

# SITUATION OF LAND TRANSPORTATION IN NEPAL

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## ABSTRACT

*There is a close relation between increment of transportation (roads and vehicles) and socio-economic development of the nation however, present condition of Nepal is discouraging. The study deals with present situation of land transportation, its problems with suggestions. An attempt has been made to point out causes and nature of road accidents, problems faced by general people and businessmen during travel and transportation of cargo. This study reveals that out of 29157 kilometers available road network only 12305 kilometers (42.20 %) road was black topped and the condition of road was miserable because there was no proper and regular repair and maintenance. Graveled roads were in very poor condition and in most of the roads and bridges were not constructed. Earthen roads were not suitable for travelling in rainy season. The buses run on long routes were found violating norm of keeping double drivers, the speed of vehicle remained higher than limit. They unnecessarily used loud or pressurize horn which had created noise pollution. The vehicles moved on gravelled and earthen roads had been operating in poor condition. Vehicles were very old and damaged and only a few vehicles moved on certain routes. Vehicle accident incidences had frequently occurred in hilly areas where vehicles plunged down from the road and number of fatalities and injuries were found in double digit. The major reasons of accidents were high speed of vehicles, steering or brake failure, untrained and intoxicated drivers, driving by cleaner/conductor, continuous long duty hours of drivers, poor condition of vehicle, muddy and slippery roads, haphazard overtaking practice on single lane roads, lack of concentration of drivers on driving, non-observance of safety measures, traffic rules and signs, drove vehicle without wearing seat belt/helmet, kept more passengers than allowed/available seats, hung passengers on gate, backside and roof, loaded cargo beyond the limited weight and height respectively.*

**Key words:** Land, transportation, road, accidents, overload, overspeed, syndicate, environment, pollution, human, error, irregular, maintenance, fast track.

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## **INTRODUCTION**

Nepal is a landlocked country and eighty three percent part of its territory is covered with hills and mountains. Among various modes of transportation, water transportation is not feasible because hilly rivers are not navigable. Air transportation is suitable but majority of Nepalese people cannot afford high air transportation cost. There is lack of airports and aircrafts. So neither government nor the private sector is capable to provide proper passenger, cargo and rescue services. Furthermore, climatic conditions also create hindrances in air transportation, especially in hilly and mountainous regions. Hence land transportation is relatively best option in present situation for the movement of people and cargo. Road, bridge and tunnel construction are tough, costly affair and time consuming especially in hilly and mountainous regions. This requires huge funds, high and advance technology, trained manpower, effective management, planning and governance, political stability and strong will power of government to speed up the infrastructural development.

There is a close relation between increment of transportation (road and vehicle) and socio-economic development of the nation. Development in the sector of industry, commerce, market, education, health, tourism, agriculture, social services, security and social awareness is possible only when there is an easy access. This enhances the national unity, integrity and social justice. In this 21<sup>st</sup> century, transportation has shrunk the world and a person can reach to any part of the world within a few hours. However, there are some villages in hilly and mountainous areas in Nepal, people should have to still walk for five days to reach the nearest market, hospital and district headquarters. People are living there in traditional way and they are not getting any civic amenities from the state due to absence of road and communication connectivity.

Among various infrastructures, transportation is the most widely accepted infrastructure for the development of a nation. The pace for our development has been accelerated by different modes of modernized transportation. The need of transportation is deeply penetrated in the daily life of people. It has made the world smaller and human being feel more close ever before, whether they live in any part of the world (Bhagat, 1997). It is merely a means to serve other objectives. Some of these objectives are economic to exploit natural resources, to raise agricultural productivity, to increase industrial output, to enhance per capita consumption and so forth.

Side by side, there are non-economic objectives too such as to promote political cohesion, to strengthen the country's defense, to bring about certain socially desirable locational patterns etc. (Hans, 1965). The function of transport is to carry commodities from points where their marginal utility, the significance of a little more or a little less, is relatively low to where it is relatively high (Bonavia, 1957). Transportation is only one of the many ingredients necessary to accelerate the pace of economic progress, but in many instances it plays the key role, and in all cases it sets the limits (Owen, 1968).

