

CHAPTER – II

Land Route

Transportation contributes significantly to our Socio – economic needs. It has acquired fundamental place in the history of human civilization and in global net-work system by facilitating mobility of persons and goods from one place to another through various modes of transport. From the advent of human civilization, means of transport have been changing according to the changing condition, need of the people and the development of technology and environment. The propulsive means used were mainly animals on land and sails at sea. The discovery and use of steam and electricity in the 19th century and internal combustion engine in the 20th century, revolutionized transport and introduced the present era of mass transport.

Road is one of the most promising and potent means of transport for short and medium-distance in India available from the inception of civilization. A revolutionary step in transport was taken in the first decade of the 19th century when John Loudon McAdam and Thomas Telford invented a road surface that replaced the dirt roads which provide the basic infrastructure for bringing the majority of people who live in far-off villages into the mainstream of national life.

Road Transport

Before the introduction and expansion of good road system, the roads were in unsatisfactory condition. Feeble transport system was due to the scientific and technical backwardness of the people. Traffic was mostly carried on rough earthen tracks. Roads were in crude shape, slimy and rough and mostly for fair – weather transportation. Trucks could not be used during rainy season, which created obstacles and interrupted smooth flow of goods and passengers. In short, the transport facility was poor and inadequate and it remained unchanged for a considerable period. The commodities could be moved only by pack – bullock. Most of internal transport was slow. Before the introduction of railways, not only road transport, but transportation in the coastal regions was also costly, undependable and difficult. Rivers were mostly shallow, non – navigable and without bridges. As a result, with no improvement in existing means of transport, the size of market was limited to small regions, which tended to be self – sufficient for most basic items.

Little specialization among the communities, always resulted into little movement of passengers and goods. Taking the crops from the fields and a small share of those nearby trading centres, was the main movement of goods and thus could be effected on the backs of animals. For the few longer distances and large scale movement, bullock – carts were used in the dry season. During Mughal age, there were a few dirty roads connecting the local capitals. The British did little road buildings until after they became rulers.⁻¹ Up to the end of the 18th century, there was practically no demand for prepared tracks. Even for military purposes, transport being chiefly effected by pack animals travelling along village pathways. Travel from one region to another was hazardous and fraught with great danger from wild animals, bandits and highways robbers and also took considerable time. In short, apart from being costly, slow and uncomfortable, journey by road was far from being safe.⁻¹

1. Buchmain D. H., Development of Capitalist Enterprise in India, New York, (1934) P. 134

Up to 1830, there were no good roads. From 1830, the English East India Company's Government decided to connect Calcutta and Delhi by a metalled road suitable for wheeled vehicles. Until the middle of the 19th century, transport was conducted by means of pack –animals, bullock–cart and small river – crafts.⁻²

Lord William Bentinck (1828-1835) made efforts to improve road system. But it was done well during the time of Lord Dalhousie who first initiated a vigorous road policy in India and set up a central Public Work Department in Dalhousie, visualizing the prospect of Indian cotton for English textile mills and of a vast market for the British manufactures in the markets of India." His railway policy necessitated the formulation of a complementary road policy⁻³.

From 1900, the mileage of metalled road had risen from 37,000 to 59,000 miles. The use of motor – cars and motor cycles had increased rapidly after 1914. After the World War I, the use of motor cars by the Europeans and the rich Indians began in the cities whereas motor lorries mainly as feeders to the railway also increased.⁻⁴

In 1919, with the Reforms of 1919, the construction of roads became a provincial subject when they were divided into two main classes provincial and local. But the financial capacity of the local Government was insufficient for road development in India. In 1927, Government of India appointed road Development Committee under the Chairmanship of Mr. Jaykar to study financial problems of maintaining and improving roads. The Central Road Fund was set up and was empowered to make grant to the local Government for constructing roads.

By 1929 the mileage amounted to 245, 896 of which 37,000 miles were metalled roads. A transport advisory committee was also formed to co-ordinate road and rail transport. In 1932, the total mileage of metalled roads was 75,055.⁵

2. Imperial Gazetteer, Vol III P.410

3. Ibid P.410 - 411

4. Mukherji, R.K., Economic History of India Allahabad, (1967) P. 279-280.

5 Ibid p. 281,283

With the advent of the Second World War in 1939, need and necessity for the development of roads and land route transport was realized. In 1943, Nagpur plan, one of the classic reports on road development, was prepared which was the blue print of today's land route transport. The Nagpur plan visualized the balanced development of all classes of roads. The plan classified roads into categories.

1. National Highways
2. State or provincial Highways
3. Major District Road
4. Rural roads

National Highways are a direct responsibility of the center and roads other than national highway come under the state Government. Right upto the Second World War, the growth of road transport in India was checkmated on account of the Government's interest in the expansion of railway. Motor Vehicle Act was passed in 1939 on the eve of the Second World War. The Act was passed with a view to create fair competition between railways and roads.

The Baroda State was one of the most progressive Indian States within the British empire under the Gaikwads. Before the expansion of modern transport system, in all division of the Baroda State, traffic was carried on rough earthen tracks.

It always made trouble for travellers going on foot. In short roads were mostly fair –weather communication lines. It was under His Highness Maharaja Sayajirao Gaikwad that good road system expanded through the territories of the state.

The Baroda railway ran not along, but at right angle to the great lines of existing traffic. One of these lines, passing from Surat, ran up the valley of the Tapti (Tapi) and could not in any way be disturbed by railways. The second started from Broach (Bharuch) running directly through the Gaikwad territory via Dabhoi and Sankheda towards Indore. The third line from Broach passed through Baroda via Halol and Dohod (Dahod) into Malwa. The fourth line from the Tankaria Bandar

passed through Baroda and joined the Malwa road. The fifth line departing from Nadiad as the principal Interpol but gathering all the trades of Gujarat between the Mahi and the Sabarmati rivers, together with the goods imported to ports by sea principally that of Dholera port passed through Godhara and Dahod into Malwa. This is the most important route of the line but it is beyond the limit of the state.⁻⁶

The lines by which traffic came or went from the city of Baroda, were parting from Broach passing through Baroda via Halol and Dahod into Malwa. There were two roads the first was about 40 miles. There were 11 mahals in the Baroda Division of the Baroda State such as Petlad, Bhadran, Vadodara, Padra, Karjan Dabhoi, Sinor, Savli, Sankheda, Waghodia and Tilakwada that passed through Morlipar, Jarod, Kotambi, Paldi, Mudhela and Kanjari. It was a good road but later on it worsened. Going towards the north –east it was in fair condition and was much used. The second road to Halol passed east – ward from Baroda through Bakrol, Nimeta, Sakaria, Rasulabad and Venkatpura. This road was not in fair condition (above 35 miles) and crossed many unbridged streams.

Much traffic used to pass along the roads between Baroda and Savli, 24 miles in length and running through Sama where the Vishwamitri river was crossed by an "ancient bridge" i.e. the old stone bridge in the city which is probably of great antiquity and its erection is attributed to the Vanjaras, who, three centuries back lived in the western suburb of the city. Forbs, wrote in his "Oriental Memories" (towards the end of the 19th century) the old stone bridge, "I mention it, because it is the only bridge I ever saw in India."⁻⁷

6 A letter of Colonel Wallace, the Resident of Baroda to the Secretary, the Government of India dated 16th September, 1859, in which he described the old lines traffic that existed in the Baroda State by which the state was connected with the different parts of Gujarat, Bombay Presidency. Rajasthan and Central India. Vol. I p.384

7 Forbs, Oriental Memories, p.86 Ancient bridge was a stone bridge, which was the oldest in Baroda territory. It was of 3 miles, constructed on Baroda - Savli, line on the Vishwamitri river known as Sama bridge.

A 24 mile road ran through Sama and Dumad, Asoja, Manjusar, Tundav, Bahutha and Gothada. A fourth line of traffic passed alone on unmettaled, unabridged track of 90 miles that connected Baroda with Bahadurpur and Chottavdepur. It ran side by side with the state railway and linked Ratanpur, Kelanpur, Mahmedpur, Bhilapur and Dabhoi, Vadhvan, Vasana and Shikodra. The fifth line of traffic started from Baroda and passed through Padra, Gavsad and Gajera to Jambusar, a distance of 40 miles connected Bahadarpur and Chottavdepur.

Bridges made the road trafficable all the year round and facilitated movement of men and materials. Besides Sama - bridge, bridge over the Dhadhar in Dabhoi and rail bridge of single span in Sinor was built by Khanderao Gaekwad, 2 bridges in Waghodia each on the rivers Vishwamitri and Surya between Mandva and Chandod talukas, and three bridges in Baroda taluka were useful.

There were nearly 2,000 miles of earthen roads in the state. Railways could not reach out sufficiently into the farms or field without the aid of the feeder roads that helped to transport the produce of land from field to the nearby railway station. Farmers could transport the produce of their field to market easily without danger hardship to their bullocks and carts. ⁻⁸

Prior to the introduction of automobiles and locomotive vehicles, bullock cart was the main means of transport. There were certain animals e.g. horses, ponies, camels, bullocks, etc. Their number in Baroda district was nearly 5, 484.

8. Baroda Blue Book Vol. III p.59, 61

The pack animals were useful even after the establishment of railway especially in transportation of goods between villages and small markets. In large number of villages in the state, which were not connected with railways and good road system, the bullock carts occupied an important place in rural transportation and agricultural operation. ⁻⁹ In Baroda State there were 49,771 bullock carts, bullocks were 1,97,630 in number, while other pack animals were in sufficient number. ⁻¹⁰

In regards to more efficient exploitation of India's resources in matter of animals and mechanical transport, the Central Transport and Food Stuff Board proposed measures for the registration of animals and vehicles which could be made available for military purpose on event of general mobilization. Baroda Government assisted the British Government for providing pack animals for the mobilization of troops. ⁻¹¹

In 1906, there were 12,000 bullock – carts in Baroda district and most of them were being used for agricultural operation, mobilization of men and goods but were not sufficiently used for military purpose. Baroda State was in good condition as far as the availability of pack- animals was concerned.

It indicates that there was definitely convenience for transport not on modern line but customary and traditional mode of travel which prevailed in the country before the development of modern transportation. ⁻¹²

Unlike railways, a good road system could not be extended in the state. The roads on which automobiles could ply all the year, were not constructed. There were many factors which hindered the development of net-work of roads in the state.

9 H.P. O. file No. 12 ^a p. 24

10 Bureau of Economics and Statistic Gujarat State.

State Quarterly Bulletin of Economics & Statistics Vol. I (1969) p.138, 146

11. Purchase of beast of Burden and collection of traffic statistics (1880-1908) H.P.O. file No.12 ^a p.27.

12. Letter No. 2540 dated 7/4/1905 and letter No.4016 dt. 18-4-1905 H.P.O. file No. 12 a-P.
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One of the most important factors which created obstacles was non-availability of requisite stones required for road – construction. In the three divisions e.g. Baroda, Kadi and Navasari, there were great difficulties for required materials. It resulted in great financial difficulties, except the district of Amreli where materials for road construction was available. The difficulties of acquiring material for road can be understood from this fact "It is almost literary true that except in a few unimportant districts near the hill, not a stone can be found in Gaekwad's dominion large enough to throw at dog."¹³ Owing to it the Baroda Government decided for the construction of railways in the territories of the state to provide cheap mode of transport to the people. A proper plan for the construction of narrow gauge railway was put into practice under Madhavrao, the Diwan of the State.

There was excessive capital cost of road construction, which was due to economic reasons and partly due to the absence of free competition among contractors.

Too much stress was being laid on giving work to local men and shutting off outside competition which tended to keep down rates. Road construction always involved heavy cost of maintenance.¹⁴

Scattered nature of the different parts of the Baroda state which made it difficult to connect two centers of industry owing to intervention of foreign territory i.e. British India and other native states, lending to many political complications. The Gujarat portion of the state lied in three different blocks at considerable distances- Kadi, Baroda and Navasari district. Navsari the chief town in the southern block was 100 miles, Mehsana, the headquarters of the northern block, 107 miles from Baroda city which was situated in the central block. Far away from the centre, Amreli was situated in Kathiawad with Okhamandal on the Gulf of Kutch.

13. Elliot F.A. H., Gazetteer of the Bombay Presidency Vo. VII Baroda (1883) P.251

14. Progress Report on Roads of the Baroda State of 1928 P. 43

Baroda Government selected railways as cheap and efficient means of transport and began to invest a large amount in extending railways. The expansion of railways converted into rapid development which ultimately resulted into tremendous increase of railway revenue. It was, therefore, thought that the construction of roads would adversely affect state's railway revenue. Thus, villages in the interior remained isolated from one another almost till Baroda state was merged into Bombay state in May 1949. During the reign of Ganpatrao, Captain French, the Resident, ordered act from England models of steam engines and electric telegraph apparatus. He persuaded Ganpatrao to make roads and plant wayside trees, to connect the camp with the city and design for tramway from the town to the capital and to trace road.¹⁵

Prior to the World War I, automobile hardly appeared on roads. In the absence of these vehicles, the necessity of hard surface road was not much felt. Before 1914, automobiles were a rare phenomenon in country. After World War I, the number of automobiles rapidly increased. Freight movement by truck increased as a feeder to railways. Imports of motor cars increased from 3,000 in 1913 to about 20,000 a year on the eve of economic depression (1929), the figure from 6,000 in 1932-33 improved to 16,000 after 1937. The road construction programme acquired a great impetus after the World War I.

In 1869, surveys were made in the district of Baroda for constructing roads which served the territory of centre and provided feeder roads. A road of 8 miles was constructed from Waghodia to Jagannath Sadashiv. Roads from Chandod railway station to Malharrao Ghat and railway crossing near old station to the Race course at Baroda were constructed. During 1875, proposals were made for the construction of a road from camp along the old Ahmedabad road to camp quarter ground. A road from Kothi to Moti Baug was proposed.¹⁶

15 Progress Report on Roads of the Baroda State 1928

16. Baroda State Administration Report of 1868 - 69 (P.W.D) P. 82

In 1876, the Baroda State Government had established an Engineering Department on modern line. In 1891, the department was recognized. Modifications were made to enhance the capacity of working of the department. Sub- engineers were replaced by executive engineers and they were placed in Baroda, Navasari, Kadi, and Amreli division of the state. The department was recognized for the construction of roads and thereby developing good road system in each division. This helped in systematic planning of road construction.⁻¹⁷

In 1886, Baroda to Viswamitri station road was completed. Viswamitri to Padra road was completed. Viswamitri bridge was designed and estimated with river diversion for Rs. 1,06,870, the length was of 8 miles. Padra to Jambusar Fortier of 18 miles, Padra to Dabka of 9 miles, Moti Baug Makarpura road of 2 miles, the masonry of bridge was completed to girder level. Baroda Ajwa road of 13 miles, Baroda to Jarod of 13 miles, Baroda to Savli, Baroda Railway Station with Dumad branch of 18 miles, Sinor- Karjan road of 18 miles were construction during 1886. All these roads were main line of traffic in the district of Baroda.⁻¹⁸

In 1896, Akota to Padra road and railway station to Padra road was constructed. With the end of the 19th century, not much progress in road system could be made. Roads which were necessary for goods traffic as well as passengers, or the roads feeder line to the railways were surveyed and built. By the end of 19th century no considerable mileages could be seen in the state. The details in the state's public work department show that a systematic road construction started only after the World War I.⁻¹⁹

17. H.P.O File No.12 A P. 25 Baroda State Administration Report of 1890 P. 265

18. Baroda State Administration Report of 1885-1886 (1887) P. 292

19. Baroda State Administration Report of 1899-1900 P.341

In the beginning of the 20th century, the Baroda Administration Report of 1901-02, mentions that 27 miles of good roads were constructed in Baroda district. The state Public Work Department constructed roads and its expenditure was Rs. 85,000 and the cost of maintaining the roads was Rs. 50,000. The total mileage of roads in the state was 2734 miles in 1901. -²⁰

A network of railways was greatly extended in Baroda, Kadi and Navsari while there were sufficient roads in Amreli district. Nearly all the talukas were intersected by railway line or were within easy distance from railway stations. Necessity of constructing or improving feeder roads from the station to the taluka head – quarters, smaller roads connecting villages with each other or with the main line of communication by rail or road were then left to the Local Board.

Baroda city Moti Baug road from Laxmi Vilas Palace main gate to old Khangi Karbhari Bungalow was proposed in 1905. The Vishwamitri bridge was narrow for the increasing traffic of the town. For removing the difficulties of the people, the work of widening the Vishwamitri bridge was undertaken and was completed in 1905. -²¹

In 1905, the Bombay Government proposed the construction of metalled road, from Halol to Jambusar and to extend for connecting with Champaner road railway station on the Baroda Godhara Chord Railway. The road was to open a backward parts of the adjoining country and would be practically convenient to the people from Baroda and Godhara visiting the temple of Mahakali in the hill fort of the Pavagadh. As a feeder line it would be very serviceable to railway. So, Baroda Government was requested for constructing a portion of road within Baroda limit. -²²

20. Baroda State Administration Report of 1901-02 P.241

21. Baroda State Administration Report of 1904-1905, P. 232

22. A letter dated 2/10/1906 M. P.W.D. of 5/11/06 H.P.O. file No. 12 a.

In 1906, various roads were improved throughout Baroda district, such as Savli Baroda road, Moti-baug, Laxmi Vilas Palace road, new palace road to Kothi, Palace road to Makarpura, Sinor to Karjan, Baroda to Ajwa road. Two roads- Station road and Agas Station roads were proposed and provided in the budget of 1906. Agas station road was constructed. It was lying in Baroda territory limit between Agas and Borsad. The Government of India imposed toll tax on carriage passing on the British portion of road. The Baroda Government either would impose the toll tax or obtain half of share from the British Authorities. Borsad was an important town of the state. The Government proposed the construction of a road from Borsad to Bhadran, headquarter of Panch Mahal.

