Tourism Infrastructure and Development

Clare A. Gunn

Nations, states, provinces and communities increasingly consider tourism development as a significant form of economic development. But, because it is a relatively new form and is very complicated as compared to other industrial development, it requires understandings of its interrelated functions, the importance of destinations, and the roles of the sectors involved in creating new and improved physical plant. Such development is often described as being made up of two parts. The term superstructure usually refers to the buildings and land developments used directly by travelers, such as hotels, restaurants, resorts, attractions, and campgrounds. Infrastructure is a term applied to necessary support development, such as roads, airports, water supply, waste disposal, policing, and fire protection. Both the superstructure and infrastructure require considerable capital investment at destinations. They are characterized by their fixed location and vulnerability to market changes, demanding careful consideration of planning and management.

Unlike an industry that is relatively cohesive and directed toward a product, the physical development of tourism is made up of a great diversity of business, government, and nonprofit components. Gee & Choy (1984) have placed the business aspects of tourism into three categories. The "direct" providers includes airlines, hotels, ground transportation, travel agencies, restaurants, and retail shops. The "support" services
encompass tour organizers, travel and trade publications, management, and research firms. A third category, "developmental organizations" includes planners, government agencies, finances, real estate developers, and educational institutions.

Another approach to the developmental side of tourism is to view it as it functions for the traveler. For example, a cross-section of the entire travel route from home and return might be diagrammed as in Figure 1. A variety of transportation modes might be utilized along the journey, including automobile, RV, taxi, bus, or airline. These require streets, highways, automobile service stations, signage, and airports. Critical to the travel would be its objectives—parks, zoos, scenic roads, museums, battlefields, shrines, forests, mountains, beaches, convention centers, sports arenas, industries, and trade centers. Necessary services would include lodging accommodations of many kinds, food services, and several forms of travel assistance. All of these occur on the land and utilize various assets of the landscape. Thus, when tourism is viewed in a holistic functional way, the immense mass of development becomes almost incomprehensible.

THE FUNCTIONING TOURISM SYSTEM

One way to help understand tourism's complexities is to conceive of it as being driven by two main forces—demand (markets) and supply (development). Each intimately relates to the other (Figure 2). What people seek as objectives of their travel is composed not only of what they wish but also of what is
available to them. What is developed on the supply side is not only related to travelers' desires at distant locations but also to the land and its geographic characteristics. Tourism is an extremely dynamic system, always in a very delicate balance. It is subject to change from both forces. Over time, societies and travel market segments, the "push" side of tourism (Dann, 1972), undergo changes in their travel interests and preferences. At the same time, innovative developers create new uses and interpretations of land resources, the "pull" side. This fundamental--dynamic balance--forces constant monitoring of both the demand and supply sides in order to maintain proper equilibrium.

Taylor (1980, 58) calls this balance the "market-plant match." Figure 3 illustrates his model of a process whereby macro and micro matching could be assessed. Within the Canadian federal tourism office, he was able to initiate this concept, first by surveying market segments in prime Canadian market sources. For example, he found that Canada could supply plant for only one of six segments of Swedish travelers. Of all segments from (then) West Germany, Canada could match two with its tourism development. The U.S. market segments could be supplied entirely with what Canada had to offer. A guide for tourism development in Western Australia (Tourism Research, 1985, 14) suggests that areas can study their markets and development to determine "gaps" between the two.

From a tourism development perspective, the market-plant match problem is quite different from manufactured goods.
Manufactured products are distributed to market areas whereas tourists (markets) are distributed to products (destinations). The location of a manufacturing plant is of no consequence to the purchaser of goods but the location of travel development at destinations is of great significance to travelers. This fundamental exposes the need for developers of tourism to recognize the importance, and vulnerability, of tourism development locations—the many factors of land and place.

Of particular interest to tourism development and developers is the great diversity and volume of physical development—both superstructure and infrastructure. In order to clarify this huge mass of land modification and construction, it is useful to identify the supply side as made up of five major components (Figure 4). These could be labeled attractions, transportation, services, information, and promotion. Land development for tourism is concerned primarily with the first three of these because information and promotion deal mostly with activities and programs rather than physical construction.

