast market declined overall during this period by over 2% per year. The decline in number of domestic trips by the light travel segment was 8% per year and the moderate travel segment volume declined by 5% per year.

Purpose of Trips

National Trend. Simmons' data does provide some insights into the purposes of domestic travel; however, the purposes of all domestic trips are not known. The purposes for less than 30% of the all domestic trips are known. This is explained by Simmons data collection procedure. The purpose of each and every trip is not acquired in the process. Only the purposes of the last four trips are obtained. In this regard, probably more is known about the infrequent traveler. New trip purpose categories were added during the late 80s. They included "business and pleasure" and "accompanying spouse on business." Nevertheless, in those known cases at the national level, all types of domestic travel declined with the exception of trips taken for personal reasons. Business trips remained relatively flat and vacation trips declined only slightly. Both declined less than 1%.

Northeast Trend. Simmons data provides information for approximately 28% of all Northeast trips taken each year during this period. The Northeast market reflected the national trends in the direction in the changes in trip purposes; however, the magnitude of the changes were different. Business trips remained relatively flat and reflected a similar national trend -- a decline of less than 1% per year. Business and pleasure trips declined at a rate of 4.3% compared to the national rate of decline of 7.7% per year. Personal travel trips remained stable and increased slightly in the Northeast (.3%). However, domestic vacation trips declined at an average annual rate in the Northeast of 7.7% compared to the national rate of less than 1% (.7% actual).

Nights Away

National Trend. Travelers appeared to be staying away from home for a combined longer length of time during this period. In terms of the number of nights away from home the category with the largest amount of annual growth was a combined total of 30 or more nights. For this category of number of total nights away, an average annual growth rate of nearly 7% per year was found. The overall average number of nights away per traveler increased slightly from 11.7 nights to 11.8 nights. However, the average length of stay declined by less than 1% per year from 2.57 nights in 1986 to 2.49 nights in 1989.

Northeast Trend. The only category where any growth was noticed in the Northeast was within the none to two category. The number of travelers indicating this amount of number of nights away grew by 3.6% per year in this region. The overall combined number of nights away for all travelers in the Northeast declined by 9.9% per year and the decline was the largest in the 6 or more nights away category were the decline averaged 11.3% per year. The overall average number of travel nights away per traveler declined from 7.84 nights in 1986 to 6.42 nights in 1989. The average length of stay decline by less than 8.5% per year from 1.87 nights in 1986 to 1.4 nights in 1989.

Destinations

National Trend. New England has not fared well in terms of the number of travelers indicating travel to New England. Other regions indicated some growth, including the West North Central, the Mountain and the Pacific Regions. The number of travelers indicating New England as a travel destination declined at an average annual rate of over 9%. However, this measures only the number of travelers indicating travel to a region and not the number of trips. Also, less than 30% of all travel destinations are known in the data provided here.

Northeast Trend. The Northeast market selected New England less frequently as a travel destination throughout this period. In fact, within the Northeast market, New England as a regional destination market declined by an average annual rate of 16.6%. The Northeast market selected the Pacific Region more frequently during this period. This region grew at an annual rate of 26.4% within the Northeast market. However, a portion of the Northeast market appeared to stay closer to home. The Mid-Atlantic Region declined only slightly (less than 1%) and the South Atlantic Region remained relatively stable (less than 1% decline) among the Northeast market destination choices.

Travel Group Size

National Trend. The bulk of all domestic travelers are comprised of one or two people. Nearly 70% of all domestic travel parties are of this size. However, at the national level the rate of growth is most pronounced in the parties of 4 or more travelers. Domestic travel groups of 4 people are growing at a rate of 10.6% per year and travel parties of 5 or more are growing at a rate of 13.8% per year. Only the travel group sizes of one person and three people were declining. Each of these groups declined at 1% per year.

Northeast Trend. The bulk of Northeast domestic travelers are also comprised of one or two people (on average 73% of all travel groups). However, both of these group sizes are declining in this region. The larger market group size of 3 or more people is increasing at a rate of 1.6% per year.

Discussion

Trends were evident in the Northeast Travel Market from 1986 through 1989. This market did not necessarily reflect the national trends evident during the same time period. In summary, the Northeast market was:

- a mature or declining travel market;
- declining in both number of domestic travelers and domestic trips taken;

- declining in all domestic travel volume segments; however, the heavy travel segment declined the least;
- changing based on travel trip purposes; business and personal travel remained stable while vacation travel declined more rapidly than the national average;
- staying away from home less and the length of stay was shorter; although the number of trips per year increased slightly;
- selecting New England less as a regional destination, but selecting the Pacific and Mountain Regions more as a destination while the Mid-Atlantic and South Atlantic Regions remain somewhat stable choice destinations; and
- comprised of larger traveling groups (3 or more members).

While it is interesting to uncover new trends within regions and at the national level, the overall limitations to defining domestic travel as all trips of over 100 miles one-way is still problematic. Missed in this analysis are the many "day trips" or even overnight trips taken to see friends and family or simple "mini-vacations" to get-away that are shorter than 100 miles one-way. The regional geography of the Northeast may account for larger portions of this type of travel and does not fit the "domestic" travel description. For example, travel trips to Cape Cod from Boston, Worcester and Providence are within the 100 mile limit for large portions of the population of these cities and large portions of Cape Cod destinations. Likewise, travel to Western Massachusetts from Albany, Springfield and Hartford fall within the 100 mile domestic travel definition. Travel into parts of the other New England states (Maine, New Hampshire and Vermont) are also within the 100 mile radius of Boston, Springfield and Hartford. Numerous other regional examples exist. Perhaps, within the Northeast a significant portion of all travel trips is missed. Finally, it must be noted that the general public is often attracted to the Northeast and New England to live due to the close proximity of a wide variety of recreational pursuits and attractions.

"Segmentation change" over time is another important travel trend issue. People who participate in travel pursuits may change their rates of travel based on their individual household economic or social conditions or even climatic conditions. It is very possible that people who travel frequently one year might not travel as frequently the following year. The Northeast experienced the economic downturn of the past four years earlier than other parts of the country and signs of this impact upon domestic travel are evident in these data even though the period covered ends in 1989. The decline in the "light" travel market was most adversely affected in the Northeast. This market declined the most and nearly 50% of all light travelers have household incomes of under \$30,000 per year (Simmons Market Research Bureau, 1989). In contrast, 65% of all the "heavy" travelers, which did not decline as much, are from households of with yearly incomes in excess of \$30,000 per year (Simmons Market Research Bureau 1989).

