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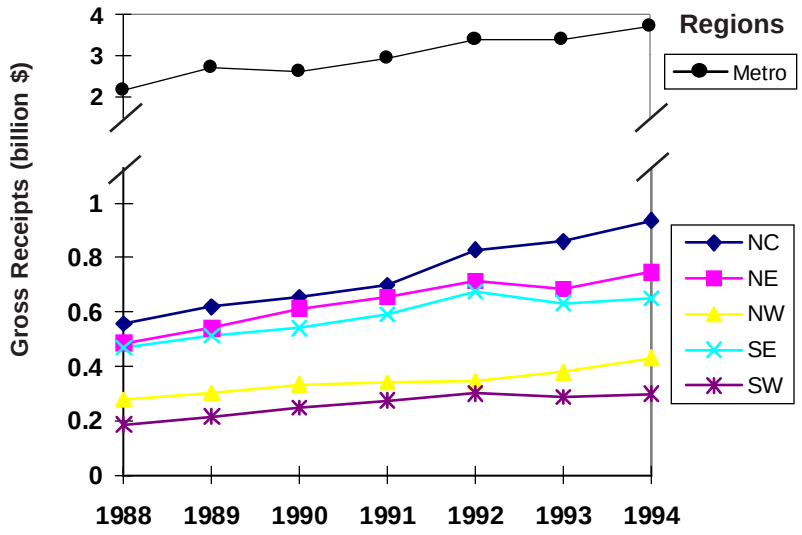
Economic Impact of Tourism in Minnesota

William Gartner, Linda Limback, and Arthur Adiarte

Travel and tourism is big business in Minnesota. From 1988 to 1994, domestic travel increased statewide by about 33,800 jobs (a 34% rise). In 1994 alone, an estimated $6.88 billion was spent on Minnesota travel products and services. (This estimate reflects not only direct expenditures by tourists but additional spending by Minnesota residents as a result of the initial tourist spending.)

In this article we examine the industry from a number of perspectives and provide some insights for industry planning. We look at the economic impact of travel on the state's economy at the regional level. Although tourism is generally thought of as pleasure travel, we consider travel for business and conventions as well.

Figure 1. Tourism Spending in Minnesota: 1988-94



Tourist Benefits

Through taxes, tourism gross receipts help defray infrastructure development costs that support tourists as well as state residents. In 1994 an estimated $.411 billion in sales tax revenues was received by state government as a result of tourist spending. An additional $.252 billion came to local government through property taxes.

We track gross receipts by region in Figure 1. Region boundaries are shown on the map in Figure 3. The metro area

*(See **Tourism** page 5)*

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Farmland Loss: A New Measure Sheds New Light

Thomas D. Wegner, Susan T. Ploetz, and Steven J. Taff

For thirty years governments in the seven-county Twin Cities Metropolitan Area (TCMA) have sought to temper the conversion of farmland to urban uses through two policy tools, the Green Acres and the Agricultural Preserves programs. The underlying idea is to reduce farmers' holding costs by shifting some property tax liability from participants onto other taxpayers. One recent study estimated this shift to be $7.6 million in 1993 alone.

How plausible is the land-use dynamic that provides the rationale for these programs—that farmland is being converted to nonfarm uses at "excessive" rates? How much farmland is actually being converted, with or without the programs? What sort of land is it? How do we know?

We don't address here the commonly stated reasons for creating farmland protection programs: maintaining an agricultural base, guiding

*(See **Farmland** page 2)*

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(***Farmland*** *continued from page 1)*

urban development, providing wildlife habitat, protecting natural resource areas, diversifying community lifestyles, or preserving open space. Instead, we focus on the basis for claims of public concern: just how much farmland is being "lost"?

We compare the traditional source of such estimates, the Census of Agriculture, with newly available data from the USDA's National Resources Inventory (NRI). The two lead us to the same conclusion—farmland in the TCMA is indeed being converted to urban uses—but the two yield estimates differ in magnitude. The Census, which aggregates landowners' survey responses about the use of their properties, leads us to conclude that more farmland is being "lost" than does the NRI, which measures actual land-use changes. More important, the NRI data permit us to figure out what all those "lost" acres are now being used for. It turns out that a great deal of cropland has simply become pasture—not houses or parking lots.

