TOURISM AND AMENITY MIGRATION
A Longitudinal Analysis

Suggested Running Header: Tourism and Migration

Walter F. Kuentzel
University of Vermont, USA

Varna Mukundan Ramaswamy
University of Vermont, USA

ABSTRACT

Many assume amenity-based rural communities encourage residential relocation by visitors. Researchers have explored this question using decision-making models, but few have analyzed this relationship from a rural development perspective. This study used a longitudinal design to model the relationship between tourism development, migration, and residential development in Stowe, Vermont from 1950 to 2001. The model also included national economic and migration trends. Bivariate results showed tourism development was positively related to migration and residential development. When controlling for national economic and migration trends, however, the tourism development effect disappeared. These findings suggest tourism amenities may be a necessary condition for migration and residential development, but broader economic and social conditions may be the sufficient condition for residence change.

KEYWORDS: Amenity-Based Communities, Migration, Rural Change, Seasonal Homes

BIOSKETCH: Walter F. Kuentzel, 357 George D. Aiken Center, University of Vermont, Burlington, VT 05405, 802-656-0652, walter.kuentzel@uvm.edu. Research interests include rural change, community development, social psychology of leisure, and human dimensions of natural resources.

Varna Mukundan Ramaswamy, 219B George D. Aiken Center, Vermont Tourism Data Center, University of Vermont, Burlington, VT 05405, 802-656-0623, varna.ramaswamy@uvm.edu
Research interests are rural tourism development, social capital, and rural communities.

INTRODUCTION

Community researchers and planners often assume that recreation and tourism amenities are among the most important incentives that entice seasonal and permanent residential development in rural communities (Dillman 1979; Galston and Baehler 1995; Haas 1990; Knapp and Graves 1989; Snepenger et al. 1995). “The enhancements that keep a community attractive to visitors also may serve to lure permanent residents and their investments...” (Galston and Baehler 1995:138). Does this necessarily mean, however, that when a rural community develops its tourism amenities, it should then expect an increasing number of vacation and permanent homes? Past research offers only inferential evidence for this relationship based on cross-sectional studies and descriptive trend data. But, could it be that residential development in tourism communities is more likely to respond to economic cycles or social trends that affect “big-ticket” real estate purchases (Phillips 1986)? Past research has focused more on individual migration decisions and less on processes of social change and community development. This study used time-series analysis to explore how processes of tourism development and processes of economic change are related to migration and residential development in a tourism-dependent community - Stowe, Vermont.

Past research assumes that the psychological and emotional charm of a town’s amenities can make visitors aspire to the potential leisure lifestyles of seasonal or permanent residence. The psychological appeal of amenities such as a town’s scenic qualities, water resources, recreation paths, golf courses, theaters, parks, museums, restaurants, and shopping opportunities is apparent (Johnson and Beale 1994; Snepenger et al. 1995). These rural tourism amenities have
been featured components in decision-making research on retirement migration (Cuba 1989, 1991; Gober and Zonn 1983; Haas 1990, 1993; Wiseman 1980). Past research, however, has rarely analyzed the relationship between rural amenities and migration from a rural development perspective. By developing these recreation and lifestyle amenities, tourism-based communities expand their tourist capacity and expect to attract more visitors. When amenity development in a community successfully attracts more visitors, does it also attract more seasonal or permanent residential development among former visitors? Does an increase in seasonal home development and permanent residential development follow tourism "booms" in a community, and does stagnant real estate activity follow tourism "busts?"

The psychological appeal of tourism destinations is apparent, but seasonal or permanent relocation is a significant life decision, and locational appeal is not the only criterion (Cuba 1991; Haas 1993; Stynes et al. 1997). Investment decisions may be constrained by changing structural conditions - economic cycles or societal trends. Migration to rural tourism-based communities may be a function of societal demographic trends (Beale 1969; Johnson and Beale 1994). These trends may be related to the emergence of telecommuting (Frey 1987), hobby farming (Gramann et al. 1985), the aging of the baby-boom cohort, or rural relocation by high-tech, knowledge-based industries or service sector industries. Underlying each of these social trends are economic trends such as changes in affluence and discretionary income, tax incentives, regional economic output, or interest rates that can affect residential mobility. If so, the importance of a community’s tourism and recreational amenities may be secondary, and may change over time.

This study used time-series analysis to understand how tourism development and
economic trends influence seasonal and permanent residential development. The analysis explored the relationship between regional and national economic and social trends, tourism development, and residential development in Stowe, Vermont - a rural community in Vermont with a long history as a tourist destination. Specifically, the study modeled the relationship between trends in tourism development, economic indicators, national migration patterns, seasonal home development, and residential development in Stowe between 1950 and 2001.

TOURISM DEVELOPMENT AND RURAL MIGRATION

The relationship between tourism amenities and residential development appears intuitive, yet research has never established a strong direct link. The few studies that have specifically investigated this link have either used cross-sectional surveys or have analyzed census data. As early as the 1960s, Schmitt (1968) showed socioeconomic similarities among tourists and in-migrants in Hawaii, and observed the tendency of migrants and tourists to be attracted to the same places. Snepenger et al. (1995) surveyed people who had relocated their business to tourism-based rural communities in the Greater Yellowstone area. They found that the presence of recreation amenities affected entrepreneurial business relocation decisions. Finally, Johnson and Beale (1994) showed that population in retirement and a recreation-based tourism community has consistently increased over the last 25 years, even as other non-tourism-based rural communities have stagnated or lost population (Johnson 1989; Johnson and Beale 1994).

These studies, however, only provide broad inferences about the relationship between tourism amenities and migration. Schmitt (1968) acknowledges the limitations of his broad
correlational study derived from census data. Snepenger et al. (1995) use, in effect, a self-selected sample of local residents, and exclude those who considered relocating their business to the Yellowstone region, but decided against one. Finally, Johnson and Beale (1994) assert that population growth in tourism-based communities may be due to a growth-hub effect. Even the retirement migration literature focuses on a variety of factors such as distance moved, previous place experience, social ties, cost of living, weather, tax rates, and medical facilities (Cuba 1991; Haas 1993). Haas (1990) even acknowledges that “few older adults make amenity moves.” These studies, consequently, do not establish a definitive link between recreation amenities and migration because they fail to incorporate change in tourism development. A more convincing analysis would show that changes in the development of recreation and tourist amenities are related to changes in migration and residential development.

