CHAPTER 3
BACKGROUND OF MIZORAM’S TRANSPORT SYSTEM AND OVERVIEW OF THE SOCIO-ECONOMIC PROFILE OF MIZORAM
3.1 Introduction

It is a matter of great academic interest to undertake an analysis of the status and position of the Mizoram State Transport System, which will help us in the study of the working of the State’s transportation system as a whole and its contribution to the Economy in general. The status of the state’s transportation System is mainly obtained from the data as collected through various sources as the Encyclopedia of Mizoram and The Mizoram Statistical Handbook.

The chapter is thus broadly divided into two parts. The first section shows an overview of the socio-economic profile of Mizoram, so that a better understanding of Mizoram as a State and an Economy is presented. The second section focuses on the background and status of The Mizoram State Transport System.

3.2 Socio-Economic Profile of Mizoram

3.2.1 Topography:

The topography of Mizoram is not very different from its other north eastern neighbors. Mizoram topography is conspicuous with the presence of hills and mountain ranges. The tall green hills are molted with free flowing rivers. The eastern side of the state is situated at higher altitude than the western side of the state. The average height of the Mizoram hills is approximately 900 meters. The tallest among the hills is the Phawngpui- Blue Mountain with a height of 2210 meters. (Encyclopedia of Mizoram, pp.36) Mizoram is situate between 21°58' N to 24°35' N latitude and 91°15' E to 93°29' E longitude covering an area of 21,081 sq.km. The length of the state from north to south is 277km and the width from east to west is 121 km. Mizoram is flanked by Manipur state and Cachar District of Assam in the north, Chin Hills of Myanmar in the east, Chittagong Hills of Bangladesh and Tripura state in the west and on the south Arakan Hills of Myanmar. Mizoram shares its borders over a stretch of 123 km with Assam, 66 km with Tripura and 95 km with Manipur. The international border with Bangladesh extends over 318 km and over 404 km with Myanmar.
The hill slope are steep and are separated by rivers which flow either towards the north or to the south creating deep gorges in between the hill ranges.

3.2.2 Climate:

Mizoram enjoys a pleasant climate. It is generally cool in summer and not very cold in winter. During winter, the temperature varies from 9°C to 21°C and in summer it varies between 21°C to 30°C. From the Bay of Bengal, the southwest monsoon visits the state around May, lasting up to September. The annual rainfall is fairly heavy and distributed evenly, and the average annual rainfall of Mizoram is 2500 mm. Thunderstorm with heavy downpour during April to May is common (Encyclopedia of Mizoram, pp.464).

The upper part of the hills is, predictably cold, cool during the summer, while the lower reaches are relatively warm and humid. Storms break out during march-April, just before or around the summer. The four months between November and February are winter in Mizoram which is followed by the spring. The storms come in the middle of April to herald the beginning of the summer. The mercury starts rising and the hills come under the cover of a haze. The three months from June to August are known as the rainy season. The climate is at its moderate best in the two autumnal months, September and October, when the temperature moves between 19 to 24 centigrade degree Celsius.

3.2.3 Demography:

The original racial stock in Lushai Hills was Mongoloid or Tibeto Burman origin. The “Lushai” the principal tribe invaded this territory in early 19th century. “Sailo” is the principal clan amongst the Lushais. The Mizo Society has maintained its ethno-cultural values and is highly organized and disciplined (Encyclopedia of Mizoram).
3.2.4 Languages

Mizo is the official language and the most widely used language for verbal interactions, but English, being important for education, administration, formalities and governance, is widely used. The Duhlian dialect, also known as the Lusei, was the first language of Mizoram and has come to be known as the Mizo language. The language is mixed with other dialects like the Hmar, Mara, Lai, Paite, Gangte, etc. Christian missionaries developed the Mizo script. Writing is a combination of the roman script and hunterian transliteration methodology with prominent traces of a phonetics-based spelling system. There are 25 letters in the alphabet: a, aw, b, ch, d, e, f, g, ng, h, i, j, k, l, m, n, o, p, r, s, t, ṭ, u, v, z. Mizo is one of the languages with official status in India (at the state level). Hindi is a compulsory subject for all students up to eighth standard and has a growing usage.

3.2.5 Religion in Mizoram:

The main religion in Mizoram is Christianity. The religion of Christianity plays an important role in shaping the socio-cultural life of the people of the State. The people of this state are strong followers of Christianity. The majority of population is Protestants. One of the significant aspects associated with the Christian religious group of Mizoram is the Mizoram Churches. The Christian often make huge donations to these churches. The popularity of the Christian religion in Mizoram can be understood from the statistical fact that about 83.81 % of the total population of the State in the year 1981 was Christian by faith. The denominations of Mizoram church include many different groups like the United Penticostal, Welsh Presbyterian, Seventh-day Adventist, Salvation Army, London Baptist, Roman Catholic, Sabbath Church and also the sects created by the Jews and other cult leaders. Each denomination has a separate clergy. There are also some other religious groups in Mizoram, which can be termed the minority religious groups. The people of these groups follow the religions of Buddhism, Judaism, Hinduism and Islam. An important fact about the Jew population of Mizoram is that about half of the total Jew population of Indian lives in the state (Encyclopedia of Mizoram).
3.2.6 Cultural and Historical Background:

Mizoram was inhabited by the tribal groups of Tibeto-Burmese race. During the period 1750-1850 migrations led to settlements in the hills. The tribal groups were governed under a hereditary chieftainship. The Lushais are the most predominant tribe besides a few others like Pawi, Lakher, Chakma, Riang. Agriculture is the main occupation of this region. During the British period, Mizoram became a part of the territory of the British India in 1891 though the administration of the villages was left to the local chieftains. The influence of the British also lead to mass conversion into Christianity. After independence of India, Mizoram continued to be part of Assam. In 1966 the Mizos resorted to the use of armed struggle to put forth their demands to set up a homeland. It was in 1986 that peace was established and Mizoram joined the main stream with the Indian Union (Encyclopedia of Mizoram).