Our analysis further confirms that farmland urbanization takes place faster and on a larger scale in the TCMA than elsewhere in Minnesota. This suggests that Green Acres and Agricultural Preserves have been only partially effective in stemming the tide of farmland conversion.

Data Sources

Our two data sources represent two distinctly different ways of knowing: the Census is a survey of people, while the NRI is a sampling of lands. We will briefly sketch the way each approaches the question of land conversion.

The Census of Agriculture

The federal Census Bureau conducts an agriculture enumeration roughly every five years. As is the case with the more familiar Census of Population, the agriculture census gets its data from mail surveys, followed by some telephone and personal contacts to fill in any gaps. Major effort is placed on getting as high a response rate as possible: little checking is done on the accuracy of respondents' statements themselves.

To be counted as "farmers," farm operators had to typically sell or expect to sell $1,000 worth of agricultural products each year. The 1992 Census includes data from 75,079 farms in Minnesota; 4,489 of these were located in the TCMA's seven counties.

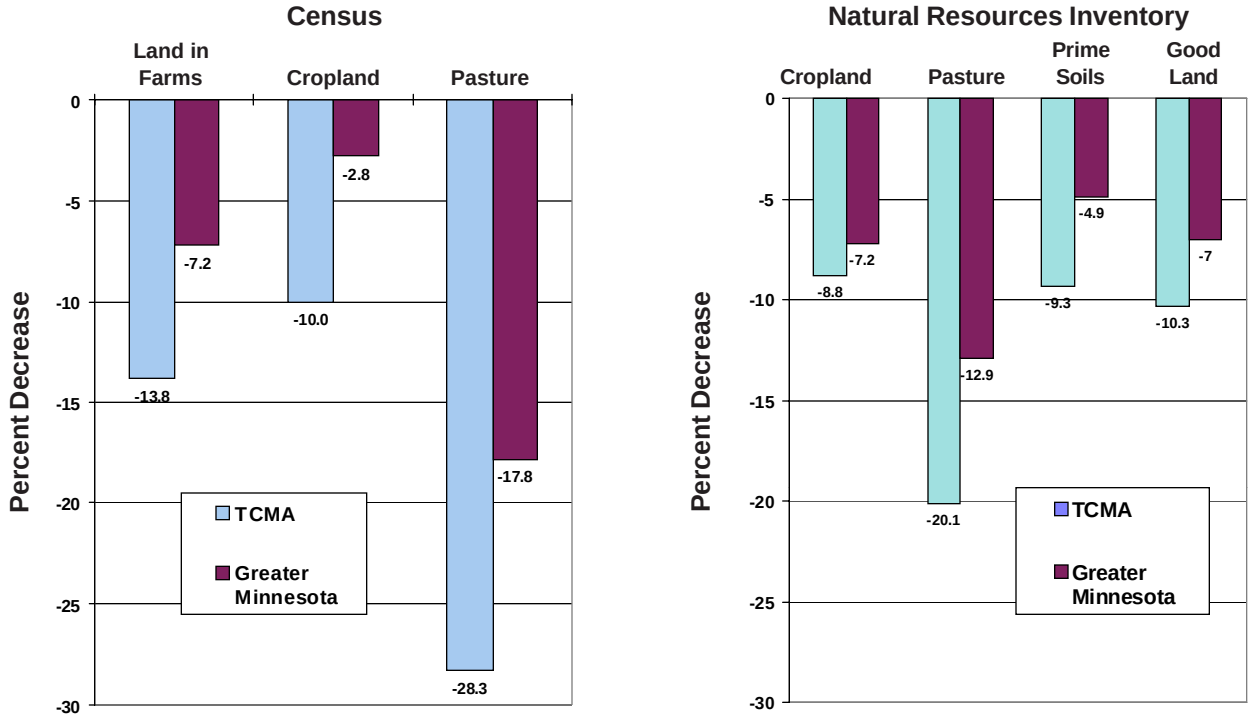
The Census uses a nested set of land-use categories. The broadest, *land in farms*, is defined as "acres used for crops, pasture or grazing." The category also includes woodland, acreage enrolled in the federal Conservation Reserve Program (CRP) or Wetland Reserve Program (with one significant exception, elaborated upon below), annual set aside, farmstead sites, and any other land that the farm operator controlled. *Cropland*, a subset of land in farms, includes all acreage harvested, idled, fallowed, failed, pastured, or planted to cover crops. It does not include woodland or other land, but does include some cropland enrolled in the CRP. The final major agricultural land category is *pasture*.