The appeal of recreation amenities may play a more direct role in certain kinds of residential development. For example, resort developers at planned communities like Sea Pines Plantation on Hilton Head Island, SC, Beaver Creek in Colorado, or Spinnaker Island in Massachusetts, have long featured recreational amenities such as golf course, ski areas, marinas, or lakes as the centerpiece for seasonal and permanent residential development. Planned communities, however, are closely dependent on market forces that can affect success, and resort developers must pay close attention to economic trends, demographic shifts in population distribution, changing lifestyles, development regulation, and land supply (Phillips 1986).

The seasonal home literature also tends to focus on potential constraints to seasonal residential development. Stynes et al. (1997) point out that seasonal homes are not a necessity and people usually feel little immediate investment pressure. Seasonal home purchase, therefore,
may not follow closely with visitation. Rather, seasonal home purchases can follow family life stages (Godbey and Bevins 1987) where the career security and financial independence of middle life, or the extra leisure time of the empty nest can encourage vacation home ownership. Consequently, seasonal home growth in tourism-based towns may be a function of demographic trends, as cohorts like the baby-boomers enter times of peak productivity and earning power (Crispell 1994; Hawks 1991). Town tax policy on seasonal home ownership may effectively limit the seasonal home/permanent home ratio to below 10%, while other town tax policy may encourage ratios of 40% or more (Warnick 1997). While recreational amenities may stimulate a desire for seasonal residences among visitors, the literature points to significant purchase constraints.

The seasonal home literature also raises the possibility that growth in permanent residences in a tourism-based community may be a function of seasonal home conversion. Godbey and Bevins (1987:19) argue that the "process of conversion from secondary to primary homes may represent the initial and final stages of a cycle of evolution...which corresponds to stages of a tourist area’s" life cycle. So the growth of recreation amenities may generate seasonal home development, and seasonal home ownership may then generate conversion to permanent residences. The literature offers mixed evidence, however. Studies show as few as a one percent anticipated conversion among seasonal home owners (Bevins 1974), and as many as a "substantial" number of people who expect to convert seasonal homes to permanent homes (Marans 1976). Godbey and Bevins (1987) found that seven percent of the households in a planned retirement community in Pennsylvania were permanent residences, while Kenny (1979) reported that 40% of the homes in a New Jersey seasonal home community were permanent
residences, and another 40% planned to convert seasonal homes to permanent homes. Most of these studies, however, used cross sectional designs and could only report intended conversions. Again, this literature does not establish a clear link between growth in recreation amenities, growth in seasonal homes, and growth in permanent residences.

Demographic, Economic, and Social Trends

How might societal change affect residential development in tourism-based communities? One key change in the United States has been population growth in rural areas. Between 1850 and 1950, millions of people migrated from rural areas to urban areas, establishing one of the "most stable demographic patterns of American history" (Johnson and Purdy 1980:57). By the late 1960s and early 1970s, however, this traditional migration pattern reversed and the population in rural areas of the U.S. grew at a faster rate than that of urban areas. This phenomenon is referred to as "nonmetropolitan turnaround" (Beale 1969; Johnson and Beale 1994). This phenomenon lasted throughout the 1970s, but a reversal in the 1980s, where urban areas grew at a faster rate than rural areas, had demographers wondering if the "rural renaissance" of the 1970s was just a brief detour in the long-term trend. National trends, however, reversed again in the 1990s, with more than 64% population growth occurring in rural areas. This "turnaround" is symptomatic of broad contemporary change in the U. S.

Three frameworks have been used to interpret the nonmetropolitan turnaround phenomenon. First, the "regional restructuring" perspective describes disinvestment in an urban-based manufacturing infrastructure, particularly in the Northeast and Midwest United States. For rural areas, this meant a declining reliance on natural resource extraction and agriculture, and a
new emphasis on service sector businesses, "knowledge-based" industries, rural-based headquarters of "footloose" businesses, research-and-development centers, and specialty products industries (Frey 1987). Second, the "deconcentration" theory emphasizes locational flexibility of employers and labor due to emerging technological, communications, and macroeconomic changes. Computer technology, telecommunications technology, and infrastructure development have facilitated mobility, where proximity to one’s work place has become less important, and home offices have become more common place (Frey 1987). This has enabled people to move closer to places that provide outdoor recreation opportunities, natural resources, and the quality of life amenities that rural areas provide. Third, the “period effects” perspective contends that the nonmetropolitan turnaround of the 1970s was the result of socioeconomic circumstances unique to that particular time (Frey 1993). In the late 1960s and 1970s, increased highway funding (Fitchen 1991), low interest rates (Flora 1990), and attitudinal changes enabled people to embrace a "simpler" rural lifestyle while making viable investments in small entrepreneurial activities. During the 1970s, the number of “hobby farms”, bed and breakfasts, restaurants and inns grew (Fitchen 1991; Gramann et al. 1985). Similarly, the baby-boom cohort has "come of age" in the 1990s, and is exerting a profound influence on purchasing patterns, attitudes, and public policy. Hawks (1991) and Crispell (1994) argue that the growing affluence of the “baby boomers” is stimulating strong demand for vacation real estate.

This review suggests that the desire for rural relocation may be increasing. There is an improving climate for entrepreneurial opportunities in rural areas, an enhanced transportation and communications infrastructure in remote areas, and a contemporary enthusiasm for rural issues. Yet, this literature also shows the complexity of a relocation decision. Buying a seasonal
or permanent home in a tourism-based rural community involves more than psychological appeal. The lifestyle choices that drive decisions about seasonal home purchase or residential relocation cannot be decoupled from one’s career decisions, work place decisions, entrepreneurial instincts, business investment decisions, and life-stage responsibilities. And each of these factors is affected by economic trends, such as the cost of living, one’s expendable income, regional or national economic output, and interest rates. Overall, recreation amenities in a tourism-based community may be the necessary condition for seasonal or permanent residential development, but the interaction between favorable demographic, social, and economic conditions may be the sufficient condition.

