

Toward a Methodology for Estimating Temporary Residents

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Most population statistics for states, counties, and cities refer to permanent residents, or persons who spend most of their time in an area. At certain times, however, many states and local areas have large numbers of temporary residents who exert a significant impact on the area's economy, physical environment, and quality of life. Typically, very little is known about the number, timing, and characteristics of these residents. This study discusses the problems of defining and estimating temporary residents, focusing on the strengths and weaknesses of a number of data sources and estimation techniques. It closes with an assessment of the potential usefulness of developing methods to estimate temporary residents.

KEY WORDS: Demographic methods; Nonpermanent populations; Population estimates; Seasonal residents.

1. INTRODUCTION

Most population statistics in the United States refer to permanent residents, or persons for whom a particular state, county, or city is the usual place of residence. According to widely accepted guidelines, one's usual place of residence is construed to mean "the place where the person lives and sleeps most of the time" (U.S. Bureau of the Census 1983a, p. c-1). Yet anyone who has spent spring vacation in Daytona Beach, August at the New Jersey seashore, or February in Sun City, Arizona, knows that many places have large numbers of temporary residents who live there for a few days, weeks, or even months. In addition, many places receive huge numbers of daytime visitors who come to work, shop, or attend a concert. Temporary residents often have a tremendous impact on an area's economic, social, and physical environment, as they increase the demand for housing, shopping centers, health care, water, electricity, transportation, recreational facilities, police protection, and many other types of goods and services.

In spite of their importance, little is known about the size, distribution, timing, and characteristics of temporary populations in the United States. Few efforts have been made to develop estimates of temporary residents or even to establish guidelines regarding standard definitions. In this article, I discuss various types of temporary residents and investigate data sources and techniques that might be used to estimate those residents. The objective is not to develop a methodology that would be applicable under all circumstances; indeed, such a methodology is most likely impossible. Rather, the objective is to provide an overview of the conceptual and practical problems that must be confronted in any attempt to make estimates of temporary residents and to urge that greater efforts be made to collect relevant data and develop estimation techniques.

2. TYPES OF TEMPORARY RESIDENTS

What exactly is a temporary resident? Is it a nonpermanent resident who spends at least a month in an area,

or a week, or a day, or anybody who simply stops by for lunch and to gas up the car? Should all temporary residents be counted the same, or should those spending more time in an area be weighted more heavily than those spending less time? Should estimates focus on totals for the entire year, on one point in the year, or on quarterly, monthly, or even daily variations throughout the year?

There is no single "correct" answer to any of these questions. Rather, there are many possible definitions of temporary residents, and the relevant definition for any given project will depend on the purposes for which the estimates are to be used. The most useful definition for one project may be completely useless for another. The first step in any attempt to estimate temporary residents, then, must be to determine what type of temporary resident is relevant to the project under consideration.

In making this determination, it is useful to consider a number of distinctions among temporary residents. Perhaps the most important is between those coming just for the day and those staying overnight. This distinction is important because overnight visitors place much greater demands on certain types of goods and services than do daytime visitors (e.g., housing, water supplies). In addition, timing patterns differ. Whereas the flow of daytime visitors is generally stable over the course of a year, the flow of overnight visitors is often highly seasonal in nature. Huge numbers of visitors may come during some parts of the year, virtually none during others. Under these circumstances, estimates of overnight visitors will be useful only if the timing of those visits is measured. This will be particularly important if the purpose for estimating temporary residents is to determine peak demands for goods and services like housing, electricity, roads, and water supplies.

An important characteristic of overnight visitors is their length of stay. Some visitors spend just a few days in an area, some spend several weeks, and some spend a number of months. Information on length of stay is important, because long-term and short-term temporary residents often differ considerably in terms of their characteristics and activities (e.g., age structure, housing preferences,

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expenditure patterns, use of public facilities). Furthermore, multiplying average length of stay by the number of overnight visitors provides an estimate of "visitor-days," the total number of days spent in an area by overnight temporary residents. This measure provides considerably more information than does a simple tally of the total number of visitors. Dividing the number of visitor-days by 365 gives the number of visitor-years, which will be a useful measure when the objective is to combine estimates of temporary and permanent residents, perhaps for revenue-sharing purposes or to calculate statistics based on actual population size.

Some temporary residents come to an area primarily for production purposes (e.g., a job), others primarily for consumption purposes (e.g., a vacation). This distinction is important because the impact on an area will be considerably different for these two groups, not only through the job market but also through the types of goods and services they require. Thus for some types of planning and analysis it will be useful to divide temporary residents according to the purpose of the visit.

