

## Impact of Road Service Complexes in Tourism Development

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**Abstract:** The objective of this study was to perform site selection for new rest area and convenient complexes along Tehran-Saveh-Hamadan Highway using GIS software. Site selection parameters were collected for proposed road rest area and convenient complexes. Then GIS software was used to build study maps based on primary maps provided by Topography Organization and Transportation Organization. The data was fed into GIS software to locate best sites for road rest area and convenient complexes. Logical common overlay function of GIS software was used for site selection. Four sites were identified on the final maps produced from this analysis for positioning road rest area and convenient complexes on Tehran-Saveh-Hamadan Highway. This study will hopefully provide a sample in applying scientific studies to further the development of our country. Research methodology included library research and survey. This study benefited from the information made available by the relevant specialized organizations for its data collection. Interviews with specialists in transportation, topography, cultural heritage together with surveying travelers and drivers who frequented the existing complexes helped in data collection and preparation of parameters for site selection. Data analysis was performed by using GIS software.

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### Introduction

Tourism development has drawn increasing attention during past few decades. Transportation industry has played as a mediating agent linking various country resources. It is an infrastructure to other economic sectors and, therefore, produces strong impact on their development. Transportation has become an important sector for its role as a driving force in economic progress.

Roadside convenient complexes are service centers along roads which provide services to travellers, drivers, or any other individuals who frequent the road and highways. The need for increased number of these centers is strongly felt as more international travellers are crossing our country. The strategic location of Iran is serving as a hub for neighboring countries. Increasing the number of convenient roadside service centers has become a priority for our transportation industry.

One of the required steps for establishing new convenient complexes is their site selection and positioning. The primary objective in site selection is filling the void where additional services to road travellers are required.

This study examines the role of convenient road complexes and their impact on tourism. It attempts to develop a framework for site selection as a prerequisite of building new road convenient centers.

### Problem Definition

Tourism has achieved exceptional standing in local economy and international exchange. It is an income producing resource especially for countries that lack internationally marketable products.

Tourism has proved to be an important source of foreign currency generation for these countries.

Iran has three transportation networks offering road, rail, and air transport. Roads make the largest part of transportation industry because of its spread of coverage and diversity. Road transportation plans are made based on two perspectives: (a) countrywide road network development and (b) road infrastructural development, which includes road convenient centers.

The shortage of roadside convenient facilities is strongly felt on Tehran-Hamadan road. The existing facilities along this road are few and most of them suffer qualitatively. The locations of the existing facilities are not selected studiously. The present study is an attempt to address the shortages of these centers and the poor quality of the existing ones. This study examines the impact of these centers on tourism development in Hamadan. Increased number of convenient complexes is a part of national development.

### Research Significance

Study of road convenient centers and their impact on tourism has gained special attention. Tehran-Saveh-Hamadan highway is the connecting road between Tehran as the political capital of Iran and Hamadan as a tourism attraction. Studying the issues related to providing additional resting facilities along this road has been of special concern. Building convenient complexes based on suitable, applicable, and scientific principles may provide the means to address many transportation and traveling issues on this road and provide additional road safety. The

objective for site positioning study before building such facilities may prevent wasting precious capital resources and assure efficient service provision.

#### **Research Objectives**

1. Conduct site positioning studies for new road convenient centers based on the available information and intended to satisfy travelers, tourists, and drivers.
2. Study the economic and cultural impacts of road convenient centers and their impact on tourism development in Hamadan Province.

#### **Research Hypotheses**

1. Site positioning of the existing road convenient centers along Tehran-Saveh-Hamadan highway is not based on scientific modeling and basic environmental studies.
2. Site positioning of the existing road convenient centers increase customers satisfaction.

#### **Research Methodology**

This study used library research augmented with field studies. Additional data was obtained from historical data made available by specialized organizations. Site positioning parameters were determined after interviewing experts from transportation, topography, and cultural heritage organizations. Travelers, drivers, and passengers who frequented road convenient centers were interviewed in order to determine the level of satisfaction from the existing facilities. GIS software was used to analyze study data with the objective to assist site positioning.

#### **Research Literature**

##### **Tourism History**

Traveling and tourism history is as long as human civilization. The following section provides a brief history of tourism starting from ancient times up to modern days.

##### *Ancient Times*

Pre-historic people would undertake the trouble to visit other places in search of food, safety, and better climate. Earning skills and learning craftsmanship helped people improve their living conditions and establish in townships. Travelling in this period was limited to business and trading.

Imperial power centers were formed in Africa, Asia, and Middle East. They helped the construction of infrastructure required for connecting various locations in the territory. Roads, waterways, and transport vehicles eased travelling. Iranians started construction of new roads and built carriages after they conquered Assyria in order to provide access to faraway location and facilitate moving passengers and cargo. Ancient Greeks contributed to the development of traveling and tourism in two ways, 1) by introducing coins and

making them popular; and 2) by making Greek the dominating language all over Mediterranean area. These two facilitated better communication between communities.