Effective transportation is indispensable for economic progress. Without adequate facilities for moving goods and people from place to place, economic and social activities can be carried on only a limited, local way. Under such conditions, economies have seldom, if ever, advanced very far. So important is transportation that it has generally been a major concern of government in all progressive countries. Sometimes, the government owns and operates one or more means of transport (Bigham, Roberts 1952). Motor (Land) transportation is different in so many respects from the other mode of transport that it falls into an almost totally independent category with regard to its technical characteristics, ownership, operation, public and private use, financing, and even the relationship of the market to output considerations. It provides very significant proportion of its services for consumption purposes. It has many advantages, but the primary benefits are speed, flexibility, economy, reliability and convenience (Tuff, 1969).

## **OBJECTIVE AND METHODOLOGY**

The objectives of the study are as follows:

- To examine the situation of roads and vehicles in Nepal along with causes and nature of road accidents,
- To analyze the problems faced by Nepalese people during travel and transportation of goods.

Descriptive research design has been adopted in this study, which was useful to assess the opinions, behaviors, or characteristics of stakeholders and to describe the situation and events occurring at present. To examine the present situation of road and vehicle in Nepal, primary and secondary data had been used. Secondary data had been compiled from government publications like Economic Survey (Ministry of Finance), Nepal in Figures (Central Bureau of Statistics), Transport Management

Department, Ministry of Physical Infrastructure and Transport, Traffic Directorate: Police Headquarter, Naxal, Road Department, newspapers, unpublished research reports and various websites were used to seek the views of people towards road transport (road, vehicles, available services, involved risks) and views of service providers like drivers, conductors and owners of vehicles.

Primary data had been generated through informal interview with different groups. Altogether one hundred persons were consulted including fifty general people (passengers and businessmen), ten drivers, ten conductors, ten vehicle owners, ten traffic personnel and ten government officers. The study had been concentrated in urban, rural, Terai (plain) and hilly areas.

### Situation of road transportation in Nepal

**Table 1:** Length of Road in Nepal during First Eighth Months of FY 2016/17

Particulars	Length in Km.	Percent
<b>Black Topped</b>	12305	42.20
<b>Graveled</b>	6865	23.55
<b>Earthen (Fair Weather)</b>	9987	34.25
<b>Total</b>	29157	100.00

**Source:** Ministry of Physical Infrastructure and Transport, 2017.

A total of 29157 kilometers road had been constructed till first eight months of FY 2016/17. However, only 12305 kilometers (42.20 %) road was black topped, 6865 kilometers (23.55 %) road was graveled and rest 9987 kilometers (34.25 %) road was earthen /fair-weather (Table 1). The condition of black topped road was miserable and there was no proper and regular repair and maintenance. Graveled roads were in very poor condition, and in most of the roads, bridges were not constructed. Earthen roads were not suitable for traveling in rainy season. Majority of old and partially damaged vehicles were moving on graveled and earthen roads that had caused major accidents especially in hilly areas of Nepal. It had been found that limited number of vehicles was operating in route, three times more passengers and goods were kept inside and outside part of the vehicles, the drivers were not properly trained, they consumed alcohol during travel and speed of vehicles was found high and the condition of road was miserable. Furthermore, traffic rules were found to be violated

and traffic personnel were not deputed in remote areas. There was provision of keeping two drivers in long distance routes but this was not followed in practice. Government was not serious to implement traffic rules and proper legal action was not taken on violation of rules. Transporters had formed syndicate and cartel system and they had threatened/challenged the local administration and government, whenever government tried to implement traffic rules. Bribe was also a major factor, which encouraged transporters to violate rules. Political pressure discouraged honest administrators and traffic personnel to take legal action against transporters/drivers who did not obey traffic rules and road safety measures.

The national highways, its secondary roads and urban areas' roads were not good due to improper and irregular repair and maintenance. Hilly area roads were frequently damaged due to landslide and heavy rainfall. Heavy loaded trucks and containers damaged roads and bridges because such roads and bridges were capable to transport 15-20 ton load only whereas 40-50 ton loaded vehicles were found to be running there. Unauthorized extraction of sand and stone from river and illegal deforestation had adversely affected environment. As a result, landslides and flood damaged bridges and destroyed roads during rainy season. There was not responsible body to control these issues and to penalize the guilty party.