3.2.7 People:

The inhabitants of Mizoram are known by the generic name of Mizo, which literally means people (mi) of the hills (zo). There are a number of separate tribes under the general ethnic broad group of Mizo. Mizos included the following tribes- Ralte, Paite, Dulien, Poi, Sukte, Pankhup, Jahao, Fanai (Molienpui), Molbem, Taute, Lakher, Dalang, Mar, Khuangli, Falam (Tashous), Leillul and Tangur (Encyclopedia of Mizoram).

Historians believe that the Mizos are a part of the great wave of the Mongolian race spilling over into the eastern and southern India centuries ago. Their sojourn in western Burma, into which they eventually around seventh century, is estimated to last about two centuries. They came under the influence of the British missionaries in the 19th century, and now most of the Mizos are Christians. One of the beneficial results of missionary activities was the spread of education. The missionaries introduced the roman script for the Mizo language and formal education. The cumulative result is high percentage 95 % (as per national sample survey 1997-98) which is considered to be highest in India. The Mizos area distinct community and the social unit was the village. Around it revolved the life of a Mizo. Mizo village is usually set on the top of a hill with the chief's house at the centre and the bachelor’s dormitory called zawlbuk prominently. In a way the focal point in the village was
the zawlbuk where all young bachelors of the village slept. Zawlbuk was the training ground, and indeed, the cradle wherein the Mizo youth was shaped into a responsible adult member of the society.

3.2.8 Mizoram ethnicity:

Mizoram ethnicity comprises a variety of social elements like the different tribal groups, religions, rituals and festivals. The people of this region have kept alive their age-old socio-cultural lineage. Their colorful and bright clothes and traditional customs are still in use at this hilly part of India. The state of Mizoram has a number of ethnic groups, which constitute the basic structure of Mizoram society. The names of the major ethnic groups of the state are Pawis, Lushais, Raltes, Paihtes, Hmars, Maras, Pang and Kukis. One of the fascinating aspects of Mizoram ethnicity is their ethical code. The focus of the ethical code of the Mizos is the tlawmngaihna. This term implies that each person who belongs to this is cordial, helpful, soft-hearted and sociable. The ethnic character of Mizoram is clearly felt in the dances and festivals of the region (Encyclopedia of Mizoram).

The diversity of tribal groups reflects the historical immigration patterns. Different tribes and sub-tribes arrived in the present Mizoram, in successive waves and settled down in different parts of the state. Further, as they arrived, there were raids, fear of raids and inter-tribal feuds. The resulting isolation and separation created numerous tribes and sub-tribes. The Mizo people usually suffix their descriptive given names with their tribe.

Other than tribal groups, other ethnic groups inhabit Mizoram. For example, Nepal (Gorkhas) were encouraged to settle in Aizawl area and other parts of Mizoram during the British colonial times. Thousands of their descendants are now residents of Mizoram.
3.2.9 Social life:

The fabric of social life in the Mizo society has undergone tremendous changes over years. Before the British moved into the hills, for all practical purposes the village and the clan formed units of Mizo society. The Mizo code of ethics or dharma moved around ‘tlawmngaihna’, an untranslatable term meaning on the part of everyone to be hospitable, kind, unselfish and helpful to others. Tlawmngaihna to Mizo stands for the compelling moral force which finds expression in self-sacrifice for the service of the others. The old belief, Pathian is still used in term of God till today. The Mizos have been enchanted to their new-found faith of Christianity with so much dedication and submission that their entire social life and thought-process underwent transformation as guided by the Christian church organization and their sense of values has also undergone drastic change. The Mizos are a close-knit society with no class distinction and no discrimination on grounds of sex. Ninety per cent of them are cultivators and the village exists like a big family. Birth of a child, marriage in the village and death of a person in the village or a community feast arranged by a member of the village are important occasions in which the whole village is involved.

3.2.10 Economy of the state:

The economy of Mizoram is largely dependent on agriculture. The agrarian economy accounts for the livelihood of more than 70% of the state’s populace. The craggy hilly terrains are not conducive to cultivation of crops. However, a regular distribution rainfall for the whole year through and the fertile temperate soils has resulted in the springing up of dense forests enveloped in lush foliage. In spite of the rugged terrains, the favorable climatic conditions and the rich soil have led to extensive jhum cultivation in the state. Horticultural crops are grown for economic purposes. Agriculture forms the primary sector in the economy of Mizoram. Thus all subsidiary industries also happen to be agro-based. Mizoram houses a small repository of minerals. Thus mining also contributes to a small part of the economy. In fact, majority of the mines in Mizoram dig up the hard tertiary rocks that are used as building materials. A large number of small scale industries that sell exquisite bamboo works as well. As handlooms made apparels also contribute to the state’s economy (Encyclopedia of Mizoram, pg 76).
Mizoram gross state domestic product (gsdp) in 2011-2012 was about 6991 crore (us$1.1 billion). The state's gross state domestic product (gsdp) growth rate was nearly 10% annually over 2001-2013 period. With international borders with Bangladesh and Myanmar, it is an important port state for Southeast Asian imports to India, as well as exports from India.

The biggest contributors to state's gross domestic product growth are agriculture, public administration and construction work. Tertiary sector or service sector continued to have the largest contribution to the gsdp with its share hovering between 58 per cent and 60 per cent during the past decade.