The Census provides no data on the quality of various types of lands, but the NRI, to which we turn next, does.

The National Resources Inventory

The USDA's Natural Resources Conservation Service (formerly the Soil Conservation Service) has conducted an NRI every five years over the past few decades. The study examines, among other elements, actual land cover and land use, soil erosion rates, prime farmland extent, wetland extent, and other natural resource characteristics on all non-federal public (including tribal) lands and on all private lands. (The exclusion of federal lands is not particularly important for present purposes. In Minnesota, the bulk of such lands are in northern forested areas and encompass only 6% of the state's land base.)

Chart 1. "Farmland" declines, 1982-92 according to...



To compile the inventory, air photo and other remote sensing data were collected at some 8,000 pre-selected sample units throughout the state. Because these same areas are assessed for each inventory, analysts can use any observed land-use changes to measure conversion rates across uses during the period.

The NRI definitions of cropland and pasture are similar to, but not identical to, those used in the Census. There is no equivalent to the Census *land in farms* category. *Cropland,* in the NRI, "includes areas used for the production of adapted crops for harvest." *Pastureland* is "managed primarily for the production of introduced or native forage plants for livestock grazing...regardless of whether or not it is being grazed by livestock." CRP lands are allocated to a *miscellaneous use* category.

In addition, the NRI provides insight into how the quality of lands being farmed may have changed over the years. *Prime farmland soils*, defined as "land that has the best combination of physical characteristics for producing food, feed, forage, fiber and oilseed crops," is one useful measure of land quality. In Minnesota, roughly three-quarters of the lands on which these soils occur were actually cropped. Conversely—and coincidentally—about three-fourths of the state's cropland was on prime farmland soils.

The NRI also differentiates lands by capability class, a classification scheme that groups soils according to their suitability for agricultural production. For this report, we combined those lands of capability classes I, II, and III (those with the fewest physical limitations for farming) into a second measure of land quality, *good land*.

Farmland "Loss" Rates

We now have several categories of land use and two sources of knowledge about changes in those categories over the same ten-year period in the same geographic regions: the seven-county TCMA and the remaining 80 counties commonly referred to as Greater Minnesota.

It turns out that the magnitudes of NRI farmland are consistently and substantially higher than are the Census figures for comparable categories. (We don't have room to present the numbers here.) Clearly, either one or both sources miss the mark, or the two sets of definitions—as interpreted by landowner respondents or by USDA analysts—diverge more than is commonly thought. This suggests that we need to dissect these aggregate movements more carefully.

Every farmland category reported by both sources in both study areas decreased over the ten-year period. Chart 1 illustrates that the relative sizes of the decreases followed the same general pattern. The largest decreases were reported in pasture. Overall, the TCMA experienced a much higher percent decrease than in Greater Minnesota, with the exception of the NRI's cropland category, where the proportional decrease in the TCMA only slightly exceeded that in Greater Minnesota.

A New Farmland Category

These results may partly reflect the way that the two data sources treat the large number of acres enrolled in the federal CRP, under which participating landowners were paid to idle cropland. The ten-year contract period did not include 1982, but it did include 1992.

Significantly for our purposes, the Census completely excluded from tabulation over 5,000 Minnesota landowners who put their whole farms into the CRP. The over half-million acres from these farms show up as a "loss" of cropland when official 1992 Census figures are compared to 1982, even though these lands were only temporarily converted from row crops to grass cover for the duration of the CRP contract.

By contrast, NRI analysts put all CRP acres into a *miscellaneous uses* category. From 1982 to 1992, nearly 1.8 million acres of crop and pastureland in Minnesota were shifted into this category, representing some 7% of the 1982 base. Only about 7,000 acres, under 1% of the TCMA's cropland and pasture base, were put there.

This larger proportional shift in Greater Minnesota suggests that CRP enrollment influenced the estimates of changes in cropland and pasture in Greater Minnesota much more than it did those in the TCMA. Enrollment has likely overstated the reported decrease in both the NRI and Census cropland categories.