The British authorities of Panch Mahal agreed to co-operate with the Baroda Government in the extension of Agas Borsad road. Under the famine relief program, Agas-Borsad road was extended to Dehwan via Kansari and Ras and Ras to Siswa.

In 1907, work of improving the road from Central Jail to Kothi and Laxmi Vilas Palace road with footpath on both sides was completed. Old Baroda railway station and Race course roads were completed. Pilot state road was constructed to give traffic convenience to people of Asoj and neighbouring rural areas.

Agas station road and Nar Station road were proposed. Roads from Borsad to Dehwan and Ras to Siswa in Baroda territory were proposed to provide good transport facilities to the people of those areas. [R.L. Brawn, the collector of Panch Mahal through his letter dated 19/8/1907 requested the Baroda Government to assist in construction of Halol – Bahadarpur road to improve transport facilities both in Baroda and Panch Mahal]. Baroda Government always co-operated with the administration of the British Indian territories in constructing and maintaining the roads, laying within the state's limit. ⁻²³

23. NIF 1462 of 1907 from Collector of Kaira to the Resident at Baroda Ibid. P. 76

There was tremendous progress in trade and industry which ultimately created an atmosphere for developing good road system along with railway. But road construction was always costly. Better improved road system was required for the development of trade and industry. During the first decade of the 20th century, there was tremendous progress in the expansion of railways in each and every division of the state. It gave setback to the programme of road construction.

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With a view to providing sufficient facility of transport, the Baroda Government paid ample attention towards developing roads and railways in the district. During 1908 – 1909, many roads in the city of Baroda were constructed. Those were Race course to Baroda Padra road, metalled road junction near Mahadev Mandir was constructed. Fair – weather road from Savli to Samlaya, Champaner road railway station was constructed. Vishwamitri Railway Station to Baroda Atladra metalled road was made. Iron Bridge on the Vishwamitri was constructed. Metalled road from Nyay Mandir, Lakdpitha, Madan Jhampa to new market for tramway purpose were proposed and were constructed during 1910. These roads provided sufficient facility to the people of Baroda City. Total mileage of roads was 456 (milage), an appropriate cost was Rs. 37,62,000.⁻²⁵

In the year 1910 – 11, several roads in Baroda district were constructed such as Bhimnath grounds, pipe testing yard to cantonment, motor car road from Makarpura to Sunderpura and Masar road railway station to the British Jambusar Taluka.

Itola to Bahadarpur Mahal road, Koral – Choranda, Sojitra road, Sinor road were constructed during 1912- 1913. A road from camp quarter guard to Harni, Manipura to Sunderpura road were improved. In 1911, there was an out-break of famine in several parts of the state. Hence, road construction was undertaken on

24. Baroda State Administration Report of 1908-1909 P. 174 – 175

25. Baroda State Administration Report of 1909 -1910 P.60, 62

a large scale under famine relief programme with a view to relieve during the time of scarcity. In 1913 Moti Baug, Lal Baug road and Makarpura to Sindhwai was built.

In 1916, metalled road from Baroda to Chhani was made. Baroda – Amaliara road, road from camp quarter Guard in Baroda limit to Harni via Sama was made. Good motor road from Harni to Laxmi Vilas Palace direct through camp quarter guard was constructed. This road was made under the special order of His Highness Sayajirao Gaikwad.⁻²⁶ In 1920, a road within the cantonment limit to link up Harni was made and was to be maintained annually.⁻²⁷

Baroda Government took necessary measure for the maintenance of Amod – Palej road lying within limit of Baroda territory in 1922.⁻²⁸

In 1922, maintenance and repair of all the roads in all districts of the state were transferred to the District Panchayat. The Local Board was authorized for maintaining roads in Baroda district. (letter dated : 28/2/22 from P.W.D. to H.P.O)

The Government of India proposed a plan of constructing Grand Trunk Road from Bombay to Delhi. The road was to be connected from Ratlam through Central India. Baroda Government decided to make a motor road from Baroda via Amaliara (Baroda Taluka) and Bhaniara (Waghodia) to Jarod and right upto the frontier towards Halol. In 1924, plan and estimate for Baroda – Halol road in connection with Grand Trunk Road was prepared. This was to connect Baroda with Grand Trunk Road and it made Baroda one of the important places on the Imperial Highway of the British India.

However, the proposed road was very expensive and would involved great financial difficulty. Motor road was not necessary to make which was to be used occasionally by the chiefs and Government officers. So the plan was then modified. Moreover, Education and other public utility department made heavy demands on Baroda Government.

26 H.P.O. File (P.W.D) file No.44-B P.25/B Adm Report of 1916- 17- P. 902

27. H.P.O (P.W.D.) File No.66 (Roads) P.4

28. H.P.O. (P.W.D.) file No.44A P. 33

There was no hope of allotment from the Government of India. In short the road (Baroda – Halol on Grand Trunk Road Line) would involve in great expenditure. Derol – Pandu road would benefit Baroda state and its state railway.

The Baroda Government always co-operated with the Government of India in improving means of transport in matter of roads passing through Baroda territories like Broach, Surat, Panchmahal etc. areas of the British territories. All those roads involved heavy cost of maintaining for the state. However, the portion of such roads i.e. passing through Baroda territory was always little yet the Baroda Government incurred heavy cost of maintaining such roads. The Government was always ready to sympathies with the cartmen, traders and ordinary travelers who found themselves cut off from those areas. The Baroda Government did assist trade and promote good feeling among themselves. Like it, Baroda Government also co-operated with other states like Bhadarwa, Rajpipla by providing good transport facility to the people of those states.

Culverts and bridge on Waghodia-Kherwadi road was constructed and low level bridge on the Deo river, restoration of Baroda Padra between Atladra Samlaya joint to Bombay – Ahmedabad road was completed in 1934.⁻²⁹

A metalled road from Vadia in Sankheda Mewas to Naswadi was made. Baroda Government provided transport facilities to the people of Naswadi and Tilakwada, Sankheda and Mewas were chief cotton growing areas. Cotton was sent from Sankheda Mewas to Broach. Tilakwada was a convenient loading river station of the Narmada (northern bank) so here water transport was main mode of traffic. After the completion of Motipura-Tankhala Railway line, the whole commercial traffic from Amroli Tappa would be drifted to Sankheda – Bahadarpur. The traffic from Tilakwada was not likely to be shifted towards Naswadi as it was fairly going on in all the seasons through the Narmada.

29. H.P.O. (P.W.D.) file No. 12/C P. 76, 1929 - 1940

With the construction of Motipura –Tankhala Railway, the whole situation was changed and even made the Tilakwada town prominent. So the Government of Baroda decided not to bear any share in the construction and maintenance of proposed roads like Kasmoli- Sira, Agar- Anandpur Vadia to Naswadi, Here the state railway was an important and cheap mode of traffic ⁻³⁰

Amroli – Tilakwada road was constructed which was of 16 miles. It provided means of traffic to the people of Amroli Tilakwada. Before the construction of this road in rainy season, road always became impassable for travelers going to Amroli and the villages around it. It caused hardship to the passenger who had to take a long detour via Dabhoi, Chhotaudepur and Amroli. Baroda-Halol road was maintained in good condition It was a portion of Grand Trunk road between Baroda and the central India. Another metalled road from Pandu to Chhaliar was constructed, which crossed the Gaekwad's Baroda state Railway (Dabhoi Timba Section) at level crossing near Pandu Mewas railway station. The Gaekwad's Baroda state railway authorities had been instructed to construct the portion of the road within railway limit. ⁻³¹

Baroda Prant Panchayat proposed a road from Rudel to the edge of Baroda limit towards Bochasan railway station which was very useful to the public.

The Government decided to complete the road which was to be a feeder line to the Vasad –Kathana Railway. ⁻³²

The Government was pursuing a policy of road construction in Baroda territory and after 1926, Baroda Government pursued a policy of road construction vigorously. In 1927, central communication board was established for the purpose of extending good road system which was needed badly and the standard, large costly projects were planned. The road projects which were not

30. H.P.O. (P.W.D.) File No.12/ B P. 78 (1910 - 1929)

31. H.P.O. 12/C P. 101, 1929-1940

32. H.P.O. File No. 12/B P. 5

to serve the Baroda subjects and but were of great importance to the British India, such as Kathor - Velacha (Link road in Great Highway joining Kim - Mandvi Road, Satel - Kalol road a link in Ahmedabad - Ajmer Trunk Road etc., were postponed to minimize the cost. ⁻³³

Baroda to Ajwa road under the name of Jagannath Sadashiv Road was made to connect Baroda with Waghodia taluka town. There was considerable increase in use of motor – cars as well as traffic had also increased. Baroda Ajwa road was made suitable for motor – cars. Rs. 1.60 Lakh was spent for metalling the road. Heavy motor cars and bases were not allowed to run there. ⁻³⁴

33. H.P.O. File No. 78, P. 35, 36

34. H.P.O. File No. 12 P. 49

Abstract showing the details of roads in the Baroda State completed upto 1926 and proposed in the Road Programme. -35

District	Roads completed before 1907			Roads completed upto 1926			Amount of maintenance			Roads proposed in the present Road Programme		
	Metalled roads in miles	Kunker, gravel or murum roads in miles	Approximate cost in Rupees	Metalled roads in miles	Kunker, gravel or murum roads in miles	Approximate cost in Rupees	Metalled roads in miles	Fair weather roads in miles	Amount of annual maintenance in Rupees	Metalled roads in miles	Fair weather roads in miles	Probable cost in Rupees
1	2	3	4	5	6	7	8	9	10	11	12	13
Baroda	20		3,00,000	36		5,50,000	36		14,000	133		22,61,000
		33	1,32,000		95	3,80,000		95	11,000			
Navsari	56		8,40,000	85		11,00,000	85		24,000	60.5		12,10,000
		97	3,88,000		208	8,30,000		208	16,000			
Kadi	10		1,70,000	18		3,00,000	18		17,000	99.5		16,91,500
		42	2,52,000		59	3,54,000		59	4,000		56	2,52,000
Amreli	138		13,80,000	296		29,60,000	296		30,000	This District is not taken this time		
		60	3,00,000		120	6,00,000		120	8,000			
	224	232	37,62,000	435	482	70,74,000	435	482	1,24,000			54,14,500

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Baroda State in 1926

Details of roads in the Baroda state completed upto 1926 and proposed in the Road Programmes.

35. Progress report of roads in the Baroda state.H.P.O. file No. 49 pp.49

**Statement showing details of metalled and fair - weather roads in
Baroda District completed upto the end of 1926⁻³⁶**

Serial No.	Name of Roads	Length in miles and furlongs	Total expenditure in rupees	Annual maintenance
1	2	3	4	5
	METALLED ROADS			
1	Baroda to Atladra with Vishwamitri branch Road	3-2	49,000	1,700
2.	Baroda to Amliaara	5-3	81,000	2,600
3	Baroda to Chhani	6-0	90,000	3,000
4.	Baroda Model Farm to Atladra Mahadeo	3-4	53,000	1,250
5.	Baroda Camp Quarter Guard to Harni	4-2	64,000	1,250
6.	Makarpura to Sunderpura	5-6	86,000	2,350
7	Karjan Station to town	1-1	17,000	100
8.	Bodeli to Jambughoda limits	1-2	19,000	100
9.	Bodeli to Chhotaudaipur limits	2-3	36,000	150
10	Baroda to Ajwa and to the Pavalion (metalled part only)	3-2	49,000	1,500
	Total Metalled Roads	36-1	5,44,000	14,000
	Say.....	36-0	5,50,000	14,000

	FAIR WEATHER ROADS	36 MILES		
11.	Jarod Waghodia Road, via Rawal	12-7	51,500	2,000
12.	Itola Station to town	1-0	4,000	100
13.	Pilol Station to Asoj	2-2	9,000	150
14.	Baroda to Savli via Asoj	17-0	68,000	300
15.	Varnama Station Road	1-2	5,000	100
16.	Karjan to Miyagam	3-1	12,500	925
17.	Palej to Amod upto British limits	2-1	8,500	400
18.	Masar Station to British limits	1-2	5,000	180
19.	Champaner Station to British limits	3-3	13,500	475
20.	Savli to Samlaya	10-7	43,500	900
21.	Savli to Muwal	5-6	23,000	700
22.	Petlad to Sojitra	6-3	25,500	1,000
23.	Petlad to Cambey within Baroda limits	11-4	46,000	200
24.	Agas Station to Goods Yard	3-0	12,000	1,000
25.	Bhadran to Borsad within Baroda limits	2-3	9,500	600

26.	Baroda to Ajwa (Fair weather part)	11-0	44,000	1,900
	Total	95-1	3,80,500	10,930
	Say.....	95-0	3,80,000	11,000

36. H.P.O. File No. 49 p.50

Prepared by S.K. GURTU

Chief Engineer, P.W.D.

Baroda

List of metalled roads in the Baroda territory.1926³⁷

No.	Name of the roads	Length in remarks miles and furlongs
1	Baroda to Atladra	3-2
2	Baroda to Amliara	5-3
3	Baroda to Chhani	6-0
4	Baroda model farm to Atladra Mahadeo	3-4
5	Baroda Camp quarter guard to Harni	4-2
6	Makerpura to Sunderpura	5-6
7	Karjan Station to town	1-1
8	Bodeli to Jambughoda limits	1-2
9.	Bodeli to Chhota-udepur limits	2-3
10	Baroda to Ajwa and to the pavilion	3-2

Note:-- The road from Amliara in the Baroda division had been extended upto Khandewadi via Asoj. The earth work had been completed but metalling remained to be done.

The statement showing details of metalled and fair weather roads completed upto 1926 and proposed in the Road Construction Programme.

37. H.P.O. P.W.D. file No. 49 p.25

Statement showing proposed roads in Baroda District

Sr.No.	Name of the Roads	Length in miles	Cost per miles	Total cost in rupees	Remarks
1	2	3	4	5	6
	METALLED ROADS				
1	Roads from Baroda to Pij....	48	17,000	8,16,000	
2.	Do from Baroda to Bhadarpur, Sipore Timbi, Waghodia, Vyara and Motipura	25.5	17,000	4,33,000	
3.	Do from Baroda to Saoli	18	17,000	3,06,000	
4.	Do from Baroda Sadhli via Sunderpura, Ddhaniavi, Mahamadpura, Karwan length from Sunderpura to Sadhli only	18	17,000	3,06,000	
5.	Do from Jarod to Champaner....	9	17,000	1,53,000	
6.	Do, from Baroda to Mahisagar upto Baroda limits from Chhani to Mahisagar	8	17,000	1,36,000	
7.	Do, from Baroda to Jarod 12 miles out of which 5.5 miles upto Amliara is already constructed)....	6.5	17,000	1,10,500	
	Total	133	11,9000	22,60,500	

Prepared by V. R. TALVALKAR

AG. Chief Engineer, Baroda State

The Baroda District Board planned for improving and maintaining good roads which cost Rs. 39,83,585. The total amount to be provided rose to Rs. 31,000,00 during the period of 1913-1918. ⁻³⁸

During the year of 1926 – 27, 435 miles of metalled roads and 423 miles of fair – weather roads were made at a total approximate cost of Rs.70,74,000 excluding the amount of thorough repairs. An amount of Rs. 1,24,000 was provided for maintenance of roads per year. New road programmes were planned for making roads in Baroda, Kadi, and Navsari (O.No. 48 dated 24-11-25) Amreli already had 296 miles of metalled roads and 120 miles of murum roads, so Amreli was excluded from new road programme.

Total length of metalled roads proposed was 293 miles costing Rs. 51,62,000 and 56 miles fair weather roads costing Rs. 2,52,000. Road from Baroda to Asoj via Jarod, Baroda to Kherwadi via Waghodia and Baroda to Sunderpura was to link up with Sinor.

The Government of India appointed Road Development Committee in 1927, under the presidentship of Jayakar, to consider the road problem. After 1919, road construction and maintenance had been a Provincial subject when they were divided into two main classes - Provincial and local. The arrangement which was set up by the Act of 1919, proved defective because the financial capacity of the local government was not ample for road development in India. The RDC threw sufficient light on the financial problem of the local government in road development and so the RDC recommended that the central government should finance a part of the development programme. As a result of the recommendations of the RDC, the Government of India set up in 1928 Central Road Fund which was to come into being in 1929-30. The fund made allotment to the local government and Government of Indian States in road development program. ⁻³⁹

38. "Progress Report of Roads" Technical Paper Series N. IX dated 20-4-1928 by S.K. Gurtu and M.I. Struct (Chief Engineer P.W.D. Baroda State) Printed at Baroda State Press (1928)

39. Ibid P. 42

The recommendations of the RDC were the holding of periodically conference for examining development of good road system, abolition of road toll etc. In 1927, the Baroda Government prepared a plan of road construction consulting the communication Board and made provision of Rs. 5,00,000 in budget every year for period of 10 years.⁻⁴⁰

The question of levying toll on roads was considered in the meetings of communication Board held on 19th January 1928. It was desirable to collect toll on roads open to heavy motor and wheel traffic, as it was necessary to construct such road with a thick soling of rubble instead of brick bat, and harder surface metal than Kankar or brick ballast, as soft material like brick bat could not withstand the heavy grid of loaded and rapidly moving lorries. In the case of Baroda – Chhani road which was made originally for light wheel traffic, the question of levying toll was mooted when motor began to ply on that road.