As of 2013, according to the reserve bank of India, 20.4% of total state population is below poverty line, about same as the 21.9% average for India. Rural poverty is significantly higher in Mizoram, with 35.4% below the poverty line compared to India’s rural poverty average of 25.7; while in urban areas of Mizoram, 6.4% are below the poverty line.

Mizoram has a highly literate work force, with literacy rate of nearly 90% and widespread use of English. The state has a total of 4,300 kilometers of roads of which 927 kilometers are high quality national highways and 700 kilometers of state highways. The state is developing its kolodyne river for navigation and international trade. Mizoram's airport is at the capital city of Aizawl. The state is a power deficit state, with plans to develop its hydroelectric potential. After agriculture, the major employer of its people includes handloom and horticulture industries. Tourism is a growing industry. In 2008, the state had nearly 7,000 registered companies. The state government has been implementing special economic zones (sezs) to encourage economic growth.
3.2.11 Political and Administration:

The Mizoram state legislative assembly has 40 seats and the village councils are the grassroots of democracy and leadership in Mizoram. The state has a chief minister, council of ministers with a portfolio of ministries responsible for different priorities and role of the government.

There are three autonomous district councils (adcs) for ethnic tribes in Mizoram, namely Chakma autonomous district council (in the southern part of state, bordering Bangladesh), Lai autonomous district council (ladc) for Lai people in southern part of the state, and Mara autonomous district council (madc) for Mara people in the southern-eastern corner.

There are eight districts in Mizoram. A district of Mizoram is headed by a deputy commissioner who is in charge of the administration in that particular district. The deputy commissioner is the executive head of the district, responsible for implementing government regulations, the law and order situation in the district, as well as being responsible for tax collection for the government. A superintendent of police is responsible for the police administration of each district. These officials work with the village councils in each.

3.2.12 Districts of Mizoram

When Mizoram became a union territory on 21 January 1972, it was divided into three districts: Aizawl, Lunglei and Chhimtuipui. Later five more districts were carved out of the erstwhile three districts. Mizoram has a total of 8 districts. A district of Mizoram is headed by a deputy commissioner who is over all in-charge of the administration in that particular district. He has to perform triple functions as he holds three positions: at once he is the deputy commissioner, the district magistrate and the collector. As a deputy commissioner he is the executive head of the district with multifarious responsibilities. As the district magistrate he is responsible for maintaining the law and order situation in the district. As the collector he is the chief
revenue officer of the district, responsible for revenue collection and recovery. The
police administration in the district is under the control of superintendent of police
(sp). To decentralize the authority in administrative setup, a district is divided into one
or more subdivisions, further divided into thesis and blocks (Encyclopedia of
Mizoram). The districts of Mizoram reflect the unique traditional heritage and cultural
ancestry of the region that has percolated to the modern era from the ancient times.
Easily accessible by roads, the eight districts of Mizoram are well connected by good
roads, railways and air. The state government of Mizoram takes special measures to
develop the backward regions of the districts. Headed by experienced ministers and
administrative officials, the districts of Mizoram have helped to raise the standard of
living.

Champhai:

Champhai district of Mizoram covers a total area of 3186 sq.km. The district of
Champhai holds a total population of 1, 01,389, according to the census of 2001.
Champhai is a commercial town located near Myanmar border, 194 kms from Aizawl.
Set on an altitude of 1678 meters, the town overlooks a patch of flat land which
happens to be the largest plain area in the state and also commands a good view of the
adjoining hill ranges of Myanmar from which the forefathers of the Mizos immigrated
ages ago. The breezy hills around here are lush and strewn with beautiful
rhododendron blossoms. Within a few kilometers away are some villages of historical
significance where the age-old Mizo way of life is still preserved. The town is 27 kms
from zokhawthar, the border township through which the indo-Myanmar trade is
being conducted and hence Champhai is an ideal shopping place for various imported
goods. The town is also a convenient base for trekking and visiting landmarks and
historical places in the vicinity including rih dil, the legendary lake located 5 kms
within Myanmar which is associated with the Mizo animist religion of yore.
(Encyclopedia of Mizoram). Popularly referred to as the Rice Bowl of the state of
Mizoram, Champhai earn its revenues from the agricultural products. (Encyclopedia
of Mizoram). Blessed with the natural splendor, Champhai attracts several tourists
from far and wide who are enthralled with the captivating sight of the place
(Encyclopedia of Mizoram).
**Aizawl:** Aizawl is the most important administrative district of Mizoram with its headquarters located at Aizawl city. The district is situated between the Tlawng river valley in the west and Tuirial river valley in the east. The district is home to the Mizo tribes who are said to have migrated from Myanmar’s chin hills 300 years ago. Aizawl, the capital city of Mizoram is the political, commercial, educational and cultural hub of the state. Today it houses all important government offices, the state assembly house and the civil secretariat. It also offers some worth visiting spots including some beautiful churches and markets (Encyclopedia of Mizoram). Spread over a total area of 3576sq.km, Aizawl is administratively divided into three major subdivisions of Sakawrdai SDO (S), Saitual SDO (S) and Aizawl SDO (S). The important towns of the district of Aizawl are Aibawk, Saitual, Darlawn, Aizawl, Phullen and Tlangnuam. The district of Aizawl is easily accessible by road and air. The well maintained roads of the district connect it with the rest of the state of Mizoram. The district of Aizawl has 59.49% of the forest area. Aizawl boasts of a vast resource of minerals of limestone, coal and crude oil which has helped to strengthen the economic base of the state of Mizoram. By air: Aizawl, the capital of Mizoram is connected to Kolkata, (1 hr), Imphal (30 min) and Guwahati with regular/weekly flights. Indian airlines and some private airlines operate flights to/from Aizawl on weekly basis. The nearest railhead is Silchar (Assam) about 184 km away from Aizawl. National highway no. 54 connects Aizawl with rest parts of the country via Silchar. Buses and taxis are available from Silchar to Aizawl (6-8 hrs). Night bus services are also available. Aizawl is also accessible by road from Shillong and Guwahati. Aizawl is 506 km from Guwahati by road.