Other distinctions could also be drawn, dividing temporary residents by type of lodging, means of transportation, and so forth. No single definition can adequately encompass all the distinctions that could be drawn. For any given project, it is necessary to develop a model that distinguishes among the characteristics of temporary residents that are relevant to that project. One such model is shown in Table 1, which classifies temporary residents according to length of stay (daytime vs. overnight) and primary reason for traveling (consumption vs. production). These are two of the most useful distinctions that can be drawn among various types of temporary residents.

In this model there are four distinct types of temporary residents: daytime production (e.g., job commuters), daytime consumption (e.g., shoppers), overnight production (e.g., migrant farm workers), and overnight consumption (e.g., snowbirds). For purposes of exposition I will refer to these as Types I, II, III, and IV, respectively. At any given time, all temporary residents can be classified as belonging to one of these four categories. Other models could be developed, but this model provides a useful framework for investigating potential data sources and estimation methodologies.

3. DATA SOURCES

Data requirements for estimates of temporary residents depend on the amount of detail needed for a particular project. For both daytime and overnight visitors, data are needed regarding the total number of visitors. To estimate the number of visitor-days, data on length of stay are also

required. To estimate temporal variations in the number of visitors, data must be obtained on a quarterly, monthly, or even daily basis. To distinguish business from pleasure travel, data on reasons for traveling are required. To be most useful, data must be available at the local level, not just at the state or national level. For certain purposes, data for variables such as means of transportation and type of lodging may also be required.

It is clear that data requirements for complete, comprehensive coverage of all types of temporary residents are huge. Where can these data be obtained? Although no single source comes even close to providing all of the data described previously, a number of sources provide data on specific types of temporary residents, for certain places and at certain times.

Daytime Visitors

The major source of data on daytime visitors in the United States is the decennial census. Since 1960, the Bureau of the Census has collected journey-to-work data as part of the Census of Population and Housing (e.g., U.S. Bureau of the Census 1984). This is by far the most comprehensive source of information on Type I temporary residents. Many studies have used these data to investigate the factors that affect commuting patterns, comparisons of suburbs and central cities, personal characteristics of commuters, and so forth (e.g., Guest 1976; Naroff and Ostro 1980; Pisarski 1987). Some efforts have also been made to use journey-to-work data to produce estimates of the daytime populations of large cities (e.g., U.S. Bureau of the Census 1983b).

The major drawbacks of decennial census data are that they are available only once every 10 years and provide no information on trips for shopping, recreation, and other consumption purposes (in fact, journey-to-work data exclude many types of business trips as well). Periodic updates are available from sample surveys (e.g., U.S. Bureau of the Census 1985), but these data are available only for the nation as a whole and for a limited number of metropolitan areas.

Cordon counts and origin-destination surveys also provide information on daytime visitors (e.g., Foley 1954; Schnore 1960; Termote 1975). These surveys and counts collect data on the number of trips, places of origin and destination, time of day, and so forth. Occasionally they provide information on reasons for traveling, making it possible to distinguish between Types I and II temporary residents. Some studies have used these data to estimate and/or analyze the daytime populations of specific cities (e.g., Breese 1949; Foley 1952). Unfortunately, such surveys and counts are available infrequently and only for a small number of places, limiting their overall usefulness for estimates of temporary residents.

Overnight Visitors

In 1980, the Bureau of the Census for the first time provided a count of persons who were temporarily in a state or local area other than their usual place of residence

Table 1. Categories of Temporary Residents

Reason for travel	Length of stay	
	Daytime	Overnight
Production	Type I	Type III
Consumption	Type II	Type IV

at the time the census was taken. The published report of this count (U.S. Bureau of the Census 1982a) showed the number of nonpermanent residents by state of usual residence for each state and for cities and counties with more than 500 persons staying in nonpermanent households. This report showed 547,100 nonpermanent residents nationally, almost half of whom were staying in Florida.

This represents only a small proportion of overnight temporary residents. It covered only persons staying in housing units occupied entirely by nonpermanent residents, thereby excluding all persons staying with permanent residents or in hotels, motels, and campgrounds. Furthermore, by referring solely to one day of the year (April 1), it excluded seasonal variations in temporary residence. In spite of these shortcomings, the decennial census provides detailed data on one group of overnight temporary residents, and it has been used in several studies of nonpermanent residence (e.g., Gober and Mings 1984; Hogan 1987).