If one were to identify the most powerful force of the supply side of tourism, it would have to be attractions. Attractions are here defined as all those things for visitors to see and do—for business and pleasure. They not only contain the pulling force to draw tourists to a distant location; they also contain all the design, development, and managerial factors that make the visit worthwhile.

Attractions are dominantly based on natural and cultural resources. Even though great growth in popularity of man-made attractions, such as theme parks, has occurred, it has not been
at the expense of attractions based on resources. For example, visits to the U.S. national parks have increased over one-third in the last decade (NPS Statistical Abstract, 1989). In 1989, there were approximately 96.5 million visits to cultural areas administered by the National Park Service of the U.S.

Very important is the interaction between all these components. Any change in one affects the others. Lodging and food services must have high quality internal products and management but are even more dependent upon access and attractions. Or, an attraction may have little patronage because descriptive information was not available and promotion did not call attention to it.

This basic functioning system of tourism is influenced by several external factors (Figure 5). Natural resources provide the foundation for a great amount of tourism development preferred by tourists. In recent years cultural resources have become increasingly important for attraction development of historic, ethnic, craft, and entertainment interests of travelers. Tables 1 and 2 illustrate the key natural and cultural resource factors and their relationship to several kinds of tourism development. The extent of entrepreneurship in a region has much to do with development of tourism. This factor is traditional in market economies but may have to be nurtured in developing countries. Essential to all development is availability of finance. Neither public nor private development will take place without adequate financial support. All hospitality and travel businesses as well as public tourism

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development requires an adequate supply of labor at all levels. A study of the competition should be made before an area launches an extensive tourism development program. How well the community accepts and is willing to support tourism is a major influence on the smooth functioning of tourism. Certainly, in all regions, the many governmental policies have important bearing on how tourism will be developed. Finally, tourism development depends greatly on the leadership and organizational support it is given.

CONCEPT OF DESTINATION ZONE

The interrelation between the physical components of supply is well illustrated by the concept of destination zone. All travel is directed toward destinations whether the trip is for business or pleasure. In order for a receiving area to function for tourism, it must be developed as a total destination zone.

The diagram in Figure 6 illustrates the relationship of destination zones to a region. A region, nation, state, or province can be considered as containing destination zones, a circulation corridor, and a remaining non-attraction area. Important also is the region’s relationship to the several travel market sources.

An enlargement of the destination zone is presented in Figure 7. In order for a destination zone to fulfill its functions, it must be developed to contain four essential parts. Attraction clusters, either within a community or within a reasonable radius provide the pulling power. The logical location for most travel services is in one or several communities.
Communities contain basic infrastructure, such as water supply, waste disposal, police, fire protection, and a diversity of shops and services. Nearly all travel service businesses rely upon residential as well as travel markets. Critical to both attraction complexes and communities are the linkage corridors and main access corridors. Developers of tourism must plan for all these elements and make sure that at all times they are functioning together as a whole.

Most attractions seem to function best when they are clustered. Modern transportation does not allow attraction features to be strewn along travel ways as in the past. Most national parks are examples of clustered attractions, often including scenic beauty, wildlife, opportunities for nature study and photography, hiking, horseback riding, fishing and other outdoor recreation, and visiting historic sites and buildings. A cluster of attractions fosters each unit to contribute to a larger theme, resulting in greater visitor appeal and easier promotion. Larger clusters are more easily managed and serviced. Utilities, such as water, waste, and power, are more efficiently supplied.

Linkage corridors between communities and attraction complexes (and between complexes) require special examination and development for tourism. The landscapes and developments that travelers pass through provide important visual impressions. If these are littered, trashy, and ugly, they detract from the quality experience of the attraction cluster upon arrival. Not only must these linkage corridors be designed for anticipated volume but also for stimulating appropriate and compatible
impressions upon the traveler.