**Kolasib:**

One of the prominent districts of Mizoram, Kolasib encompasses a total area of 1383 sq.km. Kolasib is an administrative district of Mizoram with its headquarters located at Kolasib town. There are some worth visiting sites in and around the district which include Dampa wildlife sanctuary and Tlawng river. It is bounded by Cachar district and Hailakandi district, Assam on the north and North West respectively. On the south and east by Aizawl district, Mizoram and on the south west by Mamit district, Mizoram. The location of the district occupies an important site as it is the main
stream of road communication from other state of Mizoram. National highway no. 54 passes through the middle of the district from north to south direction. The only rail head in the state located at Bairabi. The only centre for military counter insurgency & jungle warfare school in the country is located at Vairengte, which is the largest and well known to the whole of Asia as well as in the world (Encyclopedia of Mizoram). Kolasib district is divided into three major sub divisions of Vairengte SDO (S), Kawnpui SDO (S) and Kolasib SDO (S) for convenience of district administration. Kolasib is easily reachable by well maintained roads, railway tracks and air. Lengpui airport of Aizawl is the nearest airport. It is well connected with Guwahati, Silchar and Kolkata, through Vayudoot service. The nearest railway station is Silchar railway station (Encyclopedia of Mizoram).

**Lunglei**

The district of Lunglei encompasses a total area of 4,538 sq.km (Encyclopedia of Mizoram). Lunglei is the second largest city of Mizoram and is also the headquarters of Lunglei district in southern Mizoram. It is an ideal base for nature lovers for exploring the surrounding areas which are rich in flora and fauna, hamlets and landmarks linked with folklores and legends. A 175 kms drive from Aizawl, Lunglei is loftier than Aizawl, perched at an altitude of 1222 meters. An engraved image of Buddha found near Mualcheng village, about 50 kms from the town remains an enigma till date since no other Buddhist relics has been found elsewhere in the state (Encyclopedia of Mizoram). The district of Lunglei has been further divided into major sub divisions of Hnahthial SDO (S), Lunglei SDO (S) and Tlabung SDO (S) for the administrative convenience of the district officials. As of 2001 India census, Lunglei had a population of 47,355. Males constitute 52% of the population and females 48%. Lunglei has an average literacy rate of 84%, higher than the national average of 59.5%: male literacy is 84%, and female literacy is 83%. In Lunglei, 14% of the population is under 6 years of age.
Lawngtlai:

Lawngtlai is one of the eight administrative districts of Mizoram with its headquarters at Lawngtlai town. The districts shares common boundaries with Lunglei and Saiha district in the north and south respectively. It is located in the southern most part of Mizoram having common international borders with Bangladesh in the west and Myanmar in the East Lawngtlai district has some peculiarity. There are two autonomous district councils within the district namely the lai autonomous district council (ladc) and the Chakma autonomous district council (cadc) with their headquarters at Lawngtlai and Kamalanagar respectively. These two autonomous regions are administered in accordance with the provisions of the sixth schedule of the constitution of India.

Mamit:

Spread over 3026 sq.km, Mamit is one of the prominent districts of Mizoram. Situated at a distance of 112 km from the capital of Mizoram. Mamit is an administrative district of Mizoram with headquarters at Mamit town. The district is bounded on the north by Hailakandi district of Assam state, on the west by north Tripura district of Tripura state and Bangladesh, on the south by Lunglei district and on the east by Kolasib and Aizawl districts. The district occupies an area of 3025.75 km². Mamit town is the administrative headquarters of the district. In 1985 Mamit district became home to Dampa tiger reserve, which has an area of 500 km² (Encyclopedia of Mizoram). Comprising of three major sub divisions, mamit district is divided into Kawrthah SDO (S), Mamit SDO (S), and West. Phaileng SDO (S) for administrative convenience. Mizos living in Mamit are known for their traditional folk and community dances like Khuallam, Chheih lam, Sarlamkai and Cheraw. Various local handicrafts, toys and shawls can be easily found in the small markets in the town. The bamboo pop-up gun is a popular tribal item available in the region. This gun is made using bamboo, which forms the barrel.
Saiha:

Saiha district is situated on the southernmost fringe of the north-eastern region of India and is bordering Myanmar on the eastern and southern side. Administratively, it is divided into two blocks- Saiha and Tuipang. Saiha block has 37 village councils and Tuipang block has 41 village councils. The district area comes under Mara autonomous district councils under the sixth schedule of the constitution of India. The councils function like mini- legislative assemblies with powers to pass their own laws and rules, subject to ratification by the administrator. Saiha is the capital town of the Maraland autonomous district council. It is the third most developed and also the third most populous town in Mizoram state apart from the state capital - Aizawl and Lunglei. It is also the capital of the third largest tribe - the Maras in Mizoram. It is one of the eight district headquarters in Mizoram and the seat of one of the first three Christian mission fields in Mizoram.