##### *Middle Ages*

Trading and traveling did not experience a flourishing trend during middle ages (the period between fifth and fourteenth centuries). Lack of attention destroyed most of the roads and traveling faced many difficulties and danger. The primary reason for traveling among Christians during this period was pilgrimage for visiting saintly churches and holy places. Pilgrimage became popular during fourteenth century. The demand for such traveling created flourishing business opportunities for those who organized and managed group traveling. This development helped creation of a large network of charity organizations by various social groups.

##### *Renaissance*

Most of the traveling during the period between fourteenth to seventeenth centuries was for education and exploration. Queen Elizabeth arranged foreign traveling to train English diplomats and foreign representatives. Well-known universities such as Oxford and Cambridge of England and Salamanca of Spain offered scholarships and grand tours for university students.

##### *Industrial Revolution*

Industrial revolution took place from 1750 to 1850. This period witnessed an explosion in group travelling. Special traveling for elites became a booming business which later made tourism available to public.

##### *Modern Tourism*

Personal interest and desire to move, service availability, and financial wellbeing fueled modern tourism and made it available to masses. New technologies in aerospace, computer, robotics, and communication revolutionized life, work, and leisure during twentieth century.

##### **Industrial Revolution and Tourism**

Industrial revolution made fundamental changes in western countries in a span of two centuries. These changes inevitably influenced the whole world. Industrial development, urbanization, product improvements, rapid communication, and transportation are just a few segments to have been influenced by industrial revolution. The outcome of industrial revolution was introduction of extensive changes in family living, religious beliefs, leisure times, literature, arts, economy, business, social activities, and political philosophy in very short period of time. Rural communities disintegrated and tradition lost its cultural appeal.

Industrial revolution influenced tourism and leisure industries in two ways: 1) creation and

expansion of urban areas to promote urbanization; and 2) reduction of work hours and separation of work from leisure times. The direct and indirect impacts of industrial revolution have produced material and logical effects on the way people spend their leisure time. Various forms of tourism have developed through time and became available to many.

Tourism has gained a position that requires local and regional planning. Many localities and their surroundings have the potential to become tourist attractions and, therefore, may justify building new facilities to enable them provide services to tourists.

#### **Tourism Development**

Development is a term that may include economic growth, fundamental changes, and industrialization. It also may represent cultural, social, and personal self-actualization and self-confidence.

Development has been defined as extension of options for community members and/or improved health standards. The concept of development has changed from measurement of mere economic conditions to total human life quality transactions. Tourism is one area that can contribute to overall development of a country by producing many cultural, social, and economic outcomes.

#### **Sustained Development**

Sustained development has many definitions. Some have defined it as the link between environment protection and economic growth. Some others have defined it as economic growth and development that promotes a complimentary relation between environment and society and not a competing relation. All of the definitions provided for sustained development consider environmental protection as the fundamental aspect of development. Sustained development addresses four main segments of a society to encompass economic, social, cultural, and environmental development. Sustained development provides for peaceful coexistence between human life and environment intended to preservation the environment. The result would be improved living quality through the supporting ecosystems.

Sustained development views historic heritage not just a symbols of the past; but rather, as what that is remained to be exploited in economic activities as valuable means for tourism attraction. Tourism is a viable international business which provides incentives to preserve the cultural heritage.

Tourism development relies on information. The complex interactions between tourism and various economic, social, cultural, and environmental factors calls for proper information on timely basis as

the only way for effective and efficient tourism planning.

Traveling is subject to human nature and resources. Therefore, tourism developments should address psychological and physical needs of human being. The most important factors that have influenced tourism development during last few decades are: increased leisure time, urbanization expansion, attitude change toward traveling, and increased income.

Advent of tourism development in Iran required a comprehensive plan. A directive for development of a comprehensive plan for tourism was issued in February, 2000 in Tehran in presence of Director of World Tourism Organization. National plan was drafted by a group of domestic and international experts under supervision of Tourism High Commission. The outline of Iran National Tourism Plan follows:

- Draft strategies for tourism marketing, sustained development, and a continuous planning;
- Draft strategies for training human resource ;
- Develop strategies for improving government participation and management in tourism activities as an industry; and
- Pilot implementation of tourism plan in an area in Iran with the potential to become a tourism attraction.

#### **Tourism Development Factors**

There are at least four main players that influence tourism development in any area:

1. Hosting and regional communities with the potential to serve as tourism attraction;
2. Target markets and tourists whose logical needs and expectations influence tourism development in an area;
3. State policy making organizations who act as planners and regulators providing incentives or limitations by their activities.
4. Tour leaders who are the linking agents between target markets and tourism attractions. They may or may not be part of the hosting communities.