Communities present special planning and development problems (Gunn 1988a, 241). Historically, most communities were developed on an economy other than tourism--agriculture, forestry, mining, manufacturing. As a consequence, tourism is an adaptation. This adaptation is compatible if the local society adjusts to the acceptance of a host role. In other instances, the adjustment is difficult and divisive (Blank, 1989, 5a). The community, when planned and developed to do so, can provide many tourist services and amenities. But, the community must be willing to make the social, economic and environmental adjustments needed to accept tourism.

Essential to a destination zone is how well it is linked with main travel arteries. Highway access is desirable. But, volumes of traffic passing through do not necessarily foster tourism. Nearness to major thoroughfares, airports, and even harbors can be an asset provided visitors have excellent intermodal access to the community. Essential to visitor enjoyment and participation of activities in communities as elsewhere is adequate pedestrian access.

Variants of the destination zone concept are illustrated in Figure 8. "A" illustrates a very important destination zone--the city. Several travel market segments seek urban attractions for both business and pleasure. Cities contain businesses, industries, technical centers and research institutions important to business travel. They often contain parks, zoos, historic sites, entertainment, arenas, and shopping opportunities.
Developers of tourism must make sure all parts of the urban destination zone are in place and functioning well.

Perhaps the most popular variant is the radial destination zone, "B". This includes not only urban attractions but also those of the surrounding region. Short trips can provide access to nearby attractions, focusing most travel services on the community where they can serve both resident and travel markets. A modification includes such special cases as resorts, hunting lodges, and farm vacations where most services would be located on the same site as the attraction. Even so, the larger mass and greater diversity of services would be located in the nearest community.

Another pattern, popular with long-distance air travel is illustrated in "C". Here, the traveler may or may not use the attractions of the major city at the end of the primary access flight. Then, travel continues by a secondary flight or land tour to the final destination zone.

Throughout all destination zone development, the strong interdependencies between the major parts are fundamental to success. This implies the need for coordinated design, planning and management.

REGIONAL ANALYSIS FOR POTENTIAL ZONES

If tourism functions are centered on destination zones, the question arises regarding how zones with future potential can be found. An early attempt to do this was made in Michigan (Blank & Gunn, 1986). A review and graphic mapping of key resources
resulted in identifying nine zones with tourism-recreation potential in Michigan’s Upper Peninsula. Refinements in this process have been made in recent years, utilizing computer graphic overlays (Gunn and Larsen, 1988). Getz (1986) has summarized several approaches to planning for tourism development.

Fundamentally, tourism will thrive best where key factors converge in greatest amount and quality. If a regional search is made to identify the general areas where these occur, zones of potential can be delineated (Gunn, 1988a, 224). Briefly, the process of identifying potential zones includes the following seven steps.

1. **Generalizing market demand.** For determining potential zones, today’s markets can be generalized into two major classes. Most pleasure travel markets are seeking development based on natural resource characteristics. A second major class including pleasure and business travel markets seek development based on cultural resources.

2. **Researching key factors.** A region can be studied for the purpose of summarizing and mapping the basic factors. The natural resource factors to be studied are:
   - water, waterlife
   - vegetation, wildlife
   - topography, soils, geology
   - existing natural resource development

The cultural resource factors include:
   - prehistory, archeology
   - history, ethnicity
economic development

existing cultural resource development

In addition, transportation and cities are studied, especially for their geographic distribution and degree of access.

3. **Preparing generalized factor maps.** For each factor, a generalized map is prepared showing the location of the area of its influence. For example, an Interstate highway may be shown as a ribbon ten miles in width to indicate its influence in future development. These maps show three levels of quantity and quality—best, good, fair.

4. **Converting maps to computer overlays.** Modern computer programs, such as ARC/INFO (trademark Environmental Systems Research Institute), can be utilized to digitize the hand factor maps to a desired uniform scale.

5. **Weighting the Factors.** Because all factors are not equal in their importance for future tourism development, they can be weighted. Weighting is subjective and may best be done by a panel of experts in tourism development.

6. **Aggregating the Factors.** By computer, the two sets of map overlays can be aggregated, producing two composite maps—one showing areas of high, medium, and low values for the natural resource foundation, and another with similar value plots for the cultural resource base (Figure 9).

7. **Generalizing potential zones.** Using the research information together with the two composite maps, one can then generalize potential destination zones.