Just 23.55 percent roads were found to be graveled and such types of roads were available in suburbs and villages. Limited number of vehicles was moved and agricultural produce was transported on such graveled roads and those roads were unsafe in hilly areas. Bridges were not constructed over rivers. So, vehicles had to wait on the bank of rivers till water level decreased. Very old, out dated and only a few vehicles were in operations. People were compelled to travel in such vehicles. Similarly, 9987 kilometers (34.25 percent) road were earthen (fair weather) which was found in remote areas where some short route vehicles (bus, jeep, tractor, motorcycle and cycle) cart and animals were operated in normal season. Transportation services were found to be irregular in the rainy season in such earthen roads due to water and mud. Heavy flood, landslides and poorly visible roads became hurdles for rescue operation in those days. Every year local inhabitants had contributed to construct and repair such types of earthen road in rural and remote hilly areas. Due to political instability, local elected bodies were absent for last 15 years. Whatever budget was allotted from center became useless due to heavy corruption by bureaucrats. Normally, allotted budget/fund was not found to be used properly to develop

infrastructure. As a result, ultimately the granted budget used to freeze. Mostly contractors seemed busy during the end of fiscal year to finish the allotted budget amount of running fiscal year. The quality of work was very poor and life of such roads ended/ceased within a year. Sometimes, without doing any work the allotted amount was paid and completion of work was shown only on paper. Allotted amount was distributed among bureaucrats, local leaders and contractors.

### Number of registered vehicles

There were total 2602986 vehicles and among those only motorcycles were 2034936 (78.18 %). Car/jeep/van held second position and the number were 209199 (08.04 %). Tractor/power tiller held third position (04.76 %), crane/dozer/excavator/truck held fourth position (02.89 %) and bus held fifth position (02.00 %) and the quantity were 123797, 75296 and 52186 respectively. The number of motorcycle had been increasing in larger quantity every year. In absence of public transportation, urban and rural both people used motorcycle as reliable transport vehicle to reach the short destinations in less cost and time.

**Table 2:** Number of Registered Vehicles in Nepal during First Eighth Months of FY2016/17

Types of Vehicles	Number	Percent
<b>Bus</b>	52186	2.00
<b>Mini Bus/ Mini Truck</b>	23269	0.89
<b>Crane/ Dozer/ Excavator/ Truck</b>	75296	2.89
<b>Car/Jeep/ Van</b>	209199	8.04
<b>Pickup</b>	43089	1.66
<b>Microbus</b>	5188	0.20
<b>Tempo</b>	15348	0.59
<b>Motorcycle</b>	2034936	78.18
<b>Tractor/ Power Tiller</b>	123797	4.76
<b>Others</b>	20678	0.79
<b>Total</b>	2602986	100.00

*Source:* Ministry of Physical Infrastructure and Transport, 2017.

The government and private transportation sector had operated car/jeep/van so this was seemed to be second position in quantity (08.04 percent) and the contribution in government revenue was remarkable.

**Road Accidents in Nepal**

The causes of road accident had been numerous, however, major reasons were old and partially damaged vehicles, poor condition of roads, overload, over speed, risky overtake, careless and untrained driver, driving while intoxicated, long drive without taking rest and sleeplessness, ignorance of traffic rules and signs, overlooking safety measures, violation of transportation law, political disturbances, heavy rainfall and landslides, poor visibility of roads, various natural calamities, traffic congestion, single lane track, irregular maintenance of road and vehicles, careless pedestrian and so on (Table 3).