**Study Design**

This study used time series data from 1950 and 2001 to analyze how processes of change in tourism development, national demographic shifts, and economic trends are related to change in seasonal homes, net migration, and permanent homes in a tourism-based rural community, Stowe, Vermont. The time-frame of the study corresponds to the years when mass tourism in the United States developed and grew into the prominent industry it is today. Stowe, as a travel destination was selected because it has been on the leading edge of industry development throughout the selected time frame.

The analysis used indicators of tourism development in Stowe, indicators of economic trends, and demographic trends in migration as independent variables in a multivariate regression analysis to predict change in the number of seasonal homes, annual net migration, and the number of permanent homes in Stowe. We assumed that growth in Stowe’s tourism
infrastructure (number of lodging rooms, restaurant seats, and tourism related retail stores) reflected an increasing number of visitors, and therefore an increasing potential real estate market. Nevertheless, the analysis controlled for the potential constraining effects on real estate purchases in Stowe that may come from changes in economic output (gross domestic product), cost of living (consumer price index), personal spending, and interest rates. The analysis also controlled for periods when the U.S. population was more likely to move to rural areas. Is there a direct effect of tourism development on seasonal home development, permanent home development, and net migration? Or, are broader economic conditions and demographic trends more important predictors of real estate development and net migration in a tourism based rural community?

**Study Site**

Stowe, Vermont was used as a case study because of its long history as a major tourist destination. For many decades, the town has capitalized on the presence of Vermont’s highest peak, Mt. Mansfield within its town boundaries. During the mid-19th century, the Mt. Mansfield Company established Stowe’s reputation as a summer resort by building both the Summit House on Mt. Mansfield, and a resort hotel in the town center. In 1912 and 1913, three Scandinavian families moved to Stowe, and introduced the use of cross-country skis for transportation. Stowe's alpine skiing potential, however, was not realized until the early 1930s. Trails were first cut on Mt. Mansfield by the Civilian Conservation Corps in 1932, and used for military training and civilian recreation. By 1945, Stowe Mountain Resort had one of the first chair lifts in the U.S., a ski school, and one hotel. During the 1950s and 1960s, Stowe evolved into the most recognized
ski destination in the East. The 1970s brought both an increase in nationwide popularity of skiing along with increased competition from other ski areas in the country (Hansen 1973). By the late 1970s, Stowe’s share of the ski market had declined, and the town was forced to rebuild itself as a four-season resort. Today, tourists visit year-round to participate in everything from cross-country and alpine skiing, mountain biking, polo, and sightseeing. In short, Stowe was on the leading edge of the U.S. tourism boom of the 1950s and 1960s (Fridgen 1991), and has sustained its position as a major travel destination into the 21st century.

**Measurement**

**Residential Development.** To measure residential development, the study used annual counts of the number of vacation homes and the number of permanent homes in Stowe. These numbers were derived from the town’s “grand list,” which lists all taxable property in the town by owner’s name, property type, and value. The number of vacation homes and the number of permanent homes has been enumerated in the town’s annual summary report for each year since 1976. For years before 1976, researchers had to hand count residence codes in Stowe’s original grand lists. The town, however, only differentiated between vacation and permanent residences since 1967.

Consequently, to estimate the number of vacation homes and permanent homes from 1950 to 1966, the study used three triangulated pieces of information. First, researchers hand counted the total number of dwellings (houses, cottages, camps, bungalows, cabins, etc.) in each annual grand list between 1950 and 1966 to establish a baseline number of total residences.
(seasonal and permanent) in Stowe. Second, we hand counted the number of properties that were probably seasonal, including camps, cottages, cabins, bungalows, and a-frames. Based on the more reliable seasonal home enumerations by the town in the late 60s and early 70s, however, the counts from the 50s and early 60s probably included less than half of the total seasonal properties. Third, we used Sinclair’s (1969) study of land values in Vermont, who showed that the ratio of seasonal homes to total properties was 10% in 1967 and 1968, and grew steadily throughout the 1970s and 1980s. This 10% ratio of seasonal homes to total properties in the late 1960s was identical to Stowe’s ratio in 1967. He observed however that "the land market was much less active" in the early years of his study - 1958 and 1964.

The subsequent estimate of seasonal homes in Stowe was based on Sinclair (1969), and assumed a modest linear growth pattern in the 1950s and early 1960s. This assumption was corroborated by the counts of camps and other seasonal properties in Stowe, which remained constant between 1957 and 1966, ranging between 47 and 53. Between 1954 and 1957, however, the number more than doubled from 18 to 48. Based on these two pieces of information, we held the ratio of seasonal homes to total properties in Stowe constant at 10% from 1958 through 1966, nine percent from 1954 to 1957, and eight percent from 1950 to 1953. After estimating the number of seasonal homes in Stowe, we subtracted our estimates from the number of residential dwellings in Stowe to derive the total number of permanent homes.

Tourism Development. This study used three separate measures of tourism development that reflect the town’s capacity to accommodate more tourists: the annual count of lodging rooms, the annual count of restaurant seats, and the annual number of tourism related retail establishments
including gift shops, antique shops, and art galleries. The latter retail indicator used counts from the Vermont Yearbook (Graham 1994), which lists the names of each retail establishment in Stowe. Data collection for the former two indicators was more involved, requiring a three-step process. We first used the Vermont Yearbook to establish a baseline list of lodging and eating establishments in Stowe. We then consulted files in the Stowe Lister’s (appraiser’s) office on each identified lodging property. Each file contained sales transactions, building additions, zoning variances, easements or other property dispositions. These files also documented the number of rooms in each lodging establishment, what year it was built, and what year any additions may have been built. For example, these records show that the Green Mountain Inn in the center of Stowe village was first built in 1856 with 23 units, added 16 units in 1976, 25 units in 1984, and another 30 units in 1998. Third we interviewed four residents of Stowe: the town appraiser, the head of the Stowe Area Association (local chamber of commerce), a Stowe innkeeper since 1970, and a Stowe innkeeper since 1952. These individuals were able to identify which current establishments may have operated previously under a different name. Between the four individuals, they were able to estimate the approximate size of former lodging establishments that had been razed, were destroyed by fire, or converted to some other use (private residence, apartment, dormitory, etc.). We could find no information on three properties that were listed for only one year in the Vermont Yearbook. These establishments were dropped from the list. We could find no information on nine other properties that were listed for several years in the Yearbook. Because no one could remember anything about these properties, we assumed they were minor establishments and assigned 10 rooms each.