This process has been applied to several state tourism
plans, including Oklahoma, Washington, and Delaware. In the Delaware case, only the potential based on natural resources was examined. The final step, the composite map of zones of potential based on natural resources, is illustrated in Figure 10 (Gunn, 1990). Figure 11 illustrates the comparative support from each factor for each suggested zone.

This process has several implications. It identifies areas with the best resource base. This means that these are the areas that developers from all sectors (government, nonprofit organization, private enterprise) should make further study and analysis. It is in these areas that expanded and new attractions have adequate foundations. The identification of potential zones suggests also that the tourism leaders have the opportunity of cooperating on joint efforts toward future development, especially enlarging and adding attractions. Equally important is to analyze each zone in greater depth to determine its degree of saturation; can it be expanded without environmental and social damage? The process does not identify areas now ready to be promoted. Rather it assists in guiding future development where it is most logical.

RURAL AND SMALL TOWN TOURISM DEVELOPMENT

Government programs of special assistance to rural areas to bolster weakening economies often include tourism. Edwards (1989, 73), at a rural tourism conference in Portugal, summarized governmental initiatives in several countries as well as Portugal where rural area tourism development is included in the National
Plan for Tourism. Emphasis is placed on a scheme called **Tourismo Habitacional** to stimulate lodging in larger, privately-owned country homes. France has a special program supporting rural tourism. In 1989, the U.S. Congress mandated a study of rural tourism to be carried out through the United States Travel and Tourism Administration. The consulting firm of Economic Research Associates held hearings throughout the country identifying tourism development needs in rural areas (National Policy, 1989).

Some governments are assisting rural tourism development through educational programs. Alberta Tourism, the provincial tourism governmental agency, issues numerous bulletins directed toward guidance for small community tourism development. Extension programs in the United States often focus on educational assistance for small town tourism development. Minnesota, for example, has published a rural and community guide, *So Your Community Wants Travel/Tourism?* (Simonson, 1988). Increasingly, researchers and policy-makers are studying the potential of outlying areas for tourism development such as Hunt's (1984) discussion of the significance of wildlands in tourism.

But, rural and small town tourism development poses some special issues. Wall (1979) has identified several negative social, environmental, and economic impacts of tourism in rural areas. Ironside (1971) cited disturbance of stock, erosion of trails, erosion of riverbanks, damage to crops, loss of vegetation, and disturbance of wildlife as potential threats of tourism to rural areas. Frequently, these areas have limited
human and financial resources. Because much of the potential for tourism will lie in surrounding resources, old jurisdictional rivalries (between city and county, nearby cities) will need to be overcome. Preference for traditional lifestyles may be a barrier to accepting volumes of new visitors. Leaders of rural tourism development will need to be very much concerned with conservation and sustainable development. And, many small communities may already have reached maximum capacities of water supply, waste disposal, police, fire protection and other public services.

Rural and small town tourism development can be diagrammed as shown in Figure 12. This implies strong cooperation between small towns and the nearest major city. And, as a basic principle, tourism development of small towns and rural areas is best accomplished at a small scale and at a slow pace (Rodenburg, 1980,177).

DEVELOPING TOURISM

What and how tourism is developed depends upon the policies and practices of the development sectors of each nation. Throughout the world the supply side of the tourism system is developed by three categories of sectors--governments (as developers), nonprofit organizations and commercial enterprise. In addition, all three sectors operate within the framework of national policy and tradition.

For example, the United States had no firm policy on tourism until passage of the National Tourism Policy Act of 1981. This act replaced the former United States Travel Service with the
United States Travel and Tourism Administration. The mission of this agency is to carry out travel policies of the nation. The act also called for the establishment of a Tourism Policy Council with an interagency coordinating function and a Travel and Tourism Advisory Board (Edgell, 1990). In Japan, tourism policies are formulated and administered by the Department of Tourism, under the Bureau of International Transport and Tourism, Ministry of Transport (Tourism in Japan, 1986,48). The tourism agency has three divisions: planning, travel agency, and development. Tourism development policies vary from nation to nation depending on the political structure and functions ascribed to governments.