To provide a better basis for comparison, we created a new category, *agricultural land.* We define this as cropland plus pasture, adjusted to take into account Census and NRI treatments of CRP enrollment. This category adds back the whole-farm exclusions to the Census numbers and adds back the CRP *miscellaneous uses* allocation for the NRI numbers.

Table 1. A Better Farmland Measure—*Agricultural Land*

		Census		NRI	
		TCMA	Greater Minnesota	TCMA	Greater Minnesota
1982		771,199	23,661,858	947,400	25,863,300
1992		682,866	22,995,375	847,200	25,574,900
Decrease:	acres	88,333	666,483	100,200	288,400
	percent	11.5	2.8	10.6	1.1

Source: 1992 Census of Agriculture and NRI

Table 2. *Agricultural Land* Decreases: TCMA Counties, 1982-92

	Census		NRI	
County	Acres	Percent of 1982	Acres	Percent of 1982
Anoka	16,923	27.0	2,900	3.5
Carver	6,620	4.2	10,000	5.5
Dakota	7,578	3.5	27,200	11.0
Hennepin	27,517	28.6	29,100	25.6
Ramsey	(71)	(2.8)	8,700	44.6
Scott	7,323	5.8	10,700	7.0
Washington	22,443	20.2	11,600	7.7
	88,333	11.5	100,200	10.6

These new agricultural land figures represent our best estimates of "farmland," based upon the two data sources. Table 1 shows the 1982-92 changes for this new indicator: The amount of land in the NRI estimate (assessed against a different and larger base) exceeded that in the Census estimate, but the percent change in the NRI measure was smaller. Agricultural land decreased 11.5% in the TCMA according to the Census and 10.6% according to the NRI.

Table 2 details the changes for each of the seven TCMA counties. Three counties "lost" over 20% of their agricultural land according to the Census. (Ramsey County actually added to its meager farmland base, according to this measure.) The NRI-based aggregate was similar, but individual county measures differed dramatically from those in the census measure. Anoka and Washington are especially vivid examples.

By both measures, 85-100,000 acres of farmland were "lost" in the metropolitan area over the past ten years—roughly an 11% drop. But was all this land lost to urbanization?

Conversion to Urban Uses

All categories of farmland, including our new agricultural land category, decreased from 1982 levels, according to both the Census and the NRI. All of the farmland components in the TCMA decreased at a faster rate than the comparable components in Greater Minnesota. But even our new category still ignores a critical question: Just where did all this farmland go? Was it indeed all lost to urban sprawl?

The NRI permits us to estimate where all the farmland went by tracking individual observation points over the ten-year period. Chart 2 shows this dynamic at a glance. The 1992 acreages are shown in the boxes, and the changes from 1982 to 1992 are noted alongside the arrows. The diagrams illustrate the largely one-way conversion of land to urban uses, but also show the fluidity of the cropland-pasture nexus. Not every "lost" cropland acre ends up in urban uses. Much is converted to pasture (and a little to forest), although the net transfer to and from pasture is mostly a wash.

The NRI estimates that slightly more than 120,000 acres of TCMA land were converted to urban uses over the ten-year period. Half came from cropland and another third was previously pasture. Many acres simply alternated between pasture and cropland uses. In Greater Minnesota, of the 150,000 acres converted to urban uses, about half (52%) came from cropland. Forest lands contributed 33% and 15% came from pasture.

