

# Problem Identification of Traffic and Transport: Muzaffarpur City, Bihar

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**Abstract** - India is a fast developing country. With the growth of city its need for traffic management has increased a lot especially in Tier-2 city. This study will talk about the identification of issues of Traffic and Transport of Muzaffarpur city. Survey has been conducted and photographs have been taken to understand the existing scenario and the problems which can be rectified very easily if the local authority took interest for the same.

**Key Words:** Traffic and Transport, Right of way, congestion road, problem identification, Muzaffarpur, Traffic issues

## 1. INTRODUCTION

Solutions could be given only if the problems are identified. To understand the existing development scenario is the basic and prime requirement of any Traffic and transport related study.

The development of fast growing area is based on movement i.e. Traffic and transport. The problem of Traffic and transport is felt in almost all major cities across the India. This is primarily because growth of infrastructure is slow compared to growth in number of vehicles. The role of traffic and transport planning has a very wide scope; for instance improving safety and health, reducing emissions from vehicles, improving equity, enhancing economic opportunities, improving community livability, promoting mobility are all valid. This paper will talk about the existing scenario of Traffic and Transport, Road conditions and the issues related to each condition specific to the Muzaffarpur city..

## 2. ABOUT MUZAFFARPUR

Muzaffarpur urban area is the centre of commercial, business and educational activities of a large hinterland of Muzaffarpur district. Muzaffarpur is the largest town in northern Bihar and fourth largest city in terms of population after capital city Patna, Gaya and Bhagalpur. The district produces nearly one-third of the entire Litchi production of the country. The total area under the jurisdiction of Muzaffarpur Municipal Corporation (MMC) is about 26.68 Km<sup>2</sup> (2668.44Ha). The

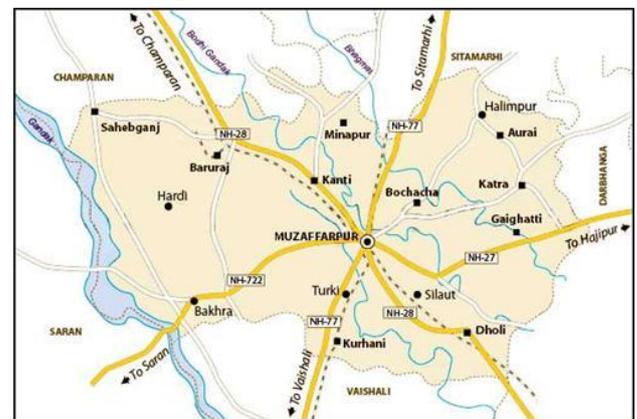
town is divided into 49 wards. The Muzaffarpur Municipal Corporation (MMC) is surrounded by River Budhi Gandak on north, Dighra Rampur Sah village on south, the National Highway (NH) 57 and railway line on west and extends upto reserve police station on eastern limit.

### 1.1 Rail and Road Connectivity

Muzaffarpur district has well developed means of communication. It has a network of railways and roads.

Regional Network of Muzaffarpur

- Muzaffarpur – Hajipur Highway (NH – 77)
- Muzaffarpur – Sitamarhi Highway (NH – 77)
- Muzaffarpur – Rewaghat road (NH – 102)
- Muzaffarpur – Darbhanga Highway (NH – 57)
- Muzaffarpur – Samastipur Highway (NH – 28)
- Muzaffarpur – Motihari Highway (NH – 28)



**Map1:** Indicating NH and Rail Connectivity of Muzaffarpur  
Source : [www.muzaffarpuronline.in](http://www.muzaffarpuronline.in)

## 3. TRANSPORT SYSTEM IN MUZAFFAPUR

Muzaffarpur City is connected by NH-28, NH-57, NH-77 and NH-102. The total road network of Muzaffarpur city is approximately 72.17 km jointly managed by Muzaffarpur Municipal Corporation (38 km), Public Works Department (17.12 km) and the District Council (16.69 km). Approximately 99% of the roads under the jurisdiction of the corporation are pucca roads. The town has two intercity bus stands, one under BSRTC and the other for privately owned

buses. The key issues affecting the sector are heavy congestion, parking problems especially in the market areas and along the main thoroughfare. Encroachment of roads for commercial activities and for residential use by slum dwellers, lack of parking places, no traffic signals, no road signage and inefficient traffic management are some of the key issues. The situation worsens with water logging and overflow of drains in the rains.

Sl. No.	Roads looked after by	Number of Roads	Length (km)	Remarks
1	Municipal Corporation Roads	74	38.091	RoW varies between 4 and 25 m
2	PWD Roads	12	17.123	RoW varies between 8 and 30 m
3	District Council Roads	13	16.961	RoW varies between 5 and 24 m
4	<b>Total</b>	<b>99</b>	<b>72.175</b>	

**Table-1:**Roads under Various Authorities in Muzaffarpur  
Source: Municipal Corporation, Muzaffarpur

### 3.1 Major Roads In Muzaffarpur

Compiled data of roads, their right of way, construction material and length of road under each department like Municipal corporation, PWD and district council is listed below:

S.No.	Name of the Road	Type of Road	Length (m)	Width (m)
1	Lalit Narayan Mishra Road (Malgodawn Chowk to Kalyani Chowk)	Pitch & PCC	1642	20-14
2	Mahender Marg Sadar Hospital Road (Lalit Narayan Mishra Road to Dak Ghar Chowk)	Pitch & PCC	476	17-19
3	Bank Road (Dharamshala Chowk to Mahatma Gandhi Road)	PCC	557	14-16
4	Nathu Chaudhary Road (Dharamshala Chowk to Chatha Chowk)	PCC	562	12-13
5	Laxmi Narayan Road (Dharamshala Chowk to Achal Chowk)	PCC	517	7-10
6	Tilak Maidan Road (Town Thana Chowk to Navyukth Samiti)	Pitch	370	7-12
7	Sariyaganj Road (Tower Chowk to Navyukth Samiti)	PCC	215	10-14