Motor buses Rs. 151 per month

Motor cars Rs. 518 per month

Above scale was sanctioned in the government of state in the Resolution No.35112 dated 2/9/1925.⁻⁴¹

In order to reimburse the government in part for heavy expenditure on road maintenance, the following scale was suggested to be levied from all wheel traffic over all the Baroda State's roads:-

40. Ibid P. 40,41

41. Ibid 42

Baroda was connected with Indore via Halol which had been so far advanced by the newly completed Baroda Amliara, Asoj – Kherwadi road. With a view to investigating the road whether it was suitable for motor car or not, chief engineer of the Baroda State P.W.D arranged a trip to Indore by motor car via Halol, Baroda – Amliara Asoj – Kherwadi road, thereby Indore was the point to Baroda (255 miles via these roads) on main trunk system of roads in India. Halol connection was served by metalled roads. ⁻⁴⁴

In 1930, a special grant from the Government of India in road development was given for the construction of several roads which could be defined as of all India importance. These roads in Baroda State's territory were Trunk road from Navsari to Chaltan via Vesma Palsana and to Kholwad side, a part of provincial road from Bulsar to Surat. Baroda State had 22 miles of portion of this road in its territory. Second trunk road from Bombay to Ahmedabad of which 26 miles of portion of Bombay - Ahmedabad road came in state's limit. Nawapura – Subir road formed an important link to the road from Surat to Dang forest via Nawapur, Gandevi, Gadat road – direct road from Navsari to Valsad. A portion of Ahmedabad Ajmer was to be constructed within the state's limit from Kalol to Siddhpur via Mehsana, Unjha and Unava. It would be an important link of Ahmedabad. Ajmer trunk road was of essential importance to both the Baroda state and the British, India Baroda Amaliara, Asoj – Kherwadi road to Halol formed an important imperial road leading right upto Delhi. ⁻⁴⁵

The importance of joining Bombay, Baroda, Ahmedabad and Delhi was obvious. The state's Government took keen interest in linking Baroda State with different parts of the country and thereby provided its subjects an advantage of developing each and every aspect of economy, society and polity. Baroda Atladra, Padra, Dabhasa branch road would form an imperial link joining Bombay – Baroda- Delhi. Baroda state Government received the whole of petrol tax from the Government of India, which was to be utilized in construction of road from Atladra to Padra and which was to be utilized in construction of road from Atladra

44. H.P.O. File No.12 b P. 50

45. H.P.O. File No. 44B P. 55

to Padra and sanctioned amount was Rs.83,880 in 1930 and allotted amount from reserve was Rs.43,000 which was to be utilized in construction of road from Atladra to Padra and sanctioned amount was Rs.83,880 in 1930 and allotted amount from reserve was Rs.43,000. Total expenditure up to March 1933 was Rs. 63,037 from April 1932 to March 1932 Rs. 21,186 and from April 1932 to March 1933 Rs.41,856 and total expenditure was Rs. 63,037 This amount was spent from the Road Development Account on strengthening and improving Navsari – Chaltan section of Bombay Ahmedabad Rajputana road.⁻⁴⁶

The Government of India desired to review the progress of expenditure from the share allotted to the Indian state from the Road Development Account. Baroda Government had to submit a progress report on roads for showing accurate detail of expenditure incurred by the state form a share in the Road Development Account. From 1931 to 1933, Rs. 83,880 was spent on developing road system. The report was submitted to the Government of India on 16 April 1933.⁻⁴⁷

In 1929, when the Government of India instituted a road development fund and imposed special additional tax of 2 annas per gallon on petrol, Baroda Government received a share for developing road system in the state. The petrol tax enabled of financing various road schemes both in the states and British India. The Government of India proposed to impose petrol tax by 4 to 6 annas per gallon instead of 2 annas. (vide commerce Dept. memo No. 3189 of 5-4-1933)⁻⁴⁸

46. H.P.O. File No. (P.W.D) No. 64 P. 4-5

47. Letter No. 1155/36 of 1931 - 1932 Letter of Exceutive officer of the state to the Resident at Baroda No. 3244 of 1932.

48. H.P.O. File No. 57 (P.W.D.) P.29

Petrol consumption per year, per vehicle in Baroda city and whole of the state was 626999 gallons. The allotment by the Government of India to the Indian states were calculated on the basis of sales of taxed Petrol reported by the oil companies on which the British Indian customs or excise duty was paid. If any state failed to pay British Indian duties, it was excluded from the calculation. There was a great difference in the collection of figures for Petrol consumption.⁻⁴⁹

(1)	Amount based on Government	-	1934-35 Rs. 51.439
	of India figure	-	1935-36 Rs. 55.833
(2)	Amount based on figure	-	1934 – 1935 Rs. 51, 881
	Collected by the director of	-	1935 – 1936 Rs. 57, 930
	Statistics		
(3)	Amount actually received	-	1934-35 Rs. 57,895
	by the Baroda Authority		1935-36 Rs. 63,060

But the figure of petrol consumption was not so accurate to make it possible to make out a case for claiming an enhanced share from the petrol duty fund.

The Director of statistics collected figure from the police department and the municipality duty about motor vehicles and from the figures of petrol supplies by the oil-selling companies. They are given Below :

		Gallons
Baroda City	44	"
Baroda District	7	"
Mehsana (Kadi) District	46	"
Navsari District	26	"
Amreli District	14	"
Okhamandal taluka	"	"

49. H.P.O. File (Revenue) No. 78 P. 17

However, these figures were too low for considering the number of running buses or lorries. It was not possible to arrive at correct actual figure of petrol consumption owing to the peculiar nature of the state and Baroda Government did not substantiate a claim for an enhanced share from the central Road fund. Figure of petrol consumption in the state obtained by various companies dealing in petrol⁵⁰

Year	(1) Burma – Shell oil storage & Distribution Gallons	(2) Indo – burma Petroleum Co. Ltd. Gallons	Total
1933	2,62,660	99,628	3,62,288
1934	2,99,786	1,02,688	4,02,474
1935	3,66,242	88,690	4,54,932

Several companies like Texas company (India) Ltd., Standard Vacuum oil Company, National Petroleum Co, Bombay-Western India Oil Distributing Co. Ltd. Calcutta, had no accurate figure of petrol consumption.

In short, correct figure of petrol consumption in Baroda State for the purpose of determining the share of the state in the Road Development Account could not be acquired. Nevertheless, the consumption of petrol in Baroda territory was increasing and the Baroda Government paid its share of duty accordingly. The fund was to be utilized for constructing good motorable roads. The Baroda Government received subvention from the central Road Development Fund for 1938 – 1939. (Residency letter No. 9920 dated : 20/4/1939).⁵¹

During the Second World War, the Government of India decided that the Indian States, which were members of the Indian state Force Scheme which purchased petrol, oil and lubricants for the consumption by motor vehicles, were to be granted relief by deducting 2 annas per gallon.

50. H.P.O. File No. 57 (Revenue) P. 51

51. Ibid P. 55

The shares of the states were reduced during the Second World War. It gave a setback to the road construction programme. It was done to satisfy the internal administration in the critical period of world war.

During the period between two world i.e. (1914 to 1945) wars, there was a great increase in the number and use of automobiles in India. The use of motor cars and motor lorries in great number resulted in greater consumption of fuel like petrol.

Statement No. I*.

S.No.	Name of District :	Motor : : Cycles :	Motor : Cars :	Motor lorries : and Buses :	Total
1	2	3	4	5	6
1.	Baroda City	10	321	128	459
2.	Baroda District	1	38	66	105
3.	Mehsana District	-	58	120	178
4.	Navsari District	9	118	178	305
54.	H.P.O. (Revenue) File No. 17/313 P.33				
5.	Amreli and Okhamandal	1	48	68	117
	District				
Total		21	283	500	1164

The statements show the number of motor vehicles in the state in 1936. It was reported by the police commissioner (H.P.O. No. RDS 10/92 - P of 12-10-1936)

The consumption of petrol for the calendar year 1935 as shown by the Petrol Selling Companies is as under:

Statement No. I*.

S.No.	Name of District	Petrol consumed in gallons.	
1	2	3	
1.	Baroda City	242,968	Gallons
2.	Baroda District	8,936	-
3.	Mehsana District	98,662	-
4.	Navsari District	93,660	
5.	Amreli and Okhamandal District	19,728	
Total		463,954	Gallons

By comparing the figures in statements Nos. I and II it appears that the average consumption per vehicle in each of the districts of the state is as shown in the following statements : -

Statement No. I*.

S.No.	Name of District	Annual consumption : of Petrol Per motor Vehicle.	Average monthly : Consumption per : Vehicles.
1	2	3	4
1.	Baroda City	529 Gallons	44 Gallons
2.	Baroda District	85 "	7 "
3.	Mehsana District	554 "	46 "
4.	Navsari District	307 "	26 "
5.	Amreli and Okhamandal District	169 "	14 "

From the above it is seen that the figures for the Amreli, Baroda and Navsari Districts were too low. The figures of average monthly consumption shown in column 4 of statement No. III brings out clearly the fact that the figures of sale as reported by the companies are far lower than the actual consumption of petrol in these districts. Motor vehicles in Baroda and Amreli Districts, of which about 60% are buses and lorries, are extremely unlikely to consume only 7 and 14 gallons of petrol per month each on an average. The figures of consumption 26, 44, 46 gallons per month for the other districts also seem to be too low when one considers the large percentage of buses and lorries in the corresponding districts. The actual percentage of different types of motor vehicles in the districts is as under : -

Statement No. I*.

S.No.	Name of District :	Motor : : Cycles :	Motor : Cars :	Motor buses : and Lorries :	Total
1	2	3	4	5	6
1.	Baroda City	218	69.93	27.89	100
2.	Baroda District	0.95	36.2	62.85	100
3.	Mehsana District	-	32.58	67.42	100
4.	Navsari District	2.95	38.69	58.36	100
5.	Amreli and Okhamandal District	.86	41.02	58.12	100

The proportion of buses and lorries in Baroda, Navsari and Amreli Districts is practically the same (about 60%) whereas the corresponding proportion for the Mehsana District is 67%. It is, therefore, thus not true that Baroda, Amreli and Navsari Districts have a very small proportion of vehicles which are likely to consume large quantities of petrol. The only conclusion, therefore, is that the consumers in Baroda, Amreli and Navsari district bought, for their use, large quantities of petrol from places outside the States in order to escape the payment of duties. In order, therefore, to arrive at an estimate for the total consumption in the state, the vehicles in Amreli, Baroda and Navsari district must be assumed to consume on an average at least the same amount as is shown by the figures for the Mehsana District and Baroda City. The average consumption for these two districts (vide statement No. III) comes to $(554 + 529) \div 2 = 541.5$ gallons per motor vehicle per year. Hence the consumption for the other districts would be:-

Consumption of petrol per year)1935)				
Amreli and Okhamandal				
District.	117 X	541.5 =	63,355.5	Gallons
Baroda District	105 X	541.5 =	56,857.5	"
Navsari District	305 X	541.5 =	1,65,157.5	"

Total.			285,370.5	Gallons

From this the amount of petrol bought from outside the State by consumers in these districts is estimated to be :-

Amreli and Okhamandal

District.	63,355 -	19,728 =	43,627	Gallons
Baroda District	56,857 -	8,936 =	47,921	"
Navsari District	1,65,157 -	93,660 =	71,497	"

Hence the total consumption for 1935 by vehicles in the State should be taken to be :-

Baroda City	242,968	Gallons
Baroda District	56,857	"
Mehsana District	98,662	"
Navsari District	165,157	"
Amreli and Okhamandal	63,355	"
District.	-----	
Total.	628,999	Gallons

The figures as supplied by the companies (1934-35) were 397,528 and 415,050 gallons respectively. (vide this officer's Memo No. 246 dated 8-4-1936). If those be raised in the same proportion as obtained for the figures for the year 1935 shown above, the total consumption for these years would be:

Consumption of the State		
1933.	537,229	Gallons
1934	560,909	Gallons

It might be mentioned that the average consumption per motor vehicle of even 541 gallons per year as adopted above i.e. about 45 gallons per month seemed to be an under - estimate when one considered the large number of buses and lorries that ply in the districts. Hence, in no case, could the figure

Prior to the merger of the state in the Bombay State, in 1949, many buses in Baroda city and around were operated by private bus companies (1) M/s. M.M. Vora co. (2) M/s Vijay transport Service (3) M/s. Vadodara Bus Corporation (4) M/s. Prem Bus Service (5) M/s. Vadodara Bus Owner's Service (6) M/s. Nyalchand Bus Service (7) M/s. Gordhan Bus Service (8) M/s. Ram Bus Service. These were well – known private bus companies. -⁵⁴

54. Rajyogor S. B., Gazetteer of Baroda District (1979) P. 439

Statement showing the amount spent out of P.W. Department Budget and Petrol Tax during the year 1936 -37

Maintenance works

S.No	Name of road of bridge	Sanctioned amount No. & Date	Amount spent out of the P.W.D. budget for 1936-37	Amount spent out of petrol tax funds for 1936-37.	Total expenditure sum of Col.4 and 5. Rs.	Nature of work whether original or maintenance.	Whether the works were in progress or completed during the year 1936-37	Remark
1	2	3	4	5	6	7	8	9
	<u>BARODA DIVISION</u>							
1.	Maintenance of Baroda Chhani Mahisagar Road. Sec. I.	E.E. No.3 21-9-36 Rs. 3,000/-	2,863-6-2	.....	2,863-6-2	Repair	Completed	
2.	Do. Do. Sec.II	Do. No. 4 21-9-36 Rs. 3,00/-	2,801-7-3	.....	2,801-7-3	Do	Do	
3.	Do.Do. Baroda Khandewai Road Sec.I.	C.E.R.B.S.R No. 13/30-9-36.Rs.4000/-	3,672-13-11	.....	3,672-13-11	Do	Do	
4.	Do. Do. Sec.II	Do. No. 4 30-9-36 Rs. 3,800/-	3-761-7-9	.....	3-761-7-9	Do	Do	

5.	Do. Makarpura Sunderpura Dhanlavi Branch.	E.E.No.8 26-9-36 Rs.2,000	1,888-1-2	.....	1,888-1-2	Do	Do	
6.	Do. Camp quarter Guard to Hami Road.	Do. No. 5 21-9-36 Rs. 600/-	589-3-2	.....	589-3-2	Do	Do	
7.	Do. Timbi Tank Service Road.	Do. No. 12 7-10-36 Rs. 600/-	1,511-6-10	.....	1,511-6-10	Do	Do	
8.	Do. Rawal Waghodia Road.	Do. No. 13 8-10-36 Rs. 1,500/-	2,445-6-0	.....	2,445-6-0	Do	Do	
9.	Do. Waghodia Kharwadi Road.	Do. No. 11 7-10-36 Rs. 2,800/-	2,663-13-5	.....	2,663-13-5	Do	Do	
10.	Do. Ajwa Road Junction to Jaroda amd Samlaya.	Do. No. 10 7-10-36 Rs. 3,000/-	584-12-11	.....	584-12-11	Do	Do	
11.	Do. Baroda Saoli Road Sec. I.	Do. No. 16 16-10-36 Rs. 600/-	717-8-5	.....	717-8-5	Do	Do	
12.	Do. Do. Sec. II	Do. No. 19 6-11-36 Rs. 750/-	371-2-0	.....	371-2-0	Do.	Do.	

13.	Do. Jambuwa Varnama Por Karwan Road.	Do. No. 17 22-10-36 Rs. 600/-	592-5-5	.....	592-5-5	Do	Do	
14	Maintenance of Por Karwan Raod.	Do. No. 24 27-11-36 Rs. 300/-	224-15-0	.....	224-15-0	Do	Do	
15	Do. Karjan Miyagam Road.	Do. No. 9 26-9-36 Rs. 200/-	196-8-0	.....	196-8-0	Do	Do	
16.	Do. Palej Amod Road.	Do. No. 7 21-9-36 Rs. 1,50/-	146-4-0	.....	146-4-0	Do	Do	
17.	Do. Masar Station Road to British limits.	Do. No. 6 21-9-36 Rs. 100/-	62-4-0	.....	62-4-0	Do	Do	
18.	Do. Baroda Padra road including Vishwamitri Branch.	Do. No. 14 12-10-36 Rs. 3000/-	2,875-10-0	.....	2,875-10-0	Do	Do	
19.	Do. Modeli Farm to Atladra.	Do. No. 15 16-10-36 Rs. 500/-	445-4-0	.....	445-4-0	Do	Do	
20.	Maintenance of Bodeli Station Chhotaudepur Road.	Do. No. 29 16-2-37 Rs. 450/-	392-7-0	.....	392-7-0	Do	Do	

21.	Do. Savli Samlaya Road.	Do. No. 20. 4-11-36 Rs. 600/-	496-9-1	.....	496-9-1	Do	Do	
22.	Do. Champaner Rly. Station to British Limits.	Do. No. 26 4-1-37 Rs. 400/-	71-11-8	.....	71-11-8	Do	Do	
23.	Maintenance of Saoli Muwal Road.	Do. No. 23 6-11-36 Rs. 150/-	125-10-0	.....	125-10-0	Do	Do	
24.	Do. Bhadran Borsad Road.	Do. No. 22 6-11-36. Rs. 150/-	135-6-6	.....	135-6-6	Do	Do	
25.	Do. Petlad Sojitra Road.	Do. No. 18 6-11-36 Rs. 500/-	141-3-3	.....	141-3-3	Do	Do	
26.	Do. Petlad Camboy Road.	Do. No. 21 6-11-36 Rs. 1,100/-	860-12-11	.....	860-12-11	Do	Do	
27.	Do. Agus station British limits.	Do. No. 25 28-11-36 Rs. 500/-	338-6-4	.....	338-6-4	Do	Do	
28.	Samlaya Rd. to Karachia store.	Do. No. 28 23-1-37 Rs. 1,001/-	91-8-0	.....	91-8-0	Do	Do	