**Table 3:** Road Accident Data in Nepal from FY 2013/14 (2070/71) to FY 2016/17 (2073/74)

Particulars	FY 2013/14 (2070/71)	Increase	FY 2014/15 (2071/72)	Increase	FY 2015/16 (2072/73)	Increase	FY 2016/17 (2073/74)
Death	1787	12.14%	2004	00.10%	2006	18.84%	2384
Seriously Injured	3516	15.30%	4054	03.16%	4182	01.63%	4250
Normal Injured	7877	03.17%	8127	01.06%	8213	00.94%	8290
Vehicle Accident Quantity	8406	08.79%	9145	09.49%	10013	01.65%	10178

**Source:** Ministry of Physical Infrastructure and Transport, 2017.

The number of accidental death on roads was 1787 in FY 2013/14 which increased by 12.14 percent in FY 2014/15 and reached up to 2004. However, it increased by 00.10 percent only in FY 2015/16 and reached up to 2006. But, again it was increased tremendously by 18.84 percent and reached up to 2384 in FY 2016/17. Maximum number of accidental death caused by motorcycle and second position was seemed to be by car/ jeep/ van.

3516 persons were seriously injured in road accidents in FY 2013/14, which was increased by 15.30 percent and reached to 4054 persons in FY 2014/15. Again, it was increased by 03.16 percent and 01.63 percent

only and reached to 4182 and 4250 persons in FY 2015/16 and 2016/17 respectively.

Similarly, number of vehicles accident was 8406 in FY 2013/14 and the number increased by 08.79 percent and reached to 9145 in FY 2014/15. Likewise, it jumped to 10013 in FY 2015/16 and rose by 09.49 percent. In spite of these facts, number of vehicles accident increased by 01.65 percent only and reached to 10178 vehicles in FY 2016/17 (Table 3). Accordingly motorcycle was the most accident prone vehicle whereas car/jeep/van were the second in that category.

### **Problems of road transportation**

The major problems of road transportation in Nepal were as follows:

- There was insufficient road network in Nepal. Black topped road was found in highways and urban areas. Rural and hilly areas had less road network in comparison to urban areas. Graveled and earthen roads were there and the condition of roads was miserable. Mostly villages were not connected with road network especially in uneven topography.
- New and good condition vehicles ran on highways and in urban areas. There had been practice of keeping more passengers than available seats. Specially, local route vehicles had such practice in Kathmandu valley. The buses ran on long route were found violating norm of double drivers, speed of vehicles remained higher than limit, unnecessarily used loud or pressurize horns which had created noise pollution. Passengers were forced to take meal/breakfast in specific restaurant, which charged high price for low quality, and unhygienic meal/breakfast and such vehicle's staffs had commission setting on meal/breakfast.

Similarly, the vehicles which moved on graveled and earthen roads had been operating in poor condition. Vehicles were very old, damaged, and only few vehicles moved on certain routes. Passengers had no choice to select alternate vehicle and they were compelled to travel in excessive overloaded vehicles even with full of standing passage and roof.

- Frequent vehicle accident incidences had happened in hilly areas where vehicles plunged up to 500 meters below from road and number of fatalities/injuries were found in double digit. The poor infrastructure, geological conditions, failure of equipment and human error were the key factors leading to road accidents. Furthermore, major reasons of accidents were the high speed of vehicle, steering or brake failure,

untrained/intoxicated drivers, driving by cleaner/conductor, continuous long duty hours of driver, poor condition of vehicle, muddy and slippery roads, haphazard overtaking practice, lack of concentration of driver son driving, on-observance of safety measures, traffic rules and signs (instruction).

Likewise, there were some areas of Nepal where transporters had been formed and applied syndicate/cartel though, it was banned and declared illegal by Nepalese court. In the situation of syndicate/cartel the businessmen had to pay more fare for truck/container/tanker/bullet. Similarly, the passengers had no choice to select luxurious or good condition vehicle for travel. Transportation fare was kept high and passengers had to pay high fare for the poor services. In such routes vehicles were old, seats were dirty, congested and uncomfortable, staffs misbehaved with passengers, departure and arrival schedule was not followed.

Poor condition of vehicles and road had created air pollution. Damaged and earthen road emitted a lot of dust in dry season, old vehicle emitted black smoke and created air pollution which was harmful for human being. Passenger as well as people living near the damaged or earthen road faced dust every day which had created eye irritations, lungs and respiratory problems and their residence covered with dirty dust/sand. In rainy reason, due to heavy mud vehicle could not be operated and in winter season due to poorly visible roads people could not reach their destination on time.

