CHAPTER VII

CONCLUSION OF THE STUDY AND SUGGESTIONS

The national highways are the backbone of the road infrastructure and the major roads of India. These are main highways running through the length and breadth of the country connecting major ports, state capitals, large industrial and tourist centers. India has 70,934 km of national highways till August, 2011. National highways constitute about 2 per cent of entire road system in India, but carry about 40 per cent of the total road traffic as in 2010. National highways network of India is a network of highways which is managed and maintained by national agency, of the central government namely National Highway Authority of India. On November 1, 1966 when the new state of Haryana came into being total length of national highways was 767 km. Presently, 15 national highways namely NH-1, 2, 8, 10, 21A, 22, 64, 65, 71, 71A, 71B, 72, 73, 73B and NE-2 with a total length of 1512 km pass through different parts of the state.

Provision of passenger oriented wayside amenities along national highways is essential since both the passengers and drivers need certain minimum wayside facilities to make their travel safe, comfortable and convenient in order to reduce fatigue in a long distance journey. The Ministry of Road Transport and Highways (MORTH) had launched schemes for provision of basic wayside facilities. All the state public works department have been directed that provision must be made for passenger oriented wayside amenities at every 50 kilometer of national highways. Road Development Plan: Vision 2021 recommended that, provision of wayside amenities with facilities like parking lots, drinking water, toilet, snack bars, dhabas, restaurants, rest rooms and petrol pumps with service, repair and communication facilities should become integral part of roads modernization. Steps should also be taken for providing highway police petrol, medical aid posts and arrangements for tow truck service to remove accidental vehicle from the site and for providing immediate medical attention to victims. Even during the periods of Aryans, Mauryans, Guptas and Mughals special attention had been given to provide amenities essential at that period including maintenance of the roads, milestones, wells, reservoirs, trees, sarai, help- centre and passengers’ safety.
Development of highway serves several purposes. These are the arteries through which goods are transported from surplus to deficit regions. The roadside passenger facilities are in direct proportion to highway development. The more volume of vehicles, the more is growth of these facilities. The density of these facilities do affects the socio-economic and cultural aspect of the surrounding communities.

The present study seeks to realize the following objectives:-

- It seeks to analyse the spatial pattern and process of the development of passengers oriented wayside facilities along selected national highways in Haryana.
- To describe the functional characteristics of passengers’ oriented wayside facilities.
- To assess the satisfaction level of highway users’.
- To examine the impact of passenger oriented wayside facilities on local communities and surrounding areas.

Present work is restricted to study the characteristics of the selected national highways 1, 2, 8 and 10, which pass through the length and breadth of the state of Haryana. These selected national highways have been divided into following sections. NH-1: A, B, C and D, NH-2: A and B, NH-8: A, B and C and NH-10: A, B, C, D, E and F. Present study relies on both secondary and primary data. The present study is primarily based on field survey. Samples of different facilities were taken to understand the characteristics of passenger facilities. Ten per cent samples of the food-joints (hotel, restaurant and dhaba) and fuel-filling were randomly selected from each section of national highway corridors and where numbers were less at least one sample was taken. One traffic police station from each district has been selected for the detail analysis. A total of 516 passengers including 52 from 13 hotels, 68 from 17 restaurants 164 from 82 dhabas, 132 from 33 fuel filling stations and 100 from 14 traffic stations were selected for comparative analysis of their satisfaction level. A total of 330 persons were selected to know the impact of all passenger facilities on surrounding communities.
The growth process and spatial pattern of passenger oriented wayside facilities along national highways-1, 2, 8 and 10 falling in Haryana till 2007 reveals that the concentration of facilities was very low in first phase when the state of Haryana came into being. Out of 14,994 passenger facilities only 4.15 per cent facilities were available prior to 1966. Second phase (1967-1991) constitute 21.56 per cent of all facilities. The third phase (1992-2007) witnessed remarkable development in the expansion of passenger facilities which account for about 74.29 per cent of total. The overall development of the state has played a pivotal role in the growth of passenger facilities along the highways in the state. Similar trends have been shown in temporal growth of the major groups of passenger facilities i.e. food-joints, security posts and health services, banks and communications, fuel-filling and allied services and also in sub groups of these facilities. Recreational center facilities were not available during first phase. Thereafter, it started developing and there was a maximum growth of parks etc. between the periods of 1999-2004. This same pattern of periodic growth was observed in case of all selected national highways.