Baroda State P.W.D. Record File No. H/3/3

**Statement showing the road heads or special repairs to
existing works carried out during the year 1937-38.**

S. No.	Name of work	Total expend- iture	Whether com- pleted or in progress.	Remarks
1.	Constructing a road from Chhani to Mahisagar	210097-2-11	In Progress	
2.	Metalling the Atladra Padra Road.	78852-0-9	Completed	
3.	Road from Padra to Dhabhasa including culverts and causeways	11356-15-7	In Progress	
4.	Constructing a high level bridge on Dhadhar River at Por.	12383-5-7	In Progress	
5.	Constructing a low level bridge on Jamuwa River at Kelanpur.	9106-6-10	In Progress	
6.	Special repairs to Atladra Padra Road.	24318-11-0	Completed.	
7.	Constructing culverts and bridges on waghodia Kherwadi Road.	36607-15-1	Completed	
8.	Constructing culvert on Dabhoi Bhimpura Road.	2968-5-2	Completed	
9.	Proposed 2 spans 8' culvert on the Jojwa feeder channel between Manjorol and Kali Talavadi.	1956-2-0	Completed	

10.	Constructing culverts on Savli Samlaya Road.	1738-5-6	In progress
11.	Additions and Alterations to culverts and pipe drain on Makarpura Sunderpura Jambuwa Road.	704-0-0	In progress
12.	Special repairs to Baroda Khandewadi road Sec. I.	2060-2-9	In progress
13.	Do. Do. to Baroda Chhani Mahisagar Road Sec. I	2294-14-9	Completed
14.	Do. Do. Model Farm to Atladra Road.	980-9-6	Completed
15.	Do. Do. Makarpura Sunderpura Rd. 37/38.	416-13-0	Completed
16.	Do. Do. Masar Road.	1339-15-8	Completed
17.	Special repairs to Jarod Samlaya Road.	71-4-7	In progress
18.	Special Repair to Karjan Miyagam Road.	1304-0-0	In progress
19.	Do. Do. to Petlad Cambay, Road.	1305-5-9	Completed
20.	Do. Do. to Road from Baroda Savli i.e. Samlaya to Savli.	2519-12-0	Completed

Navsari

Navsari, a Dakshin Prant of the Baroda State was watered by rivers like Purna, Mindola, Ambica, Vengania, Kaveri and Tapti. Two river ports of Navsari and Billimora had been centres of water transport. Prior to the introduction and expansion of railways and good metalled road system, like other portions of that state, in Navsari also there was a feeble transport system. Nature of soil in the district was black. In rainy season, the fair-weather tracks were always impassable not only for carts but also for the passengers who could not go on foot.⁻⁵⁵ In Navsari district which also included Mahal such as Navsari, Gandevi, Pulsana, Vyara, Songadh, Kamrej and Mangrol including river port of Bilimora on the bank of Ambica. Bridge and causeway were not constructed before 1867.⁻⁵⁶

In 1867, a road was proposed for Billimora railway station. There was carts, track to railway station of Billimora. That track became impassable during the wet season and always became in bad shape of repair. Billimora Bandsa, and Billimora Chikhli roads were made as early in 1867.⁻⁵⁷

Land was required for Billimora Chikhli road. It had been ceded to the Government of Baroda by the British authorities on one condition that Baroda ceded land for Jambusar – Palej road to the British. Its jurisdiction was with the Baroda Government and the ownership over revenue from both sides of roads would be divided between state and the British. British authorities would bear expenditure for maintaining road. According to Bombay Government's Resolution, sovereign right over land would remain with the state.

In 1864, British Government proposed to construct Jambusar – Palej road, Kim- Mandvi road, Billimora Chikhli road. Baroda Government raised question of jurisdiction for land within Baroda territory (Residency Yadi 1452 – 29/10/1864)

55. H.P.O.File No.11- B, Navsari Division P.25

56. H.P.O. File No.25-B, Roads and Bridges, P. 15

57. Ibid P. 25

Baroda Government enjoyed right of levying Jakat on goods passing through the Baroda territory even after road was constructed (Yadi No.101 dated 27/9/1869) (Residency No. 715 dated 29-5-1865). To develop a transport system by constructing roads and railways was not easy for the Government of Baroda because the division of Kadi, Navsari and Amreli were considerably distant from the centre of the state. There were also disputes and tractions over one problem of jurisdiction. Nevertheless, the Gaikwads provided their subject transport facilities in form of railway (narrow gauge) and roads.

In the year 1885-86, Billimora-Gandevi Section VI, 4 culverts and 2 bridges were constructed. Iron work on bridge on the Ambica was proposed. Billimora Gandevi section was construction to connect Billimora town road, Maroli Vesma road was made. Maroli Umreth road causeway, Vesma Maroli station road, Navsari – Vellach and Kamrej roads were constructed.⁻⁵⁸

Amalsad to Gandevi fair – weather road from Varia to Rander was built. Navsari low level causeway was completed across the river Vengania in Gandevi. The Chimberbari Ghat road was completed in 1906 and was to be used in opening the first track of it.

In 1907, Sayajirao Gaikwad visited Navsari. The Suba of Navsari suggested him about the necessity of constructing roads in the area of Navsari. He ordered for drawing up a new programme of road construction in Navsari according to necessity, after considering the amount to be spent and the cost of maintenance.⁻⁵⁹

A tippon was submitted by Suba of Navsari district in consultation with the P.W.D. Baroda State, showing the necessity of spending Rs. 13,25,734 for road constructed in Navsari. ⁻⁶⁰ His Highness Sayajirao granted a sum of Rs. 1,00,000 should be provided for Navsari and amount was to be increased by Rs. 1,25,000 in 1910 for a period of five years. ⁻⁶¹

58. Baroda State Administration Report of 1885-1886 P. 68

59. H.P.O. File No.49 P. 41

60. Progress Report of Roads in Baroda State (1928) P.41

61. H.P.O. File No.49 P.57

From 1906 to 1911, road construction in Navsari was in progress and roads like Chaltan- Kholwad road, Mahuwa- Nihali road, Mangrol to Nani Naroli and Kim-Mandvi Road, Songadh – Sujakpada, Songadh Bhandapada fair – weather road, Chaltan station to Pulsana road, Chimber Ghat to Otta metalled road from Vyara,Uni, Songadh, Vejpur were constructed. In 1906-07, existing roads were being maintained in satisfactory condition. Vyara to Maskatar, Bardoli to Mota, Sayan Kathor road was proposed and was made afterwards. Bridge over Vyara was constructed in 1907- 1908.⁻⁶² Kushirao bridge on the Purna river was built in 1914 by M/s Burnis & Co. The cost was Rs. 1,70,000. It was 880 feet long, 18 feet broad and 28 feet high. Navsari Vesma road, Dhamduchha Bilimora Gandevi roads were constructed in 1910-11.

The road construction was essential in forest Block VI of Raigrah Chandavadi in Mahuwa range. It was necessary for opening out the forest area, with a view to providing a shorter and easier route to transport forest produce to the railway station at Kala Amba on the newly opened Billimora-Kala Amba railway. The cart track passed through the salient formed by the two arms of the Ambika river situated within the limits of Wali village in Baroda State. Baroda Government was taking measures for providing good means of traffic in the forest areas as forest department conservators made request for it. Fair –weather roads were built so that forest produce could be transported to nearby trade centre. The expenditure on these roads construction was met from the forest local cess. These roads were – Karod to Adgam (9.95 miles) Kashi – Vejpur Nanehal road (8 miles) and Balvi to Ukai (3.25 miles) Forest produce moved freely by road from Anaval to Uni. Metalled road was made from Billimora to Dholikul to Anaval. Bus service was proposed and roads were joined with nearby railway stations.⁻⁶³

62. Baroda State Administration Report of 1910-1911 P. 268

63. H.P.O. File No. 11- B, P. 27, Navsari Division

Navapura – Subir road was built. Number of roads was made ready for traffic which served useful purpose to the general public. Anaval to Unai road was useful for developing forest areas and brought more traffic to Anaval and Unai station on the Billimora – Waghai railway.⁻⁶⁴

Mettalling of Anaval – Unai was propsed and placed before the State Economic Board. The proposed road would adversely affect the interest of the Billimora – Unai railway. The State Economic Board, which represented the revenue, Public Work Department and the Railway Department was not in favor of the construction of metalled road between Anaval to Unai as it would affect the earning capacity, of the Billimora – Kalambar railway. The road was not useful to the timbor dealers of the forest department. Forest produce could be moved freely through fair-weather truck. So the proposed road was not sanctioned.

In short, road construction was often ignored or such projects were not sanctioned by the Baroda Government in many cases because frequently those project affected earning capacity of the state's railway line. Moreover, not only construction, the maintainance of roads was always costly and involved heavy expenditure. Waghamba to Salher road was improved. The constriction of bridge on the Tapti river near Kamrej on. "Great Highway" of 1600 feet was done. The bridge was of great necessity for establishing thorough communication all the year round.⁻⁶⁵ His Highness's "Great Highway" from Kathor to Velachha was the project of making good road that cost Rs.3,11,400. The grant from the Reserve Fund of the Government of India was Rs.1,58,000. The total length of the roads was 65 miles out of which length of 40 miles was already constructed. The portion from Kathor to Velacha joining Kim, Madvi was built. The road was used as a feeder to Mandvi, Tarkeshwar, Kim - Ankleshwar road which was in return a feeder road of great importance to the Grand Trunk Bombay - Ahmedabad road.⁻⁶⁶

64. H.P.O. File No. 11- B, P. 39-40, Navsari Division

65. H.P.O. (P.W.D) No.25/B, Roads & Bridges P.27

66. H.P.O. File No.75, NH /313 of 6/12/34 H.P.O. File No.53 P.15

Umratha – Maroli – Vesma road was improved, Umratha – Maroli section of 10 miles, 3 furlong, plus extension of 2.4 miles beyond Vesma was built which cost Rs. 1,56,000. The road was the main and only artery for the eastern and western portion of Navsari taluka between Bombay, Baroda and Central India Railway company and sea - coast on the West and Vesma a big cotton centre on the East giving access to B.B. & C.I. Rly. Co. at Maroli Railway Station. There were several feeder roads to be served by Umratha, Maroli and Vesma. The road opened up communication with Bardoli taluka and greatly helped in the development of the vast areas of both the Baroda States and the British territories.

Mahuwa – Anaval road was improved with low level bridge on the Poorna near Mahuwa. This road formed a link between Valsad taluka and Bandsa in the south and Bardoli in the North and would be of great benefit to various administrative concern by opening up and developing new areas.

Songadh – Vyara road towards Bardoli-Surat (18 miles) was constructed. The road formed a missing link in the trunk road with Sabir- Nawapura Songadh on the East in the British India and Valod Bardoli Surat road on the West in the British India and quietly assisted in development of vast areas of both administrations.⁻⁶⁷

In 1930, the Government of India from the Road Development Account granted special funds for the construction of road of All-India importance. The road was a grand trunk road from Navsari to Chaltan via Vesma – Palsana and to Kholwad side, a part of road Valsad to Surat. The state had a portion of 22 miles of road. The road was in bad condition in monsoon owing to wear and tear caused by heavy motor buses. It cost Rs. 83,886. Part of Subir – Nawpur road was an important link to road from Surat to Dang forest via Nawpur. Gandevi – Gadat road was a portion of a direct road from Navsari to Valsad. (Gadat, Gandevi, Chekhli)⁻⁶⁸

67. No.17/203 of 1930-31, Endorsement NO. RDS 218-P. of 29-9-1930 Memo No. H/203 of 1930-31 4/11/1936 H.P.O. File NO.53, P.24, 30

68. Baroda State Administration Report of 1930-1931, P. 225

In 1935, Ambika river bridge was built. Gandevi – Gadat, Morali Vesma road, section II of Chaltan Kholwad road, Kathor –Kim- Velacha – Mangrol roads were constructed. Roads in Billimora were maintained by state's Public work Department and after wards managed by the Railway Department. ⁻⁶⁹

The total amount spent from April 1932 to March 1933 was Rs.63,037-8-3. The amount was spent from the Road Development Fund for the improvement of Navsari –Chaltan section of Bombay Ahmedabad Rajputana. Metalling roads of Sayan – Kamrej and Chaltan Kholwad section II cost Rs.39,589 ⁻⁷⁰

The work of construction for the Sayajirao Diamond Jubilee bridge was started which cost Rs.1,20,000. The bridge opening ceremony was performed by His Highness Sayajirao on 17, January 1936. A high level bridge on the river Purna Near Mahuwa was sanctioned for Rs. 1,30,000 under C.O. No. 162166 2/5/1936. ⁻⁷¹

In Navsari districts, roads like Chikhli-Malher were mostly useful to the Surat, Dang and Nasik authorities of British India. Nevertheless, Baroda Government had greatly co-operated in improving the communication of Dang. At the request of Bombay Government, Baroda Government had constructed several roads in the state's territory at their own cost for opening out the Dang area (Sabir to Navpur) Songadh to Malangdeve, Vyara to Makeshastri, Sadodan to Charnamal and Billimora – Kalamba railway was also extended to Therria (Dangarda)and Wagashi for developing forest area of Dang ⁻⁷²

Metal roads from Billimora Dang to Dholikui to Anava was largely utilized by people. The roads in Navsari along with railway helped in providing transport facilities to the backward areas of the district and transport of forest produces. Carting the forest produce was done by joining with the narrow gauge railway station and it promoted trade and communication. ⁻⁷³

69. Baroda State Administration Report of 1931- 32 P.360

70. Ibid P.362

71. Baroda Blue Book Vol. VII P. 107 (1936)

72. H.P.O. File No. 11/B

73. Letter No. Ad.113/391 2686 to the State Economic Board (Goyagate) from P.W.D dated 18/3/1939 H.P.O. File NO.11/B

**Statement showing details of metalled and fair-weather roads in Navsari
District completed upto the end of 1926.**

S. No.	Name of Roads	Length in miles and furlongs	Total expenditure in rupees	Annual maintenance in rupees
1	2	3	4	5
	METALLED ROADS			
1.	Maroli for Umrath including garden and branch roads.	11-0	1,65,000	2,200
2.	Vesina to Palsana.....	4-0	60,000	2,000
3.	Billimora to Gandevi including Billimora to Desara Road	4-0	60,000	2,000
4.	Gandevi To Dhamdachha	3-0	45,000	500
5.	Navsari to Vesma including branch Roads.	6-0	90,000	5,000
6.	Gandevi to Gadat.....	4-0	60,000	1,000
7.	Roads round Navsari (Tavdi Bunder Jamalpur and Kaliawadi).	4-0	60,000	1,000
8.	Chalthan to Palsana	7-0	1,05,000	2,000
9.	Antroli Bardoli Road	5-0	75,000	1,000
10.	Bardoli Mota Road	5-6	86,000	500
11.	Kamrej Sarthana Road	6-0	90,000	2,500
12.	Sayan Kamrej Road... ..	4-2	64,000	2,400

13.	Vyara Unai Road (metalled portion only) including Station Road.	18-0	94,000	1,500
14.	Surat Songadh Road (metalled portion only)	3-0	45,000	400
	Total Metalled Roads...	85-0	10,99,000	24,000
	Say.....	85-0	11,00,000	24,000
	FAIR – WEATHER ROADS.			
15.	Maroli to Vesma.. .. .	6-0	24,000	1,200
16.	Kasbapur Posara Road	6-0	24,000	300
17.	Chalthan to Kathor via Kadodra	10-0	40,000	500
18.	Kosamba Zankhvav Road	24-0	96,000	1,500
19.	Velachha Kim Road	4-6	19,000	500
20.	Zankhavav Balethi Road	3-6	15,000	500
21.	Mahuwa Bhoria Road ...	6-2	25,000	400
22.	Mahuwa Anawal Road ...	13-4	54,000	1,000
23.	Surat Songadh Road....	15-6-	63,000	1,000

Sr. No.	Name of Roads	Length in miles and furlongs	Total expenditure in rupees	Annual maintenance in rupees
1	2	3	4	5
24.	Vyara Kanzn Road...	11-0	44,000	1,000
25.	Vyara Bheskatri Road....	15-3	61,500	1,000
26.	Vyara Kherwada Road	14-3	57,500	1,000
27.	Vyara Chikhli Eandhara Road....	6-0	24,000	400
28.	Songadh Otta Road,.....	17-0	68,000	1,500
29.	Songadh Vijpur Road....	18-0	72,000	1,500
30.	Surat Songadh Road.....	6-0	24,000	500
31.	Songadh Waghnera Road	5-4	34,000	600
32.	Songadh Bhandharpada Road.....	8-6	35,000	600
33.	Songadh Amkuti Road	6-2	25,000	500
34.	Songadh Sajukpada Road	6-2	25,000	500
	Total Metalled Roads...	207-4	8,30,000	16,000
	Say.....	208-0	8,30,000	16,000

S.K. GURTU
Chief Engineer, P.W.D.,
Baroda

Statement showing Proposed roads in Navsari District.

S. No	Name of Roads	Length in miles	Cost per mile in rupees	Total cost in rupees	Remarks
1	2	3	4	5	6
	METALLED ROADS.				
1.	Billimora, Gandevi, Gadat, Navsari, Palsana, Vav, Kamrej, Velacha Road. (Total length 43 miles : out of this road from Billimora to Gandevi 3.5 miles and Navsari to Kadodra Khadi 19 miles are matalled.) Hence 20.5 miles to be done.	20.5	20,000	4,10,000	
2.	Road from Vav to Timba...	9	20,000	1,80,000	
3.	Road from Timba to Chalthan	12	20,000	2,40,000	
4.	Road from Mahuva to Anaval	18	20,000	3,60,000	
5.	Road from Salher to Waghamba	1	20,000	20,000	
	Total	60.5		12,10,000	

V.R. TALWARKAR
Ag. Chief Engineer,
Baroda State.