The operation of vehicle should be according to prevailing laws and traffic department should penalize the parties who violate the rules. Unfortunately, neither the law was effective nor the implementation was strict. Corruption, bribe and unnecessary interference from politicians were the reasons of poor condition of transportation. Corruption and delay in completion for projects were common phenomenon and they had shown readymade reasons for delay in completion. Nobody had penalized them because they had power and money both. Similarly, Public Procurement Acts implementation in road construction, failure to delegate power on time, tender/contract related problems, environment impact assessment, land acquisition, approval for tree removal, regular maintenance, failure to complete construction project within specified

time, frequent transfer of employees, quality works had remained as both challenges and problems (Economic Survey, 2017 ).

Madesh Andolan in 2016 and trade embargo led by Indian government for almost six months created the situation of keen scarcity of necessary goods. There was acute shortage of petroleum products, people were compelled to buy smuggled diesel, petrol and LPG gas by paying three to four times more price. Excess dependency on India compelled Nepal to rethink about alternate way for transit. Only one Tatopani border was in use to import and export goods from China. Unfortunately, it was also closed at that time because earthquake and landslide had destroyed roads, building and bridges in that border. In addition to, China also denied to open Tatopani border. However, on the request of Nepalese government, China granted diesel from Rasuwagadhi-Kerung border in 2016. Nepal had signed a transit treaty with China to use Chinese land and territory to import and export Chinese goods. There are also possibilities of using three or four feasible Chinese border points in order to trade with China and other foreign countries. China has already developed infrastructure up to Tibetan areas and Nepal has to construct road and bridges and develop infrastructure to start those feasible Chinese borders. China has already joined its rail network up to Sigatsey, which is almost 500 kilometers far from Kerung border. China has plan to link railways up to China Nepal Kerung Rosuwagadhi border. If these borders become ready to transport cargo, Nepal will escape from the grip of India. In fact, Nepalese government should give higher priority to start up Chinese borders.

The government has planned to connect Kathmandu valley with flat (Terai) land by constructing 76.2 kilometers long fast track from Nijgadh to Kathmandu. Nepalese Army has already opened 76.2 kilometers track within stipulated time. The government had decided to handover Indian Construction Company to construct 76.2 Kilometers Nijgadh Kathmandu Fast Track but the government has changed the plan and handed it over to Nepalese Army.

Road Department has been facing different problems to construct road rapidly. Among various problems the major hindrances were insufficient allocation of budgets, allocation of budgets for non-existent projects, scarcity of construction materials (sand and stone), non-response from concerned authorities to solve the problem of land acquisition

and compensation, scarcity of field-staff, non-cooperation from Environment and Forest Department, denial from Reserve National Parks to open track and remove trees to construct the road.

- Whenever price of petroleum products increased, the transporters increased price (fare) in higher ratio whereas fare was not reduced in that ratio when price of fuel was decreased. They did not lose any opportunity to exploit the people.

The transporters had found to be charged excess fare during rush period (Dashain Tihar, Chhath and Holi festivals) which was not ethical and large numbers of people travel at that time and transporters had exploited by charging higher fare to take benefit of increased passengers.

The service providers (driver, conductor, cleaner and ticket booking personnel) had some bitter experiences. According to them, passengers had harassed them unnecessarily to pay full fare and they tried to pay less by bargaining. They had travelled with excess luggage but refused to pay fare for extra luggage. Fake students had compelled them to provide concession tickets. Due to careless pedestrian, several accidents had occurred when they crossed the road unsafely. Due to heavy rain, landslide and political strike the vehicle held in route which prolonged their duty. Long duty made them tired and journey became unsafe. The traffic personnel had demanded bribe showing various faults and loopholes that might be either genuine or false. In the case of cargo, businessmen had tried to pay old or concession fare and they refused to pay for delay or detention in the route or custom office.

In the case of accident, they did not get quick rescue operation, family members of victim or local inhabitants attacked on them if someone was injured/died due to road accident. These incidences might had created situation of insecurity. They damaged or burned the vehicle too. They were dissatisfied with their salary and allowance rate. It was apparent that their job was risky. However, their family did not get proper compensation, if they were seriously injured or died in road accidents.