Likewise, segmentation change also provides evidence of an overall mature market trend within the Northeast. When markets grow, a typical pattern might be to observe an increase in the light then moderate travel segments. This would then be followed over time by eventual increases in the more frequent or heavy travel segments. An impending decline would be evident when a reversal trend occurs. Here the heavy or frequent travel market would decline as these travelers might reduce their frequency and a corresponding upswing in the moderate level of travel would be observed. Infrequent or light travel would likely also decline. When both moderate and light travel segments continue to decline for a sustained period of time and the market becomes comprised of a higher percentage of frequent travelers, it is evident that one has entered a mature or decline stage. Domestic travel in the Northeast was also more adversely affected than at the national level because, on average, a larger portion of all travelers are light or infrequent domestic travelers. With little or no growth in these segments, no overall market growth can be expected. Consequently, the domestic travel market which does exist is composed of a larger

percentage of frequent travelers and reflects the mature or decline of domestic travel in the Northeast.

Insights into travel trends into what does occur within a region during a travel downturn were also reflected here. In the Northeast, domestic vacation travel was affected the most. The decline was over 7% per year. Businesses faced with a 7% decline per year must find replacement markets. When domestic travel does decline, travel to visit family and friends or for personal reasons appears to remain stable. This was evident at both the national level and within the Northeast. Business travel also remained relatively stable, but the mixing of business and pleasure and accompany the spouse on business travel declined. Although, not examined here, we do know that more of the U.S. travel market is comprised of foreign travelers (U.S. Travel Outlook 1991). Businesses within the Northeast must aggressively seek out these markets in the future.

The national trend of taking more, but shorter vacations is evident in these data, also. The number of trips taken per year is up. The average number of trips taken per year is just under five and the length of stay averages 2.5 nights per trip. The average number of nights away is relatively close to the average amount of paid vacation time in the U.S. According to the 1991 International Labor Organization's World Labor Report (Gover 1992), the average number of paid vacations per U.S. worker per year is just over two weeks. The decline in domestic travel may also be explained by the increased workload by many. According to Schor (1991), the average American puts in 158 more hours at work in 1989 than his or her counterpart 20 years earlier. The average number of total nights away per year and the length of stay in the Northeast are somewhat lower and have been declining. Travelers in this region are more likely to seek high quality, primary purpose trips and may elect to travel during a wider variety of times during the year. However, only the national data indicated a growth in shoulder season travel time. This may be partially explained by the fact that only a portion of the all travelers indicated the time of their travel for only a portion of their trips.

New England is not the "hot market" it was a decade ago for domestic travel. Other regions appear to have aggressively marketed their regions more successfully. This is evident at both the national and regional levels. The choice of New England as a prime destination choice has declined and the choice of New England even within the Northeast has declined. The aggressive nature of other regions, the revitalization of market areas, and overall changing domestic travel patterns may explain the repositioning of the New England Region. The shorter summer season and the older tradition for a "week long" domestic travel stay may have also contributed. Trips of 6 nights or more have declined and are more likely comprised of older travelers. In fact, 40% of all domestic travelers who stay 6 or more nights are 50 years of age or older (Simmons Market Research Bureau, Inc. 1989). This older travel market will eventually grow once the baby boomers begin to enter this age cohort, but the growth will not really begin until later in the 90s. It remains to be seen if the baby boom domestic travel market will reflect their parents' travel patterns.

The last major trend examined within this study related to the travel group size. The household size of the domestic travel market is larger. This clearly reflects the growing family travel market. Household groups of 3 or more traveling together domestically is up both at the national level and within the Northeast. Because more households are comprised of two-incomes and many reflect more diverse family structures, domestic travel will likely continue to be more frequent, shorter in terms of length of stay and more diverse. Further domestic travel segmentation is very likely. Opportunities for newly defined ecological/environmental, heritage/historical, cultural/educational and ancestral should take place. Domestic travel patterns are complex, dynamic and not always easily understood. This review of within the context of one regional market area sheds some new light on travel trends. Simply following national trends can be misleading. However,

closer monitoring of travel trends, both domestic and localized, is still needed.

Literature Cited

- Carr, James A. 1990. Trends in tourism market research. *Trends*. 27(3): 10-13.
- Gover, Tzivia. 1992. Vacation-time pinch: Americans work while rest of world relaxes. *Hampshire Gazette*. Northampton, MA: 17-18.
- Harris, Charles C.; Tynon, Joanne F.; and McLaughlin, William F. 1990. A comprehensive method for studying leisure travel. *Journal of Travel Research*. Vol. 29 (2): 39-44.
- Hombach, Kenneth E. 1991. Socio-economic outlook: Outdoor recreation 2000. *Trends*. 28(2): 14-19, 47-48.
- Research Alert. 1991. Future Vision: The 189 Most Important Trends of the 1990s. Naperville, Illinois: Sourcebooks Trade. 248p.
- Schor, Juliet. 1991. The Overworked American: The Unexpected Decline in Leisure. Scranton, PA: Basic Books. 336p.
- Schwaninger, M. 1989. Trends in leisure and tourism for 2000-2010. In: Witt, S.F. and Moutinho, L. (Editors). 1989. *Tourism Marketing and Management Handbook*. Institute of Tourism, University of St. Gallen, St. Gallen, Switzerland. London, UK: Prentice Hall: 599-605.
- Simmons Market Research Bureau, Inc. 1986. Study of media and markets, volume p-10: Sports and leisure. New York, NY.
- _____. 1987. Study of media and markets, volume p-10: Sports and leisure. New York, NY.
- _____. 1988. Study of media and markets, volume p-10: Sports and leisure. New York, NY.
- _____. 1989. Study of media and markets, volume p-10: Sports and leisure. New York, NY.
- Simmons Market Research Bureau, Inc. 1989. Technical Guide. New York, NY.
- U.S. Travel Data Center. 1991. Travel Outlook. Washington, D.C.
- _____. 1990. Travel Outlook. Washington, D.C.
- Warnick, Rodney B. 1991. Hidden travel trends: 1980-1989 changes in the northeast. Northeast Travel and Tourism Research Conference, Peabody, Massachusetts.

Table 1. Overall Domestic Travel within U.S. - Trips (over 100 miles one way) within the 48 states within the previous 12 months?