**Governmental Role in Tourism Development**

A major role in tourism by virtually all governments is that of *promotion*. Tourism promotion encompasses four main functions. Advertising is the dominant form of promotion and is believed to perform a major role in stimulating travel to destinations. Most nations, states, and provinces engage in publicity by means of journalism, familiarization tours, participating in travel shows, and disseminating literature about destinations. Public relations is a form of promotion that is more subtle and includes appearances at travel and tourism conferences, sponsorship of films and events, and sending performers into market areas. A final function, incentives, is used by businesses in the form of discounts, gifts, prizes and specially priced packages.

In most countries, governments provide basic infrastructure for tourism development. Local governments usually provide the roads, airports, water supply, waste disposal, police, fire
protection, streets, lighting, and power supply. In new development locations, not so serviced, often the developer must share the costs of installing new infrastructure.

Many nations engage in direct intervention or subsidy, obtaining land, building facilities, and sometimes supplying management. In Korea, the Law of Tourism Promotional Development Fund provides for direct building of hotels, transportation, shopping facilities, as well as construction and repairs of infrastructure (Korea Tourism, 1985, 120). Although most of Western Australia’s physical plant has been developed by commercial enterprise, the Western Australian Tourism Commission often purchases land and develops facilities for future purchase by the private sector (Western Australian, 1986). Finland provides considerable financial aid, up to one-third the cost, to large scale projects such as family holiday complexes, water activity development, and skiing facilities (Marketing Strategy, 1986, 210).

Perhaps the largest governmental role for tourism in the United States is that performed by many land agencies at the federal and state levels. Extensive natural and cultural resource lands—approximately 755 million acres—are owned and managed by federal agencies such as the USDA Forest Service, U.S. Army Corps of Engineers, USDI National Park Service, Bureau of Indian Affairs, Bureau of Land Management, Fisheries and Wildlife Service, and Bureau of Reclamation. These federal lands represent 33% of the U.S. land bases (Cordell and Hendee, 1982). These agencies supply the bulk of outdoor recreation attractions for
travelers: areas for hunting, fishing, water sports, skiing, and nature appreciation. To this must be added state, county and municipal parks. Another important governmental contribution to tourism is provision of highways and air traffic control.

In recent years, both federal and state agencies have increasingly purchased, restored, and operated historic sites and structures for visitor enrichment. These governmental operations are directly linked to tourism business success by providing much of the attraction for travel. In Texas, for example, outdoor recreational travel had an economic impact of $9.3 billion in 1983 (1983 Outdoor, 1984).

Nonprofit Role in Tourism Development

Worldwide, the nonprofit sector is increasingly involved in tourism development. Health, religious, conservation, historic, ethnic, archeological and youth organizations frequently own, develop, and manage land and facilities that involve travel. Most of the historic sites in the United States are sponsored by nonprofit, voluntary groups. Examples include Williamsburg, the Alamo, Mt. Vernon, and the Polynesian Culture Center. Virtually all festivals and events are sponsored by nonprofit groups who see value in promoting historic, ethnic, or other special events and celebrations, such as the Mardi Gras and Gasparillo Invasion. A great many private hunting, fishing and ski clubs lease land from federal and state agencies for the development of slopes, trails, camping and other facilities. Fairs and festivals often spark other tourism development in communities. "Nostalgiafest", a week-long festival in Petersburg, Virginia, includes over 20
concerts by local and state performers and attracts more than 75,000 people each year. As a consequence, the city has been revitalized, the historic district has been developed, power lines have been placed underground, and parks have been beautified (Urban Fair, 1981, 9).

Commercial Enterprise

The greatest volume of construction and development of tourist facilities and services is provided by the commercial enterprise sector. Most lodging, food services, car services, travel services, and shops are developed by this sector. In carrying out its profitmaking role, this sector is more responsive to shifts in travel market trends than any other. Its major characteristic is its innovative and creative development that often stimulates new travel market activity.

This sector depends wholly on the free market system whereby decisions of what to produce, where, how much, and at what price is decided not by a central power but by the market. The dominant characteristics of free enterprise have been identified by Allen (1979).