It is also evident that before 1991 these passenger facilities were mainly concentrated in towns and cities, but after 1991 there was a wide dispersal of these facilities along national highways. There was sudden increase in economic growth of the country due to new economic reforms introduced by the government of India in 1991, which has direct effect on transport system thereby leading to tremendous increase in the means of transportation which created gigantic demands of roadside facilities.

The sectoral analysis shows that food-joints are very common in the study area which constitutes about 48 per cent of total facilities. Fuel-filling and allied services comprise 41 per cent of total passenger facilities. It is also evident that fuel-filling and allied services is second dominant passenger facilities because the food-joint is the first preference and basic need of passengers and fuel-filling and allied services are the primary need of vehicles. These facilities constitute about 89 per cent share of the total passenger facilities.

It is also found that about 39.06 percent of total facilities are temporary and rest i.e.60.94 per cent are permanent. The study reveals that food-joints have the
highest percentage of temporary facilities i.e. 60.50 per cent, whereas all security post and health services have permanent structure. The study shows that fuel filling and allied services enjoy the highest i.e. 83.89 per cent of permanent structures because neither petrol pumps nor the repair and spare parts shops (accept few shops) have temporary structure. The lowest share of permanent status of facilities has been observed in recreational sector because only parks and zoos have the permanent status i.e. only 16 out of 14994 facilities.

The study shows that the highest number i.e. 6362 of facilities are on NH-10 (with an average concentration of 203ptk out of which 143ptk are of permanent building structure) and the lowest on NH-8 i.e. 1838 in numbers, while NH-1 and NH-2 have 3974 and 2820 facilities respectively. The average concentration of passenger facilities on NH-1 is 221ptk of which 114ptk are of temporary nature. The study also points out that if facilities situated within the big cities are not taken into account then these are the highest on NH-1. It is because the volume of traffic on NH-1 is more than NH-10.

The study indicates that among food-joints, the largest share is that of other facilities excluding hotel, restaurant, dhaba and wine shop. These are temporary building structure and are mainly concentrated around chowks. Dhabas and wine shops are widespread along national highways while hotels and restaurants are located in and around cities and towns. Similarly, the major share of fuel-filling and allied services is that of repair and spares parts shops having their temporary building structure and these are also concentrated in and around cities and towns. The fuel-filling stations are widely distributed along national highways. The security posts and health services are concentrated in cities and towns. While the communication facilities like STD and PCO etc. have decreased due to the massive use of mobile.

The study reveals that the owners of the food-joints are mainly from local area and belong to dominating caste and creed. The farmers whose land was adjacent to highway started this business as a subsidiary occupation along with the farming. The hotel and restaurant owners are from business class, while the Dhaba owners are mainly from farming class.

The food-joints along the national highways have developed in a very haphazard manner. It is well reflected in the survey that not a single dhaba and most
of the restaurants do not have approval from the concerned authority, while hotels are mainly established by the state government itself according to the norms but those built in private sector usually violate the norms laid down by the government. As regard the other norms such as plot size, covered area, parking space, distance from national highway and encroachment of the government land, the position is rather dismal. Most of the *dhabas* and the restaurants are short of the space, so generally encroach government land in order to accommodate the vehicles and passengers. National highways are getting congested and choked by undesirable road side development and encroachment as a result of which the traffic on national highway is subjected to lot of hardships. There is widespread criticism about deteriorating level of services. The absence of legislation empowering the competent authority to remove encroachments on national highway resulted in the extension of encroachment. To remove this bottleneck an act namely “The Control of National Highways (Land and Traffic) Act, 2002” was passed by the parliament which empowers National Highway Authority of India to remove and demolish unauthorized construction. However, government of Haryana vide its letter No.-1095-1130 dated 21.05.2009 pre-empted the effect of this law by regulating the unauthorized constructions. The callous attitude of the government is reflected in not even removing the illegal constructions posing a serious threat to the life of national highway users.

The study indicates that all hotels provide a good level of the overall aesthetic environment. The entire covered area is utilized for providing quality comfort and luxury to the users. Most of the facilities provided by the hotels are good enough for the full satisfaction of the costumers. It is found that only two hotels i.e. *Green Apple*, Fatehabad city on NH-10 and *The Residency*, Manesar town on NH-8 have low availability and provide average quality of these facilities due to paucity of space.