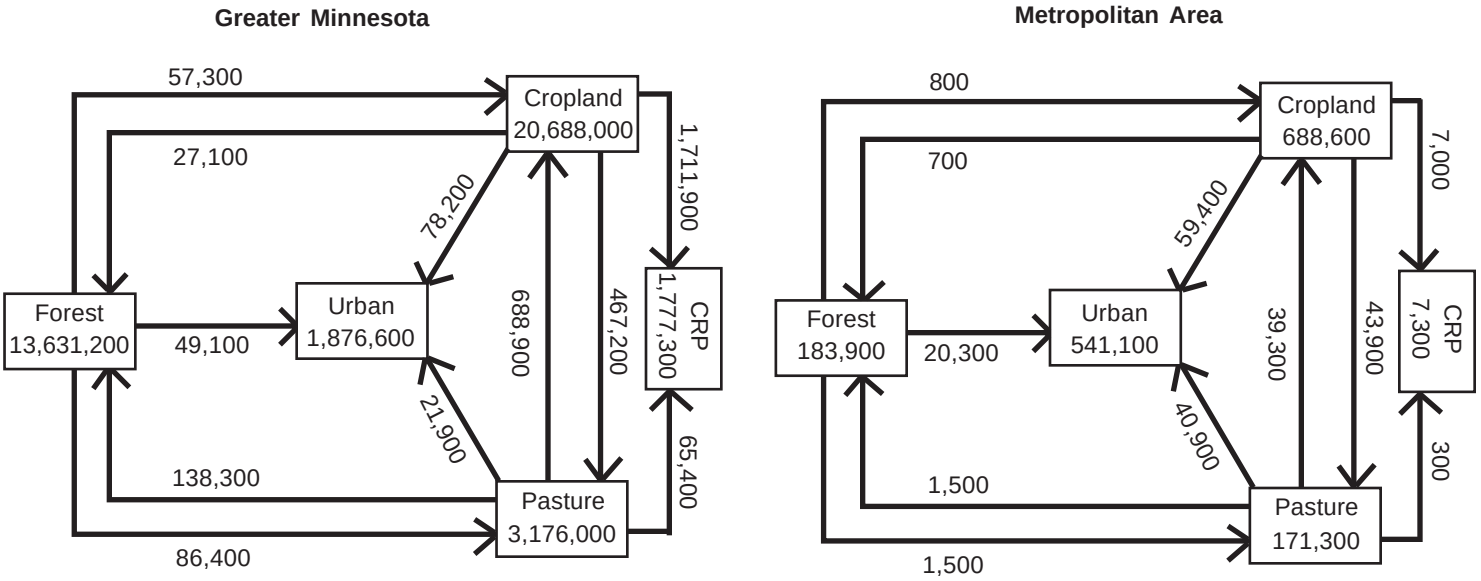
We estimate that half of the cropland and pasture converted to urban uses statewide was in the TCMA, even though the metropolitan area accounts for only 3% of the state's total in these categories. But Greater Minnesota landowners converted prime farmland soils to urban uses at a higher rate than did those in the TCMA (44%-38%). The same relationship is evident with *good land*, where the relative conversion rates were 71% and 60%, respectively. In all cases, the proportion of "high quality" lands converted to urban uses were lower than were their rates of occurrence. (Our editor wouldn't give us enough space to put these numbers into charts or graphs.)

Observations

By all measures, then, farmland constituted a smaller proportion of both TCMA and Greater Minnesota total land use in 1992 than it did in 1982. Farmland-to-urban conversion took place faster and on a larger scale in the TCMA than in Greater Minnesota. But our estimates of the magnitude of that conversion depends upon whether we use a source that relies on survey informants (higher estimates of loss) or a source that measures actual land coverage changes (lower estimates). Converted land does not appear to have been of higher quality, nor was conversion of those types of land disproportionate to their occurrence. Urban sprawl is not singling out prime farmland.

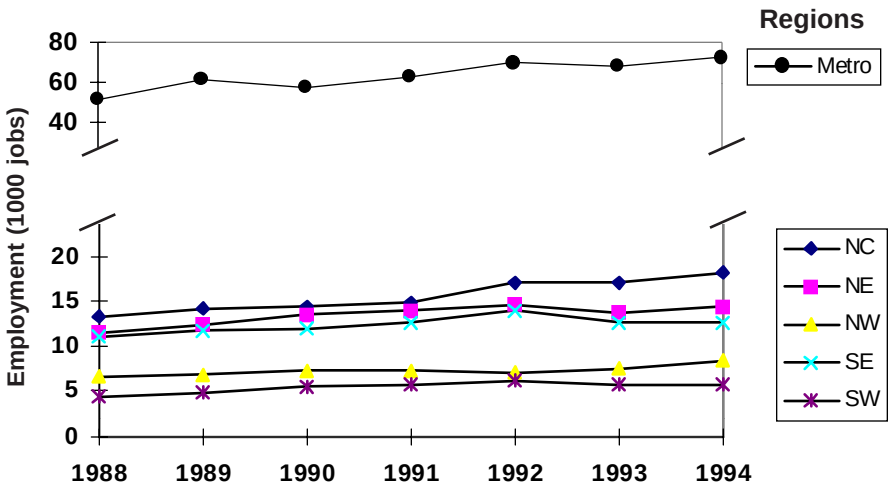
We hope state and local policy makers find these numbers instructive. Is a decrease of 11.5% (Census) excessive? How about 10.6% (NRI)? Are either signs that something should be done about farmland conversion? Do existing policies designed to slow the rate of conversion really do so? What would these numbers have been in the absence of the two farmland protection programs already in place?