**Statement of the principal roads serving more than two villages
in Navsari District constructed by Navsari Prant Panchayat.**

S. No.	Name of roads	Metalled M.F.	Gravel M.F.	Sand M.F.	Fair M.F.	Total
1	2	3	4	5	6	7
1. Navsari Taluka						
1.	Kasba to Kalakaccha	0	1.1	-	6-0	7-1
2.	Amalpur to Sarona	-	-	-	3-0	<u>3-0</u>
						10-
2. Gandevi Taluka						
3.	Dhamdachha to Kacholi	0.7	-	-	-	0.7
4.	Gandevi Dhanori to					
	Pip - aldharma.....	2.2	-	1-0	-	3-2
1.	Gandevi Khergam					
	Durvada road	1.0	-	1-3	-	2-3
2.	Brahamdev to Fati					
	and Nanderkha.	-	-	-	3-1	3-1
3.	Valoti to Brakamdev	0.7	-	-	-	0-7
4.	Sonvadi to Gandat -					
	and Manekpur	-	-	2-6	-	<u>2-6</u>
						<u>13.2</u>
						<u>23.3</u>

3. Kamrej Taluka

5. Khowad Laskana	-	-	2-4	-	2-4
6. Kamrej Digas Orna and Shevami	-	-	-	10-0	10-0
7. Kamrej to Vav	-	-	-	4-2	4-2
8. Makda Parab Valam	-	-	-	3-0	3-0
9. Kathor Abrama Sekhpur Kareli	-	-	-	8-0	<u>8-0</u>
					27.6

4. Palsama Taluka

10. Taraj Dholikui Road	-	-	3-0	7-0	10-0
11. Chalthan Niol- Sabargam.....	-	-	-	3-3	3-3
12. Tea Nadira.	1-4	-	-	-	1-4
13. Ena Tundi Gangadir	-	-	0	2-6	2-6
14. Gangadhara Soyani Vani	-	-	0-4	2-4	<u>3-0</u>
					20.3

5. Mangrole Taluka

15. Mangrole to Nani Naroli	-	-	-	6-5	6-5
16. Mosali to Vasaravi	-	-	-	1-4	<u>1-4</u>
					8-1

6. Mahuva Taluka

17. Mahuva Kanhi to

Sarbhon Road.	-	-	1-6	1-1	2-7
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18. Anaval to Gangadia	-	-	-	4-5	4-5
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19. Butwada to Zervaora

and Sanavalla.	-	-	-	7-0	<u>7-0</u>
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14.2

7. Vyara Taluka

20. Vyara Musa Madav

to Balpur	1-0	-	1-0	5-0	7-0
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21. Vyara Bhatpur -

Tichakpura.	1-0	-	2-4	1-0	3-0
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22. Rupwada Kapura and

Chirma	1-0	-	2-4	1-0	4-4
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23. Lotarva to Kaheer and

Kaheer to Bukhadi and

Bajipura.	0-4	-	1-4	2-0	<u>4-0</u>
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18.4

112.7

24. Kataswan to Shata	-	-	-	6-0	6-0
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25. Dolvan Shani to

uhari.	-	-	-	5-0	5-0
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26. Butwada Beda to Ghani	-	-	-	3-0	3-0
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8. Songhad Taluka

27. Songhad station Roadi	1-6	-	-	-	1-6
28. Songhad Ghoda Road	4-0	-	-	-	4-0
29. Dumda Road	-	-	-	2-0	<u>2-0</u>
					7.6
34. Special repairs to Vyara Bheskatri Road.		3069		Completed	
35. Do- Surat Songadh Road Songadh Taluka.		1849		"	
36. Do - Songadh Wajpur Road		1345		"	
37. Do - Songadh Otta Road		990		"	
38. -Do- Sayan Kamrej Road		1301		"	
39. -Do- Chalthan Kathor Road		824		"	
40. -Do- Variav Rander Road		2000		"	
41. -Do- to road from Tata A.V School to Mundhola River		6012		In progress	
42. Special repairs to Maroli Umrath Road.		641		Completed	
43. Special Repairs to Kasba posra road		1376		"	
44. Special repairs to Billimora Dora road		644		"	
45. Special repairs to Gandevi Gadat Road		1084		"	
46. Special repairs to Billimora Talao Road		397		"	
47. Special repairs to Mahuwa Nihali Road		5311		In progress	

Navsari Division

1. Maroli to Umrath including garden and branch roads	12.0
2. Vesma to Palsana	4-0
3. Billimora to Gandevi including Billimora to Desara road	4-0
4. Gandevi to Dhamachha	3-0
5. Navsari to Vesma including branch roads.	6-0
6. Gandevi to Godat	4-0
7. Roads round Navsari (Tavdi bunder, Jamalpur and Kaliaqadi)	4-0
8. Chalthan to Palanpur	7-0
9. Antroli Bardoli road.	5-0
10. Bardoli Mota road	5.6
11. Kamrej Sarthana Road	6.0
12. Sayan Kamrej road.	4.2
13. Vyara Unai road including station road	18.0
14. Surat Songadh road.	3.0

Statement Showing the amount spent out of the P.W.D. Budget and Petrol tac during the year of 1936 -37

Baroda state P.W.D. Records
File No. 17/3/13 H.P.I (Revenue)

Roader Bridge	Sectioned amount	amount spent out of P.W.D. Budget 1936-37 in rupees		Total expenditure in rupees	Repairs	Completed
Metal road from to Mindhola River Bridge including Sadarfad.	N.E.E No. 12 21-8-36 Rs.3,000/-	2,991-4-7	.....	2,991-4-7	Do.	Do.
Maintenance of two steam Road Rollers.	No. 13 21-8-36 Rs. 1,000/-	50-5-14-8	.....	50-5-14-8	Do.	Do.
Do. Diesel Road Rollers	Do. No. 14 21-8-36 Rs. 1,000/-	831-13-5	.....	831-13-5	Do.	Do.
Do. Road Grader	Do. No. 15 21-8-36 Rs. 500/-	429-0-8	.....	429-0-8	Do.	Do.
Do. Kashirao Bridge on Purna River	N.E.E No. 42 1-9-36 Rs.608/-	607-4-0	.....	607-4-0	Do.	Do.
Do. Mindhola River Bridge	Do. No. 41 1-9-36 Rs. 400/-	392-9-0	.....	392-9-0	Do.	Do.
Do. Maroli Umrath Road	D.No. 105 26-9-36 Rs. 2200/-	1,630-9-0	.....	1,630-9-0	Do.	Do.
Do. Maroli Vesma Road	Do.No. 16 21-8-36 Rs. 2000/-	1,975-13-1	.....	1,975-13-1	Do.	Do.
Do. Maroli Town Road	Do. No. 17 21-8-36 Rs. 100/-	85-5-11	.....	85-5-11	Do.	Do.

Do. Kasba Posra Road	Do. No. 18 21-8-36 Rs. 350/-	318-8-11	.....	318-8-11	Do.	Do.
Maintanance of Raichand or Tavdi Bunder Road	Do. No. 19 21-8-36 Rs. 400	398-13-0	.....	398-13-0	Repair	Completed
Kaliawadi Kachhaawadi Road	Do. No. 20 21-8-36	152-8-4	.....	152-8-4	Do.	Do.
Do. Billimora Handevi Road	Do. No. 22 21-8-36 Rs. 1200/-	1,097-8-5	.....	1,097-8-5	Do.	Do.
Do. Gandevi Dhamdacha Road	Do. No. 23 21-8-36 Rs. 750/-	659-2-0	.....	659-2-0	Do.	Do.
Do. Billimora Road	Do. NO. 24 21-8-36 Rs. 150/-	134-2-10	.....	134-2-10	Do.	Do.
Vengania Low Level bridge	Do. Np. 25 31-8-36 Rs. 200/-	159-6-6	.....	159-6-6	Do.	Do.
Do. Machakadi Bridge	Do. No. 88 11-9-36 Rs. 50/-	43-0-0	.....	43-0-0	Do.	Do.
Do. Gandevi Gandat Road	Do. NO 26 21-8-36 Rs. 1000/-	883-8-11	.....	883-8-11	Do.	Do.
Billimora Talod Road	Do. No. 27 21-8-36 Rs. 300/-	286-15-1	.....	286-15-1	Do.	Do.
Maintenance of Nani Sarai to Khutadia Bunder Road	Do. No. 28 21-8-36 Rs. 300/-	217-8-6	.....	217-8-6	Do.	Do.
Do. Mahuwa Nihali Road	Do. No. 29 21-8-36 Rs. 1800	1,718-2-4	.....	1,718-2-4	Do.	Do.

Do. Mahuwa Tarasasi Road	Do. no. 30 21-8-36 Rs. 600/-	476-11-5	.....	476-11-5	Do.	Do.
Do. Mahuwa Boria Road	Do. No. 39 1-9-36 Rs. 800	571-0-5	.....	571-0-5	Do.	Do.
Do. Mahuwa Anaval Road	Do. No. 40 1-9-36 Rs. 500	277-4-6	.....	277-4-6	Do.	Do.
Do. Unai Bansda Road	Do. No. 31 21-8-36 Rs. 50/-	49-5-0	.....	49-5-0	Do.	Do.
Do. Unai Station to Kund Road	Do. No. 32 21-8-36 Rs. 150	121-2-6	.....	121-2-6	Do.	Do.
Do. Sayan Kamrej Road	Do. No. 44 1-9-36 Rs. 1200/-	1,189-3-5	.....	1,189-3-5	Do.	Do.
Do. Kamrej Sarthana road	Do. No. 43 1-9-36 Rs. 2,000/-	1,645-7-3	.....	1,645-7-3	Do.	Do.
Do. Chalthan Kathore Road	Do. No. 56 7-9-36 Rs. 3,000/-	2,938-12-5	.....	2,938-12-5	Do.	Do.
Do. Variav Rander Road	Do. NO. 34 26-8-36 Rs. 500/-	489-1-9	.....	489-1-9	Do.	Do.
Do. Kosamba Zankhwa Road	Do. NO. 57 7-9-36 Rs. 1,000/-	1,257-15-9	.....	1,257-15-9	Do.	Do.
Maintenance of Velachha Kim Road	Do. No. 58 7-9-36 Rs. 750/-	532-12-0	.....	532-12-0	Do.	Do.
Do. Zankhvav Belatha Road	Do. No. 59 7-9-36 Rs. 200/-	198-6-0	.....	198-6-0	Do.	Do.

Do. the road from Mindhola Bridge to Chalthan	Do. No.64 7-9-36 Rs. 3000/-	2,791-10-9	.....	2,791-10-9	Do.	Do.
Do. Chaitan Sabargam Road	Do. NO.64 7-9-36 Rs. 1,600/-	1,496-5-3	.....	1,496-5-3	Do.	Do.
Bardoli Mota Road	Do. No.61 7-9-36 Rs. 500/-	392-7-0	.....	392-7-0	Do.	Do.
Do. Antroli Bardoli Road	Do. No. 62 7-9-36 Rs. 800/-	482-0-9	.....	482-0-9	Do.	Do.
Do- Kadodra Khadi Bridge	Do. No. 63 7-9-36 Rs. 50/-	45-12-0	.....	45-12-0	Do.	Do.
Do. Surat Songadh Road	Do. No. 69 7-9-36 Rs. 1500/-	1,484-10-0	.....	1,484-10-0	Do.	Do.
Do. Vyara Unai Road	Do. No.71 7-9-36 Rs. 1500/-	1,437-8-0	.....	1,437-8-0	Do.	Do.
Do. Vyara Kherwadi Road	Do. No. 67 7-9-36 Rs. 700/-	268-0-9	.....	268-0-9	Do.	Do.
Maintenance of Vyara Kanza Road	Do.No.77 7-9-36 Rs. 500/-	444-11-0	.....	444-11-0	Do.	Do.
Do. Vyara Chikhli Bhandhra Road	Do. No. 76 7-9-36 Rs. 200/-	42-0-3	.....	42-0-3	Do.	Do.
Do. Songadh Otta Road	Do. No. 75 7-9-36 Rs. 2000/-	1,483-3-8	.....	1,483-3-8	Do.	Do.
Do. Songadh Vajpur Road	Do.No.74 7-9-36 Rs. 1250/-	995-13-1	.....	995-13-1	Do.	Do.

Do. Songadh Waghnera Road	Do. No.68 7-9-36 Rs. 600/-	383-0-6	.....	383-0-6	Do.	Do.
Do. Surat Songadh Road in Songadh Taluka	Do. No. 72 7-9-36 Rs.700/-	586-1-0	.....	586-1-0	Do.	Do.
Songadh Bhandarpada Road	Do. No. 80 7-9-36 Rs. 350/-	306-5-1	.....	306-5-1	Do.	Do.
Do. Songadh Goods Yard Road	Do. No. 78 7-8-36 Rs. 100/-	74-7-6	.....	74-7-6	Do.	Do.
Do. Songadh Amkuri Road	Do. No. 81 7-9-36 Rs. 100/-	60-14-2	.....	60-14-2	Do.	Do.
Songadh Sejukpada Road	Do. No.82 7-9-36 Rs. 100/-	89-14-4	.....	89-14-4	Do.	Do.
Maintenance of Subi Navapur Road	Do. No. 73 7-9-36 Rs. 500/-	396-6-6	.....	396-6-6	Do.	Do.
Do. Salher Waghamba Road	Do. No. 79 7-9-36 Rs. 500/-	157-14-0	.....	157-14-0	Do.	Do.
Do. Do Salher Waghnera road	Do. No. 68 36/37 Rs. 60000/-	560-0-0	.....	560-0-0	Do.	Do.
	Total Rs.	39,245-0-0		39,245-0-0	Do.	Do.

Recapitulation

	Out of P.W.D	Out of	Total Rs.
	Dept. Budget	Petrol Tax. Fund	
	In Rupees		
Baroda Division	31,067-6-9	0-0-0	31,067-6-9
Mehsana Division	9,982-0-0	0-0-0	9,982-0-0
Mehsana Division	34903-14-0	0-0-0	34903-14-0
Mehsana Division	39,245-4-0	0-0-0	39,245-4-0
	-----		-----
	1,05,198.4.9		1,05,198.4.9
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Chief Engineer, Baroda State.

NAVSARI DIVISION

Original Works

Consulting Kather Kim Velachha Road.	25115-0-0	In Progress
Consulting minor cross drainage on Surat Songadh road in Songadh Taluka.	1193-0-0	Completed
-do- in Vyara Taluka	3385-0-0	-do-
-do- in Bheskatri Road	6896-0-0	-do-
Providing causeway and culverts on Vyara Kanza Road	1139-0-0	-do-
-do- Vyara Pheskatri Road	2297-0-0	-do-
-do- Songadh Otta Road.	938-0-0	-do-
-do- on Songadh Vajpur Road.	1091-0-0	-do-
-do- Salher Waghamba Road	753-0-0	-do-
Approach road to Zankhari Dam Site	490-0-0	
Metalling Mahuwa Anaval Road including an inexpensive high level bridge	102068-0-0	in progress
Metalling Maroli Vesma Road	8633-0-0	completed

Special repairs

Special repairs to Surat Songadh Vyara Taluka	2258-0-0	Completed
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Kadi

In Kadi division of the state, there were total 12 Mahals – Dahegam, Attarsumba, Kadi, Kalol, Vijapur, Visnagar, Mehsana, Siddhpur, Kheralu, Patan, Chanasma and Harij.

The main lines of traffic in Kadi were (a) from Dehgam to Vadepur in Mewar in the North –east to Sadra (b) Prantij and Idar in North to Kadi and Pethapar in north-west to Kapadvanj in the South –east. (c) From Kadi to Ahmedabad in South –west to Patan in the north-east to Visnagar.⁷⁴

Looking at the geography of the district, it can be said that the whole district was opened on all sides. Each taluka was connected with its neighbourhood by broad country cart tracks for conveyance of traffic.

Owing to the opening of Rajputana – Malwa Railway and the branch railways opened by His Highness' Government, the old route from the north had fallen into more or less complete disuse. The Rajputana Malwa Railway ran through Kadi, Kalol, Mehsana, Visnagar and Siddhpur of Kadi division while Dehgam, Visnagar, Kadi, Kheralu, Chamasma, Harij and Patan were connected with the main line by branch line. The traffic to the railway which formerly came from Patan to Unjha and Bhandu and to Mehsana from Visnagar, Vadnagar, Kheralu, Vijapur and Vadavali then went direct from each place. The existed railway lines had effected a great change in the traffic along the roads of Kadi district. The commodities like wool, cotton, butter, flock of sheep from Marwad which used to pass through Siddhpur and other talukas then transported by rail instead of old country cart tracks. Routes to Kathiawad, Marwar, Idar and Prantij to Agra, Ajmer and Delhi ran through Kadi Division. The prestige of the Imperial capital was indicated by the fact that every town of any importance still possessed its Delhi Gate. The old route from the northern sides were to a large extent deserted.

74. Desai. G. H., Kadi Prant, 1920 (31/12/1920) P. 119

The principal line of traffic that connected Kadi District to other important places in Baroda State and other parts of the country was Western Rajputana Railway which opened new lines of traffic. Before the coming of railways, Visnagar and Unjha were the big centres of trade and commerce with the use of camels and bullock carts. From the old country cart tracks, commodities and articles were sent to the port of Dholera. Dholera was connected with Bombay and Surat. The talukas were connected through cart tracks only with the adjacent areas.⁻⁷⁵

Before 1880, there was no good roads in the district. Traffic was run by railways. The fact can be known from this statement, "during the regime of the Gaekwad hardly any efforts were made to improve the condition of roads in that area (Kadi)".⁻⁷⁶ There were certain reasons for slow or no expansive road programmes in the district of Kadi.