Serchhip:

Serchhip spreads over a total area of 3576 sq.km (Encyclopedia of Mizoram). Serchhip is the headquarters town of Serchhip district in the Indian state of Mizoram, and also the headquarters of Serchhip Sadar subdivision. It lies in the central part of mizoram, and 112km away from the state capital city of Aizawl. The district has the highest literacy all over india. The origin of the name comes from citrus trees found on top of the first hill of the then Serchhip village. The word meaning of ser-chhip is 'citrus-on-top'. In addition to the former Serchhip village, the town area now included new Serchhipand Chhiahtlang villages .Agriculture is one of the important occupation. Being situated near mat river valley, Serchhip is the main producer of cash crops in Mizoram, famous for its cabbages and mustards. It lies between the two very important rivers of mat and Tuikum. River Tuikum is a public drinking water for Serchhip and river mat is irrigation water for Zawlpui, the rice bowl of Serchhip. The annual temperatures range from a high of 34°C to a low of 10°C. The Serchhip district is divided into three major sub divisions of North Vanlaiphai SDO (S), Serchhip SDO(S) and Thenzawl SDO (S) for the convenience of district administration (Encyclopedia of Mizoram). Lengpui airport, located at a distance of 154 km from Serchhip town provides connection with Kolkata Netaji Subhash Chandra Bose international airport, Guwahati airport and Imphal airport. Air India, kingfisher
airlines, jet airways are the three regular airlines which operate flights to and from Lengpui airport. The north east shuttle also links the state with Guwahati. Serchhip is connected by road with Silchar through national highway 54, with agartala through national highway 40 & with Imphal through national highway 150. Taxis, auto rickshaws and town buses are available public transports in Serchhip.

3.2.13 Industry

Mizoram faces difficulties in the advancement of industries. Lack of transport infrastructure is one of the major drawbacks. Other problems faced by the state include shortage of electricity, capital, telecommunication and export market access.

Mizoram has two industrial estates at Zuangtui and Kolasib. Another software technology park is being established in Mizoram university campus. The state government has acquired 127 acres of land in Khawnuam for development of the indo-Myanmar border trade township.

3.2.14 Education

The first primary school was set up in 1898 at Aizawl by Christian missionaries. The state has long enjoyed higher literacy rates than average literacy rates for India. In 1961, the literacy was 51%. By 2011 census, it had reached 92%, compared to 74% average for India. Mizoram is second only to Kerala. There were 3,894 schools in Mizoram as of 2012. Of these, 42% are publicly owned and managed by central/state
governments, 28% are private without government subsidies, 21% are private with government subsidies, and the rest are primary and middle schools that are government financed run by three autonomous district councils of Mizoram. The teacher-pupil ratio is about 1:20 for primary, 1:9 for middle school, 1:13 for high, and 1:15 for higher secondary schools. There are several educational establishments under the umbrella of the ministry of education, including universities, colleges and other institutions. Within Mizoram University, there are 29 undergraduate departments including 2 professional institutions affiliated with the university. The state had 22 other colleges, and the total college enrollment was approximately 10,600 students in 2012. Other well known institutes are national institute of technology Mizoram, icfai university, Mizoram, college of veterinary sciences & animal husbandry, Selesih, Aizawl, Mizoram and regional institute of paramedical and nursing Aizawl.

3.2.15 Energy

Mizoram is not self-sufficient in power. In 2012, the state had a demand for 107 mw of power, but had an effective installed capacity of only 29.35 mw. To bridge the gap, it purchased electricity from the national grid of India.

Of the total installed power generation capacity, all 29.35 mw came from hydel. The state also has 22.92 mw of thermal power and 0.50 mw of diesel generating set as of March, 2012. The thermal and diesel generating stations were kept on standby mode owing to their high cost of operation, and because it was cheaper to buy the power from India’s grid than to operate these standby units.

The hydroelectric power potential of Mizoram was assessed to be about 3600 mw in 2010 and about 4500 mw in 2012. If even half of this is realized, the state could supply all its citizens and industry with 24/7 electricity, as well as earn income from India’s national grid. The topography of Mizoram hydroelectric resources is ideal for power projects. The following rivers are suited for hydel projects with minimal
impact on its biosphere - Tuivai, Tuivawl, Tlawng, Tut, Serlui, Tuirial, Kolodyne, Tuichang, Tuipui, Tiau and Mat. Beyond the major rivers, Mizoram has many small but perennial streams and rivulets with ideal condition for developing micro/mini and small hydroelectric projects. The state has proposed projects to attract private investments on build, own, operate and transfer (boot) basis with financial assistance in rehabilitating its citizens were they to be affected by the project. The largest proposed project is expected to be on kolodyne (460 mw), and there are dozens of small to micro projects that have been identified.

3.2.16 Transport infrastructure

The winding roads of Mizoram (top), and a close up of a road near Aizawl.

The state is the southernmost in India’s far northeast, placing Mizoram in a disadvantageous position in terms of logistical ease, response time during emergencies, and its transport infrastructure. Prior to 1947, the distance to Kolkata from Mizoram was shorter; but ever since, travel through Bangladesh has been avoided, and traffic loops through Assam an extra 1,400 kilometers to access the economic market of west Bengal. This remoteness from access to economic markets of India is balanced by the state's closeness to Southeast Asian market and its over 700 kilometers of international boundary.

Road network: In 2012, Mizoram had a road network of around 8,500 kilometers (5,300 mi) including unsurfaced village roads to surfaced national highways; and there were 106,000 registered motor vehicles. The village roads are primarily single lane or unmetalled tracks that are typically lightly trafficked. Mizoram had 871
kilometers of national highways, 1,663 kilometers of state highways and 2,320 kilometers of surfaced district roads. All of Mizoram’s 23 urban centers and 59% of its 764 villages are connected by all weather roads. However, landslide and weather damage to these roads is significant in parts. The state is connected to the Indian network through Silchar in Assam through the national highway 54. Another highway, nh-150 connects the state's Seling, Mizoram to Imphal, Manipur and nh-40a links the state with Tripura. A road between Champhai and Tiddim in Burma has been proposed and is awaiting cooperation from the Burmese authorities.