Traveled Over 100 miles	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Yes	86,038	87,829	85,891	86,025	0.0%	-0.6%
No	85,167	85,852	90,358	92,168	2.7%	3.3%
Total	171,205	173,681	176,249	178,193	1.3%	1.4%
# of Round Trips	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
One	27,622	26,758	27,641	26,250	-1.6%	-0.4%
Two	18,802	18,897	19,246	19,190	0.7%	1.0%
Three	10,817	11,128	11,042	9,998	-2.5%	-2.0%
Four	8,617	7,559	8,259	7,726	-3.2%	-0.6%
Five	3,732	4,205	3,899	4,318	5.4%	1.7%
Six or More	16,449	19,280	15,804	18,543	5.5%	-2.0%
Total	86,039	87,827	85,891	86,025	0.0%	-0.6%
Volume Segments	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Light (1 trip)	29,619	26,758	27,641	26,250	-3.8%	-2.2%
Medium (2 to 3 trips)	27,622	30,025	30,288	29,188	2.0%	1.6%
Heavy (4 or more trips)	28,798	31,044	27,962	30,587	2.4%	-1.1%
Total	86,039	87,827	85,891	86,025	0.0%	-0.6%
Trip Volume Based on Volume Segments	(# of Trips)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Light (1 trip)	27,622	26,758	27,641	26,250	-1.6%	-0.4%
Medium (2 to 3 trips)	70,055	71,178	71,618	68,374	-0.8%	-0.4%
Heavy (4 or more trips)	294,596	309,022	281,420	315,382	2.7%	-0.6%
Total	392,273	406,958	380,679	410,006	1.7%	-0.5%
Average Trips Per Traveler	4.6	4.6	4.4	4.8	1.6%	0.0%
(Note: Number of trips derived from larger set of expanded trip categories.)						
Purpose of Trip	(# of Trips)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Business	13,918	14,063	14,105	13,859	-0.1%	0.0%
Business and Pleasure		8,264	7,627	7,046	-7.7%	-7.7%
Accom. Spouse on Business	2,720	2,122	2,257	2,294	-4.7%	-2.8%
Vacation	52,810	48,857	51,734	51,415	-0.7%	0.7%
Personal	35,127	36,452	32,230	35,446	0.7%	-2.8%
Do Not Recall	3,908	4,007	2,850	2,564	-12.1%	-17.2%
Total	108,483	113,765	110,803	112,624	1.3%	
Percent of All Trips	27.7%	28.0%	29.1%	27.5%		

Nights Away	(# of Travelers)				Ave. Annual Moving Ave.	
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
30 or more	7,016	8,326	7,924	8,444	6.8%	3.3%
15 to 29	16,540	15,361	16,015	15,286	-2.5%	-0.9%
11 to 14	13,123	12,553	12,107	11,597	-4.0%	-3.9%
8 to 10	13,447	13,442	12,813	14,857	3.7%	1.5%
6 to 7	10,980	11,706	12,066	12,056	3.2%	3.1%
5	4,989	4,656	4,895	4,783	-1.3%	0.2%
4	5,726	5,536	5,598	6,083	2.2%	1.9%
3	4,239	5,354	4,470	4,039	0.1%	-5.5%
2	4,489	4,977	4,167	4,551	1.3%	-4.0%
1	3,440	2,988	2,881	1,772	-18.4%	-14.7%
None	2,050	2,931	2,956	2,557	10.1%	5.9%
Total	86,039	87,830	85,892	86,025	0.0%	-0.6%

Total Nights Away (Travelers x Nights Away Category)

	(# of Traveler Nights)				Ave. Annual Moving Ave.	
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
30 or more	210,480	249,780	237,720	253,320	6.8%	3.3%
15 to 29	372,150	345,623	360,338	343,935	-2.5%	-0.9%
11 to 14	164,038	156,913	151,338	144,963	-4.0%	-3.9%
8 to 10	121,023	120,978	115,317	133,713	3.7%	1.5%
6 to 7	71,370	76,089	78,429	78,364	3.2%	3.1%
5	24,945	23,280	24,475	23,915	-1.3%	0.2%
4	22,904	22,144	22,392	24,332	2.2%	1.9%
3	12,717	16,062	13,410	12,117	0.1%	-5.5%
2	4,489	4,977	4,167	4,551	1.3%	-4.0%
1	3,440	2,988	2,881	1,772	-18.4%	-14.7%
None	0	0	0	0		
Total	1,007,556	1,018,833	1,010,466	1,020,982	0.4%	0.1%
Ave. Nights Away/Traveler	11.71	11.60	11.76	11.87	0.5%	0.7%
Ave. Nights Away/Trip	2.57	2.50	2.65	2.49	-0.9%	0.7%

Time Year Taken	(# of Travelers)				Ave. Annual Moving Ave.	
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
January/February	22,153	22,905	20,222	17,251	-7.7%	-8.7%
March/April	27,022	28,063	25,275	21,817	-6.6%	-7.4%
May/June	30,064	31,083	31,236	30,229	0.2%	0.3%
July/August	41,084	42,337	40,109	40,119	-0.7%	-1.9%
September/October	29,687	29,996	28,592	27,617	-2.3%	-2.9%
November/December	22,927	23,353	20,125	19,307	-5.3%	-7.7%
Do Not Recall	2,124	2,300	2,785	4,254	27.4%	26.7%
Total	175,061	180,037	168,344	160,594	-2.8%	-3.7%

Use Travel Agent	(# of Travelers)				Ave. Annual Moving Ave.	
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Yes	20,217	20,229	22,495	23,204	4.8%	6.3%
No	69,492	71,649	66,458	73,471	2.1%	-0.4%
Do Not Remember	2,836	3,209	3,771	NA	15.3%	NM
Total	92,545	95,087	92,724	96,675	1.5%	0.5%

Destination	(# of Travel Choices)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
<i>Continental United States (Net)</i>						
New England	6,581	6,302	5,324	4,915	-9.1%	-10.8%
Middle Atlantic	12,302	12,081	12,894	12,610	0.9%	2.3%
East North Central	15,960	17,029	15,527	15,964	0.2%	-2.3%
West North Central	9,463	9,488	9,095	10,234	2.9%	1.0%
South Atlantic	26,538	26,663	26,050	24,799	-2.2%	-2.2%
East South Central	7,599	7,814	6,378	6,415	-5.0%	-8.9%
West South Central	10,332	10,634	10,005	9,840	-1.5%	-2.7%
Mountain	13,063	14,198	13,469	13,865	2.2%	0.1%
Pacific	15,326	16,016	15,772	16,025	1.5%	0.7%
Total	117,164	120,225	114,514	114,667	-0.7%	-1.7%
Percent of All Trips	29.9%	29.5%	30.1%	28.0%		
Household Members/Trip	(# of Travel Groups)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
5 or more	4,956	9,693	9,005	4,763	13.8%	0.6%
4	9,682	15,512	16,128	10,919	10.6%	5.5%
3	15,256	16,282	17,222	14,445	-1.2%	0.4%
2	41,821	43,122	41,840	43,790	1.6%	0.4%
1	42,217	37,085	35,945	40,306	-1.0%	-1.7%
Total	113,932	121,694	120,140	114,223	0.2%	-0.2%
Hshld Travelers Total	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
5 or more	24,780	48,465	45,025	23,815	13.8%	0.6%
4	38,728	62,048	64,512	43,676	10.6%	5.5%
3	45,768	48,846	51,666	43,335	-1.2%	0.4%
2	83,642	86,244	83,680	87,580	1.6%	0.4%
1	42,217	37,085	35,945	40,306	-1.0%	-1.7%
Total	235,135	282,688	280,828	238,712	1.5%	0.5%

NM: Statistic not meaningful in this category.