The key to tourism development in Iran is to maintain and coordinate communication between these four players. Sustained development happens in an area when a personal or legal individual acts as an agent for tourism development. This agent may be one of the four players or someone outside the area who acts objectively to promote tourism for a targeted area.

#### **Tourism Development Requirements**

Tourism development requires proper infrastructure, trained and specialized human resources, supportive laws and regulations, motivated policy making and implementing authorities, together

with necessary budget and financial facilities in support of tourism industry.

### **Domestic Tourism Development**

Tourism activities depend on general development plans of a country. They require various infrastructure and support. State organizations, including ministries, offices, administrations, and institutions should coordinate their activities in support of tourism projects. The factors that contribute to the development of national tourism are of three groups: economic, social-cultural, and tourism facilities.

- Economic Factors:  
Economic factors are considered from two viewpoints: (a) the contribution of these factors to per capita income, which turns potential demand to actual demand and (b) the macro economy, where a part of state budget is allocated for civil development and tourism infrastructural projects during economic growth.
- Social-cultural Factors:  
Social-cultural factors directly influence tourism through population growth and urbanization. Lower work hours, extended vacation time, and interest in visiting new places have positive impact on tourism development.
- Tourism Facilities:  
Tourism facilities are created as the result of social, political, and economic changes. Tourism facilities include developmental projects that provide tourism services intended to satisfy tourists' needs.

### **Tourism Planning**

Tourism is a group activity and requires contribution from different sectors, therefore, requires planning and coordination. Planning is a technical process that helps tourism planners to decide on the best approaches for tourism development in a given area in a systematic, continuous, and scientific way.

The first step in planning is to determine the current position of tourism in a given area. A list of strengths and weaknesses of the area in terms of tourism attractions may help to project the current position. A list of opportunities and limitations of the should provide the ground for tourism development planning.

Bohoys (1999) studied the impact of tourism on the four stages experienced by a given area being promoted as a tourism destination. He studied economic, social, and environmental impacts with an assumption of a declining trend. This study produced the table of tourism life cycle with 5 stages, namely, introduction, development, maturity, saturation, and decline. Bohoys examined the conditions of tourism destination against marketing activities that take

place in each stage of life cycle. He was particularly keen about proper planning by policy makers and practitioners acting in different areas of tourism. He was looking for an optimum combination of marketing activities in each stage of tourism life cycle that may produce desirable outcome for a given tourism destination.

Various approaches taken in tourism development stem from the perspective each community has on tourism. Planning and tourism development projects represent strategies, approaches, and policies that countries undertake to address their tourism business. The planning process should be based on sustainable and continual approaches that are implementable on national and local levels. Tourism planning should become a part of macro socio-economy planning to be effective.

### **Tourism Facilities**

Tourism facilities can be divided into three main groups: lodging, dining, and transportation-communication.

*Lodging:* Lodging facilities include hotels, motels, guest houses, camps, inns, hostels, seaside resorts, and mountain shelters, pilgrimage houses, and school buildings offering summer shelter.

*Dining:* Diversity and variety of dining centers and availability of suitable services and facilities to these establishments contribute to tourism industry improvement. Shortages of these services and facilities have negative impact on tourism. The roadside dining facilities should be equipped with modern installations and strictly observe sanitary standards. They should provide sanitary and inexpensive food for travelers.

*Transportation-Communication:* Availability of transportation and communication facilities has positive effects of tourism development.

### **Roadside Convenient Complex**

Roadside convenient complex are a group of centers established for providing services to travelers, drivers, and vehicles. These complexes are ranked based on the types of services they provide.

A roadside convenient complex is ranked as phase 1 when at least one of its main centers is fully operational and ready to provide service. A main service center is either gas station or a restaurant. The main service center should have completed entrance and exit access plus all amenities such as water closets, prayer room, utilities, offices and security. Roadside convenient complex that is ranked as phase 2 should have all its service centers fully completed and operational.

#### *First Ranked Roadside Convenient Complex*

First ranked roadside convenient complex is built on 10 to 30 hectares on one or both sides of the

road. These complexes may be located on local, national, or international road networks with a mixture of industrial, commercial, pilgrimage, and tourist traffic. Services provided in these complexes may include:

- A Gas station with 8 to 16 pumps
- A mosque with an area of 100 to 150 square meters
- A dining area with seating for 300 to 500 people
- Water Closets with 20 to 30 stalls
- Lodging with 5 to 10 rooms or 3 to 30 suits complete with bathroom
- Separate parking for cars, buses, and trucks with 200 to 300 lots
- Refreshment shop
- Carwash
- Fruit store
- Handicraft shop
- Oil and tire service shop
- Car repair shop
- Outpatient medical center with ambulance service
- Traveling information booth
- Audio-video center
- Insurance agency
- Adult play area
- Children play area
- Helipad for emergency handling of accident injuries
- ATM's
- Telephone center
- Adolescents play area