1. **Private property.** Essential to free enterprise is individual ownership and control of property. This is based on the fundamental that individuals know best how to develop and manage their lands. The owner has the right to transfer use and enjoy income and other benefits from ownership.

2. **Economic freedom.** Rather than an outside force, the individual owner protects freedom of choice for the consumer. The owner has the right to start or discontinue business,
purchase resources, use technology, and invest in any way.

3. **Economic incentives.** Workers receive incentives through wages and other rewards for providing goods and services that meet market needs. More productive operations become more profitable. Conversely, poor service and poor production are equally rewarded by failure or business loss. These economic incentives direct scarce resources to the production of goods and services that the market values the most.

4. **Competitive markets.** Each individual strives for his market share by doing the best job possible at a competitive price. This fosters efficiency and lower prices. When a business exhibits capacity sales, it stimulates competitors who strive for their market share.

5. **Limited role of government.** The system of market choice and free enterprise is upset by any interference in the system. Certain rules and regulations are necessary for environmental and consumer protection. But, too much intervention by government in ways that upset the relationship between sale price and productive effort destroys the free and competitive value of the system.

The development of primary tourist services—hotels, restaurants, carriers—is done by individual business enterprise at the site scale. The decision to establish a business is predicated on its feasibility. Studies of feasibility may be performed by the company making the proposal or by a consulting firm. The usual steps of feasibility are:

1. Identification of a potential market: the people who can
be expected to patronize the proposed hotel, resort, or restaurant.

2. Quantification of the market: how many people can be expected to patronize the hotel, resort, or restaurant if a particular facility is built.

3. The kind of facility which will appeal to the market.

4. Estimation of the size of the facility needed for the market.

5. Estimation of the cost of the facility which will serve the market.

6. Estimation of the income and expense of operating the facility, itemized by department.

7. Estimation of profit as a percentage of sales and as a percentage of investment. (Lundberg, 1979, 79)

Perhaps the most difficult aspect of tourist business feasibility is estimating the potential market. One basic principle is to evaluate the relationship between attractions of the area and relative success of existing travel businesses. If existing attractions are expanding and becoming more popular, the demand for services will increase. This fundamental has both qualitative and quantitative dimensions. Statistics of room occupancy of existing lodging may provide a major clue to an existing oversupply or deficiency. However, such total statistics do not reveal differences in market segment demand. It may be that even though statistics suggest an oversupply, there may be a deficiency in a special market segment.

The Tourism Product
The complexity of tourism makes it difficult to identify the tourism "product" as compared to a manufactured product. Roughly, the tourism product could be defined as the traveler’s experience(s) en route and at a destination. The primary causal element of this experience is the attraction. Service businesses are facilitators.

This intimate functional relationship between attractions and travel services influences business success in many ways. The establishment of new attractions such as parks, historic sites, or convention centers can increase business because of greater travel flows. Conversely, the closing of a major attraction or establishment of a new one in a competitive location could erode service business activity. Even though services and attractions are developed by separate entities, their interdependency suggests the need for strong cooperation. Because most attractions are not profitmaking within themselves, there may be need for subsidy from the businesses who do profit.

Promoters of tourism products recognize the need for all components to function properly. It is unfortunate when travelers are attracted to a location only to discover that the attraction features are not as promised, that service businesses are not catering to their market segment, and that the time and money invested in the trip are out of proportion to the significance of the attraction features. The tourism product, because of its complexity, demands close integration of the governmental, nonprofit, and commercial sectors in order to meet expectations of travelers and to provide best business success.
Development Issues

The future of tourism development faces several important issues. First, new mechanisms need to be found in order to produce greater integration of the many components of tourism. New competition, great growth, and heightened costs of development require more efficient operation. The many businesses, trade groups, governmental agencies and nonprofit organizations will discover greater success for each when greater understanding and cooperation replace segregation and fragmentation of tourism development. Cordell and Hendee concluded from their study of federal outdoor recreation in the U.S.: "There is a critical need to better define, implement, and coordinate desirable roles by the private sector and by local, state, and federal governments." (1982,84)

Second, the great growth of tourism is pushing the limits of capacity in many regions. Community tourism growth demands expansion of basic infrastructure. Rural tourism growth requires more careful planning and protection of natural and cultural resources. Quality water, air, forests, wildlife, and soil are the basic elements upon which tourism depends. All tourism sectors can gain by a strong proactive stand against all threats to resources and resource quality.