Kadi was a region of sandy terrain and most of the routes were full of sand which rendered the task of pulling the carts very strenuous for the bullocks. Northern part of the district was more sandy and four or two bullocks were required to drag a cart. One of the hills near Taranga was used for Mehsana – Kheralu railway line, but metal was not sufficiently hard. The transportation cost of bringing the metal from district palace was always prohibitive and unless large funds were made available, it was very difficult to bring the metal for the construction of roads or for the repair of those in existence. So there were few roads as feeder line to nearby railway station Unjha and Unava.⁻⁷⁷

75. Desai. G. H., Kadi Prant, 1920 (31/12/1920) P.389

76. Elliot F.A.H., Gazettee of the Bombay Presidency, Vol. VII Baroda (1883) P.143.

77. Rajyagore S.B., Mehsana District, P.405

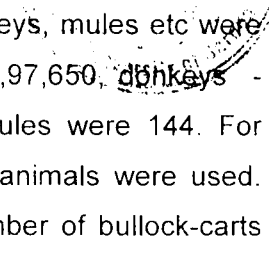
Diwan T. Madhavrao, had, to a great extent, abandoned all hopes of covering the lands with a network of roads owing to the great expenses involved in obtaining material and the uncertainty of metalled roads being kept in repair in a native State. He preferred to create a narrow and metre gauge railway whereas there was a cheaper and more effectual manner of opening communication. Metre gauge railway lines were constructed in the district. There was a large metre gauge railway network throughout Kadi district.

Certain measures were taken for improving the condition of roads, during the period of Sayajirao Gaikwad. The construction of railway on the other hand necessitated construction of road which could be a feeder line to nearby railroad. Roads were constructed from Kalol railway station to Kadi, from town of Kadi, Patan, Visnagar and Vadnagar, Kalol railway station to Kadi road of regularly repaired across country roads. The British Government had constructed metalled road from Ahmedabad and passed through Dehgam to Prantij and to Idar and Sadra to meet requirement of administrative and military affairs.⁻⁷⁸

Beasts of Burden:

Transport was conducted by means of pack animals, palanquin, bullock-carts just as it had been for many centuries. Bullock-carts, vehicle were the usual modes of transport for goods between villages and trade centre like 'Mandi'. In view of the fact that a large number of villages were without approach roads, the bullock-cart occupied an important place in the rural transportation. However, after the First World War, its importance was reduced to a greater extent for long distance travel because of the increased use of automobiles like motor cars and motor cycles.

78. Rajyagore S. B., Mehsana District, P. 405



The pack animals like horses, bullocks, camels, donkeys, mules etc were in good number in the district. (Number of bullocks were 1,97,650, ~~donkeys~~ - 19,144, camels – 8,241, horses and ponies 4,185 and mules were 144. For conveyance of merchandize, a large number of carts and animals were used. Animals were useful in agricultural operation. The total number of bullock-carts were 43,862, in various parts of district. Of these number 43,689 were in rural areas and 3,827 in urban area. ⁻⁷⁹

The construction of roads was undertaken with a view to make railway expansion successful in case of acute necessity. Metalled road from Manund railway station to Ranooj was completed in 1896. The road to Vadnagar was widened in 1896. ⁻⁸⁰

In 1888, Kadi-Kalol road was repaired and improved. When the work of extending good roads in Kadi began, there was great difficulties in obtaining required material. There was great scarcity of kankar. Causeway on the road was completed on Kadi-Kalol branch. The 24 mile Mehsana Bechraji road was constructed. Fair-weather roads were made like Ahmedabad boundary beyond Challala, which were of 46 miles, Ahmedabad boundary beyond Dehgam of 13 miles and thus total mileage constructed was 76.

Dehgam Attersamba road was proposed with a view to give relief to the famine affected areas. Projects of road construction were prepared under famine relief program as there was occurrence of famine during 1900. ⁻⁸¹

79. Quarterly Bulletin Bureau of Economic and Statistics Vo. IX P. 138,140

80. Baroda State Administration Report of 1885-1886 P. 293

81. Baroda State Administration Report of 1896 - 1897 P.193

Road to Limodara, the nearest railway station to Sadra, the headquarter of Mahikantha Agency was built. The road was necessary to provide transport facilities to the people of Limodara Sadra. It was a fair-weather road and as usual had been cut off by rain and was impassable for wheeled vehicles and horsemen. This road was improved in 1907. ⁻⁸²

Pahadi Nala on Bechraji road was built. Masonary skew bridge on Ahmedabad-Prantij road, Dehgam roads were built in 1907. Metalled roads from Patan to Visnagar were built. Fair weather road from Kadi railway station to Vijapur railway station and to town was completed in 1907. In the same year Patan villa Bungalow road and road to Visnagar was constructed. Harij railway station road to town and Kalol to Thol were constructed. ⁻⁸³

Between 1911 and 1912, a bridge on the river Rupen was constructed and a bridgeable road was made convenient for travel. In 1912, there was occurrence of famine in the certain areas of Kadi district. Hence, road construction was given essential importance as famine relief work to supply foodstuff was done during the period of scarcity.

The road passing through the level crossing between Manund and Chanasma, which was in such a bad condition that the passengers always had in danger of their lives, was improved. In 1924, the District Local Board of Kadi Division decided to construct a metalled road from Attarsambha to the British frontier on the side of Kapadvanj and asked Kapadvanj.

The District Local Board also asked the authorities of Kapadvanj for the extension of road within their limit. It was an important track or traffic to Attarsambha a taluka town and Kapadvanj was the nearest railway station. The track was enormously sandy and the cart traffic was extremely difficult. Most of the traffic

82. H.P.O. File No.10 Rods Passing through Kadi Division P. 35

83. A letter to Prant Panchayat of Kadi from the President H.P.O File No. 52 (Roads in Kadi) P.15

from Attarsambha went to Kapadvanj and the other outlet for traffic from Attarsambha was towards Dehgam. Dehgam road was too sandy and the Vatrak river always created trouble for travellers during the rainy season. This made the traffic towards Dehgam practically bare.

Owing difficulty of sandy land, no development was possible. Passenger traffic became difficult. The people of Attarsambha suffered from a great drawback owing to lack of proper means of communication. So Kadi Prant Panchayat began to construct the road up to the Baroda limit. But Kapadvanj British authorities were not interested in the construction of road within their limit. So the road could never serve the purpose of removing traffic problem and providing, transport facilities in form of road transport.

Inter-territorial roads were a matter in which co-operation might be expected between the adjoining different jurisdiction and His Highness' Government had always co-operated with the British authorities in measure of public utility. Development of roads in Kadi division was not parallel to the expansion of railways. Because of sandy terrain and non-availability of stones in proximate required for metalling roads and so much progress could not be made in construction of road. Roads were made especially as feeders to railways or as famine relief measures. Metre gauge railway network was the important mode of traffic.

In 1913, the chief engineers made proposals for road construction in Kadi districts and an estimate cost of Rs. 21,12,000/- and Rs. 50,000/- could be allotted every year. Kadi district had got a good network of metregauge railways, branching out in all directions and therefore approach roads to railway stations and roads that were necessary for places of pilgrimage like Unava, Modhera etc were made. Road from Patan to Bechraji with culverts, Dehgam to Attarsambha

with bridge and culverts and road from Visnagar to Vijapur were proposed for development in transport facilities. ⁻⁸⁴

The District Local Board of Kadi took up the task of constructing a fair weather road from Attarsambha to Waghas as feeder road to railway station. Baroda Government decided to develop good road system in the district for providing modes of traffic. Fair-weather roads were constructed in 1928-29. Baroda Government had always expended co-operation when a road was required through the State's territory in the interest of the neighboring authorities.

Dharmaj-Virsad road was made. By 1930, in Kadi, there were 59 miles of fair-weather roads. The total cost of road construction was Rs. 3,54,000/-. In 1931, approach roads at certain railway stations on the Mehsana Railway in the district to connect with feeder roads in Dhurewada, Kandali, Randala, Kasawagrod were built. The Bombay – Baroda & Central India Railway Company had insisted for the construction of roads as they were supplementary to railways. ⁻⁸⁵

Ahmedabad – Ajmer Grant Trunk road included portion of the road lying in Kadi from Salej or Shertha (Kalol taluka limit) to Kalol town to begin with and eventually up to Siddhpur of 50 miles. The cost was Rs. 3,63,000/- and state would bear cost of Rs. 2,00,000/- and Rs. 1,60,000/- was granted from Government of India's Reserve Fund. That road formed a link of Ahmedabad – Rajputana, Delhi trunk road of All India importance. Bardoli- Bahiel Gami – Kathwara road towards Ahmedabad with bridges on Meswa and Khari rivers of 20 miles was proposed. ⁻⁸⁶

Bardoli – Bahiel Gami-Kathawada road was to establish communication with Ahmedabad, one of the biggest industrial cities of India and it opened up new areas thereby developing vast areas.

84. Progress Report of Roads in the Baroda State of 1928 P.41

85. H.P.O. File No. 7 P.15

86. H.P.O. File No.61 on Roads bridges Kadi P.9

Statement showing details of metalled and fair-weather roads in

Kadi - District Completed upto the end of 1926.

S. No.	Name of Roads	Length in miles and furlongs	Total expenditure in rupees	Annual maintenance (in rupees)
1	2	3	4	5
	METALLED ROADS			
1.	Unza Unava Road	2-4	42,500	2,000
2.	Chiloda Dasela Road part of Sadra Dabhoda Road (Trunk Road)	6-0	1,02,000	7,000
3.	Waghjipur to Vatrak river and further	1-2	21,250	300
4.	Mehsana Railway Station to the Public Offices and Police Head Quarters	1-2	21,250	1,200
5.	Road from Patni gate to Visnagar Railway Station	0-3	6,500	500
6.	Rly, Station to Kheralu town...	0-3	6,500	450
7.	" " to Vadnagar town	0-3	6,500	450
8.	" " to Unza Villages	1-0	17,000	800
9.	" " to Bhagwada gate	0-7	15,000	500
10.	" " to Chanasama	0-6	13,000	750
11.	" " to Kalol	0-4	8,500	800
12.	" Dehgam upto the junction.	0-3	6,500	600
13.	Other minor short pieces	1-6	29,500	1,200
	Total Metalled Roads...	17-3	2,96,000	16,550
	Say.....	18-0	3,00,000	17,000
	FAIR WEATHER ROADS			
14.	Amliasan Station to Amliasan villages	1-3	8,000	100

15.	Manund Road Railway Station to Ranuj village	0-5	4,000	500
16.	Jagudan Station to the Jagudan Village	0-7	5,000	600
17.	Kadi to Kalol.....	12-0	72,000	500
18.	Kalol to Thol	0-6	4,500	100
19.	Bahiyal Demalia Road	7-0	42,000	400
20.	Sonarda to Sagdarpur (part of Ahmedabad Modasa Road)	15-0	90,000	300
21.	Pirojpur to Chandrala (part of Ahmedabad Prantij Road)	15-3	92,500	300
22.	Kathwada to Bardoli in Baroda limits.....	3-0	18,000	800
	Total Fair-weather Roads	59-0	3,54,000	4,000

by

S.K. GURTU

Chief Engineer, P.W.D., Baroda.

Statement showing proposed roads in Kadi District.

Sr. No.	Name of Roads	Length in miles	Cost per Mile. (in rupees)	Total cost in rupees
1	2	3	4	5
	METALLED ROADS			
1.	Roads from Kadi to Bhoyani and Ranakpur	8	17,000	1,36,000
2.	Dehgam Dahial Attarumba and Ukardia Road	17	17,000	2,97,500
3.	Road from Dehgam to Chiloda	12	17,000	2,04,000
4.	Pattan, Chanasma, Vadavali, Modhera, Bechraji Road...	28	17,000	4,76,000
5.	Road from Pattan to Harij via Adia	18	17,000	3,06,000
6.	Do. From Vijpur to Visnagar	16	17,000	2,72,000
	FAIR – WEATHER ROADS	99		16,91,500
7.	Kadi, Rajpur, Dangerwa, Sadra Road	24	4,500	1,08,000
8.	Road from Pattan to Kheralu via Siddhpur	32	4,500	1,44,000
		56		2,52,000
				2195500

V.R. TALVALKER

Ag. Chief Engineer, Baroda State.

Statement Showing the amount spent out of the P.W.D. Budget and Petrol tax during the year of 1936 -37

Baroda State P.W.D. Records

File No. 17/3/3 H.P.I (Revenue)

Roads & Bridge	Sectioned amounted	amount spent out of P.D.W. of budge 1936-37(in rupees)		Total expenditure (in rupees)	Repairs	Completed
Road from Public offices to police Head quarters at Mehsana	Do. No. 18 12-10-36 Rs. 960/-	887-0-0	.....	887-0-0	Do	Do.
Unza Unawa Road in siddpur Taluka	Do. Ni.24 24-10-36 Rs. 1440/-	1,177-0-0	.....	1,177-0-0	Do	Do.
Road from Rly station to Villa Bungalow at Patan 36-37	Do. No. 41 31-10-36 Rs. 576/-	327-0-0	.....	327-0-0	Do	Do.
Road from Veterinary dispensary to Kheralu Rly. level crossing at Mehsana	Do. No. 23 12-10-36 Rs. 960/-	532-0-0	.....	532-0-0	Do	Do.
Road from Rly station to Town at Ranook	Revised E.E. No. 1/5-9-37 Rs. 634	630-0-0	.....	630-0-0	Do	Do.

Chiloda Desella road in Dehgam Taluka	C.E. No.24 4-11-36 Rs. 5, 062	4,495-0-0	.....	4,495-0-0	Do	Do.
Road in the compound of Pattan villan Bunglow 1936-37	E.E. No. 42 13-10-36 Rs. 324/-	248-0-0	.....	248-0-0	Do	Do.
Three gravel road at Utkanteshwar Mehadev in Attersumba Taluka 1936-37.	Do. No. 83 7-11-36 Rs. 186	129-0-0	.....	129-0-0	Do	Do.
Bahiyal Damalia Road	Do. No.66 22-10-36 Rs. 236/-	181-0-0	.....		Do	Do.
Kalol to Thol Fair weather Road	C.E. No. 110 1911-37 Rs. 240/-	225-0-0	.....		Do	Do.
Kadi Kalol Fair weather Road	E.E. No. 109 19-1-37 Rs. 216	151-0-0	.....		Do	Do.
Road from Pirojore to Chandralla out of Ahedabad Partij Road	Do. No. 65 22-10-36 Rs. 480/-	219-0-0	.....		Do	Do.

Kathwda Bardoli Fair Weather Road	Do. NO. 67 22-10-36 Rs. 480/-	356-0-0	.....		Do	Do.
Road From Sonarda to Jalia Matha out of Ahmedabad Prantij Road.	Do. No. 64 22-10-36 Rs. 480/-	425-0-0	.....		Do	Do.
	Total	9,982-0-0	.....	9,982-0-0		

Amreli

In Amreli division, there were seven Mahals- Amreli, Damnagar, Dhari, Khambha, Kodinar, Ratanpur and Bhimkatta. Okhamandal and Byet were State's possession in Kathiawad.

Much of the traffic and trade of Amreli was carried on by means of water transport and rest by means of laden bullocks, horses, camels and hired labours. Whatever roads existed were unsafe and difficult to traverse and were trafficable only in dry season. The condition of means of conveyance and trade route can be understood from the following term:

" upto 1865, there was no man-made road to the province (Amreli). During the rainy season (June – September) when the ports were closed and the rivers flooded, outside dealings were at a standstill and there was a little movement within the province. Tracks of wheeled vehicles usually ran along gravelly bed of small streams as the soil was the hardest and the friction was the least, but at the best of times, the passenger of the largest streams was a grievous hindrance. In fair- weather, it was and in parts it still was no uncommon sight to see a train of laden cart halted at the bank of river and cattle of three or four carts formed into a team to drag one across, or when the cart was by itself taken across empty, and filled on the opposite bank the load was carried over bit by bit on men's hand"⁸⁷

In ancient times, the chief trade and traffic route in the peninsular Gujarat of which Amreli district formed a part, followed the coast from Ghogha south – west to Somnath and thence to north – west to Dwarka. The chief land routes were those joining the peninsula of Kathiawar with the main land of these, the most frequented passed by Jhinjhuwad and Patadi to Wadhwan and by Viramgam to Wadhwan. The route to Dholka and Dhandhuka to Wadhwan and Vallabhi were also in common use. There also seemed to have been a road joining Vallabhi with Junagadh and Vanthali. But most of this road passed through forest and thinly people country. The trade route followed the coast line.

87. Campbell J.M., Gazetteer of the Bombay Presidency Vo. VIII Kathiawar (1884) P.220

In the period of Muslim rule especially under the imperial Viceroys i.e. or Governors appointed by the Mughal emperors from Akbar to Aurangzeb (1573-1700), the interior of the peninsula became populous, routes increased and a road was opened from Wadhwan direct to Dwarka by Nawanagar and Khambhalia. Before Rajkot – Wadhwan road was made, the old route from Rajkot to Wadhwan passed by Sanosura, Ghiawad, Mahika, Than, Umarda, and Muli and before the extension of railway to Wadhwan, the road from Wadhwan to Ahmedabad passed by Talsana, Shahpur, Sanand and Sarkhej. The old track route from Nawanagar to Gujarat and Malwa was by Dhrol, Tankara, Morvi, Halvad, Dhragdhra and Viramgam.⁸⁸

Like other princely states in Kathiawad, the road system did not receive adequate attention in Amreli before 1880. In Amreli, unlike Kadi or other division of state, there was no difficulty of acquiring required materials for road construction. It could be easily obtained from the nearby hilly areas. Nevertheless, road system was not much developed in the second half of the 19th Century because of Amreli's remoteness from the state's capital. The portion of the possession of the Gaikwad in the Kathiawad was surrounded by native state and it was but natural that they had jurisdictional disputes with the state in exercising sovereign right over the disputed territory. Moreover, the approval for construction of roads or railways in that area had to be obtained from the British Government as paramount power.