Chart 2. Land Conversion 1982-92



(***Tourism*** *continued from page 1)*

Figure 2. Tourism Employment in Minnesota: 1988-94



clearly accounts for the largest percentage, with $3.7 billion spent by travelers in 1994. This spending translated into 72,290 jobs (Figure 2). The northcentral region recorded $.9 billion in gross receipts and 18,126 jobs, followed by the northeast ($.7 billion and 14,433 jobs).

Even though the metro region is the smallest, it accounts for over half of all tourist gross receipts and associated jobs. There are many reasons for this. The region's 2.5 million people make it the sixteenth largest metropolitan area in the nation. Its size alone is a draw to travelers visiting friends and relatives, conducting business, or attending conferences and seminars.

The metro region is further advantaged because it is the only city of its size in the Upper Midwest and is surrounded by small towns and cities whose residents are within easy driving distance. It serves as a regional entertainment and shopping center for residents in Greater Minnesota, the Dakotas, western Wisconsin, and northern Iowa.

The metro area also offers tourists a variety of attractions including professional sports, amusement parks, shopping, casinos, theaters, nightclubs, etc. This creates a "tourism mass" where the combined effect of many attractions has a greater appeal to visitors than any of its individual attractions may have on their own.

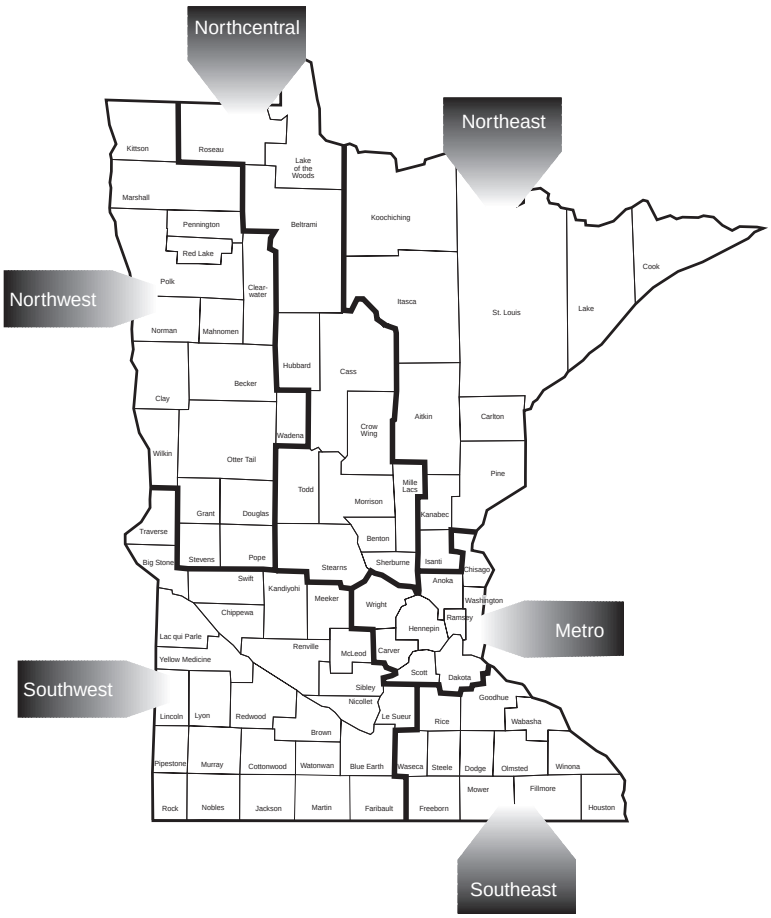
Add to this mix of attractions the amount of associated business activity taking place, and it should be no surprise that the region dominates the tourism scene in Minnesota. Its highly diversified economy results in many indirect expenditures occurring within the region, reducing what economists call "leakage" and consequently increasing the total economic impact of any spending, including tourism.