The study has found that *pucca* material is used for the construction of restaurants building. A major part of covered area is used only for sitting purpose. Two thirds of the restaurants have good level of the aesthetic environment including good ventilation level in covered area, ideal conditions for sitting area, adequate cleanliness and good hygienic conditions of utensils and kitchens. It is also observed that facilities like electricity, fan, gen-set and toilet are available in all the establishments whereas, air-conditioners, fire-extinguisher facilities are present in half
of the restaurants, while lawn, parking, security arrangement and first-aid exist in one-third of restaurants. Some famous restaurants such as Mc Donald, Domino’s and like have more facilities. Restaurants on NH-I in section A, B (Sambhu border (Punjab) to Gharaunda) and D (Samalkha to Singhu (Kundli) border (Delhi) and on NH-8 in section B and C (Dharuhera to Kapushera border (Delhi) have good level of facilities, on the other hand restaurants along NH-2 in section A (Karwan - Kosi border to Palwal city (including) and NH-10 section B (Sirsra city (included) to Fatehabad (excluded), D and E (Hissar City (included) to Rohtak City (excluded ) average or poor level of facilities.

The study also indicates that more than three-fourth of the *dhabas* are *kacha* or semi-*pacca* building. In most of cases open space is utilized for all the purpose except cooking of food. Cots for sleeping and resting are provided on demand. It is also found that one third of the *dhabas* have good level of the overall aesthetic environment which includes the attractive outlook of building as well as furniture, ventilation level in covered area, good condition of sitting area, cleanliness and hygienic conditions of utensils and kitchen. The facilities of electricity and fan are available in all the *dhabas*. Approximately, two thirds *dhabas* possess gen-set, cot for sleeping in open space, bathing *chabacha*, STD, minor repair shop and general item facilities. Parking and toilet exist in one third whereas desert coolers and bathrooms are found only in approximately one fifth of the *dhabas*. Other facilities like lawn, air-conditioner, security arrangement, entertainment, fire-extinguishers and first-aid are being provided by less than one tenth of the *dhabas*. NH-1 is the busiest highway in the study area and provides good business opportunities. Therefore, the level of facilities is good enough on NH-1. On the contrary, NH-10 *dhabas* are in very poor condition and they are devoid of even basic facilities. The facilities which are available found in poor conditions.

The study shows that the staff employed in food-joints is mostly from outside the state of Haryana and most of the workers in a cluster of *dhabas* were found belonging to a specific place of origin. There is a chain system in supply of workers which usually follow diffusion of household information. In respect of duty hours all the *dhabas* and most of the restaurants are totally ignoring the law but majority of the hotels were found observing the law in proper sense. It is found that laws related to
minimum wages and weekly leave are violated by most of the private hotels, restaurants and all the dhabas. Child labour is rampant in dhabas and restaurants.

It is revealed in the study that the owners of fuel-filling stations mainly belong to local area and are from different wealthy section of the society i.e. business, politician and rich peasant etc. The fuel-filling stations are mainly in the category of company owned and company operated (COCO) ownership and the rest are in company owned and dealer operated (CODO) category. Most of the norms laid down by the government are being observed by the fuel filling stations because the government is very strict in granting licenses to these fuel-filling stations. There are number of violations prominent among them are right of way, distance of covered area from highway, separate entry and exit, minimum distance between two fuel filling stations, distance from intersection, buffer strip norm and encroachment of government lands. The lowest violations are found along NH-1, while these are highest in case of NH-10, NH-8 A (Jai Singh Pur Khera border (Rajasthan) to Dharuhera and NH-2 A from Karwan - Kosi border to Palwal city (including). It is found that all fuel filling stations get supply through road transport. The study shows the status of various facilities available in fuel filling stations. The facilities like fire extinguisher, toilet, air filling machine and drinking water are in good condition in all cases but the facilities such as first aid, security arrangement, lawn facility and rest area complex are not available in majority cases. The study shows that more than three-fourth of the staff employed on fuel-filling station belongs to Haryana. There is no regular flow of workers from outside area due to lack of food and shelter facility. The legal provisions regarding duty hours, weekly leave, and minimum wages are not followed by the owners of the fuel-filling stations.