**Airport:** Mizoram has an airport, Lengpui airport near Rizal and its runway is 3,130 feet long at an elevation of 1,000 feet. Aizawl airport is linked from Kolkata – a 40-minute flight. Inclement weather conditions mean that at certain times the flights are unreliable. Mizoram can also be reached via Assam’s Silchar airport, which is about 200 kilometers (120 mi), around 6 hours) by road to Aizawl.

**Railway:** There is a rail link at Bairabi rail station but it is primarily for goods traffic. The nearest practical station to Mizoram is at Silchar in Assam. Bairabi is about 110 kilometers (68 mi) and Silchar is about 180 kilometers (110 mi) from the state capital. The government is now planning to start a broad gauge Bairabi Sairang railway connection for better connectivity in the state.

**Helicopter:** A helicopter service by Pawan Hans has been started which connects the Aizawl with Lunglei, Lawngtlai, Saiha, Chawngte, Serchhip, Champhai, Kolasib, Khawzawl and Hnahthial.

**Water ways:** Mizoram is in the process of developing water ways with the port of akyab sittwe in Burma along its biggest river, Chhimtuipui. It drains into Burma's Rakhine state, and finally enters the Bay of Bengal at Akyab, which is a popular port in Sittwe, Burma. The Indian government considers it a priority to set up inland water ways along this river to trade with Burma. The project is known as the Kaladan multi-modal transit transport project. India is investing $103 million to develop the Sittwe port on Burma’s northern coast, about 160 kilometers (99 mi) from Mizoram. State peace and development council of Burma has committed $10 million for the venture. The project is expected to be complete in 2015, and consists of two parts. First, river Kaladan (or Kolodyne, Chhimtuipui) is being dredged and widened.
from the port at Sittwe to Paletwa, in chin province, adjacent to Mizoram. This 160 km inland waterway will enable cargo ships to enter, upload and offload freight in Paletwa, Myanmar; this is expected to be complete in 2014. As second part of the project, being constructed in parallel includes a 62 km two-lane highway from Paletwa (also known as Kaletwa or Setpyitpyin) to Lomasu, Mizoram. Additionally, an all weather multilane 100 km road from Lomasu to Lawngtlai in Mizoram is being built to connect it with the Indian national highway 54. This part of the project is slated to be complete by 2015. Once complete, this project is expected to economically benefit trade and horticulture exports of Mizoram, as well as improve economic access to 60 million people of landlocked northeast India and Myanmar.

**Transport:**

Roads: Mizoram is connected through National Highway 54. NH-150 connects the state with Seling, Mizoram to Imphal, Manipur. NH-40 A links the state with Tripura. A road between Champhai and Tiddim in Burma will soon connect the two countries.

Air Service: Mizoram has only one airport, Lengpui Airport, near Aizawl and this airport can be reached from Kolkotta by Air is 40 minutes. Mizoram is also accessible from Kolkotta via Silchar Airport, which is about 200 km from the state capital of Mizoram.

Railway: Mizoram can be easily reached by train at Bairabi rail station or via Silchar. Bairabi is about 110 km, where Silchar Airport is about 180 km from the state capital.

Water Ways: Mizoram is in the process of developing water ways with the port of Akyab Sittwe in Burma along Chhintuipui River. India is investing $103 million to develop the Sittwe port on Burma’s northern coast, about 160 km from Mizoram. Military government of Burma committed $10 million for the venture, which is part of the Kaladan Multipurpose project (Encyclopedia of Mizoram, pg 11).
3.3 Performance of Mizoram State Transport

3.3.1 Overall Performance of Mizoram State Transport

Table 3.1: Overall Performance of Mizoram State Transport

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fleet Strength (MST)</td>
<td>59</td>
<td>55</td>
<td>29</td>
<td>28</td>
<td>60</td>
<td>54</td>
<td>55</td>
<td>33</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>2</td>
<td>No of route covered</td>
<td>25</td>
<td>27</td>
<td>29</td>
<td>22</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>21</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Distance covered (route length)km</td>
<td>311</td>
<td>291</td>
<td>350</td>
<td>380</td>
<td>308</td>
<td>308</td>
<td>308</td>
<td>246</td>
<td>252</td>
<td>150</td>
</tr>
<tr>
<td>4</td>
<td>Average daily passenger</td>
<td>356</td>
<td>344</td>
<td>345</td>
<td>349</td>
<td>400</td>
<td>376</td>
<td>286</td>
<td>231</td>
<td>176</td>
<td>150</td>
</tr>
<tr>
<td>4</td>
<td>No of buses operated (Serviceable)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>54</td>
<td>52</td>
<td>49</td>
<td>31</td>
<td>33</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Mizoram Statistical Handbook 2004-2014

From the table 3.1, it can be seen that the fleet strength has decreased substantially over the years from 2004 to 2014; as also the number of route covered. The distance covered in kms have also reduced over the years from 3115 kms in 2004-2005 to almost its half i.e. 1507 kms in 2013-2014.

The average daily passenger has also decreased since to more than its half from 2004-2014.

This reduction in the number of average daily passenger is due to the increase in privately owned vehicle for transportation. Also, the availability of other means of
transportation such as maxi cabs and sumo services have led to its considerable decrease.