But just because other regions lack the features that attract as many tourists as the metro region does not mean tourism is not as important outside the Twin Cities: the opposite is more likely the case. Given the decline in agriculture, mining, and manufacturing employment in many rural areas, tourism becomes increasingly important as a means of economic development. In some counties tourism has been the only source of economic growth or stability for the last decade.

Fortunately for these other regions, the type of tourism non-metropolitan areas can provide simply cannot be duplicated in a metro environment. The continued success of tourism in areas along the North Shore of Lake Superior, central lake country, and recently in the bluff lands and valleys in southeastern Minnesota all reflect a demand for an escape from urban environments. Diversity in attractions and scale is Minnesota's biggest strength when competing for tourists with other states in the Upper Midwest.

One of the biggest groups of visitors has traditionally been from Canada. But

Figure 3. Regional Boundaries for Tourism Industry



Canadian visitation peaked in 1991 at approximately 660,000. By 1994, however, only 495,000 Canadians entered the state, the lowest recorded total in the 1990s. What happened? The decline can be largely explained by the slippage of the Canadian dollar against its U.S. counterpart. In that three-year period, the Canadian dollar lost approximately 16% of its value against the U.S. dollar, making U.S. goods more expensive for Canadian visitors.

One caution: We cannot assign these Canadian visits to any particular region in the state. Tourism experts are pretty sure that international visitorship doesn't follow the pattern of geographic dispersal found in domestic travel. They think most Canadians head for the metro area and the areas closest to the Canadian border. Because precise destinations for these visitors are not known, the spending by the travelers is not included in our regional tourism summaries, but they are reflected in our statewide totals.

Table 1. Selected Top Attractions in Minnesota in 1995

Rank	Name of attraction	Attendance
1	Mall of America	40,000,000
2	Indian Casinos	14,000,000
3	State Parks (1994)	8,364,094
4	Metrodome	2,508,000
5	Target Center	1,260,000
6	Minnesota Zoo	1,150,000
7	Valley Fair	1,100,000
8	Gooseberry Falls State Park	968,600
9	Mn Science Museum	840,000
10	Walker Art Center	770,000
11	Fort Snelling State Park	548,000
12	Itasca State Park	460,700
13	Mpls Institute of Arts	500,000
14	St. Croix National Scenic River	459,000
15	Guthrie Theater	334,000
16	Children's Theatre	304,300
17	Brainerd Raceway	250,000
18	Voyageurs National Park	211,000

Attractions

People often assume that an analysis of visitation figures tells *why* people travel. The problem with this approach is that many attractions depend on local people for a great portion of attendance. A substantial amount of tourism may not be directly associated with attraction visitation; indeed, attraction visitation is not always the main reason someone travels to an area. But attractions, even if their drawing power is not equal to other motivating influences, are often considered necessary to support travel to an area and keep people there longer.

Table 1 lists the most frequently visited attractions in Minnesota. The numbers are reported by the attractions themselves or obtained from a state agency like the Department of Natural Resources. The list is not inclusive, because some attractions (e.g. state forests) do not provide or may not even measure visitation figures.

Notice that the majority of attractions on the list are in the Twin Cities area. This reinforces the dominance of the metro region for tourism in the state.

As expected, the Mall of America is on top of the visitation list, reporting over 40 million visitors in 1995. Obviously not all Mall patrons are tourists, but its importance as a major supporting attraction (and for some as the main reason for traveling to Minnesota) is evidenced by special airfares for weekend trips to the Mall from other parts of the United States.

Of special note is the number of visits to natural resource attractions. State parks attendance ranks third in the total annual number of visitors. In fact, one could argue that many of the visitors to metro area attractions do not qualify as tourists because they live in the Twin Cities. Because state parks are primarily located in rural areas, most of their visitors probably do qualify as "tourists" (defined as a person traveling 50 miles or more from home). Parks also tend to be more of a primary attraction for an area than a supporting one.

It appears that publicly managed areas are extremely valuable to recreation and tourism businesses and are major contributors to the economic viability of rural areas.

Major Issues in Tourism

Nothing on the immediate horizon suggests that we'll soon see dramatic changes in the tourism scene of the sort that occurred when the Mall of America opened and casino development was at its peak. There are broader societal trends, however, that will continue to affect how we all live and play.