Baroda Government had invested large amount on railway expansion and was least interested in making roads which would affect railway earning.

In 1876, Engineering Department was set up. In 1891 it was reorganised. Executive engineers were placed in Baroda, Nasari, Kadi and Amreli. It was done to develop a good road system in the state. There were few metalled roads on which automobiles could safely ply. Roads as feeder line to railways were constructed. Nevertheless compared to Kadi, Amreli district was provided a better road communication.

88. Campbell J.M., Gazetteer of the Bombay Presidency Vo. VIII Kathiawar (1884) P. 222-223

In 1887, His Highness Sayaji Rao visited Amreli under his district tour program. During his visit, he paid sufficient attention towards the problems of the district and took special measures to provide good transport facilities through railways and roads.⁻⁸⁹

Beast of Burden

The bullock cart was the main means of transport before the mechanisation of the mode of conveyance. Despite the extension of railway and expansion of road traffic through automobiles, the bullock carts still remained important and useful in village economy. The highest number of pack animals was found in Lathi and Kodinar. In pre independence period, the total number of bullock carts was 44,625 in Amreli district. The strength of different type of beast of burden such as bullock, horses, ponies, mules, donkey and camels was 1,30,581. Among the pack – animals, bullock ranked first in Amreli, then horses, ponies, donkey and camels. They were needed for pulling carts as well as ploughing fields. Donkeys were useful for transporting building materials required in construction of dams, roads and building. Local trade was carried partly on bullock carts, pack-bullocks and partly on assess.⁻⁹⁰

Baroda Government, under His Highness Sayajirao III, provided good transport facilities and started construction of roads, bridges and causeway in the district to facilitate trade and commerce.

During the reign of Sayajirao III, good metalled roads was made useful for traffic by motor as well as by cart.

89. Desai G. H., Amreli Prant, Sarvasangrah (1920), P.225

90. Livestock census, 1956 collector of Amreli district Assistant Regional Transport officers, Bhavnagar

In 1885, Amreli-Dhari track was widened. The causeway near Dhari was built. Dhari-Amreli road proved good convenience for traffic. Dhari-Kodinar road was constructed in 1885 which was of 37 miles. In order to facilitate water transport, a road of 4 miles from Kodinar taluka to Kodinar harbour was built. Bhavnagar-Rajkot road was also built.⁻⁹¹

Okha-Dwarka roads were constructed and Dwarka to Armada (Okha) road of 18 miles was built. All these roads constructed were to facilitate traffic to harbours of the district. Roads were made from the ports to their harbours. Roads of about 48 miles in length were constructed during the year of 1894-95. In 1894-95, surveys were made for constructing several roads in the district. Road between Gogha and Dhandhuka lying in Amreli division of the State, Kodinar Gahwad of 13 miles, Dwarka to Kodinar I and II section of 20 miles, Dwarka to Rajpura of 6 miles and Damnagar to Dhari of 6 miles were constructed.

Samasli to Gahwad, Kodinar, to Pichvi, Dhari to Ingorala, Chalala-Jangorana Kodinar to Velan, Kodinar Dolasa, Gavadka to Challala, Amreli to Kundla, Amreli-Chital roads were widened. In 1896, Dhari Chalala road was built. As famine relief measure, construction of roads was undertaken on a large scale in the district during the great famine of 1899-1900 and in the subsequent year of scarcity. Construction of roads in Amreli was facilitated on account of the availability of stones from the neighbouring hill.⁻⁹²

By the end of 1919-1920, there were nearly 60 roads with a total length of 642 kms of which 451 kms had metalled surface and the rest had unmetalled surface.⁻⁹³

91. Baroda State Administration Report, 1885-1886 P.293.

92. Baroda State Administration Report of 1899-1900 P.68

93. Progress Report of Roads in the Baroda State P. 41 (1928)

Required materials for making road was sufficiently available in Amreli so, making of roads was not expensive. Metalled roads of 25 miles and 27 miles of fair weather roads were constructed by 1900 at ports of Amreli and Okhamandal. Toll was levied in 1905 and the collection was spent on the construction and maintainance of roads in Amreli. ⁻⁹⁴

In the year 1913, proposals were submitted by the chief engineer (P.W.D) for Amreli district. The necessity, of spending Rs. 3,66 641 was recommended for construction .Improtant roads were put in hands and many of them were nearly completed. There were several Murum roads which required improvement. Rs. 25,000 was allotted every year for improving roads. Local Board constructed roads by consulting revenue and forest department.

In 1925, Amreli had already had 296 miles of metalled roads and 120 miles of Murum roads. Hence, while the projects of construction of new roads, throughout the state, Amreli was kept aloof from programme of extending new roads under future programme of making roads in 1930. ⁻⁹⁵

Veraval and Kodinar Mahal of Amreli road was built and motor service between Veraval and Kodinar was started which contributed greatly to the welfare and convenience of both Baroda State and Junagadh. In 1926, the Veraval - Kodinar road was in bad condition that created dislocation of motor service between Kodinar and Junagadh. Baroda Government got the road improved lying in the state's territory. ⁻⁹⁶

Government of India made special grant from the Road Development Account in 1930 for making roads which could be described as of all India importance. The roads in Baroda State, in its different divisions of Baroda, Navsari, Kadi and Amreli, were given special grant (allotment) by the Government of India.

94. Baroda State Administration Report, 1904-1905

95. Progress Report of 1928 of Road in the Baroda State P.41

96. Ibid P.42

In Amreli, Ghogha-Dhandhuka road served as a main link between Ahmedabad and Bhavnagar and it passed through Baroda State's limit of Ratanpur Mahal. This section of Ghogha-Dhandhuka Road along with the portion of bridge required Rs. 80,000 for proper surfacing to cope with the heavy traffic. Low level causeway in the Thebi river near Amreli was also constructed. ⁻⁹⁷

There were 22 roads in Dhari, Khambha and Damnagar and in 1948 the total length of roads was 814.25 kms which included 38 bridges and causeways. ⁻⁹⁸

Road transport service in Amreli was in the hands of private companies which carried on business with sole profit motive. Worn-out buses plied on roads, safety of passengers was largely endangered. Baroda Government received a fixed amount from private operators. Though, construction of new roads, maintainance of old one, introduction of new buses and a provision of amenities to the passengers was done to some extent. But the transport system suffered from economic competition and over-crowding in operating vehicles. Thus, the transport system (bus-service) was defective because it lacked of good regulation. ⁻⁹⁹

In Amreli district, bridge on Chital Amreli-Chalala, Junagudh road on the Shetrunji river near Gavadka, was proposed. The project was completed and the cost was Rs, 1,000,00. The bridge on the Chital joined various states administration in Kathiawad. It was an inter-provincial communication. It connected Baroda state territory with Junagadh state on the south, Bhavnagar state on the southeast and Jetpur and other Kathiawad states on the North. A project was proposed for construction of a bridge on the Shingoda river near Kodinar in Veraval - Kodinar - Una Div Road which connected Janagadh State and Div territory via Baroda state territory.

97. H.P.O File No.59, P.15

98. Trivedi A.B., Kathiawar Economic (Bombay) P. 117

99. Gazetteer of Amreli District P. 333

Amreli was primarily an agricultural district and a centre of politics. Gaekwad in Kathiawar developed it as an important trade center connected by good roads with Junagadh, Lathi, Dhari, Kodinar, Rajkot and Bhavnagar.

Industrial development and the development of ports became possible by widening and far surfacing (black topping) of old roads and construction of new roads. By roads it combined the far-flung villages with the important urban centres and taluka head quarters which was essential for passengers and goods traffic.

**Statement showing details of metalled and fair-weather roads in
Amreli - District Completed upto the end of 1926.¹⁰⁰**

S. No.	Name of Roads	Length in miles and furlongs	Total expenditure in rupees	Annual maintenance in rupees
1	2	3	4	5
	METALLED ROADS			
1.	Amreli to Dharangni via Chalala	21-2	2,12,000	3,000
2.	Amreli to Mota Machiala	6-6	68,000	500
3.	Machiala Station Roads	1-3	14,000	100
4.	Sajiawadar Station Road	1-2	12,000	50
5.	Anreli to Varasda towards Damnagar	6-3	64,000	810
6.	Amreli to Khara towars Keria Nagas	1-4	15,000	100
7.	Do. towards Lalawadar	1-4	15,000	100
8.	Do. Tankadhar guarry	1-4	15,000	190
9.	Do. Lapalia towards Kundia	10-1	1,02,000	1,200
10.	Do. Mota Ankadia	8-3	84,000	850
11.	Gavadka to Mota Mandavada	8-0	80,000	500
12.	Do. to Sarambhada	8-2	82,000	500
13.	Kuranga to Adatra	39-6	3,98,000	3,500
14.	Vacchu to AMbaliara	4-3	44,000	
15.	Dwerka to Swantirth	0-6	7,000	
16.	Dwarka to Ranwshwar Temple	0-5	6,000	
17.	Surajkaradi to Adatra	5-7	58,000	1,200
18.	Varwala to Hamusar	11-7	1,18,000	1,600
19.	Dwarka to Samalasar and Mendarda Bunder	15-2	1,53,000	1,500
20.	Do. to Charkala (Jamnagar)	12-2	1,22,000	2,500

21.	Dhrevad to Tupni	8-4	85,000	
22.	Gopi to Charkala	11-0	1,10,000	
23.	Dhola to Mulwasar	7-2	73,000	
24.	Arambhada to Samalasar	7-6	78,000	750
25.	Beyt to Hunumandandi	3-2	32,000	200
26.	Ghatwad to Mul Dwarka	16-1	1,61,000	1,600
27.	Do. Do to Samasi	5-6	58,000	500
28.	Pichvi to Ranoj	11-6	1,17,000	1,100
29.	Lodinar to Dolasa	11-5	1,16,000	1,250
30.	Do. Do. to Pedhawara	6-0	60,000	1,100
31.	Kodinar to Velan	10-1	1,01,000	1,500
32.	Velan to Kotda	2-6	28,000	300
33.	Velan to Madhwad	1-6	18,000	100
34.	Damnagar to Dhasa	6-1	62,000	550
35.	Chavand towards Lathi	3-5	36,000	225
36.	Portion of Bhavnagar to Rajkot Road within Damnagar limits	3-6	38,000	225
37.	Ghodha Dhandhuka Road	0-5	6,000	100
38.	Chalala to Dhari	10-5	1,06,000	2,000
	Total Mettalled Roads....	295-3	29,54,000	29,800
	Say....	296-0	29,60,000	30,000
	FAIR WEATHER ROADS			
39.	Damnagar to Chhabhadia	3-5	18,000	150
40.	Do. Dhamel	5-4	27,500	500
41.	Do. Padarsinga	2-0	10,000	350
42.	Rajkot Rampura Road	1-0	5,000	60
43.	Mebasa Nawagam via Ratanpur	7-2	36,000	750
44.	Ratanpur to Keri River	0-2	1,250	50
45.	Do.. Shahapur	0-4	2,500	65
46.	Shiyanagar to Ningala	2-6	13,750	100
47.	Do. Chada	1-4	7,000	65

48.	Do. Nasidpur	1-0	5,000	60
49.	Dharagni to Kantala	25-4	1,27,500	1,300
50.	Khambha to Dedan	3-2	16,250	100
51.	Borala to Talda	3-0	15,000	100
52.	Dhari to Gadhiachavand	17-2	85,000	1,300
53.	Dgari to Dalkhania and Spaness	14-5	73,000	1,000
54.	Do. Ingorala	14-0	70,000	750
55.	Do. Ambardi	5-7	29,250	400
56.	Chalala towards Kundla	5-4	27,500	350
57.	Khambha towards Gadhia Chavand	5-0	25,000	500
	Total Fair weather Roads... ..	119-3	5,96,00000	7,950
	Say	120-0	6,00,000	8,000

by S.K. GURTU

Chief Engineer, P.W.D. Baroda.

	Amreli Division including Okhamandal	Miles
1.	Amreli to Dharng via Chalala	21-2
2.	Amrei to MOta Machiala	6-6
3.	Machiala station road	1-3
4.	Sajiavader Station road	1-2
5.	Amreli to Verasda towards Damnagar	6-3
6.	Amreli to Khara towards Keria Nagas	1-4
7.	do - do - towards Lolavadar	1-4
8.	do - do - towards Tankodhar guarey	1-4
9.	Amrei to Lapalia towards Kundla.	10-1
10.	- do - do towards Mota Ankodia	8-3
11.	Gavadka to Mota Mandavada	8-0
12.	- do - Sarambhada	8-2
13.	Kuranga to Adatra	39-6
14.	Vachhu to Ambaliara	4-3
15.	Dwarka to Anantirth	0-6
16.	Dwarka to Rameshwar temple	0-5
17.	Surajkaradi to Adatra	5-7
18.	Varwala to Hamusar	11-7
19.	Dwarka to Samalasar and Mendacha bunder	15-2
20.	- do - to Charkala (Jamnagar)	12-2
21.	- do - Dhrewad to Tapni	8-4
22.	Gopi to Charkala	11-0

23.	Dhola to Mulwasar	7-2
24.	Arambhada to Samasar	7-6
25.	Beyt to Hanumandandi	3-2
26.	Ghatwad to Mul Dwarka	16-1
27.	- do - to Samasi	5-6
28.	Pichui to Runay	11-5
29.	Kodinar to Dolasa	11-5
30.	- do - to Pedhawara	6-0
31.	Kodinar to Velan	10-1
32.	Velan to Kotda	2-6
33.	Velan to Madhwad	1-6
34.	Damnagar to Dhasa	6-1
35.	Chauand towards Lathi	3-5
36.	Portion of Bhavnagar Rajkot road within Damnagar Limits	3-6
37.	- do - of Gogha Dhandhuka road	0-5
38.	Chalala to Dhari	10-5

Amreli Division

	Roads	Miles		
1.	Metalled Road from Amreli to Chalala	12	2	0
2.	Metalled Road from Amreli to Morta machhiala towards Chital	5	3	200
3.	Metal Road from Amreli to Varasda towards Damnagar	6	2	210
4.	do - do - Amreli to Lanpalia towards kundle	10	2	0
5.	do - do. from Amreli to Mota Anikadia	8	1	30
6.	do - do - from Damnagar to Dassa Station	6	1	0
7.	do - do - Portion of Bhavnagar Rajkot road within our Boundary	3	2	0
8.	do - do - from Chavand towards Lathi	3	5	0
9.	do - do - Dhari to Chalala	13	7	0
10.	do - do - Chalala to Dharangni	6	5	0
11.	do - do- from Ghantwad to Mul Dwarka via Kodina	16	2	0
12.	do - do - from Ghantwad to Simsi towards Prachi.	5	6	0
13.	do do Panoj to Pichavi	11	6	0
14.	do do Kodinar to Dolasa	11	4	0
15.	do do Kodinar to Velan	10	1	0

Branch			
Velan to			
16.	Metal Road from Kodinar to Pedhawada	5	0 0
17.	do do Kuranga to Adatra via Dwarka to SURaj Karadi	41	3 0

Branch			
(1)	Varwala to Swantirtha	4	0 0
(2)	Vachhoo to Amaliar	4	3 0
(3)	Suraj Karadi to Adatra via Netar creek4		0 0
(4)	Dwarka to Hamusar	9	6 0
18.	Metal Road from Dwarka to Samlasar & on to Mendarda Bundar Via Dharasanvel & Gopi	15	1 400
19.	do do Dwarka to Charakla towards Jamnagar side :	11	2 0

Branch			
(1)	Dhrewad to Tupni	8	4 70
(2)	Gopi to Charakla	11	3 0
(3)	Voe to Vachhoo	2	4 0
(4)	Dhola to Mulwasar	7	1 485

AMRELI DIVISION

	Special Repairs		
	Consulting a slab drain in mie No. 10/6 on Chalala Khambha Kantala Road.	596.5.9	Completed
	Do - in Mile No.7/2 on Dhari Gadhia Chavand road.	266.15.10	"
	Special repairs to Amreli Varasda road.	1494.3.8	"
	Special repairs to Chalala Khambha Kantala road.	1614.10.0	"
	Special repairs to Navagam Mevasa road	467.4.0	"
	Do - Do - to Damnagar Dhamel road.	491.7.8	"
	Do - Do - to Lathi Chavand road	963.15.9	"
	Special repairs to Amreli Mota Ankadia Road.	636.3.3.	"
	Providing signal boards on road sides in Amreli sub Division	429.12.5	"
	Consulting a causeway in Mile 9/7 on Dhari Ingorala Road	1834.3.6	

	Special repairs to Kodinar Mul Dwarka road for 1937-38.	516.7.0	"
	Special repairs to Kodinar Velan Kotda and Madhwad Branch	1399.4.3	"
	Special repairs to Ranoj Pichvi Road	1106.13.0	"
	Special repairs to Kodinar Ghatvad Jamvala road.	1761.7.0	"

for state Architectect & Chief Engineer,
Baroda State.

Statement Showing the amount spent out of the P.W.D. Budget and Patrol tax during the year of 1936 -37

Baroda state P.W.D. Records, File No. 17/3/3 H.P.I (Revenue)

Amreli Division :

Name of Road or Bridge	Sactioned amounted	amount spent out of P.D.W. of budge 1936-37		Total expenditure (in rupees)	
Chital Amreli Dhari Sapness road including Machiala Sajiwada station Road.	C.E.R.B.S. R No. 36/19-12-36 Rs. 6,221/-	5,375-9-10	.....	5,375-9-10	Do.
Chalala Khambha Kantala Road.	C.E.R.B.S. R No. 36/16-12-36 Rs. 3,776/-	3,190-11-3	.....	3,190-11-3	Do.
Amreli Kundla Road	E.E.B.S. R No. 66/19-10-36 Rs. 1760/-	1,242-10-10	.....	1,242-10-10	Do.