Enumerating the annual number of restaurant seats was less precise. As with lodging
properties, the data collection started with the annual lists of eating establishments in Stowe listed in the Vermont Yearbook. We then used four sources to estimate total seating capacity. First, we used a 1994 Vermont Department of Health database that reported the number of seats in each Stowe area restaurant. The state does not have archival information, however, and the only other historic information available was a 1979 table of restaurant capacity found in the Stowe town offices. Third, because renovations are more frequent in the restaurant sector, we consulted Zoning office files for each property, which contain all building permits issued. These files, however, were inconsistent in reporting seating capacity. Building permits sometimes stated the seating capacity, and other times did not. Finally, we used interviews to help estimate the number of restaurant seats. The restaurant industry has much more owner turnover than the lodging industry, so our interviews were an important step in sorting out what establishments had multiple ownership and name changes over the years. Even with these procedures, we lacked information on roughly one fourth of the restaurant properties. In those cases we used mean substitution (100 seats) to assign a seating capacity. This technique probably overestimated the town’s restaurant capacity because mean substitution based on post 1970s capacity may overstate the capacity for properties opened in the 1950s or 1960s. Nevertheless, the capacity estimate does provide a trend and rough indicator of change in Stowe’s restaurant activity.

Net Migration. Net migration is the numeric difference between the number of people who move from a place (out-migration) and the number of people moving into the same place (in-migration) over a given time. Net migration is calculated using the following formula (Haupt 1991):
Net Migration = (population @ Time 2 - population @ Time 1) - (Births-Deaths).

The U. S. Census Bureau provides population figures every 10 years. Since consistent time-series data for in-migration and out-migration are not available, the study used net migration instead (Murdock et al. 1984). Yearly population figures are needed, however to calculate net migration on an annual basis. The Vermont Department of Health published annual population estimates for each town from 1980-2001. There was no data available however, for 1950-1980. Since population figures were not available for every year, this study estimated population for Stowe using the ratio-correlation method (Shyrock et al. 1976), which is similar to the way the State’s Health Department generates their population estimates (Vermont Department of Health 1980-1994). Births, deaths, marriages, (Vermont Department of Health 1950-1990) and school enrollment (Vermont Department of Education 1950-1980) were used as "symptomatic" variables to estimate populations in non-census years.

Demographic and Economic Constraint. This study used 4 indicators to model economic trends that may affect residential development in tourism-based communities. We gathered annual indicators of the strength and performance of the U. S. economy, including economic output (Gross Domestic Product), cost of living (Consumer Price Index), strength of the dollar (Prime Lending Rate), and personal well-being (Personal Consumption Spending) from either the Statistical Abstracts or the U. S. Bureau of Economic Analysis income statistics. This study also modeled nonmetropolitan turnaround by constructing a time-series dummy variable where 0 was coded for each year in which urban areas grew at a faster rate than rural areas, and 1 was coded for each year where rural areas grew at a faster rate than urban areas.
Time-Series Analysis

This study used generalized least squares (GLS) regression to model the relationship between processes of tourism development, economic indicators, and residential development. GLS allows one to control systematic patterns of trend in time-series variables by specifying autoregressive and/or moving average patterns in the residuals. Autoregressive patterns characterize trends where any given observation (t) is highly correlated with its t-1 observation - for example a growing number of houses in a town. Moving average patterns represent seasonality in a time series, where trends are repetitive at specified intervals - for example economic cycles of boom and bust. If these potential patterns of trend are not controlled in a regression equation, then the risk of biased estimators increases.

In GLS, each time-series variable is entered into a regression, and the patterns of trend are controlled within the regression calculations. An alternative method commonly used - Autoregressive, Integrated, Moving Average (ARIMA models) - offers a stricter control on patterns of trend commonly found in time-series variables. Patterns of trend are first identified in univariate ARIMA models, “de-trended” variables are specified, and these “de-trended” variables are then used in any subsequent multivariate analysis. Substantively, the logic behind ARIMA modeling assumes the nature of the relationships remain constant across the time interval, while GLS assumes that the relationships can change. In other words, ARIMA assumes that the relationship between tourism development and seasonal home development works the same way in 1952 as it does in 1997. GLS, on the other hand, assumes that the process behind this relationship can change over time.
In this study, we used GLS regression because it is possible that real estate purchases in the 1990s may be influenced by different factors than real estate purchases in the 1950s. The analysis first tested the bivariate relationships between each dependent variable and each independent variable. The independent variables included tourism development indicators (number of lodging rooms, restaurant seats, and tourism related retail stores), nonmetropolitan turnaround, and economic indicators (gross domestic product, consumer price index, prime lending rate, and personal consumption spending). Regressions of the seasonal homes and permanent homes variables on each independent variable used an autoregressive control \((p=1, q=0)\) in the GLS equation. Regressions of the net migration dependent variable used a 6 year moving average control \((p=0, q=6)\) in the GLS equation. Next, the analysis ran three multivariate models for each of the dependent variables (seasonal homes, net migration, and permanent homes). In the multivariate models, the three tourism indicators (lodging rooms, restaurant seats, and retail stores) were combined into a single tourism development index because of high inter-item correlation.