The decennial census also provides housing data that can be used for estimates of overnight temporary residents (e.g., U.S. Bureau of the Census 1982b). Housing units are classified as "seasonal and migratory" if they are intended for occupancy only during certain seasons of the year (e.g., beach cottages, hunting cabins). Other units are classified as "held for occasional use" if they are used only on weekends or other short periods of time throughout the year (e.g., second homes, time-sharing condominiums). These data can be used to estimate the number of housing units available for temporary residents. The advantage of this data source is that it comes from a complete census, making it both reliable and available for small geographic areas. The disadvantages are that it is available only once every 10 years, it provides no information on the number of persons occupying these units, and it does not cover temporary residents staying in other types of lodging.

Tourists are an important type of temporary resident in many states and local areas. Many studies of travel and the tourism industry have been done. For the purposes of this study, the most valuable parts of that literature deal with definitional issues (e.g., Chadwick 1987; Leiper 1979), the development and testing of estimation and forecasting techniques (e.g., Archer 1987; Cournoyer and Kindahl 1983), and sources of tourism data (e.g., Cook 1987; Goeldner 1987). Tourism statistics provide another source of data on temporary residents.

All 50 states have agencies responsible for travel promotion and development (U.S. Travel Data Center 1985, p. 1). In 48 states these agencies collect travel data through surveys, motor vehicle counts, travel-related business receipts, and visits to tourist attractions. Most states make some type of estimate of out-of-state visitors, although frequently on a periodic rather than a continuous basis (Goeldner and Duea 1984, pp. 39-41). State-produced data are particularly useful for estimates of local areas because national sources do not collect tourism data at the local level. The scope and reliability of state-collected tourism data vary widely from state to state, and the use-

fulness of such data for making estimates of Types III and IV temporary residents must be judged on a case-by-case basis.

The U.S. Bureau of the Census until recently included a national travel survey in its quinquennial census of transportation (e.g., U.S. Bureau of the Census 1979). This survey covered a national sample of approximately 25,000 households and provided data on number of trips, origins and destinations, distances traveled, length of stay, purpose of trips, and characteristics of travelers. Sample data were weighted to provide estimates for the entire population, and the results were published for the nation and each state. Unfortunately, federal budget cuts caused this survey to be excluded from the 1982 and 1987 censuses of transportation, and it is doubtful that it will be reinstated in the near future.

Another source of data regarding overnight visitors—especially useful at the local level—is civic, business, and trade groups. These groups include realtors, chambers of commerce, local planning officials, and managers of hotels, motels, trailer parks, and campgrounds. They can, potentially, provide information on the number of units occupied by visitors, average size of party, and average length of stay. The main advantage of using these groups is that they have access to small-area data that are not available elsewhere. Problems include persuading them to cooperate and evaluating data reliability. Data sources like these have been used to estimate temporary residents (usually Type IV) in Arizona, Minnesota, New Jersey, and Texas, with varying degrees of success (Bureau of Economic and Business Research 1985; Fifield, Happel, and Hogan 1986; Land Management Information Center 1984; New Jersey Department of Labor 1984).

Some data sources are specific to a particular kind of temporary resident and/or a particular place. Several studies have focused on "snowbirds," or retirees who spend winters in places with warm climates and summers in places with cooler temperatures. These studies have collected survey data on timing, length of stay, demographic characteristics, expenditure patterns, and so forth (e.g., Bureau of Economic and Business Research 1985; Fifield et al. 1986; Smith 1988). Others have focused on migrant farm workers. Data on the number and characteristics of migrant farm workers at the state or regional level are available from several federal agencies (e.g., Martin and Holt 1987; Pollock 1986); data for local areas are occasionally available from state agencies (e.g., California Employment Development Department 1986; Florida Department of Labor and Employment Security 1987). In some instances these data are based directly on quarterly or even monthly reports from agricultural employers or local officials; in other instances they are estimated indirectly from data from employment and crop reports, migrant health and education programs, and agricultural extension programs. The availability and reliability of these data vary considerably from place to place.

There are also data sources that do not directly represent temporary residents, but reflect *movements* of temporary residents through seasonal fluctuations in a data series.