In view of the increasing injuries and deaths due to the road accidents the government of Haryana in its review meeting held on 20.04.2000 established a new division, within its transport department called “Haryana highway patrol for road safety ‘HHPRS”’. Twenty two traffic police stations and 5 traffic police posts each at a distance of 30 km were established along selected national highways. The main objectives to be fulfilled by the highway patrol are to regulate traffic, to provide first aid and facilitate shifting of the accidents victims to the nearest hospital within the golden hours and to educate and make the public aware about traffic rules. A state
traffic control room and Headquarter of HHPRS have been established at Karnal. It serves as an important link with the highway passengers. Road safety vehicles remain stand by round the clock in their jurisdiction area. The traffic police stations concentrate usually on giving help and medical aid to passengers in the hour of need. It is also found that they spent their lot of time in the safety of VIP’s on national highway. NH-1 is the busiest highway in the study area so availability of these facilities is also highly concentrated over there. The facilities and patrolling are good on NH-2 as well as NH-8. These facilities are rather poor on NH-10 as the volume of traffic and speed on NH-10 is comparatively low. As soon as the traffic police station receives the information of any accident, they immediately rush to the site to handle the situation. The affected people either injured or dead are immediately shifted to nearby civil hospital and handed over them to the duty staff. The nature of the staff employed on traffic police stations is very different from that of the other wayside facilities. They are government employees their numbers, duties, pay-scale, leave, educational qualification etc. depends on the rank of the employee and decided by the government of Haryana. The study points out that the main causes of accidents and crashes are human errors viz: over speeding, rash driving, drunken driving, diversion of attention mainly due to talking on mobile phone while driving, red light jumping, avoiding safety gears like seat belts and helmets, non-adherence to lane driving and overtaking in a wrong manner. The study shows that the highest road accidents have taken place on the NH-1 and NH-2. The study also found that maximum road accidents occur in the monsoon season and the least accidents occur during the retreating of monsoon season.

The present study quite evidently reveals that more than fifty seven per cent users of national highways fall in the category of medium level of satisfaction whereas the remaining are equally distributed between low and high level of satisfaction in respect of all facilities. It is further indicated that there is no uniform distribution of facilities along the national highways. These facilities are concentrated at some strategic points of roads or mainly situated in the urban area through which a national highway passes. The facilities in term of both quality and quantity depend upon the volume of traffic on a particular national highway. The more the number of users, the more the number of facilities and the better are the quality of service due to
the stiff competition among the service providers. Thus the concentration of facilities
and quality of facilities are directly linked to the number of users of a national
highway. There are wide gaps in availability and quality of facilities along different
highways. The level of overall satisfaction is high in case of NH-1 and is rather low in
case of NH-10. The major cause of this difference appears to be the difference in the
level of development of these highways and number of highway users i.e. passenger,
vehicles and surrounding communities.

The present study also reveals how and to what extent the surrounding
communities are directly or indirectly influenced by the highway and roadside
passenger oriented facilities. The respondents are of the view that wherever there is
growth of these facilities, the surrounding area is cleared of plantation to establish the
facility, to provide entry and exit for the vehicles, to provide parking space to the
vehicle and to make the facility visible from a distance. Though, their overall opinion
is that the greenery is not much disturbed. In the case of NH-1 majority opinion say
that greenery is adversely affected by these facilities. It was also noted that this
negative effect is more concentrated closer to the facility complex. Surrounding
communities found hardly any impact of wayside facilities on ground water table
though the people residing alongside NH-1 like Murthal, Jhanjhari, Dhanori, Tyora-
Tyori, Rattangarh and Mohra in the area where these facilities are highly
concentrated feel that there is a lot of wastage of water. The major cause of air
pollution is found to be waste material and smoke generated by these facilities. There
is no significant role of these facilities in causing land pollution. Sound pollution is
caused due to the sound of generator set, music system and standing vehicle in start
mode but it is insignificant in local people’s opinion. It was also noted that this
negative effect is more visible closer to the facilities.

Whenever a national highway is constructed in an area it automatically results
in multifold rise in land value due to establishment of passenger facilities hubs. This
fact is corroborated by ninety eight per cent respondents. There is exorbitant rise in
land value in Haryana along the surveyed passenger facilities hubs from 1966 to 2011.
The land value gradually increases with the movement from border to national capital
region. Great majority of the respondents have stated that there is no occupational
change owing to the growth of passenger facilities. These facilities have hardly
generated employment opportunities for the surrounding communities. There is hardly any contribution of these facilities in augmenting the income of surrounding communities.