Amreli Varasda Road.	Do. NO.32 8-10-36 Rs. 1120/-	1,068-12-3	.....	1,068-12-3	Do.	Do.
gavadka Mandvada road with Bhamdaria tank Branch Road	Do. No. 86 7-11-36 Rs. 1490/-	1,339-7-11	.....	1,339-7-11	Do.	Do.
Damnagar Dhassa Road	Do. No.80 20-10-36 Rs. 980/-	814-4-3	.....	814-4-3	Do.	Do.
Kodinar Ghatwad Jamwala Road.	Do. No. 16 8-10-36 Rs. 2080/-	2,070-11-3	.....	2,070-11-3	Do.	Do.
Kodinar Velan Road including Madhwad & Kotda Branch road.	Do. No.29 8-10-36 Rs. 2220/-	2,220-0-0	.....	2,220-0-0	Do.	Do.

Kodinar Pedhawada Road.	Do. No.15 8-10-36, Rs.800/-	764-10-7	.....	764-10-7	Do	Do.
Dwarka to Kuranga road with Mukteswar Branch Road.	C.E.R.B.S. R No. 35/19-12-36 Rs. 3,300/-	3,032-0-4	.....	3,032-0-4	Do	Do.
Dwarka Okha Port road with vervalla Swane tirth Branch Road	Do. NO. 34 9-12-36 Rs. 3320/-	2,491-15-9	.....	2,491-15-9	Do	Do.
Dwarka Charkala Road	E.E.B.B.S. R No. 81/30-10-36 Rs. 1,960/-	1,292-15-9	.....	1,292-15-9	Do	Do.

Impact

Modern economic and commercial development largely depends upon the efficiency of transport facilities. Modern civilization depends on its continuous advancement of the facilities of transport. There can be no travel if there is no mode of transport. Travel involves movement of people and this is possible only if there is some mode of transport. Connectivity is very vital for tourism development. This could be possible only if adequate transportation infrastructure and access to destination is efficient, comfortable and inexpensive. A person, in order to get to his destination, therefore, needs some mode of transport. This mode of transport may be car, a coach, a ship, a train, an aeroplane which enables a person to reach his predetermined destination.

With the construction and the expansion of roads and railways, a new era of transport facilities has begun. Both railways and roads have proved useful and necessary institutions. Both are absolutely necessary in civilized life and are supplementary to each other. Railways can not take up the function of roads, nor the roads of railways nor can overmultiplication of railways make up for want of roads.

Road development programmes were enlarged in India to a great extent. In the words of Clement Hindleys¹⁰¹, "We as railways people might *"prima facie"* consider, to be opposed to a danger development of road motor transport ---I....this management for road development ...in giving to be a very live and important things. Our only hope of helping our own business and that of country generally, is in formulating a policy which will chime in with the policy of road development. We be in favour of encouraging every possible form of transportation in country although at certain places and in certain parts of the country it may come into competition with us (i.e. railways) yet looking at it broadly the improved method of transportation that may be involved with assist us (railways) ultimately in obtaining more traffic and more business. It will help us (railways) to work more efficiently for the development of the country".¹⁰¹

101 * "Prima Facie" means at "First View". From the lecture of Clement Hindleys who was the chief commissioner of Railways. His address to the Indian Railway Conference held in October 22, 1927 on the encouragement of Road Development, urged the encouragement of Road Development in order to Develop successful expansion of railways. The provisional representative remained present in the Railway conference to consider the matter of road construction. When great impetus was received with the expansion of railways, roads were ignored. This created serious defect in developing transport facility in real sense. Clement Hindleys in his lecture at Railway conference strongly encourage road construction with a view to make railways successfully run.

It is not possible to construct direct railways among all important centers owing to heavy cost of capital and maintainance. But, all trade and industrial centres must be connected with roads. Almost 99% of Baroda Moffusil land remained impassable in the wet months and traffic stopped absolutely. Railways undoubtedly made traffic possible among the few important centres, where they (railways) touched. From June to October, village life all over the state was in sort of suspended animation, even country carts were not available and all activities ceased i.e. for four months in the year. The villages went to sleep or were in Libernation. It was absolute unsound economically. The energy which was represented by million of unemployed hands and cattle during the rainy season was an economic waste and must be obviated and this was made possible by opening up the interior by metalled roads. Cottage industries were encouraged and the benefits of civilization brought within the easy reach of villages. After 1928, when sufficient attention was paid towards making roads, gradually the way for making progress was prepared. ⁻¹⁰²

Roads are always supplementary to railways. The absence of any connection between various centres of activities in the moffusil by roads, militated against inter-communication and development of traffic, For example, going to Bhadran, one had to change at Baroda, Anand and Petlad and then arrive in Bhadran after wasting 5 hours in journey. With direct road communication between Baroda and Bhadran, the distance could be negotiated within an hour, Thus waste of time could be avoided. In this way road could provide a rapid mode of transport.

102. Progress Report of Roads in Baroda State of 1928

Time is money and for the internal development of district, roads were essential where time was no consideration and heavy materials was to be transported to long distance, railways were necessary and would always be in requisition for that purpose, but they were bound to be replaced by roads and air-transport during the next coming years.

Railways ran successfully in the state due to road extension in nearby railway junctions in each district of the state. Roads prove themselves as feeders to railways. In undertaking any big railway project, it is customary to provide feeders.

The Chief engineering H.P.O. P.W.D. insisted on the necessity of road expansion that indicated normal, administrative and economic need of roads. They insisted on not to have fear of challenge that the revenue or income of the existing or Projected railways would get increase if feeder roads were constructed joining up railways with the interior and if railway construction was pushed at the expense of roads, the income of railway would fall off. The existing railway system (1927) in the state was inadequately linked up by roads with important center of activities.¹⁰³

After World War I and when motor cars were used at large scale, good motor roads were completed. In Baroda State the total mileage of fair weather was 482 and the total mileage of metalled road was 435. Thus, total mileage of roads in the State was 917 in the year 1928. In 1938, the construction of roads was extended to 349 miles of which 56 were fair-weather and 293 were metalled roads. In 1939 total mileage of roads reached to 1260 (miles) of which fair - weather roads were of 538 miles, metalled roads of 728 miles.¹⁰⁴

In 1935, the transport advisory council was formed by the Government of India to co-ordinate rail and road transport.

103. HPO. File No. 49 P.41

104. Baroda State Administration Report of 1934 - 1940 P.184/H. P. O. File No. 64 P.21-22

The Administration Report of the Baroda state mentions that the state was well served by railways and roads, relatively to its size and population it had large share in the development of country. To connect as many villages of the state as possible with railway system, a program of making roads had been sanctioned on large scale.

Transportation is a highly labour intensive sector and hence is a valuable source of employment. It employs a large number of people and provides a wide range of job which extend from the unskilled to highly specialized. Transportation gives birth to construction industry which provides big source of employment. The basic infrastructure of roads, railways and other public utilities create jobs for thousand of workers both unskilled and skilled. This important sector represents appreciable source of employment of manpower. Road construction led to solving problem of unemployment to a great extent. The work of making roads in different districts was carried on systematically and provided a good opportunity of employment for thousands of people in year of scarcity and obviated the need of relief work.

The total urban population of the state was 3,96,962 in the year of 1928 which constituted 1.22% The percentage of urban population to total population in the Gujarat portion of Baroda was 20.3% while the corresponding percentage for India as a whole was 10.2%. Baroda's percentage in that respect was higher than that of any province or native state except the Bombay presidency (22.9% due to Bombay, Ahmedabad, Karachi etc.). Of total number of towns 2,316 in India 48 or more than 2% were situated in the state. ⁻¹⁰⁵

105. H.P.O. File No. 64, Revenue Department, P.22

Industrial growth, indeed all economic growth depends upon certain precondition; Whole fulfillment in varying degrees, dictates the pattern of industrial expansion. Among the factors which constitute the infrastructure growth, there are so many factors among the economic pre- condition for industrial growth. Baroda today supports a large number of flourishing industries.⁻¹⁰⁶ The state had 13 textile mills i.e. 4.4% of the total number of 293 in India. The number of looms and spindles in these mills was 2,301 and 1,78,540 respectively. These figures represented 2% of looms and spindles in India. The number of large industrial establishment of all description in the state was 169 that gave a percentage of 1.9 to the total number of such establishment in India that was 8,625. During the period of pre - Second World War, in Baroda state there were 13 cotton mills, 3 dyeing and bleaching factories, cement work, 1 railway work shops, 1 wooden mills, 1 Pharmaceutical work, 1 salt and alkali works, Government printing press, 3 electrical installations, 4 oil mills, 139 cotton pressing and ginning factories, 2 iron foundries and works 5 brick and tile works. ⁻¹⁰⁷

The average daily number of person employed in industries in the state was 8 of the population where as the corresponding figure for India was 5. In 1923 - 1924 cotton mills were opened like Kadi Siddpur mill. During the years 1939-1940, there were 6 cotton mills in Baroda state of which 3 cotton mills were in Kadi. There was oil mining industry. Kadi was provided good transport convenience by net-work of railways and roads.⁻¹⁰⁸

106. Baroda Blue Book Vol. XIII, 1943, P. 26

107. H.P.O. File No. 64 - P. 23

108. Desai G. H., Kadi Prant, 1926, P. 123, 214

Amreli district was primarily for agricultural cottage industries like weaving, dyeing and calico printing, ornament making and oil pressing mill. The economic structure was predominantly agricultural supplemented by some of the traditional rural craft that operated on a household basis. Isolated as Amreli from the Governmental activities Baroda, it received perhaps the least attention from the Baroda Government. The General aversion to adopt new trends, a peculiar feature in most of the princely states in Kathiawar came in way of taking of measures calculated to bring about economic development and raising the living standard of people of Amreli district. Various modes of transports which were developed by the state's Government changed condition and broke its isolation. There were good metalled roads in Amreli along with railways and water transport. His Highness Sayajirao had taken keen interest in developing transport facilities in Amreli when he visited it in 1883. ⁻¹⁰⁹

Navsari, which was a center of the southern part of the state, was provided good transport facilities which developed considerably. Roads as feeder line on Kala Amba railway lines were constructed which opened up the way for the development of forest industry in Navsari district, Roads proved very useful in this respect. Forest produce could be easily transported to nearby railway station through roads. Lac- cultivation, Katha- manufacturing, Rosha industries in (Songadh - Vejpur), fire - wood, charcoal and food grain were transported through roads. Some tribal areas of this district definitely benefited by the opening of railways and roads. Fair-weather roads in Navsari were put under forest Department for transporting forest produce from the forest areas of Navsari. ⁻¹¹⁰

109. Trivedi A.B., Kathiawar Economic Bombay (1943) P.117

110. Baroda Blue Book, 1943 XIII P.67

The construction of roads in the state led to the development of trade center in the state. In Baroda district, Baroda and Channi were chief market centers. Bodeli, Dabhoi, Karjan, Sinor, Padra, Chhota Udepur were well known. Chhota Udepur with rich forest, exported forest produce like timber, lac, gum, Madhua, honey etc.

Navsari, Billimora, Songadh, Gandevi were well known. Kadi, Patan, Unja, Kadi, Chanasma, Mehsana, Kheralu, Kalol etc were trade center. Amreli, Dhari, Kodinar, Damnagar were trade centers. Okhamandal and Byet were joined with road communication. Modern transport system had opened new horizons for the economic growth and cultural upliftment of districts. The taluka towns were connected not only with the district head quarter but also with the important towns of districts of the state. Internal trade was promoted by roads.

Transport facilities increased the mobility of people. The increased mobility had brought varieties of occupation among the otherwise static rural people.

Decentralization and the growth of local self - Government had afforded considerable stimulus to road development. The improved rapid modern transport made administration task more efficient, rapid and convenient. In days of speedier communication, horses and hickory carriage seems to have outlived their utility. Swift action was only possible through faster means of roads transport.

Transport has always been and continues to be one of the important means of social intercourse among the people of nation. Throughout the ages, men have always had the urge to see distant lands and learn about the customs and manners of people in other areas. Thus, transport travel has been aptly called the best part of one's education. The development of faster

and comfortable means of communication brought about regional development in areas like forest areas of Navsari and Amreli districts which were relatively isolated and economically underdeveloped.

The areas of social contact had much widened. Public utility matter was given importance. An old age isolation of village was broken by means of transport. The village population lived for century an almost unvarying economic life based on self - sufficient village agriculture and industry carried on by means of feeble technique. Villages begun to develop and their old age self - sufficiency was broken. Traditional agrarian rural economy was replaced by modern capital's economic system. All these tremendous changes were brought about by modern transport system. Both railways and roads made mass migration of people from one part of the country to another possible. Inter mixture a people was made possible which was responsible for the birth of national consciousness. It led to the end of social isolation. It helped to spread progressive social and scientific ideas among the people. Nation became a well knit and conciliated political unit. The acute conservatism and barriers of caste and prejudices were being removed and broken - down, social relations between persons living widely apart multiplied. Many persons begun to take long journey, and exchange of their views, habits, and thoughts, brought about a sense of national cohesion. Thus, existing social organization was broken. Modern transport brought about increased mobility and contact between individual, classes, ideas. The people of different provinces of the British Indian territories and the people of Indian native state began to come into contact with one other and exchanged ideas with them. The people of the British India were far advanced than that of the native states. With the development of transport means, the people of states were made aware about their condition and the spirit of nationalism began to spread among

them. They came to know how they were being exploited indirectly and how the modern means of transport contributed in the spread of education.⁻¹¹¹

Means of communication were revolutionized. Post and telegraph made tremendous progress due to extension of roads and railways. In 1856, the Baroda Government granted permission for the establishment of a system of postal runner on the highway to travelers in the state upto Desa in the north to opium center in the east to Kathiawar in the west and to Bombay in south.

In 1863 - 64 Bombay post office developed its organization in Gujarat and established a post office in the largest town in the state. Before 1886, there was only one Government telegraph office in the in the whole state in Baroda cantonment. Combined post and telegraph office had then been opened at Baroda, Petlad, Karjan, Mehsana, Kalol, Patan, Visnagar, Siddhpur, Unja, Dehgam, Kheralu, Gandevi, Billimora, Varivav, Kathor, Vyara, Amreli, Dhari, Damnagar, Kodinar and Dwarka. The question of providing telegraph office at Baroda (Lehripura) Kadi, Vijapur, Vesma, Harij was under consideration in 1923. The public combined post and telegraph office was established in Baroda and Karjan.

111. Sanyal N.B., Development of Indian Railway, 1930 P. 59-61

There were 84 offices and 237 letter boxes in the state in 1921. Each post office was attached to a certain number of village by messengers who at fixed intervals made their visit for delivery of postal articles. In 1937 – 1938, there were 138 post offices and 355 letter boxes in the districts. Postal facilities could not be extended to the interior villages due to lack of network of roads. ⁻¹¹²

Navsari was connected with combined post and telegraph office of Navsari, Billimora, Gandevi, Varivav, Kathor, Vyara. In 1935-36 post telegraph department line between surat, Navsarim Ahmedabad and Kalol was established. ⁻¹¹³

In Kadi district, upto 1855, there did not appear to have been any postal arrangement. Baroda Government granted permission to establish a system of postal runners. Baroda Government received payment from the presidency Government of all expenses incurred by Baroda state in postal service packet through British post office. In 1863 -1864, postal arrangement of Bombay presidency began to develop in Gujarat and the Government of Baroda co-operated largely. In Kadi, post office, letter boxes, rural messengers commenced to spread over. In 1920 – 1921, there were 92 post offices and 302 letter boxes in Kadi. Combined post and telegraph office at Mehsana, Kadi, Patan, Visnagar, Siddhpur, Unjha, Dehgam, Kheralu were there.

112. Baroda State Administrative Report, 1935-1936 P.340

113. Desai G. H., Navsari Prant, P. 102

Amreli district was poorly served by the post and telegraph offices. In 1920, there were only 22 post office and 86 letter boxes in the district. Telegraph offices were opened in Amreli Dhari, Kodinar, Damnagar, Dwarka and Byet. This was made possible with the development of road transport and many far-flung villages in the district were connected with metalled roads. This helped the expansion of postal facilities. The number of post office increased considerably to 266. Both roads and railways tremendously helped in the development of means of communication.⁻¹¹⁴

While transportation undoubtedly helps the economy and the society, it creates some social problems. First problem is regarding the traffic problem. Traffic problem in Baroda was increasing gradually with rise in population, industries and modern vehicles. Traffic problem is one of the adverse effects of the modern transport system.

Traffic could be very conveniently divided in 4 sections : (1) light and heavy motor cars with motor cycles (2) horse carriage (3) bullock carts (4) bicycles and pedestrians. The Main cause of all accidents was lack of individual care and caution in passing through public roads which were, narrow improperly planned with on maintenance. To avoid such difficulties of traffic, narrow roads should be made one way, kept separate for slower vehicles as bullock carts and hand carts. One could not give a total guard to human fallibility, but precaution, at least would help in solving many lives that are likely to be lost in uncontrolled traffic.⁻¹¹⁵

114. Trivedi A.B., Kathiawar Economic, Bombay P.118

115. Baroda Blue Book XIII P. 26

Besides, the problem of traffic, another critical problem was created by the development of transport and that was regarding the land use. When for example, much of the area is under cultivation or another forms of agriculture, a conflict arises when a demand is made to acquire more land for the purpose of transportation. Transportation developed tourism and tourist areas are also needed to be opened up for public access which require more land to develop infrastructure in the form of roads and bridges.