*Statistical sample small, use with caution.

Average Annual Change Rate is calculated on a year-to-year basis.

Moving Average Change Rate is calculated as a 2-point moving average, based on average of two years.

Source: Simmons Market Research Bureau, Inc. 1986 to 1989.

Table 2. Domestic Travel by Northeast Market -Trips (over 100 miles one way) within the 48 states within the last 12 months? (1986 to 1989)

Traveled Over 100 miles	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Yes	16,924	17,709	17,279	14,536	-4.6%	-4.0%
No	20,737	19,795	20,087	23,173	4.1%	3.4%
Total	37,661	37,504	37,366	37,709	0.0%	-0.1%
# of Round Trips	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
One	6,210	6,342	6,059	4,803	-7.7%	-6.8%
Two to Three Trips	5,688	6,181	5,954	4,862	-4.4%	-4.3%
Four or more	5,026	5,186	5,266	4,871	-0.9%	-0.3%
Total	16,924	17,709	17,279	14,536	-4.6%	-4.0%
Volume Segments	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Light (1 trip)	6,210	6,342	6,059	4,803	-7.7%	-6.8%
Medium (2 to 3 trips)	5,688	6,181	5,954	4,862	-4.4%	-4.3%
Heavy (4 or more trips)	5,026	5,186	5,266	4,871	-0.9%	-0.3%
Total	16,924	17,709	17,279	14,536	-4.6%	-4.0%
Trip Volume Based on Volume Segments	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Light (1 trip)	6,210	6,342	6,059	4,803	-7.7%	-6.8%
Medium (2 to 3 trips)	13,453	14,653	14,079	11,389	-4.7%	-4.6%
Heavy (4 or more trips)	51,416	51,621	52,997	50,228	-0.7%	0.1%
Total	71,079	72,616	73,135	66,420	-2.1%	-1.4%
Average Trips Per Traveler	4.2	4.1	4.2	4.6	2.9%	3.0%
Purpose of Trip	(# of Trips)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
Business	2,412	2,459	2,625	2,374	-0.3%	1.4%
Business and Pleasure	0	1,180	1,026	1,071	-4.3%	41.0%
Accompanying Spouse on Busi	329	0	0	0	NA	NA
Vacation	11,760	10,903	11,253	9,474	-6.6%	-4.3%
Personal	5,370	6,195	5,898	5,332	0.3%	-1.3%
Total Known NE Purposes	19,871	20,737	20,802	18,251	-2.5%	-1.8%
Total # NE Trips	71,080	72,616	73,135	66,420	-2.1%	-1.4%
Percent Known of NE Trips	28.0%	28.6%	28.4%	27.5%		
(Total does not equal total trips for year, only known purpose of a portion of trips)						
Nights Away	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
6 or More	6,966	6,608	6,849	4,634	-11.3%	-7.8%
3 to 5	4,727	4,967	5,060	4,218	-3.2%	-2.0%
None to two	5,230	6,134	5,372	5,684	3.6%	-1.3%
Total	16,923	17,709	17,281	14,536	-4.6%	-4.0%

Estimated Total Nights Away (Travels x Nights Away Category)

	<i>(# of Travel Nights)</i>				Ave. Annual	Moving Ave.
	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Chg. Rate</u>	<u>Chg. Rate</u>
6 or More	107,052	102,195	106,025	71,051	-11.3%	-7.7%
3 to 5	19,145	19,645	20,384	17,083	-3.3%	-1.6%
None to two	6,508	7,286	6,022	5,165	-6.5%	-9.7%
Total	132,705	129,125	132,431	93,298	-9.9%	-6.9%
Ave. Nights Away/Traveler	7.84	7.29	7.66	6.42	-6.1%	-3.5%
Ave. Nights Away/Trip	1.87	1.78	1.81	1.40	-8.5%	-6.0%

Time Year Taken	<i>(# of Travelers)</i>				Ave. Annual	Moving Ave.
	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Chg. Rate</u>	<u>Chg. Rate</u>
January/February	3,842	4,795	4,316	3,292	-3.0%	-5.5%
March/April	5,197	5,614	4,823	3,613	-10.4%	-11.3%
May/June	5,436	5,980	5,464	4,408	-6.0%	-6.7%
July/August	8,457	8,849	8,331	7,226	-4.8%	-5.1%
September/October	5,620	5,643	5,736	4,923	-4.0%	-2.6%
November/December	3,978	3,730	3,366	2,709	-11.8%	-11.2%
Total	32,530	34,611	32,036	26,171	-6.5%	-6.7%

Use Travel Agent	<i>(# of Travelers)</i>				Ave. Annual	Moving Ave.
	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Chg. Rate</u>	<u>Chg. Rate</u>
Yes	4,632	4,706	5,000	5,094	3.2%	4.0%
No/Do Not Remember	12,292	13,003	12,279	9,442	-7.6%	-7.1%
Do Not Remember	NA	NA	NA	NA	NM	NM
Total	16,924	17,709	17,279	14,536	-4.6%	-4.0%

Destination	<i>(# of Traveler Choices)</i>				Ave. Annual	Moving Ave.
	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>Chg. Rate</u>	<u>Chg. Rate</u>
<i>Continental United States (Net)</i>						
New England	4,318	4,151	3,276	2,460	-16.6%	-17.5%
Middle Atlantic	6,268	6,632	6,978	6,094	-0.5%	0.8%
East North Central	1,688	2,061	1,525	1,348	-5.2%	-12.1%
West North Central*	410	558	330	550	20.6%	-4.6%
South Atlantic	6,614	7,482	7,641	6,356	-0.5%	-0.1%
East South Central*	438	475	560	350	-3.7%	0.6%
West South Central	726	715	780	451	-11.5%	-7.0%
Mountain	1,183	1,020	1,245	1,002	-3.7%	1.0%
Pacific	1,286	1,508	1,542	2,460	26.4%	20.2%
Total	22,931	24,602	23,877	21,071	-2.5%	-2.6%
Percent of All Trips	32.3%	33.9%	32.6%	31.7%		

Household Members/Trip for Last Trip	(# of Travel Groups)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
3 or more	3,798	4,879	5,619	3,436	1.6%	3.6%
2	6,357	6,543	6,385	5,675	-3.5%	-3.2%
1	6,768	6,287	5,276	5,425	-6.8%	-9.4%
Total	16,923	17,709	17,280	14,536	-4.6%	-4.0%

Hshld Travelers Total	(# of Travelers)				Ave. Annual	Moving Ave.
	1986	1987	1988	1989	Chg. Rate	Chg. Rate
3 or more	11,394	14,637	16,857	10,308	1.6%	3.6%
2	12,714	13,086	12,770	11,350	-3.5%	-3.2%
1	6,768	6,287	5,276	5,425	-6.8%	-9.4%
Total	30,876	34,010	34,903	27,083	-3.2%	-1.9%

NA: Data not available for either year or region.