The study shows that there is hardly any impact on the eating-habit of local community as fifty four per cent respondents stated they never went to take their meals in these food-joints. All the respondents opined that the vices of drinking and smoking are on increase due to these facilities. They noted that youngsters get liberal supply of liquor and biri, cigarettes etc. in these food-joints. The study reveals that ninety five per cent respondents on NH-1 and ninety two per cent respondents on NH-8 consider the increase of these vices significant. The menace of drug trafficking is bye product of these facilities. The overwhelming majority of surrounding communities blames these food-joints for drug trafficking. It is observed that NH-1 and NH-2 are highly affected where majority of respondents stated that the increase is significant, while the effect is the lowest on NH-10. Theft and burglary cases are affected by the number of wayside facilities. The study reveals that fifty five per cent respondents see no effect on the theft and burglary cases but thirty per cent are of the opinion that there is increase of these vices, while fifteen per cent respondents’ state that these vices have decreased owing to increase in these facilities because these facilities keep the surrounding area alive throughout the night. Immoral activities are observed more on NH-1 where seventy five percent respondents see the significant increase in immoral activities. It is low in case of other highways. The more developed the highway the more are immoral activities.

Road side amenities are a necessity to minimize the driving relating stresses which are public health issues and play important role in improving safety, efficiency and journey quality. These reduce the fatigue of drivers, stop clear of traffic and minimize collision of vehicles parked on the shoulders. The growth and development of these facilities depend upon the volume of vehicles plying on a particular road. These grow either in natural way as per need or planned keeping in view the necessity of a specific road. In India, the facilities location have not been scientifically planned, but the growth of these facilities is haphazard and is not regulated by the rules framed for the purpose. Following are the suggestions to improve the qualities and quantities of the facilities available on these highways.
• The facilities are dispersed along the highway and are present single or in small groups at a distance of a few kilometers. However, bye laws state that these facilities should be concentrated at a few places in a cluster at least at a distance of 50km.

• Before the establishment of a facility in a rest area, the proper authorization must be obtained from the appropriate authority.

• The encroachment of the government land should not be allowed. Strict action must be taken at the very early stage.

• Remove all construction within 30 meters area on both sides of road as stipulated in bye laws.

• Entry and exit from the highway should not be direct rather it should be on the service lane.

• The minimum width of the approach road to a facility (mainly in case of food-joint) should be 33 feet. The condition on NH-I A (Sambhu border (Punjab) to Pipli (Kurukshetra), NH-2, NH-8 A (from Jai Singh Pur Khera border (Rajasthan) to Dharuhera industrial complex) and NH-10 is very poor. It must be improved at the earliest.

• In order to avoid congestion of vehicles during peak hours on food-joints (mainly in case of dhabas and restaurants), the provision of parking facility of 25 per cent of total plot must be strictly implemented.

• Hygienic and sanitary conditions in resting areas, mainly in case of dhabas except those on NH-I D (Samalkha to Singhu - Kundli border), are very poor which require immediate improvement.

• Ventilation level in dhabas in general is improper. It should be made proper according to climatic conditions.

• Utensil conditions in case of dhabas of NH-2, NH-8 C (Manesar to Kapushera border (Delhi) and NH-10 must be improved by employing trained and educated workers.

• Drinking water particularly in case of NH-2, NH-8 and NH-10, is in very poor condition. The quality drinking water must be made available on these dhabas.
• The toilet facility is not available in most of dhabas on NH-1 B and C (Pipli (Kurukshetra), to Samalkha including), NH-2, NH-8 A (Jai Singh Pur Khera border (Rajasthan) to Dharuhera) and C and NH-10. It is basic and essential facility, so it must be made available at very food-joint.

• Every dhabas should provide fan facility in dining space. But it is found that in case of NH-2 A (Karwan (Kosi) border to Palwal city (including), NH-8 C (Manesar to Kapushera border (Delhi), and NH-10 A, B (Mandi Dabwali border (Punjab) to Fatehabad (excluded), E and F (Mundhal intersection to Tikri border (Delhi) there is no fan in some dhabas.

• First aid facility must be available at every food-joint.

• Liquor in food-joints should be completely banned.

• Food rates should be fixed and every food-joint must display rate list on its counter.

• Separate tank for solid waste be kept in every dhaba.

• Labour laws must be observed in all food-joints and punitive action be taken against violating employers. It is observed that the private employers do not follow labour law in case of their staff in respect of duty-hours, weekly leaves, minimum wages and child labour. It must be ensured that employers follow the labour laws in true spirit.

• Fuel filling stations should be the part of rest area complex.

• Haryana Highway Patrol for Road Safety (HHPRS) has not been properly equipped for the work assigned to it. It is frequently deployed on extraneous work or on VIP’s duty. It should be allowed to do assigned work.

• The behaviour of safety police personnels is not proper and up to mark. It must be amended by in service training.

• Traffic rules should be strictly followed by improving the traffic regulatory mechanism.

• The facilities available are inadequate, so new facilities locations must be scientifically planned and developed to cater the need of the future.