One such type of data is the number of active residential electric customers (REC's). Monthly REC data are generally tabulated by electric-power companies, often for fairly small geographic areas (e.g., towns and other sub-county areas). Deviations from REC trends over time can be used to estimate net movements of seasonal households. Another potentially useful source is the U.S. Postal Service. Local post offices typically have data on the number of addresses to which mail is delivered. When these data are available for several different times of the year, they can be used to estimate the movement of seasonal households. Other types of data that indirectly reflect the movement of temporary residents are discussed in Section 4, along with several techniques for estimating that movement.

As the preceding discussion has made clear, there is no ideal source of data on temporary residents. Rather, the data exist in bits and pieces, relating to specific times, places, and types of temporary residents. Given this tremendous diversity, how can estimates of temporary residents be made?

4. ESTIMATION TECHNIQUES

The Direct Approach

Two basic approaches can be used to estimate temporary populations. The first draws on censuses and surveys that have collected information directly from temporary residents. The major drawback of this approach is the lack of comprehensive, reliable, and readily available data. The decennial census covers the entire U.S. population and provides data for local areas, but occurs only once every 10 years, collects no data on seasonal fluctuations, and refers only to certain types of temporary residents. Tourism data are available more frequently than decennial census data, but are not available everywhere, are often not available at the local level or on a seasonal basis, and vary greatly in terms of quality from state to state. Special censuses and surveys can overcome these problems but are expensive and thus rarely available for more than a few places and time periods.

In spite of these problems, the direct approach is the one most commonly used to estimate temporary residents. Two examples are given here to illustrate the wide variety of data sources and estimation techniques that can be used; both examples refer strictly to overnight visitors, with no distinction between Types III and IV. The first is from Minnesota, where estimates were made of the potential peak seasonal population of minor civil divisions (Land Management Information Center 1984). The number of seasonal and migratory housing units and units held for occasional use was obtained from the 1980 census and was multiplied by the average number of persons per unit in the state to give an estimate of the potential number of persons occupying such units. The number of resort and campground units was obtained from the Minnesota Department of Natural Resources. This was multiplied by 4 to indicate the potential number of persons occupying resorts and campgrounds. (The factor 4 was based on sample

survey data.) The number of hotel and motel rooms was obtained from the Minnesota Office of Tourism and was multiplied by 2 to provide estimates of persons staying in hotels and motels. The estimates from these three sources were then added together to provide estimates of the total potential peak seasonal population. The major drawbacks of the Minnesota estimates are the focus on potential rather than actual temporary residents and the lack of local data on size of party, length of stay, and reason for traveling.

The second example is from Arizona, where estimates were made of the number of temporary residents living in the Phoenix metropolitan area at the peak of the winter snowbird season (Fifield et al. 1986). Researchers compiled a list of 719 mobile home and travel trailer/recreational vehicle parks; such parks are the most common type of lodging for snowbirds in that area. The owners or managers of each park were interviewed to determine the number of spaces, occupancy rates, and proportion of seasonal residents. These data were then used to estimate the number of temporary residents staying in mobile home and travel trailer/recreational vehicle parks. A survey of all temporary residents in the area was conducted to determine the proportion living in mobile home and travel trailer/recreational vehicle parks, and this factor was used to produce an estimate of the total number of temporary residents in the area at the peak of the winter snowbird season.

The direct approach to estimating temporary residents can be very useful, but it can be hindered by the lack of readily available data. In many instances, the application of direct estimation techniques first requires the collection of primary data regarding occupancy rates, size of party, length of stay, reason for traveling, and so forth. Furthermore, developing a representative sampling frame for temporary residents can be very difficult. As a result, the direct approach is time-consuming and expensive and will be most useful when estimates are needed only for one particular type of temporary resident (e.g., snowbirds, migrant farm workers) and for a limited number of places and time periods.

The Indirect Approach

The second approach to estimating temporary residents is indirect, focusing on symptomatic variables that reflect changes in temporary populations (e.g., Schmitt 1956). Variables that might be used include residential electric or water customer data, traffic counts, postal deliveries, retail sales data, tax receipts, and hotel/motel occupancy data. Under the indirect approach, base data on the symptomatic variables are related to the number of temporary residents through the use of ratios, regression analysis, or other statistical techniques. Ongoing estimates of temporary residents can then be made using the estimated statistical relationships and current data on the symptomatic variables.