One is diversity, in both the workforce and the market. America's population growth increasingly comes from immigration, not from increasing birth rates. New immigrants bring with them their own long-standing recreational traditions.

The structure of the American family is also changing. Continued growth is expected in households headed by single women, households without children, and households with blended families. Entrepreneurs will need to identify what each segment of the tourism market wants and then package vacations tailored for each. This will open up new markets for the industry.

The ongoing urbanization of America will increase demand for urban vacations, as well. Many city dwellers, even during their vacations, want a familiar environment that provides the attractions and amenities they have grown to expect. There will also be a greater demand for interpretive and structured or guided wilderness experiences where novices, who want

to get away from it all, can feel safe and secure in an unfamiliar environment.

The use of public lands is expected to increase to a point where demand will exceed supply. Already in some heavily used national parks, the traffic count on a busy day exceeds what we encounter on a downtown street in major metropolitan areas. As demand increases for use of public lands, there will be a corresponding demand for reviewing present policies regarding appropriate uses.

For all these reasons, competition for tourists is expected to increase even more rapidly than it has over the last 15 years. Staying in touch with present markets and investigating new ones should be part of almost every strategic tourism business plan.

Emerging Technology

Virtual reality, web pages, and Internet access may all be confusing terms to those presently engaged in providing tourism goods and services, but new technology, especially in the communications area, will transform how the industry conducts business. While some may ignore the trend to engage in cyberspace marketing and still fare well, others will embrace the opportunities presented by a new medium.

Minnesota recently developed a tourism information home page on the World Wide Web (http://www.tccn.com/mn.tourism/mnhome.html), which was accessed by 3,500 people in one month alone. That level of access is expected to increase. The convenience afforded by the new technology will be even more apparent in years to come. Anecdotal estimates indicate that 20% of tourism-dependent businesses in Minnesota are already computer assisted. This, too, is expected to increase. The wealth of tomorrow will be generated by those able to master the technology and, though they may prefer a machine-free vacation, they most likely will rely on the technology to help select a vacation destination.

Overall, however, there is a decided trend in the industry toward customer service. Some businesses have been able to rely on technology, but the majority of tourism-dependent businesses rely even more heavily on the human component to differentiate their product from the competition. With increasing competition confronting all businesses in the tourism industry, a review of present customer service levels is almost a prerequisite to long-term viability of the enterprise.

A frequently cited trend is the aging of the U.S. population. Currently the mature market, defined as 50+ years old, holds the majority of the country's assets (as high as 80% according to some estimates). The rise in tourism worldwide is due in large part to the travel patterns of that market. While the baby-boomer population (now approaching age 50) will sharply increase the mature market population, they most likely will not possess the wealth held by present members of this segment.

An overhaul of government programs, largely responsible for the wealth of today's mature market segment, is underway. Even though the future state of government programs has yet to be determined, one thing seems certain—benefits will be reduced.

The effect on baby boomers is uncertain. Less wealth generally means less tourism, as travel is still considered what economists call a luxury good. (The higher your wealth, the more your demand for it.) However, travel is also a learned activity, and the baby boomer segment has more experience with travel than any generation before it.

Whether these factors combine to make travel a necessary part of life, effectively moving travel goods into a less price-sensitive portion of an individual's demand curve, is still unknown. The demand from population segments that no longer expect to be wealthier than their parents may shift to value-related or experience-related travel products which give a feeling of real benefit and worth to their users. Given the size of the baby boomer segment and its present penchant for tourism products, travel is still predicted to increase steadily into the future even if the large percentage increases of the 1970s and 1980s are not repeated.

Conclusion

Tourism is a complex industry, requiring many different segments to link harmoniously. It is easy to lose sight of its economic importance and the depth of impacts, but there is no doubt about its value to Minnesota's economy. The last part of the twentieth century has seen record growth in travel and businesses serving tourists.

Tourism affects all of us whether we provide services, live in an area frequented by tourists, or are just part of the wandering hordes. Minnesota tourism products have fared well through the years and have helped stabilize rural economies while providing economic diversity in the growing metropolitan area. If Minnesota can sustain its dual image as an exciting yet safe urban destination and as a pristine outdoor recreation environment, its market share of tourists should continue to rise.

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