NM: Statistic not meaningful in this category.

*Statistical sample small, use with caution.

Average Annual Change Rate is calculated on a year-to-year basis.

Moving Average Change Rate is calculated as a 2-point moving average, based on average of two years.

Source: Simmons Market Research Bureau, Inc. 1986 to 1989.

LEISURE LIFESTYLE TYPOLOGY FOR VERMONT COMMUNITIES

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The purpose of this exploratory study was to develop a ZIP code taxonomy of rural communities based on lifestyles and to investigate the ability of the taxonomy to differentiate in purchasing propensity. A factor analysis of household leisure lifestyle data compiled by National Demographics and Lifestyles, Inc., for 140 Vermont ZIP codes revealed three factors of leisure lifestyles. These were used in a subsequent K-means cluster analysis which uncovered nine clusters or types of ZIP code lifestyles. The ZIP code types were found to be significantly different in purchasing potential for nine categories of products developed by CACI (a U.S. geodemographic market information firm). ZIP code data is becoming increasingly important for examining social services, market segmentation, tourism promotion and development, and planning; a ZIP code based typology could be a useful means for comparison and differentiation of households for such purposes.

Introduction

Studies of residential preferences and attraction to rural areas indicate non-economic motives for growth in nonmetropolitan areas (Swanson 1986). For many rural New England towns and villages, relative access to populated urban centers, attractiveness of natural resources, and idealization of the rural lifestyle resulted in increased growth during the 1970's and '80's. Quality of life in these more rural areas became a major attraction. Many of the quality of life attraction indicators for rural communities are subjective, such as "closeness of the small community," and a "better life." Some studies, however, have indicated that the prevalent leisure lifestyle is a paramount attractor and have attempted to identify and quantify such community variables using census, economic, and employment data as surrogates. On a more explicit basis, lifestyle indexes have been created by marketing and research firms to show the propensity of households within a specific geographic area (e.g., ADI, zip code regions) to engage in recreation, cultural, and hobby activities which indicate a particular "leisure lifestyles" (*The Lifestyle ZIP Code Analyst* 1991). Most of these psychographic studies make no attempt to cross classify geographic and geopolitical regions on the various attributes of leisure lifestyle nor even to identify the multi-attribute lifestyles of individuals or households in such areas. Instead they and other studies have focused on specific recreational and economic behavior, resident attitudes, or tourist attracting attributes of a specific geographic area (Blank 1989; Davis, Allen, & Cosenza 1988; Shih 1986; Davis & Sternquist 1987). Suggestions are then made that geographic areas which contain a large number of individuals or households who match the characteristics of the "types," develop discrete educational or promotional activities. Most tourism research has not addressed an efficient means of identifying and reaching these types. Identification of broad categories of households (i.e., in distinguishable geographic areas), differentiated by objective information on leisure lifestyles, could help policy makers, planners, and the public initiate investment, planning, education, and regulatory decisions related to tourism, growth,

and development; and provide a means to reach consumers of multiple recreational services and products. Such a classification scheme, thus, may also serve as a categorization construct (i.e., image) to attract individuals and businesses to a specified geographically defined market area.

Increasingly information on individuals and households is being produced on a zip code level because of its distinct ties to the postal system and to direct mail distribution. Broad based data on lifestyles and purchasing propensity, for example, are now being produced on a zip code basis, providing a productive means to tie a particular lifestyle to an identifiable and accessible market. Most geographical based typologies, however, have been constructed for specified media markets and communities (Hawes 1988, Bevins & Zwick 1988, Bevins 1990). No studies have attempted to construct a typology of zip code areas through the use of these lifestyle profiles; nor have they addressed the multi-attribute nature of lifestyles. The purpose of this research was to develop a classification (typology) of Vermont zip code areas based on leisure lifestyle characteristics. Such a typology can be compared to previously developed community classification schemes and may be used to differentiate the propensity to purchase specific products.

Methods

The study reported here used data taken from *The Lifestyle ZIP Code Analyst* (1991), a joint venture of Standard Rate & Data Service (SRDS) and National Demographics & Lifestyles (NDL). Fifty six demographic and leisure lifestyle are profiled in the *Lifestyle ZIP Code Analyst*. These profiles were developed from self-reported activity/lifestyle information collected from 16.4 million household responses to consumer information questionnaires which were inserted into the packaging of a variety of consumer goods. NDL follows standard statistical adjustment procedures in adjusting the raw data. Although 154 ZIP codes are profiled in Vermont, several ZIP codes areas are excluded (Fig. 1) from the data base because they fail to meet the requirement for the minimum number of household (e.g., 200 households for counties with less than 35,000 population) or sample size criteria.

Exploratory factor analysis was used to reduce the 56 lifestyle/activity attributes to underlying dimensions. The factor scores from these variables were subsequently used in nonhierarchical cluster analysis to classify and categorize the Vermont ZIP codes under study. Clusters of communities that emerged from the cluster analytic procedure can be thought of as a constructed type having some common characteristics in lifestyle. This commonality (or homogeneity) can then be used for comparison with other "types".

The cluster frame then was used to differentiate between ZIP codes on the basis of the potential to purchase 14 specific products and services. CACI (a U.S. geodemographic market information firm) developed purchasing potential indexes for all ZIP codes in the United States from a syndicated database developed by Mediamark Research, Inc. (MRI). The MRI database is derived from annual interviews with 40,000 American households. Detailed questionnaires are asked concerning specific product usage and amounts spent on consumer goods and services. Purchasing Potential Indexes for the 14 products and services were linked to the Vermont ZIP codes used to develop the cluster frame. A comparison of clusters of Vermont ZIP codes potential to purchase was attained using non-parametric statistical procedures.

Analysis and Results

A way of differentiating between ZIP codes on leisure/activity profiles is to determine whether the profiles form composite underlying dimensions. Exploratory factor analysis (R-type factor analysis) was used to reduce the lifestyle/activity attributes to underlying dimensions. In the first stage of this factor analysis 56 variables were reduced to 47; variables were eliminated based on high intercorrelations ($r \geq .70$) or an excessively low Measure of Sampling Adequacy ($MSA \leq .500$).