Third, when tourism is recklessly developed it can exact great stress upon the social and economic stability of an area. Host-guest relations require measures that protect the integrity of local life styles and quality of life. Areas must be willing to accept the changes that tourism development demands, including economic as well as social costs if they wish to develop tourism.
Although major development is sometimes needed to identify new and emerging destinations, a more amenable type of development is slow-paced small-scale indigenous development.

Fourth, in nearly all regions, seasonality of tourism has hindered commercial success of much development. Increasingly, this is being overcome from two sides. A greater number of market segments today are able to travel at all seasons. And, developers are increasing all-weather and all-season attractions. These factors are contributing to much greater stability of tourism businesses.

Fifth, all developers of tourism must work toward assuring greater traveler safety—freedom from sickness, crime, terrorism, accidents (Edgell, 1990, 48). No matter how appealing the attractions may be, travelers will not seek those destinations that cannot be enjoyed freely. Especially important is sensitivity to the special needs of foreign visitors.

Finally, the complicated nature and great growth and competitiveness of tourism demand much greater understanding of the scientific, technical, political, and managerial aspects of tourism. This requires massive increases in educational programs at all levels. Children need to be taught how to gain the most from travel experiences and to comprehend the many career opportunities associated with tourism. Higher level educational programs need to stress the interdisciplinary nature of tourism. Much higher competence will be demanded from all leaders and actors in tourism development in the future. Educational programs, seminars, conferences, and workshops are being directed
toward greater cooperation among the many sectors. The first conference between national parks and tourism in the United States was held in Biloxi, Mississippi, in 1988. More technical, scientific, and policy articles on the relationship between parks and tourism are appearing regularly, such as "Tourism and the National Parks," by Priscilla Baker of the National Park Service (1986, 50).
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<tr>
<th>FACTOR</th>
<th>SIGNIFICANCE FOR TOURISM</th>
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<tr>
<td>WATER, WATERLIFE</td>
<td>Suitability for resorts, campgrounds, parks, vacation homes, cruising, boating, fishing, hunting, historic redevelopment, photography, nature appreciation, organization camping; high water quality; adaptability at all seasons.</td>
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<tr>
<td>VEGETATIVE COVER</td>
<td>Suitability for scenic enjoyment, nature trails, photography, parks, campgrounds, resorts, hunting, organization camping, vacation homes, habitat for wildlife; usefulness at all seasons (spring wildflowers, autumn leaf colors).</td>
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<tr>
<td>WILDLIFE</td>
<td>Suitability for hunting, nature appreciation, photo safaris, wildlife resorts, wildlife museums and interpretation centers; seasonality of potential.</td>
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<tr>
<td>TOPOGRAPHY, SOILS, GEOLOGY</td>
<td>Suitability for snow skiing, mountain climbing, hang gliding, scenic overlooks, scenic roads, photography; suitable for building construction, landscape development; freedom from erosion; geological study interest.</td>
</tr>
<tr>
<td>CLIMATE, ATMOSPHERE</td>
<td>Freedom from severe storms, fog, excessive humidity, cloudiness, intense heat or cold, pollution; impact of high altitude; unusually heavy precipitation.</td>
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<td>FACTOR</td>
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<tr>
<td>PREHISTORY, ARCHEOLOGY</td>
<td>Suitability for developing visitor interpretation centers, outdoor dramas, displays, exhibits depicting ancient peoples at sites and areas.</td>
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<tr>
<td>HISTORIC ERAS</td>
<td>Suitability for restoring, protecting historic buildings and sites for visitor enrichment and interpretation; historic reuse; docudramas; exhibits, displays, dioramas; living history sites; reenactments of historic events.</td>
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<tr>
<td>ETHNIC, NATIONAL</td>
<td>Suitability for pilgrimages, interpretive visitor centers, ethnic displays, artifacts, crafts, music, art, foods; opportunities for dance, drama; ethnic and national events, shrines, monuments.</td>
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<tr>
<td>ECONOMIC DEVELOPMENT</td>
<td>Suitability for plant tours; visiting man-made inventions, achievements; scientific laboratories; agriculture, manufacturing, processing; conferences, meetings, sports gatherings; trade and business attractions.</td>
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Figure 1. TOURISM FUNCTIONAL FLOW. Diagram illustrating the great number and diversity of elements of tourism development. (Source: Gunn 1988b, 10)