**Results**

*Tourism Development Indicators.* The development of lodging rooms in Stowe shows a 2-step pattern of growth (Figure 1). The trend shows strong growth in the number of rooms in the first two decades from 119 rooms in 1950 to just fewer than 1000 rooms by 1970. Nearly 30 rooms were added each year during the 1950s, and more than 80 rooms were added each year from 1960 to 1965. Between those years, the total number of rooms doubled from 416 to 836. The 1970s saw stagnation in the development of Stowe’s lodging capacity, when fewer than 10
rooms per year were added. A second stage of growth occurred in the 1980s when more than 40 rooms were added each year between 1980 and 1985 and more than 30 rooms per year were added between 1985 and 1990. The 1990s have seen a slowdown in Stowe’s lodging development, with little growth in the town’s bed base since 1994. At least 2 high profile additions to existing hotels have been offset by closures during the same period.

The growth in Stowe’s restaurant capacity also showed a two-step process of development, although the development of the food sector generally lagged development in the lodging (Figure 2). Restaurants showed little growth throughout the 1950 adding fewer than 50 seats per year and increasing from only 428 seats in 1950 to 741 seats in 1960. In the following decade, Stowe saw accelerating growth adding over 100 seats per year in the early 1960s, and just fewer than 300 seats per year in the late 1960s. By 1970, Stowe had increased its capacity more than five-fold to 3,843 restaurant seats. There was modest growth between 1970 and 1985 when annual additions in seating capacity dropped below 100 seats, and the town’s restaurant sector added just over 2000 seats during the 15 years period. The late 1980s saw a second stage of growth when the town added more than 350 seats per year, and adding another 2000 seats between 1985 and 1991. During the 1990s, the restaurant sector in Stowe has stagnated, having lost just fewer than 800 seats by 2001.

Unlike the food and lodging sectors in Stowe, the retail sector (gift shops, antique stores,
art galleries) has shown a three-stage process of development (Figure 3). There were only two establishments through the early 1950s. This number increased to nine stores in the late 1950s, and fluctuated between eight and 14 over the next 15 years. By 1976, there were 13 tourism-related retail stores in Stowe. This number saw a second increase in the late 1970s to 26 by 1979 and fluctuated between 19 and 25 during the 1980s. The third growth stage occurred in the 1990s when the number of retail establishments increased to 36 in 1993 and has fluctuated between 28 and 35 stores since then.

Economic Trends. Economic indicators such as the gross domestic product, consumer price index, and personal consumption spending (constant dollars) each show exponentially increasing trends between 1950 and 2001. The gross domestic product trend shows minor one to three year downturns during the oil crisis of 1973 and during recessions (1968, the early 1980s, and the early 1990s), but the other indicators show smooth exponentially increasing trend lines. Consequently, a more informative way to report economic trends is to plot the percentage change from year to year.

Calculated in this way, the gross domestic product trend ranged from a high of eight percent growth in 1951 and 1978 to a low of a two percent decline in 1982. Overall, the U. S. economy showed positive and steady growth between 1959 and 1969, when the annual increase in GDP ranged from two to seven percent. The trend mirrors the effects of the oil crisis and recessions in the early 1980s and early 1990s. It also shows consistent growth from 1983 to 1989
(three to seven percent annual growth), and from 1992 to 2000 (three to four percent annual growth). The percentage change in the consumer price index shows that the cost of living increased steadily, but modestly during the 1950s and 1960s ranging between zero to three percent annual rates of change. Between 1968 and 1981, this annual rate of change increased dramatically, ranging between three percent (1972) to a 13% (1980). Since 1982, the annual cost of living increases have been more consistent, ranging between two and five percent. Since 1992, the annual increase has not exceeded three percent. Personal consumption expenditures follow a similar pattern, with modest rates of annual increase ranging from four percent to 11% during the 1950s and 1960s, larger annual increases ranging between 13% to 22% during the 1970s and early 1980s, and then dropping back to seven percent to 12% in the late 1980s and 1990s. Finally, the prime lending rate reflects these rates of change in economic output, cost of living, and personal spending. Interest rates have climbed gradually from just over two percent in 1950 to four and one-half percent in 1965. There were then spikes to eight percent in 1969, almost 11% in 1974, and ranged from 10.8% to 18.8% between 1979 and 1984. Between 1985 and 2001, interest rates have ranged from a low of six percent in 1993 to a high of 10.9% in 1989.

*Permanent and Seasonal Homes.* Total permanent homes in Stowe have grown relatively steadily from 248 units in 1950 to 1287 units in 2001 (Figure 4). In the early 1950s, Stowe was adding about five houses per year to its grand list. For the next 20 years, however, they built roughly 19 houses per year in the town. There was a brief housing slump in the late 1970s when they built only 13 houses per year. This rate had rebounded to 19 houses per year in the early 1980s, and then boomed to 35 houses per year between 1985 and 1995. Since then, the rate of
building has declined to about 23 houses per year between 1995 and 2000.

The growth of seasonal homes shows progressive increases over the 51-year time-series. Our best guess suggests that growth in seasonal homes in Stowe was modest throughout the 1950s and 1960s. We also assumed that the ratio of permanent homes to seasonal homes during this time was probably three to one. Growth in seasonal homes in Stowe exploded in the 1970s increasing from 152 in 1967 to 523 by 1974, due in part to a number of condominium developments. Growth moderated between 1975 and 1978, but then boomed again in the late 1970s, increasing from 571 seasonal homes in 1978 to 835 in 1981. At this point, the number of seasonal homes surpassed the number of permanent homes in Stowe. Growth in seasonal homes moderated in the early 1980s, but took off again in the late 1980s surpassing 1000 in 1988. Growth in seasonal homes has since moderated through the 1990s. Roughly 15 seasonal homes have been added annually to Stowe’s grand list, while permanent homes have increased at a rate of about 27 homes per year. Consequently, there have been more permanent homes in Stowe than seasonal homes since 1994.

Net Migration in Stowe. The data showed a high degree of volatility in net migration in Stowe between 1950 and 2001 (Figure 5). From 1950 to 1957, more people migrated out of Stowe rather than into Stowe. The magnitude of net migration, however, was not large and the town typically lost fewer than 50 people on average. The smoothed net migration trend shows a generally declining rate of net migration growth through the 1950s and early 1960s. There was,
however, dramatic growth in net migration beginning in 1967. Notable was a positive net migration of 212 people in 1969 and 332 people in 1970. Net migration moderated between 1975 and 1980 adding fewer than 100 people to Stowe’s population. It also moderated even more in the 1980s, adding 20 people or fewer to Stowe’s population. Figure 6 shows however, that net migration trend has rebounded in the 1990s and shows a generally upward trend adding, on average, 88 people per year to Stowe’s population since 1990.