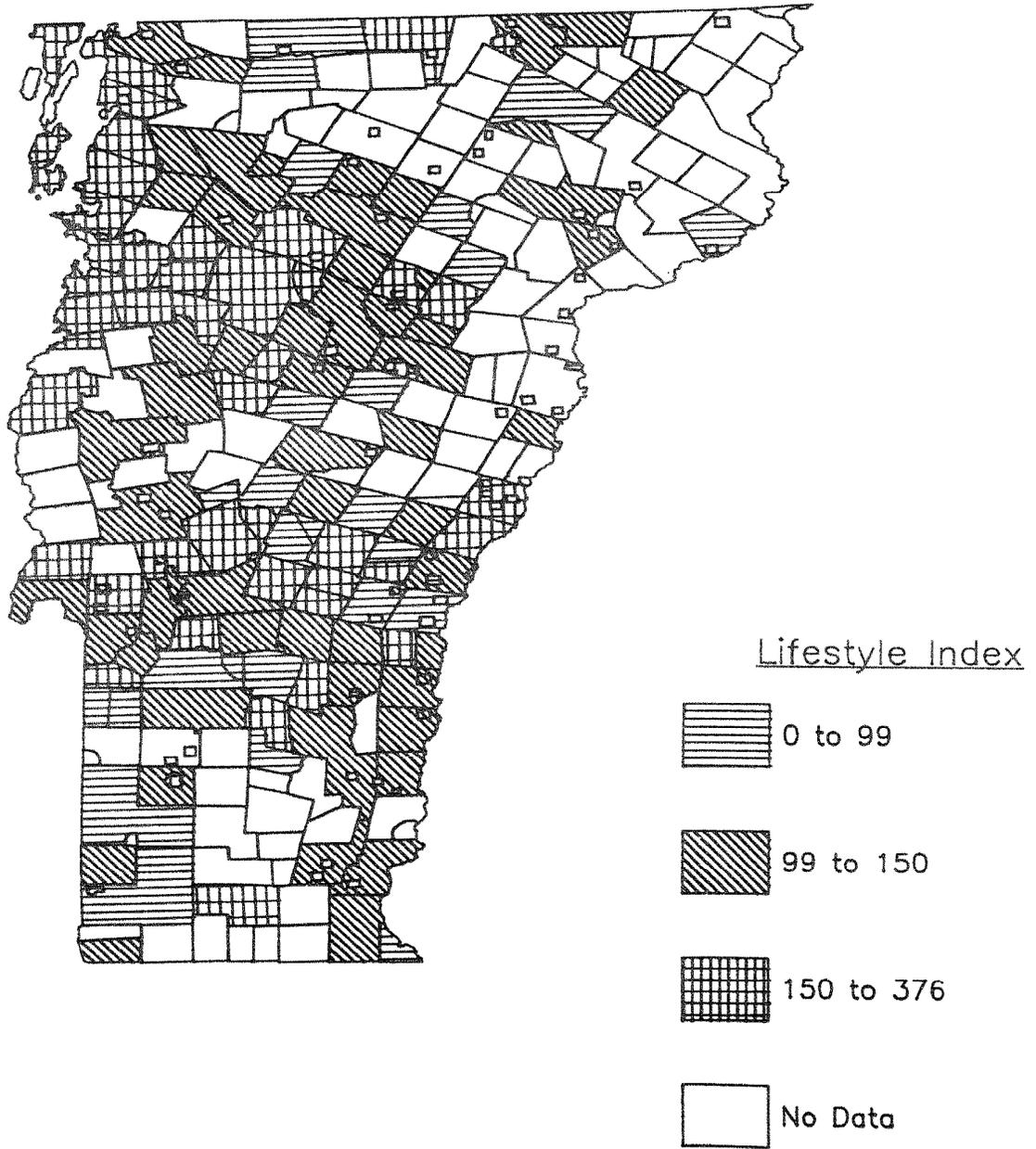


Figure 1. Boating/sailing lifestyle (1991).

Using the reduced set of variables, a second exploratory factor analysis suggested a three factor solution for rotation, based on the convergence of eigenvalues (≥ 1.00); explained variance ($\geq 5\%$); and scree tests (Hawes 1988). The results of the three factor Varimax (orthogonal) rotation are shown in Table 1. Labeling of the factors was based on the criteria of a minimal significant loading ($\geq .475$) of variables on the factor. Factor 1 suggests an upwardly mobile *leisure class* factor, epitomized by interest in running/jogging, interest in snow skiing and tennis, enthusiasm for wines and cultural events, and an interest in investment portfolios. This dimension is also characterized by the inverse relation to the natural resource extractive activities of hunting/shooting (-.697) and fishing (-.649), and an inverse relation to spending time with grandchildren (-.592) and participating in passive activities of needlework/knitting (-.586) and sewing (-.475). The second dimension indicates a *nature/domestic* orientation. Households of this group appear to be gardening (.690) and wildlife/nature (.684) enthusiasts, and less oriented toward passive television watching. The third factor reflects an orientation toward automobiles and motorcycles. The ZIP codes loading on this *motor trend* factor have a high incidence of households that do their own automotive work, either out of necessity or enjoyment (.535), and are motorcycle enthusiasts (.547). An interesting contrast in the factors is that unlike this latter factor, the first factor had a negative loading on automotive work (-.532), suggesting a significant differentiation between the two groups. The three underlying dimensions, thus, appear to form differentiating structures of lifestyle/activity profiles. Factor scores from the rotated three factor solution were then used in a subsequent cluster analysis to categorize Vermont ZIP codes into types.

Used in a wide variety of disciplines, cluster analysis is essentially a mapping procedure. The output from the procedure allows one to identify and label the cluster, and understand how cases group together. Various cluster analytic procedures are available, but generally can be divided between hierarchical and nonhierarchical techniques. A nonhierarchical, or iterative, cluster procedure was selected for use in this study because of the relatively large number of cases. The nonhierarchical technique uses multivariate profiles to sort the cases into k-clusters based on "seed" points (Goldsmith 1987). The initial seed points may be automatically defined by the cluster program and each case assigned to an initial seed. A centroid for the clusters is then computed and subsequently used as a seed point for the next iteration on which the cases are sorted (Goldsmith 1987). In the first stage of the cluster analysis for this study, an iterative partitioning method was employed to help determine ZIP codes which were outliers. Through subsequent iterations and elimination of outliers (single case clusters) the original 154 ZIP codes were reduced to a set of 140.