Although similar techniques are commonly used for estimates of permanent population (e.g., the ratio correla-

tion method), the indirect approach has not been used frequently for estimates of temporary residents. Two examples can be given to illustrate ways in which it might be applied to temporary populations. The first is from Florida, where taxable sales data were used to estimate the number of visitors, by month and by county, from 1980 to 1985 (Florida Statistical Analysis Center 1986). Taxable sales data were obtained from the Florida Department of Revenue and were adjusted over time to account for growth in the permanent population, changes in legislation affecting taxable sales, changes in economic conditions, and changes in the daily expenditure patterns of tourists. These adjustments were made to account for factors other than changes in temporary residents that might cause monthly taxable sales data to fluctuate. It was assumed that there were no visitors in the month with the lowest level of adjusted taxable sales and that deviations in monthly adjusted taxable sales from this level were caused by visitors. Data on tourist expenditures were obtained from surveys conducted by the Florida Division of Tourism. Monthly estimates of the average daily number of visitors were then obtained by dividing the adjusted taxable sales deviations (i.e., deviations from the lowest taxable sales month) by average monthly tourist expenditures. These estimates did not distinguish among Types I, II, III, and IV temporary residents.

The advantages of the Florida methodology are that estimates can be based on readily available data and applied at the county level on a monthly basis. The major disadvantage is that there was no base-period estimate or count of temporary residents that could be directly related to the symptomatic variables. Rather, it was assumed that there were no visitors during the month with the lowest level of adjusted taxable sales. This is clearly not true for most (if not all) Florida counties. The Florida estimates thus measure *fluctuations* in numbers of temporary residents over the course of a year, but do not necessarily reflect the numbers themselves.

The second example of the indirect approach is from Massachusetts, where the number of visitor-days was estimated from sales tax data for commercial lodging establishments (Cournoyer and Kindahl 1983). The sales tax data showed the total amount spent on commercial lodging, by month and by county. These data were converted into estimates of visitor-days spent in commercial lodging by dividing by the average daily price of a room and multiplying by the average number of persons per occupied room. Data on price per room and persons per occupied room were obtained from a sample survey of commercial lodging establishments. The estimates of visitor-days spent in commercial lodging were then converted into estimates of total visitor-days by applying a ratio of total visitor-days to visitor-days spent in commercial lodging. This ratio was based on data collected through a sample survey of drivers on the Massachusetts Turnpike. This survey also collected data on length of stay and purpose of trip, making it possible to divide the estimates of visitor-days into Types I, II, III, and IV.

There are several problems with indirect techniques. Symptomatic variables may pick up the effects of factors other than changes in temporary residents and may miss changes in certain types of temporary residents. Relationships between temporary residents and symptomatic variables may change over time. Assumptions regarding base relationships may not be valid, and the base data themselves may be erroneous. Most important, a complete count of the number of temporary residents in the base year is almost never available. Base-year relationships must, therefore, be based on special censuses, sample surveys, or simply on assumptions regarding the number of temporary residents (as in the Florida example).

In spite of these problems, the indirect approach has one tremendous advantage over the direct approach: it can be applied at the local level at frequent intervals for relatively little cost. Whereas the direct approach requires extensive data collection efforts for each estimate, the indirect approach relies on readily available data series, once the base relationships have been established. The indirect approach—perhaps combined with the direct approach for collecting base-year data—thus appears to hold the most promise for the development of frequent estimates of temporary residents at the local level.

5. DISCUSSION

Many types of temporary residents are found in the United States: retirees who spend winters in Florida and summers in New York; families taking two-week summer vacations; migrant farm workers who follow the fruit or vegetable harvest from place to place; persons with a weekday home in the city and a weekend home in the country; persons making overnight business trips; commuters who live in one city and work in another; visitors who come into town to shop or go to the movies; and transients with no permanent address. No single definition of temporary residents or methodology for making estimates can adequately accommodate all of these types. Rather, definitions and methods must vary according to the intended use for estimates of temporary residents.

The most glaring weakness of any methodology is the lack of relevant data. The data sources described in this article provide information only on certain types of temporary residents, for certain places and for certain periods of time. The best solution to this problem would be to include a question (or questions) regarding temporary residence in the decennial census of population and housing. Although such a question (or questions) would perhaps not cover all types of temporary residents and all fluctuations over the course of a year, it would still be extremely valuable, providing solid data upon which future estimates could be based. A question regarding temporary residence was included in some of the preliminary field tests for the 1990 census, but it will not be included in the 1990 census itself. One can hope that such a question will be included in the 2000 census.