Bivariate Models. The bivariate models showed that seasonal home development in Stowe was related to tourism development and economic trends (Table 1). During the 52-year time frame, increases in seasonal homes were associated with increases in lodging rooms (B=0.187) and increases in restaurant seating capacity (B=0.029). Increases in tourism-related retail stores, however, were not associated with increases in seasonal homes. Increases in seasonal homes in Stowe were also related to economic trends. Increases in economic output (GDP) and increases in personal spending (personal consumption expenditures) were associated with increases in seasonal homes (B=0.101 and B=0.080 respectively). Seasonal homes in Stowe were also more likely to be added when the cost of living (CPI) was increasing and when interest rates (prime lending rate) were on the rise (B=7.05 and B=10.25 respectively). Finally, seasonal homes development was not associated with rural migration trends.

Net migration was also related to each of the tourism development indicators (Table 1).
Positive increases in the number of lodging rooms (B=.047), restaurant seats (B=.007), and retail stores (B=2.31) were each associated with increases in seasonal homes. The only economic indicator associated with net migration in Stowe, however, was economic output. Growth in the GDP was positively associated with an increase in net migration to the town (B=.011). Also, the bivariate results showed that rural migration trends were also related to increasing net migration. Net migration to Stowe was more likely to increase in years when rural areas grew at faster rates than urban areas (B=61.12). Finally, increases in net migration were not related to increases in seasonal homes.

Permanent home development in Stowe showed similar bivariate relationships as seasonal home development (Table 1). The number of permanent homes was more likely to increase as the number of lodging rooms increased (B=.153), the number of restaurant seats increased (B=.019), and the number of tourism-related retail stores increased (B=.719). Permanent home development was also related to economic trends. Permanent homes increased with increases in the GDP (B=.095), and with increases in personal spending (B=.080). Increases in permanent homes were also associated with increases in the cost of living (B=4.85). Table 1 also shows that increases in seasonal homes were related to increases in permanent homes in Stowe. Home development in Stowe was not related to interest rates, and permanent homes were not related to rural migration trends or net migration to Stowe.

Multivariate Models. When each of the independent variables was entered into a multivariate model, a different story emerged (Table 2). When controlling for the effects of tourism development, rural migration, and economic trends on seasonal home development in Stowe,
only two of the economic indicators remained significant. The number of seasonal homes increased in Stowe when the cost of living was increasing (B=8.38) and as interest rates increased (B=6.36). In the multivariate model, tourism development, rural migration trends, economic output, and consumer spending did not have a significant relationship to seasonal home development. In the net migration model, the only significant variable was rural migration (B=31.06). There was more likely to be an increase in net migration to Stowe in those years when rural areas grew at a faster rate than urban areas. Finally, the permanent homes model showed a somewhat similar story as the seasonal home model. An increase in permanent homes in Stowe was associated with increasing economic output (B=.042) and an increase in the cost of living (B=2.56). The growth of permanent homes, however, was also positively associated with tourism development in Stowe (B=11.53), although this coefficient was significant only at the .09 level. In this model, interest rates, consumer spending, rural migration trends, seasonal home development, and net migration trends had no effect on permanent home development.

DISCUSSION

The results suggest that tourism amenities are a necessary condition for seasonal home development, net migration, and permanent home development in Stowe. Yet, tourism is not a sufficient condition. The bivariate analysis showed that an increase in the town’s capacity to accommodate more tourists is associated with increases in seasonal homes, net migration, and permanent homes. As Stowe develops its tourism infrastructure, it is able to accommodate more tourists, and it could be that this increase in tourists provides a larger market of potential
residents hoping to relocate to Stowe, such as entrepreneurs, commuters, or retirees. The multivariate results, however, showed that economic conditions, which may affect real estate purchases, “trump” the psychological appeal that may draw potential real estate customers. The results illustrate this in at least four ways.

Seasonal Homes

The seasonal home market in Stowe saw its most aggressive period of growth during the 1970s when the number of seasonal properties increased by more than 300%. Much of the growth in this decade came from investment in condominiums, rather than individual investment in one-off houses. This growth followed Stowe’s most significant “boom” in tourism development in the late 1960s. Yet growth in seasonal homes was sustained throughout the decade when interest rates and the cost of living soared. The building boom started when interest rates were low in the early 1970s, but continued in the late 1970s when banks encouraged the larger scale loans required by condominium developers. Even though interest rates increased, inflation outpaced interest rates, and banks actively encouraged new loans to sustain its profit margins. The results from this study suggest that many of the seasonal home units were added in years when interest rates were high and the cost of living was increasing. These findings, therefore, may be reflecting a “period” effect in the late 1970s when economic conditions (high interest rates, inflation, and banking policy) may have decoupled demand from supply in Stowe’s development of seasonal homes.

It is also possible that supply in the 1970s outpaced demand. Since 1981, growth in seasonal homes has been modest, having increased by only 50% in the last 20 years. There was
no increase in the rate of seasonal home development in the late 1980s and early 1990s that followed Stowe’s second tourism “boom” in the early 1980s. Nor has Stowe seen increased seasonal home growth in the 1990s in response to increased baby boom demand (Crispell 1994; Hawks 1991). This may change in the coming decade as ski area expansion plans include a proposal for significant real estate development. Hawks’ (1991) and Crispell’s (1994) observations about the baby boom cohort may still be correct. Demand for seasonal homes in Stowe may be building, and the ski area may be poised at the right time to meet that growing demand. The results therefore suggest that seasonal home development does not simply follow an individual’s desire to purchase vacation property, but instead is influenced more by the economic contingencies of large scale investment capital.