One of the difficulties in using nonhierarchical cluster analysis is the determination of the optimal number of homogeneous groups for the final solution. Heuristic procedures for determination seem to be predominant (Aldenderfer & Blashfield 1984). In K-means cluster analysis, the user must specify the number of groups present in the data prior to invoking the procedure (Aldenderfer & Blashfield 1984). In this study, the authors subjected the reduced set of ZIP codes to seventeen different cluster runs that ranged from 18 clusters to 2 clusters. A nine cluster solution was selected as optimal based on the criteria of interpretability of the clusters and least amount noise (fewest numbers of single outliers in the final solution). In order to assist in the interpretation of the cluster "types," the nine clusters' mean scores were plotted on the three factor dimensions (Fig. 2). A plot of Cluster I, which contained the largest number of cases (52), revealed that no single factor could be identified as interpreting the cluster (all three factor means were negative); this cluster was subsequently labeled as *Just Plain Folks*. The second cluster of 27 cases had a moderately high mean associated with the first factorial dimension and was negatively related to the other two. Because this first factor was a leisure class oriented dimension, the cluster was characterized as *Upward Mobile Leisure Class*. The third cluster also contained 27 cases. This cluster was characterized by moderate

positive means on Nature/Domestic and Motor Trends dimensions, but showed a negative mean on the Leisure Class dimension; this cluster was labeled as *Wildlife/Automotive Rural Center*. Cluster IV was characterized by a moderate positive mean on the second factor—Nature/Domestic—resulting in it being labeled Wildlife Environmentalist. The two ZIP codes comprising Cluster V, had a very high mean on the first factor. A subsequent analysis of the raw scores indicated a very high percentage of households in these two ZIP codes were wine and skiing oriented, and, thus, the cluster was labeled—*Wine/Ski*. An outlier cluster of one case was defined by high means on the Nature/Domestic (Factor 2) and Motor Trends (Factor 3) dimensions. After examining the raw data for this one case, Cluster VI was characterized as *Motorcycle/Gardening* enthusiasts. The six ZIP codes of Cluster VII had a moderately positive mean on Factor 3 and negative means on Factors 1 and 2. This latter cluster was subsequently labeled as *Auto & Motorcycle* enthusiasts. Cluster VIII had a very high positive mean on the second dimension (Factor 2) and negative means on dimensions one and three. The two ZIP codes of this cluster type were seen as gardening and environmental enthusiasts associated with *Mother Earth*. The final cluster type had moderately positive means on Factors 1 and 2, and a negative mean associated with Factor 3. An analysis of the raw data associated with the four ZIP codes in Cluster IX indicated a high percentage of households which were oriented toward gourmet foods, dining out and wines. This cluster was labeled as *The Diners*. In summary, the cluster analysis used in this study indicated that nine distinct "types" of ZIP code areas are prevalent within Vermont. Such constructed types are heuristic tools by which real events can be compared and comprehended and where the diversities and complexities of phenomena can be reduced to coherent levels (Luloff 1987). The value of constructed types lie in their use in comprehending and comparing empirical data, thus, they should be tested.

The final step of the exploratory analysis of this study was a test of the viability of the typology constructed in the cluster framework. It was hypothesized that the nine clusters should be able to be distinguished on their purchasing potential indexes for 14 products/services identified in the CACI data set. Because of the small numbers of cases in Clusters V, VI, and VIII, only six cluster "types" were used to test the Hypotheses: $H_0 =$ There is no significant difference in purchasing potential indexes for investments, savings, loans, apparel, shoes, sporting goods, groceries, drug store purchases, dining, pet goods/services, video rental, automotive products, furniture, and home improvement goods/services among the cluster types. A non-parametric version of Analysis of Variance, the Kruskal-Wallis Test, was used to examine whether differences existed among the six cluster "types" on each of the 14 goods/services purchasing potential indexes developed by CACI. The results are presented in Table 2. Significant differences among cluster "types" were found for nine of the fourteen goods/service indexes. No significant differences in clusters were apparent for the purchasing potential of "savings", "apparel", "shoes", "sporting goods", and "home improvement." The results of the Kruskal-Wallis analysis, thus, indicate limited support for the viability of the Vermont lifestyle cluster typology in differentiating purchasing potential for ZIP code areas, and its use as a heuristic taxonomy.

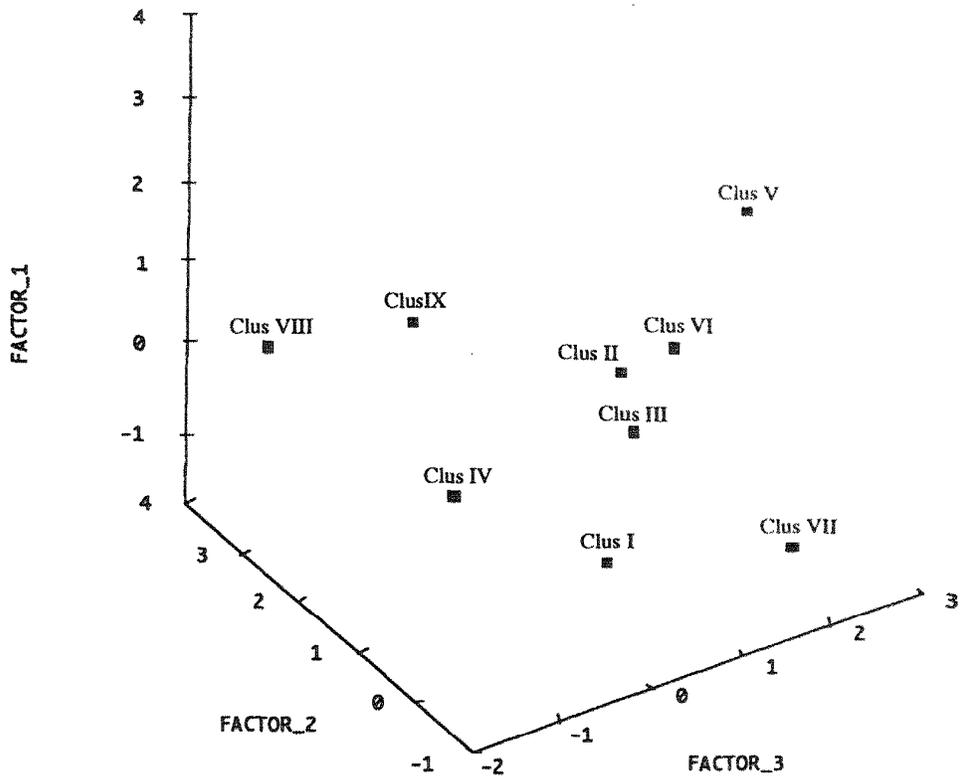
Implications

Two hundred years ago, Vermont communities were quite monolithic. Virtually all communities were alike with the majority of residents working in farming or forestry. Planning in one community was nearly identical to planning in neighboring communities. That is not the case today. There are at least eight uniquely different types of communities in Vermont, each requiring a slightly different planning approach (Bevins and Zwick 1988). Similarly, as ZIP code data becomes the prevalent means of distribution for much of the marketing and concomitant geodemographic information, there will be a need for an attendant typological scheme for public policy initiatives and community action related to tourism and community development. The proper classification of ZIP code

Table 1. Vermont leisure lifestyle factors.