#### *Second Ranked Roadside Convenient Complex*

A second ranked roadside convenient complex is built on 1.5 to 3 hectares of land on one or both sides of the road. These complexes may be located on local, national, or international road networks. These complexes do not provide lodging. Services provided in second ranked roadside convenient complexes occupy smaller quarters compared to first ranked roadside convenient complex

#### *Third Ranked Roadside Convenient Complex*

A third ranked roadside convenient complex is built on 0.7 to 1.5 hectares on one or both sides of a local road. The services provided in these complexes may include:

- A Gas station with 4 to 8 pumps
- A praying room with an area of 12 to 24 square meters
- Rest rooms with 6 to 10 stalls
- Oil and tire service shop
- Buffet with an area of 25 to 75 square meters
- Long distance telephone stand (at least one)
- First aid box
- Traveling information booth
- Audio-video center

- Children play area

#### **Site Positioning Systems**

Site information system is a computer modeling that provides a picture of the real life. GIS represents a simple model of the real world in such a way that with the help of computer a picture of the real world could be reached. Geographical information system is an important tool used for geographical data analysis. This system was first introduced in 1960. It has found a unique position over a period of past forty years and is being used for many forms of land data analysis.

Site analysis was carried out by visual inspection or overlaying several local maps before the advent of GIS. It is now possible to utilize descriptive site data available in geographical information systems and the power of computer to analyze a large volume of data for site positioning rapidly and accurately.

A useful feature of GIS is land usage suitability maps used for land planning and management. Land usage suitability maps in GIS system have many applications, including ecological strategy development, land usage suitability for agriculture, environmental impact evaluation, site positioning for private and state facilities plus local planning. Land usage suitability analysis includes classifying observations and considerations about the land, according to given activities.

#### **Geographical Information System**

Aronoff 1989 was a geographical information system built upon manual or computerized approaches for collection and usage of geographical data.

Geographical Information System is a modern comprehensive database with relative intelligence and learning capability. It contains topographical (positioning) and non-topographical (descriptive-quantitative) information in various fields. It is intelligent because of the capability to select, merge, and analyze data. GIS is a collection of visual data (maps) together with descriptive and quantitative information about land. These two sets of information are related to each other and provide a simple representation of the real world.

Geographical information system is a computer system for collection, storing, and manipulating, and analyzing data in order to arrive at site information. Geographical information system performs a series of processing useful for decision making. The operations performed by GIS include planning, observation, data collection, data storage, and data analysis.

## Conclusion

Host communities are one of the players in tourism development. Hamadan Province is a tourist attraction. Province faces an increasingly high rate of unemployment. The unemployment rate in Hamadan was 13.5% according to 2010 statistics. Regional planning is required for Hamadan to create additional job opportunities if unemployment trend is to stop and reversed in the area. One of the areas that could be used to help ease unemployment in Hamadan is tourism.

An issue to be addressed in this endeavor is easy access to Hamadan attractions in order to promote Hamadan as a tourism destination. Every possibility that may draw potential visitors to Hamadan from Tehran and communities along Tehran-Saveh-Hamadan road network is to be considered. Road facilities along this road can play an important role in making the travel more attractive to tourists.

Travellers and tourists who pass through Tehran-Saveh-Hamadan road come from various economic-cultural backgrounds. They may require variety of services from feeding to medical attention. These needs may be satisfied through proper site positioning and construction of roadside convenient complexes. These complexes will serve as the much needed infrastructure for tourism development in the area.

Construction of roadside convenient centers will provide job opportunities during construction and operation to local people as well as workers who may relocate from neighboring areas in search of jobs. These centers will provide job opportunities to locally unemployed as well as convenient services to travellers and drivers.

Roadside convenient complexes employ unskilled and skilled workers during construction. They provide many employment opportunities to professional, trained, or unskilled workers during operation. They offer necessary services to domestic and foreign travellers who may be attracted to the area. These conveniences promote tourism in many local communities. Coordination of these activities with other closely related services will contribute toward economic development of the area.

## Recommendations

The following recommendations are made based on this study.

1. Perform technical site positioning for roadside convenient centers by considering the effective parameters that may lead to economic advantages, provide peace of mind to travellers, and increase road safety.
2. Provide financial facilities by state organizations and or financial institutions

for construction and operation of roadside convenient complexes.

3. Construct first, second, and third graded convenient centers in consideration of local conditions and climate, cultural-financial background of travellers, and the number of visitors.
4. Coordinate private and state activities through proper long-term planning and financing. Local tourism development will increase per capita income in the local community and generate income for state which may be allocated to complete other civil and infrastructure projects in support of local tourism development.

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