Net Migration

Net migration to Stowe was at its highest levels in the 1970s and the 1990s. The substantial growth in tourism infrastructure in the late 1960s matched sizable increases in net migration to Stowe in the years surrounding 1970. More than 200 people per year were added to the town’s population just following a time in the late 1960s when Stowe added 80 rooms per year and nearly 500 restaurant seats per year. This may account for the significant bivariate relationships found in the analysis. The relationship, however, has not been sustained since 1980. Tourism development increased in the early 1980s, yet the rates of net migration were comparatively small through the 1980s, and accounted for fewer than 30 additional residents annually. Moreover, net migration has been quite strong through the 1990s without a concomitant increase in tourism facilities.
Net migration in Stowe, instead, mirrors national migration trends. Stowe experienced a net loss of residents from net migration in the 1950s, and minor population growth from net migration in the early 1960s. This was a time when more people were moving from rural areas to urban or suburban areas of the country. Net migration boomed around 1970 and sustained positive levels of growth in the 1970s, the decade in which nonmetropolitan turnaround was first documented (Johnson and Beale 1994). This was a decade when some embraced the lifestyles they espoused in the 1960s, and the "back-to-the-land" movement flourished in Vermont (McCarthy 1985). Improvements in transportation infrastructure (e.g., the construction of Interstate 89) also facilitated entrepreneurial growth and industrial growth (IBM and GE). Net migration to Stowe stagnated again in the 1980s, and rebounded in the 1990s, also mirroring national migration trends to rural areas. So, while a tourism community’'s recreation amenities (and job opportunities) may be one incentive in relocation decisions, nationwide trends were a more pervasive influence in Stowe.

**Permanent Homes**

Permanent home development in Stowe has been steadier and much less volatile than seasonal home development. Over the 51-year time frame, permanent homes have averaged about a three percent to four percent annual rate of growth with a range of just over zero percent to as much as 10% in any given year. These 10% spikes occurred in the late 1950s and 1960s, two of which corresponded to Stowe’s tourism growth in the late 1960s. Since the mid 1970s, the annual rate of increase of permanent homes has never exceeded five percent. During the late 1980s, annual growth ranged between four and five percent, which corresponded to the tourism growth in the
early 1980s. While the results showed that tourism development is related to permanent home development, economic factors still played the predominant role. The rate of permanent home growth slowed during times of recession, and slowed during the oil crisis of the 1973.

The other confounding factor is the relationship of permanent home development to net migration. Net migration was not related to permanent home development in the regression model. Moreover, the growth of permanent homes did not match the growth in population. In the 1970s, Stowe added just fewer than 200 permanent homes, while the population increased by 700 people. In the 1980s there were almost 400 homes added to the town, yet the population of Stowe only increased by about 450 people. In the 1990s, permanent home development had declined a bit adding only 250 homes during the decade, while the population increased by 900 people. People moved to Stowe during times when the rural areas were growing at faster rates than urban areas (the 1970s and the 1990), but there appears to be a significant lag between demand and supply of permanent homes in Stowe. So, while tourism amenities may help attract new residents to the town, the development of permanent residences to house these in-migrants does not respond in a clear way.

**Seasonal Home Conversion**

Finally, seasonal home conversion to permanent residences has not historically been a pervasive phenomenon in Stowe. The results showed that for every permanent home built between 1950 and 2001, there were 1.12 seasonal homes built in Stowe. Indeed, the number of seasonal homes surpassed the number of permanent homes during the 1980s and into the early 1990s. For there to be clear evidence for seasonal home conversions, we would expect a declining ratio of
seasonal to permanent home. And, while this ratio has declined since 1994, it is too early to tell if it represents a trend. These findings indicate that Stowe is not a major retirement destination. Snow, cold weather, and long winters appeal to only a limited segment of the retirement market, and the number of people who convert vacation property into permanent homes at retirement age is probably quite small in Stowe. The results also suggest that the number of people who convert seasonal residences into permanent home offices or “hobby” farms may also be quite small. If so, it may be that the majority of permanent migrants to Stowe are responding to trends in the entrepreneurial opportunities of the local tourism economy.

CONCLUSION

In sum, the link between Stowe’s tourism amenities and the development of seasonal and permanent residences is not direct. The decision to migrate or purchase real estate in a tourism related town is more complex than just visiting a place, enjoying it, and deciding to live there. Instead, seasonal home purchases may be influenced more by economic conditions that determine investment risk, migration may be a function of economic constraint and cultural dispositions that idealize rural places, while permanent home purchases may be influenced by local business opportunities. Consequently, this means that building tourism infrastructure in a town does not automatically mean a steady flow of new residents and seasonal home purchases. Town residents are often concerned that tourism development will bring empty houses, an influx of strangers in town, and school budget fights with seasonal residents. These results, however, suggest that real estate development need not be a juggernaut of tourism development, whose cost must be born by local residents. Instead, communities can plan for residential growth by
directing investment decisions in ways that fit with market conditions and community goals.

Future research should replicate this study in other tourism dependent communities. Stowe’s rural charm does not minimize its cold climate, and many potential in-migrants, particularly retirees, may choose warmer places to live. Life in Northern New England may be negating the potential effect of tourism development on residential relocation. Different and more precise indicators of tourism development should also be explored. This study used infrastructure development as our indicator of tourism growth. Visitor days would be a more direct indicator, although consistent and long term time-series data on tourist numbers are hard to find in most places. Finally, other models of tourism development and residential relocation should be tested. Schmitt (1968:310) stated "the motivations and economic forces underlying the choice between migrations and vacations are often more complex than can possibly be indicated ..." in a limited study. Other models could explore additional indicators of societal trends, the structure of the community (economic, political, and social), and indicators of community quality of life.

Traditionally, rural communities have been perceived as bastions of continuity with the past, where change was slow and purposeful. Contemporary rural communities are no longer shielded from modern forces of change. The global economy, urban/suburban flight, the rapid growth of service and information industries, and an economy based on a flow of capital rather than a flow of manufactured goods all present new challenges and pressures for change in rural communities. Understanding those processes of change is an important tool for rural planners wanting to maintain a sense of place and control over their community’s future.
AKNOWLEDGEMENTS
This research was funded by the Vermont Department of Tourism and Marketing. The authors appreciate the assistance of Amy Manning, Cory Monday, Sarah Wilcke, and the Spring 1995 Tourism Planning class at the University of Vermont for assisting in collecting data on Stowe, Vermont.
REFERENCES

Beale, C. L.