3.3.2 Average Daily Passenger (MST)

Figure 3.1 showing Average Daily Passenger (MST) per year from 2004-2014

The reduction in the use of MST buses have decreased tremendously from 2004-05 (356 persons) to 2013-14 (150 persons) daily. In a span of 10 years, i.e. from 2004-2014, the number of daily passengers was an all time high in the year 2008-2009 with 400 passengers daily. As evident from figure 3.1, we can analyze that the average number of passengers daily from the year 2004-2014 is 301.3 i.e. 301 persons.
The Mizoram State Transport buses have shown a gradual decline in its use over the years. This is primarily due to the increased number of other means of transportation which are basically substituted by privately owned maxi cabs for public use, sumos and privately owned buses, especially in the case of Aizawl city.

3.3.3 Distance and Route covered by MST

Figure 3.2 showing Distance and Route covered by MST buses per year (2004-2014)

The distance covered by MST (Mizoram State Transport) buses have significantly decreased over the years in a span of ten years (2004-2014), from 3115 to 1507; a dip to half of its 2004 level. The same goes for the number of routes covered by the buses, where it declines gradually over the years.

Source: Mizoram Statistical Handbook 2004-2014
3.3.4 Number of Buses serviceable

Figure 3.3 showing the number of buses serviceable between 2008 -2014 (MST)

![Graph showing number of buses serviceable from 2008 to 2014](image)

Source: Mizoram Statistical Handbook 2008-2014

The number of buses operated between the years 2008 to 2014 have shown a gradual decline with every passing year. The decline rate was highest in the year 2011-2012, 56.73%, which was from 49 buses in 2010-2011 to 31 buses in 2011-2012. The average number of buses operated in a span of 7 years i.e. 2008-2014 is 41.5 i.e. 42 buses a year.

3.4 PERFORMANCE OF MIZORAM STATE TRANSPORT AS A WHOLE: (SUMMARIZATION)

The fleet strength has decreased substantially over the years from 2004 to 2014; in tandem with number of routes covered. The distance covered in kms has also gone down over the years from 3115 kms in 2004-2005 to almost its half i.e. 1507 kms in 2013-2014.
The average daily passenger has since then decreased to more than its half from 2004-2014. This reduction in the number of average daily passenger is due to the increased number of privately owned vehicle for transportation. Also, the availability of other means of transportation such as maxi cabs and sumo services have led to its considerably decreases. The reduction in the use of MST buses have reduced tremendously from 2004-05 (356 persons) to 2013-14 (150 persons) daily. In a span of 10 years, i.e. from 2004-2014, the number of daily passengers was an all time high in the year 2008-2009 with 400 passengers daily. The average number of passengers daily from the year 2004-2014 is 301.3 i.e. 301 persons.

Figure 3.4 - Growth rate of the Performance of Mizoram State Transport (MST)

Source: Mizoram Statistical Handbook 2004-2014

The Mizoram State Transport buses have shown a gradual decrease in its use over the years. This is primarily due to the increased number of other means of transportation which are basically substituted by privately owned maxi cabs and
motor cabs for public use, sumos and privately owned buses, especially with reference to Aizawl city.

The distance covered by MST (Mizoram State Transport) buses have significantly decreased over the years, a span of 2004-2014, from 3115 to 1507; a decrease to its half by 2014. The same goes for the number of routes covered by the buses, where it declines gradually over the years. The number of buses operated between the years 2008 to 2014 have shown a gradual decline with every passing year. The decline rate was highest in the year 2011-2012, 56.73%, which was from 49 buses in 2010-2011 to 31 buses in 2011-2012. The average number of buses operated in a span of 7 years i.e. 2008-2014 is 41.5 i.e. 42 buses a year.

3.4.1 NUMBER OF VEHICLES ON ROAD:

Figure 3.5 showing the total number of vehicles on road per year from 2008-2014 in Mizoram

Source: Mizoram Statistical Handbook 2008-2014
The total number of vehicles on road in 2008-2009 was 69831 whereas in 2013-2014, it came to 137225, an increase in the number of vehicles in Mizoram by 67394 which is an increase of almost to a double (96.51%) over a span of 6 years.

The number of vehicles on road shows an increasing trend from 2008-2014. The growth rate in 2009-2010 was 14.75 %, in 2010-2011, the growth rate was 14.71%, in 2011-2012, the growth rate was 15.42%, in 2012-2013, it was 14.34%, in 2013-2014, and the growth rate was 13.10%. The average growth rate for the year, 2009-2010, 2010-2011, 2011-2012, 2012-2013, and 2013-2014 was 14.64 %.

Figure 3.6 showing the Growth rate of vehicles on road, 2008 to 2014 (in %)

Source: collated from Mizoram Statistical Handbook, 2008-2014
Although the Road roller is not the most in numbers on road in Mizoram, its growth rate comes to 360%, the highest among vehicles on road in Mizoram between 2008 and 2014. The minimum growth rate occurs in trailers, a mere 5.1% in 2008-2014.

Figure 3.7 showing vehicle distribution on road 2008-09 (in %)

<table>
<thead>
<tr>
<th>vehicles on road (2008-2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>two wheeler</td>
</tr>
<tr>
<td>motor car</td>
</tr>
<tr>
<td>jeep</td>
</tr>
<tr>
<td>motor cab</td>
</tr>
<tr>
<td>gypsy</td>
</tr>
<tr>
<td>truck &amp; lorry</td>
</tr>
<tr>
<td>Auto rickshaw</td>
</tr>
<tr>
<td>maxi cab</td>
</tr>
<tr>
<td>contract carriage (bus)</td>
</tr>
<tr>
<td>excavator</td>
</tr>
<tr>
<td>others</td>
</tr>
</tbody>
</table>

Source: collated through Mizoram Statistical Handbook 2008-2014

In 2008-2009, as displayed in the pie chart, the majority, 50% of the total vehicle on road was that of two wheelers. The percentage of two wheelers on road was very large as compared to other vehicles. The second highest vehicle in the distribution was the motor car, 14% of the total distribution. 11% of the total vehicles on road in 2008-09 were the jeeps followed by motor cars with 7%. 5% on road were the trucks & Lorries
and auto rickshaws each and gypsies with 3%, maxi cabs with 2%; buses and excavators with 1% each the remaining 1% by others including ambulances, fire fighters, recovery vans, tractors, trailers, Mac cranes and prison vans.