Not only is a complete census (or very extensive sample survey) extremely important for developing future esti-

mates of temporary residents, it is also essential for evaluating the accuracy of past estimates. As it now stands, there is no benchmark against which estimates of temporary residents can be compared. Estimates must simply be accepted on faith, or, at best, on an evaluation of the underlying methodology. With a complete count of temporary residents it would become possible to evaluate the reliability of past estimates and develop refinements or new methods to improve estimation accuracy.

In the absence of comprehensive census data, we are left with incomplete data sources and techniques such as those described in this article. Since types of temporary residents and data availability differ considerably from place to place, estimation techniques must also vary. Creativity will be required to develop the most useful estimates for any given project. In many instances, new types of data will have to be collected from special censuses, sample surveys, or administrative records. Both direct and indirect techniques can be used, but indirect techniques would seem to hold the most promise for future development because they can be tied to existing data series. I believe that useful estimates of temporary residents can be made, but without a comprehensive source of base data these estimates will remain imprecise and the reliability of any particular estimation methodology can never be fully tested.

The discussion thus far has focused exclusively on the number of temporary residents present in an area. Since these persons are the permanent residents of other places, it follows that while the actual population of one area is swelling with temporary residents, the actual population of another area is declining because of the temporary absence of permanent residents. This phenomenon affects all places to one degree or another and may be very strong (e.g., a college town during the summer). A few studies have explicitly considered this phenomenon (e.g., Krout 1983; Schmitt 1986), but it has been largely neglected in the literature. For some places, estimates of permanent residents temporarily absent will be more important than estimates of nonpermanent residents temporarily present.

One final type of temporary resident that might be mentioned is transients, such as hoboes, vagabonds, and the homeless. (The homeless may be classified as either permanent or temporary residents, depending on how much time they spend in an area and where they were on the day of the decennial census.) These groups are difficult to estimate because they are not covered by most data series. Only censuses and surveys are likely to be effective in measuring these temporary residents; even then, their lifestyle characteristics make it difficult to collect accurate data (e.g., Rossi 1987). Although this group accounts for a very small proportion of total population, its significance in some local areas is substantial.

Why bother with estimates of temporary residents? There are many reasons. Perhaps the most important is to improve planning for roads, sewer systems, water supplies, hospitals, parks, grocery stores, movie theaters, and countless other goods and services used by both temporary

and permanent residents. Distinguishing between temporary and permanent residents would be particularly useful for analyzing peak demands over the course of a year because of the substantial seasonal fluctuations found among most overnight temporary residents. It would also be useful for analyzing the demand for goods and services used at considerably different rates by permanent and temporary residents (e.g., primary education may be used almost exclusively by permanent residents in a "snowbird" area, whereas adult education classes may be heavily used by temporary residents as well).

Estimates of temporary residents would facilitate the development of more useful measures for many types of events. Crime, resource usage, traffic accidents, alcohol consumption, and many other statistics are calculated using estimates of permanent population as the denominator in rates or ratios. Yet temporary residents often figure prominently in the incidence of crime, resource usage, traffic accidents, alcohol consumption, and so forth. In such instances, statistics based on the number of permanent residents provide a misleading view of reality. Including the impact of temporary residents on the population at risk would, therefore, lead to more meaningful statistics and more realistic analyses. Such an adjustment was made for crime statistics in Florida, lowering crime rates by as much as 10% in some counties (Florida Statistical Analysis Center 1986).

A final reason for developing estimates of temporary residents is political. Some states already require state or local governments to produce estimates and projections of temporary residents (e.g., Florida Department of Community Affairs 1986), and others are likely to do so in the future. As changing social, economic, and environmental conditions raise the demand for effective public planning at both local and regional levels, political pressures to produce estimates and projections of temporary residents will likely increase as well. Demographers must begin to prepare for this challenge.

6. CONCLUSION

There are many different types of temporary residents. They include a huge and, most likely, increasing number of persons, and they have a tremendous impact on many areas in the United States. Yet very little is known about the number, timing, and characteristics of these residents; their origins and destinations; and the determinants and consequences of their movements. Without such information, it is difficult (or impossible) to develop effective plans and policies for dealing with their impact on the areas they visit and the areas they leave. Efforts must be made to develop useful data bases and techniques for estimating temporary residents. A national census (or very extensive sample survey) would seem to be essential, both for developing estimates and for evaluating estimation accuracy. Temporary populations represent a vast, largely unexplored frontier for demographic research, and studies directed toward this area promise to be highly rewarding.

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