Bevins, M. I.
1974 Impact of Taxes on Seasonal Homes. Vermont Farm and Home Science 16:2.

Butler, R.W.

Cooper, C. and Jackson, S.

Crispell, D.

Cuba, L.

Dillman, D.A.

Fitchen, J.

Flora, C.B.

Frey, W.H.

Frey, W.H. and Speare, A.

Fridgen, J.D.

Fuguit, G.V.

Galston, W.A., and Baehler, K.J.
Gober, P., & Zonn, L. E.
Godbey, G., & Bevins, M. I.
Graham, J.
Haas, W. H.
Haas, W. H., and Serow, W. J.
Hansen, N.
Haupt, A.
Hawks, J. W.
Johnson, K.M.
Johnson, K.M., and Beale, C.L.
Johnson, K.M., and Purdy, R.L.
1980 Recent nonmetropolitan change in fifty year perspective. Demography 17:57-70.
Kenny, K.
Knapp, T.A., and Graves, P.E.
Marans, R. W.
McCarthy, W.M.

Murdock, S. H., Parpia, Hwang, P.S., Hamm, R.R.

Phillips, P. L.

Ramaswamy, V.M. and Kuentzel, W.F.

Schmitt, R.C.

Shyrock, H.S., Siegel, J.S. and Associates

Sinclair, R. O.

Snepenger, D.J., Johnson, J.D. and Rasker, R.

Strapp, J.

Stynes, D. J., Zheng, J. J, Stewert, S. I.

Vermont Department of Education

Vermont Department of Health

Vermont Department of Health

Figure 1. Trend in the number of lodging rooms in Stowe, Vermont (1950-2001).
Figure 2. Trend in the number of restaurant seats in Stowe, Vermont (1950-2001).
Figure 3. Trend in the number of tourism-related retail stores in Stowe, Vermont (1950-2001).
Figure 4. Trend in the number of permanent households and seasonal households in Stowe, Vermont (1950-2001).
Figure 5. Trend in net migration to Stowe, Vermont (1950-2001).
Table 1 - Bivariate regression coefficients (with standard deviations) of indicators of tourism development, economic well-being, and national migration, and indicators of net migration and residential development in Stowe, VT.

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>Seasonal Homes</th>
<th>Net Migration</th>
<th>Permanent Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodging Rooms</td>
<td>.187 (.096)</td>
<td>.047 (.019)</td>
<td>.153 (.057)</td>
</tr>
<tr>
<td>Restaurant Seats</td>
<td>.029 (.015) a</td>
<td>.007 (.004) a</td>
<td>.019 (.009)</td>
</tr>
<tr>
<td>Retail Shops</td>
<td>ns</td>
<td>8.33 (4.10)</td>
<td>.719 (.005)</td>
</tr>
<tr>
<td>Non Metropolitan Turnaround</td>
<td>ns</td>
<td>51.12 (19.78)</td>
<td>ns</td>
</tr>
<tr>
<td>Gross Domestic Product</td>
<td>.101 (.027)</td>
<td>.011 (.005)</td>
<td>.095 (.013)</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>7.05 (1.10)</td>
<td>ns</td>
<td>4.85 (.614)</td>
</tr>
<tr>
<td>Prime Lending Rate</td>
<td>10.25 (3.17)</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Personal Spending</td>
<td>.080 (.024)</td>
<td>ns</td>
<td>.082 (.011)</td>
</tr>
<tr>
<td>Seasonal Homes</td>
<td>NA</td>
<td>ns</td>
<td>.288 (.075)</td>
</tr>
<tr>
<td>Net Migration</td>
<td>NA</td>
<td>NA</td>
<td>ns</td>
</tr>
</tbody>
</table>

a p < .10, Otherwise, all coefficients are significant at < .05.
Table 2 - Multivariate regression coefficients (with standard deviations) of indicators of tourism development, economic well-being, and national migration, and indicators of net migration and residential development in Stowe, VT.

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>Seasonal Homes</th>
<th>Net Migration(^a)</th>
<th>Permanent Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism Development Index</td>
<td>ns</td>
<td>ns</td>
<td>11.53 (6.62)(^b)</td>
</tr>
<tr>
<td>Non Metropolitan Turnaround</td>
<td>ns</td>
<td>31.06 (14.22)</td>
<td>ns</td>
</tr>
<tr>
<td>Gross Domestic Product</td>
<td>ns</td>
<td>ns</td>
<td>.042 (.019)</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>8.38 (2.03)</td>
<td>ns</td>
<td>2.56 (1.26)</td>
</tr>
<tr>
<td>Prime Lending Rate</td>
<td>6.36 (2.71)</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Personal Spending</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Seasonal Homes</td>
<td>NA</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Net Migration</td>
<td>NA</td>
<td>NA</td>
<td>ns</td>
</tr>
<tr>
<td>AIC</td>
<td>490.28</td>
<td>513.76</td>
<td>443.06</td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-236.14</td>
<td>-247.88</td>
<td>-210.53</td>
</tr>
</tbody>
</table>

\(^a\) The net migration equation failed to reach convergence using trended variables. We therefore entered pre-whitened variables (from ARIMA modeling) into the equation to estimate this multivariate model.

\(^b\) \(p = .09\), Otherwise, all coefficients are significant at < .05.
The ideal measure of tourism development would be the annual number of visitors. When studying tourism-based communities, however, this measurement approach is problematic for two reasons. First, Stowe has never consistently or reliably tracked visitation over the last 50 years. Even skier days at the ski resort are not available from the 1950s and most of the 1960s. Second, visitation may mis-characterize the evolution of a tourism destination. For example, Strapp (1988) studied a Western Ontario resort and found that a decline in tourist visitation coincided with an increase in the seasonal home expansions. Cooper and Jackson (1989) also showed continued visitation of seasonal home owners on a long term basis in spite of a decrease in visitors using short term accommodations.