Figure 2. DRIVING FORCES OF TOURISM. Tourism is driven by demand and supply factors. Development should strive for balance.

Figure 3. MARKET-PLANT MATCH. A systems model for guiding a balance between market and plant for tourism development. (Source: Taylor 1980, 58)

Figure 4. COMPONENTS OF TOURISM SUPPLY. For best tourism development, all supply components should be kept in balance and in accord with market demand.

Figure 5. INFLUENCES ON THE TOURISM SYSTEM. The tourism system does not function in isolation. It is influenced by several external factors. (Source: Gunn 1988a, 73)

Figure 6. DESTINATION ZONES IN A REGION. Tourism development focuses on destination zones, linked to markets through main access and circulation corridor. (Source: Gunn 1988b, 71)

Figure 7. DESTINATION ZONE. A conceptual diagram illustrating the key components of destination zones for tourism development. (Source: Gunn 1988b, 57)

Figure 8. THREE KINDS OF DESTINATION ZONES. Analysis and development varies depending upon whether it is for an urban, radial, or extended type of destination zone. (Source: Gunn 1988a, 194)

Figure 9. OVERLAY MAPPING BY COMPUTER. Using a GIS program, two series of map overlays can produce two composite maps showing areas of greatest resource support for tourism development.

Figure 10. POTENTIAL DESTINATION ZONES FOR DELAWARE. Destination zone interpretation based upon analysis of several natural resource factors. (Source: Gunn 1990, 25)

Figure 11. COMPARATIVE RESOURCE SUPPORT. Matrix illustrates the relative importance of support of resource factors. (Source: Gunn 1990, 25)

Figure 12. RURAL DESTINATION ZONES. Rural tourism potential is closely related to development of larger nearby city. (Source: Gunn 1988a, 249)
DEMAND (Markets) ↔ SUPPLY (Development)

Attractions

Services ↔ Transportation

Promotion ↔ Information
FUNCTIONING TOURISM SYSTEM

- Organization Leadership
- Finance
- Labor
- Entrepreneurship
- Cultural Resources
- Community
- Natural Resources
- Governmental Policies
- Competition
FIG. 6

REGION

DESTINATION ZONE
Services, facilities, things to see and do

NON-ATTRACTION AREA

CIRCULATION CORRIDOR
Land, air, water - entire visual sweep

ACCESS

MARKETS
Potential travelers, tourists, recreationists
NATURAL RESOURCE SERIES

WATER
VEG./WILDLIFE
TOPO./SOILS
EXIST NAT. DEV.
TRANSPORTATION
CITIES

COMPOSITE MAP BASED ON NATURAL RESOURCES

CULTURAL RESOURCE SERIES

PREHISTORY
HISTORY
ECON. DEV.
EXIST CULT. DEV.
TRANSPORTATION
CITIES

COMPOSITE MAP BASED ON CULTURAL RESOURCES
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<th>RESOURCE</th>
<th>WATER</th>
<th>WILDLIFE</th>
<th>VEGETATION</th>
<th>TOPOGRAPHY</th>
<th>SOILS, GEOLOGY</th>
<th>EXISTING NAT. RES. DEVELOP.</th>
<th>TRANSPORTATION</th>
<th>CITIES</th>
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Fig. 9-2 Plant/Market Match Model, p 191
Fig. 9-4 Three Kinds of Destination Zones, p 194
Fig. 11-1 Rural-urban Destination Zones, p 249

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