Lifestyle/Activity	Factor I The Leisured Class (59.7%) ^a	Factor II Nature/Domestic (24.2%)	Factor III Motor trends (16.1%)
Attend Cultural Arts/Events	.779		
Career Oriented Activities	.505		
Gourmet Cooking/Fine Foods	.570		
Real Estate Investments	.511		
Stock/Bond Investments	.647		
Wines	.780		
Golf	.591		
Physical Fitness/Exercise	.708		
Running/Jogging	.785		
Snow Skiing	.764		
Tennis	.758		
Fishing	-.649		
Hunting/Shooting	-.697		
Recreational Vehicles/4-WD	-.485		
Automotive Work	-.532		.535
Current Affairs/Politics	.504		
Entering Sweepstakes	-.526		
Grandchildren	-.592		
Needlework/Knitting	-.586		
Sewing	-.475		
Fine Art/Antiques		.554	
Watching Cable Television		-.689	
Watching Sports on Television		-.481	
Wildlife/Environmental		.684	
Gardening/Furniture		.690	
Home Work Shop		.549	
Household Pets		.650	
Motorcycles			.547

^a/ Proportion of post-rotation variance explained



Cluster	Factor I	Factor II	Factor III
I Just Plain Folks.	-0.51	-0.69	-0.33
II Upward Mobile, Leisure Oriented	1.20	-0.36	0.23
III Rural Center Wildlife/ Automobile	-0.26	0.79	0.92
IV Wildlife Environment	-0.33	0.90	-1.08
V Wine/ Ski	3.34	-0.78	1.08
VI Motorcycles/ Gardening	-0.88	2.56	2.55
VII Auto & Motorcycle Enthusiasts	-1.01	-0.80	1.67
VIII Mother Earth	0.31	3.18	-1.62
IX The Diners	1.74	1.04	-1.35

Figure 2. Vermont ZIP code cluster plot: Three -factor model.

areas should use an objective classification scheme. Most regional planners are unfamiliar with such taxonomies. The research community has a moral obligation to provide assistance in such cases.

The utilization of typologies also has facilitated the description of many different forms of social and economic organizations (Findeis 1987). Their use in understanding spatial organization of economic activity is not new (Findeis 1987). Taxonomies based on leisure lifestyles, however, could become critical for the financing of the development of new facilities and services, the infrastructure of the rural tourism industry. As rural areas embrace tourism for economic diversification, lending institutions have required both new and existing business to justify their viability. Critical to this justification is a delineation of markets, requiring an understanding of segments and market penetration. A taxonomy based on leisure lifestyles provides the roots for such an understanding by establishing a simple classification of markets and a means to compare the areas in which they exist. Such taxonomies could provide a framework for assessing and making better decisions on financing and growing small business within the changing rural economy.

Table 2. Leisure lifestyle ZIP code clusters: Differences in buying propensity.^a

Goods/Service	Test Statistic (Kruskal-Wallis)	Significance ^b
Investments	H= 11.876	p≤ .05
Savings	H= 10.204	N.S.
Loans	H= 21.602	p≤ .005
Apparel	H= 5.743	N.S.
Shoes	H= 8.091	N.S.
Sporting Goods	H= 9.565	N.S.
Grocery	H= 20.088	p≤ .005
Drug Store	H= 11.583	p≤ .05
Dining	H= 13.916	p≤ .025
Pet Goods/Services	H= 28.221	p≤ .005
Video Rental	H= 22.703	p≤ .005
Automotive Products	H= 37.297	p≤ .001
Furniture	H= 24.085	p≤ .005
Home Improvement	H= 6.008	N.S.

a/ Note: Buying propensity index developed from data obtained from CACI; six clusters (Just Plain Folks, Upward Mobile Leisure Oriented, Rural Center Wildlife/Auto Oriented, Wildlife/Environment, Auto & Motorcycle Enthusiasts, The Diners) were included in analysis.

b/ p≤ .05, 5 df., Chi Sq≥ 11.070

Literature Cited

- Aldenderfer, M.S.; Blashfield, R.K. 1984. *Cluster Analysis*. Newbury Park, CA: Sage Publications. 88p.
- Bevins, M.I. 1990. Community typology model. In: *Proceedings of the 1990 Northeastern recreation research symposium*; Saratoga Springs, NY. Burlington, VT: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station: 57-63.
- Bevins, M.I. ; Zwick, R.R. 1988. Evaluating the socio-economic impact of recreational development on communities through cluster analysis. In: *Abstracts from the 1988 symposium on leisure research*; National Recreation and Park Association, Indianapolis, IN
- Blank, U. 1989. Chapter 3—The community as a tourist destination area. *The Community Tourism Industry Imperative: The Necessity, The Opportunity, Its Potential*. pp. 22-40.
- Davis, D.; Allen, J.; Cosenza, R.M. 1988. Segmenting local residents by their attitudes, interests, and opinions toward tourism. *The Journal of Travel Research*. 27(2): 2-8.
- Davis, B.D.; Sternquist, B. 1987. Appealing to the elusive tourist: An attribute cluster strategy. *The Journal of Travel Research*. 24(4): 25-31.
- Findeis, J.L. 1987. Rural industrialization: Issues and the role of development typologies. In: *Proceedings, Rural people and places: A symposium on typologies*; 1986 October 22-24; Grantville, PA. University Park, PA: The Northeast Center for Rural Development: 33-43.
- Goldsmith, H. 1987. Developing a strategy for cataloging the residential environment of nonmetropolitan and rural areas. In: *Proceedings, Rural people and places: A symposium on typologies*; 1986 October 22-24; Grantville, PA. University Park, PA: The Northeast Center for Rural Development: 103-128.
- Hawes, D.K. 1988. Travel related lifestyle profiles of older women. *Journal of Travel Research*. 27(2): 22-32.
- _____ 1991. *The Lifestyle ZIP Code Analyst*. Wilmette, IL: Standard Rate & Data Service.
- Luloff, A.E. 1987. Typologies: Construct design and measurement issues. In: *Proceedings, Rural people and places: A symposium on typologies*; 1986 October 22-24; Grantville, PA. University Park, PA: The Northeast Center for Rural Development: 85-95.
- Shih, D. 1986. VALS as a tool of tourism market research: The Pennsylvania experience. *Journal of Travel Research*. 24(4): 2-11.
- Swanson, L.L. 1986. What attracts new residents to nonmetro areas? *Rural Development Research Report 56*. Washington, DC: U.S. Department of Agriculture, Economic Research Service. 15 p.

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