Figure 3.8 showing comparison of distribution of vehicles on road 2008-09 and 2013-14 (in %)

Source: collated from Mizoram Statistical Handbook

Form figure 3.8, it can be seen that two wheelers contribute most to the population of vehicles on road, both in 2008-09 and 2013-14, both significantly at 50%.
3.4.2 REVENUE COLLECTED FROM MOTOR VEHICLES:

Figure 3.9 showing the total revenue collected from motor vehicles 2004-2015 (in rupees)

![Bar chart showing revenue collected from motor vehicles 2004-2015](image)

Source: Mizoram Statistical Handbook 2004-2014

Over a period of ten years, 2004-2014, the total revenue collected from motor vehicles by the Mizoram State Transport department increased from Rs.3926700 in 2004 to Rs.235522776 in 2014; the increase comes to a whopping 500% in a span of
10 years. The total revenue collected in 2014 was around six times to that of the total revenue collected in 2004.

### 3.4.2.1 Growth Rate of Total revenue collected from motor vehicles 2004-2015 (in rupees)

![Graph showing growth rate of total revenue collected from motor vehicles 2004-2015](image)

Source: Mizoram Statistical Handbook 2004-2014

Figure 3.10 - Growth Rate of Total Revenue Collected from Motor Vehicles during 2005-2014

The states revenue grew substantially over the years, with the implementation of rules and regulations concerning transportation and its system; fines and fees regarding policy implications. Over a period of ten years, 2004-2014, the total revenue collected from motor vehicles by the Mizoram State Transport department increased tremendously, which contributed greatly to the states revenue. The total revenue collected in 2014 was around six times higher than the total revenue collected in 2004. There has been a massive increase of revenues collection from road tax (from...
Rs.19578000 in 2004 to Rs.147244842 in 2014, a 652% increase over a span of 10 years). The growth rate of road tax was exceptionally high in 2011-2012; a growth rate of 3902% as compared to the decline rate of 893% the previous year 2010-2011. The reason for this exceptionally high growth rate was due to the recovery of the backlogs due in 2010-2011 during the fiscal year road tax. The earlier decline in revenues from road tax was well recovered in the next year, which put the revenues collected through road tax back on track, in line with a certain pattern. Over a span of 10 years i.e.2004-2014, there was an increase in revenues collected through fees and fines by 53.35%; There was an all time low in the revenues collected through fees and fines between the years 2010-2011, the revenue collected through fees and fines was an all time high between the years 2011-2012; with traffic duties more vigilant. Over a span of 7 years, the revenue collected through passengers and goods increased by 130.71%. With the advent of urbanization, movement of people and goods is greatly enhanced for business trips and the like, thus the increased use of vehicles for transportation by individuals and freight carriage.
3.4.3 Total Road Tax Collected From Motor Vehicles

Figure 3.11 showing total road tax collected from motor vehicles, 2004-2014 (in rupees)


There has been a massive increase of revenues collected from road tax; from Rs.19578000 in 2004 to Rs.147244842 in 2014, an increase by Rs.127666842 which is in percentage-wise, a 652% increase over a span of 10 years. The total tax-revenue collected in 2014 was around six times of the amount collected in 2004.
3.4.3.1 Growth rate of revenue collected from road tax

Figure 3.12 - Growth rate of revenue collected from road tax, 2006-2014

The growth rate of road tax was exceptionally high in 2011-2012; a growth rate of 3902% as compared to the decline rate of 893% the previous year 2010-2011. The reason for this exceptionally high growth rate by thousands was due to the recovery of the backlogs due in 2010-2011 in revenues collected through road tax. The earlier decline in revenues from road tax was well recovered in the next year, which put the revenues collected through road tax back on track, in line with a certain pattern.

Source: collated from Mizoram Statistical Handbook 2004-2014
3.4.4 Revenue collected through fees & fines

Figure 3.13 showing revenue collected through fees & fines (in rupees) 2004-2014

Source: Mizoram Statistical handbook, 2004-2014

Over a span of 10 years i.e.2004-2014, there was an increase in revenues collected through fees and fines by Rs. 9832182 which is by 53.35%; Rs 19147000 in 2004 to Rs. 28979182 in 2014. There was an all time low in the revenues collected through fees and fines between the years 2010-2011, a mere Rs. 4210001. From 2004-2014, the revenue collected through fees and fines was an all time high between the years 2011-2012 i.e. Rs 48112528.
3.4.5 Revenues collected through Passengers & Goods

Figure 3.14 showing revenues collected through Passengers & Goods, 2007-2014 (in Rs)

Over a span of 7 years, the revenue collected through passengers and goods increased from Rs. 11318000 to Rs. 26112804 in 2014. The increase was by 130.71%.

Source: Mizoram Statistical Handbook 2008-2014
3.5 Concluding remark:

What can be inferred from the study is that there has been an increase in the revenue collected from the transport department over time; a substantial increase in revenues collected through road tax, fees & fines and passenger and freight transportation charges over the years. Revenue collected through road tax stands the most significant increase followed by taxes from passengers and goods and thirdly through fees and fines.

Two wheelers remain to be the largest member of vehicles on road. The reason for it being so is not far to seek; the economical use as a means of transportation and to avoid delay in street congestion.