The vehicle owners had hold that their business was not profitable. They had invested heavy amount, paid regular instalment to bank, provided salary of staffs (even the road was closed due to natural disaster or political strike) but the outcome was dissatisfactory. The authorities

related to transportation demanded bribe by showing different reasons and loopholes. Miserable conditions of road had increased their fuel consumption and repair/maintenance expenditure, driver and conductor hid real collection and exhibited less amount, they had produced false bills of expenses, consumed unlimited alcohol and vomited inside the vehicle. Nepalese government charged very high custom duty and road tax of vehicles in comparison to neighboring country i.e. India, insurance premium amount was also too high, genuine spare parts were not available at reasonable price.

The traffic personnel had pointed out that very few drivers had followed traffic rules and cooperated with them to make travel safe. They penalized the persons who had broken traffic rules and ignored road safety. They checked regularly and sometimes suddenly also. They took legal action against those who had violated traffic rules. Generally, the guilty driver tried to escape without paying fine and if the traffic personnel did not excuse, they had quarreled and tried to influence them by showing power and political approach.

The traffic personnel had dealt with various types of unwarranted activities such as parking of vehicle in no-parking area, enter in one way route by wrong way, drive vehicle unsafely and cross the speed limit, drive vehicle in intoxication, charge excess fare illegally, pick-up or drop passenger in restricted area, drive vehicle without wearing safety belt/helmet, keep more passengers than allowed/available seats, hang passengers on gate, backside and roof, load cargo beyond the limited weight and height, enter in town area in restricted time, use pressurize horn, emit black smoke and pollute environment immensely.

## **CONCLUSION**

The available road network was poor in Nepal. Government should increase budget in these sectors and foreign aid should be mobilized in road construction and repair/maintenance work. Outdated vehicles and twenty years old vehicles should be strictly banned from operation. Those vehicle owners should be penalized who carry excess cargo or keep extra passengers than available/allowed seats. Every year renewal of the vehicle should be permitted only after submission of pollution test certificate. Long route vehicles must have two trained drivers during journey. Loud pressurize horn should be strictly banned.

One separate department should be deployed to check-out those vehicles which were not properly maintained. Poor condition of vehicle was one of the most important factors of road accident. So, registration of such damaged vehicles should be cancelled. In addition, time card must be applied in all routes and should be followed strictly. If the driver breaks the traffic rule or ignores safety measures, heavy amount should be charged as penalty and if same offence is repeated the routes permit, permission of driving license and registration of vehicle should be suspended/cancelled. Syndicate/cartel system was the tool through which transporter had been exploited the people. So it should be abolished from Nepal. Repair and maintenance of road, construction of road, tunnel and bridge should be completed in stipulated time because delay in work had unnecessarily increased the cost and the travelers had to face various problems till completion of project. Like India, Nepal should also sign transit treaty with China for the transportation of goods from foreign countries. However, China has already developed infrastructure at various border points which are connected with Nepal. Nepal should develop infrastructures at border points and construct all weather roads in Nepalese territory as soon as possible.

Nepalese government should encourage Nepalese Army to complete National Pride Project, Nijgadh Kathmandu 76.2 Kilometers Fast Track in time. Similarly, Nijgadh International Airport should be taken into consideration, because only one international airport is still not capable to take load of several international flights in the present situation. Rate of transportation fare should be revised in every quarter. If the cost of fuel is increased or decreased it should be adjusted immediately and should be implemented strictly. Government should establish monitoring team on highways, especially during rush period (Dashain, Tihar, Chhath and Holi festivals) because transporters had exploited passengers at that time. The transporters charged higher fare to take benefit of increased passengers. In fact, such kind of exploitations should be checked by concerned department.

The labors related to transportation sectors should be protected by law and government should create separate law for those labors. The concerned matters are job security, honorable salary, risk bearing by state through insurance or similar other measures. The traffic department should try to reduce human errors and train drivers and conductors and counsel them regarding traffic rules, safety measures and precautions through which

road accident can be reduced. Drivers must not talk with passenger during driving. They should not use mobile phone, do not operate music system or television/video. They must not drink alcohol during duty hours and take rest after four hours long drive compulsorily. Speed of vehicle should not exceed its limit and driving should be according to condition of visibility, road and vehicle.

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