8	Jawaharlal Chowk (Navyukth Samiti to Kalyani Chowk)	PCC	685	10-12
9	Sutapatti Road (Bank Road to Sarriyaganj Road)	PCC	256	6-11
10	Balughat Road (Akharaghat Road to Budhigandak )	Pitch & PCC	608	6-7
11	Yogender Mukherjee Road (Jawaharlal Road to Raghuvansh Road)	PCC	282	6-11
12	Gola Bandh Road	PCC	650	5-7
13	Raghuvansh Road	PCC	510	6-13
14	Kripnath Mishr Lane (Gudri Road to Raghuvansh Road)	PCC	180	4-8
15	Garibsthan Road(Chatha Bazaar Chowk to Purani Bazaar Chowk)	PCC	285	6-11
16	Kaidarnath Banerjee Road(Kalyani Chowk to Durgasthan Chowk)	PCC	780	9-12
17	Yadhupati Road(Nayi Bazaar Road Majhan Toil Road to Banaras Bank Chowk)	Pitch	310	6-12
18	Roti Wali Lane)	PCC	150	8-10
19	Mahajan Toil Road (Jumma Masjid Chowk to Pakki Sarai)	Pitch	458	9-11
20	Lakdi-Dhai Road (Nawab Road to Uttarbhaya Bandh)	PCC	265	10-11
21	Nawab Road (Banaras Bank Chowk to Church Road)	Pitch & PCC	586	11-12
22	Azad Road (Pakki Sarai Road to Church Road)	PCC	447	11
23	Maharaja Road (Azad Road to Gandak Bandh)	PCC	405	10-12
24	Kurbaan Road (Bhola Chowk to Nawab Chowk)	PCC	450	11
25	Church Road (Jail Chowk to Lakdi-Dhai Road)	PCC	634	5-18
26	Pakki Sarai Road	PCC	1053	12
27	Ali Mirza Road (Nayi Bazaar Chowk to Pakki Sarai Road)	PCC	261	11-16
28	Bhaukla Road (Sahu Road to Chaturbhusthan Chowk)	PCC	513	8-10
29	Kalibadi Road (Chaturbhusthan Chowk to Malighat Chowk)	PCC	948	8-10

30	Rambagh Road (Pakki Sarai Road to Sanskrit College)	PCC	522	6-13
31	Kachhi Sarai Road (Chhoti Kalyani Chowk to Amar Talkis)	PCC	479	8-15
32	Gudri Bazaar Road (Prabhat Sinera Road to Pakki Sarai Road)	PCC	979	6-9
33	Bahel Khana Road (Gudri Bazaar Road to Kachhi Sarai Road)	PCC	330	6-7
34	Pachrang Patti Road (Gaushala Chowk to Malighat Chowk)	PCC	1032	19-25
35	Purani Bazaar Road (Kaidarnath Road to Sahu Road)	PCC	180	9-10
36	Club Road (Kalyani Chowk to Jubbasahni Park)	PCC	1061	10-12
37	Rajju Saha Lane (Club Road to Railway Line)	PCC	360	5-6
38	Mukherjee Seminary Road (Club Road to Sarai Road)	PCC	235	7-9
39	Society Road (Pani Tanki Chowk to Gaushala Road)	PCC	550	8-9
40	Diwan Road (Club Road to Amgola Railway Sampar)	Pitch & PCC	400	8-10
41	Bhayamnandan Road (Town Thana Chowk to Nathu Choudhary Road)	Pitch & PCC	598	10-15
42	Nitivar Marg (Chanderlok Chowk to Kalambagh Chowk)	PCC	551	20-24
43	Padav Pokhar Road (Nim Chowk to Kalam Bagh Road)	PCC	814	4-5
44	Nandan Shah Marg (Nim Chowk to Atardah ke Siman)	PCC	1271	4-7
45	Refugee Road (Kalam Bagh Chowk to Ramdayalu Nagar Station)	Pitch	1121	5-25
46	Chaturbhuj Thakur Marg (Kalam Bagh Road to Refugee Marg)	Pitch	473	3-4
47	Damu Chowk Road (Chata Chowk to Vivekanand Road)	Pitch & PCC	963	9-11
48	Maujhaulia Road (Kalam Bagh Road to Railway	Pitch &	1186	6-9

	Sampar No-5)	PCC		
49	Chaturbhuj Sthan Road (Chaturbhuj Sthan Road to Kalibadi Road)	Pitch	235	8-11
50	Khabda Road (Kalam Bagh Road to Railway Sampar No-6)	Pitch	883	4-10
51	Spekar Road (Kalam Bagh Road to Bhayam Nandan Road)	PCC	335	6-7
52	Choti Kalyani Road (Kalyani to Choti Kalyani)	PCC	200	5-9
53	Imli Chatti Road (Bus Stand Chowk to Mahbub Chowk)	Pitch & PCC	446	12-14
54	Mahendi Hassan Road (Motihari Road to Laxmi Chowk)	Pitch	820	9
55	Iqbal Hussain Road	Pitch	480	3-5
56	Soda Godaam Road	Pitch	318	3-4
57	Jhatakiya Road	Pitch	408	5-7
58	Juran Chapra Road-1	PCC	211	5-7
59	Juran Chapra Road-2	Pitch	202	5-6
60	Juran Chapra Road-3	PCC	257	5-6
61	Juran Chapra Road-4	Pitch	305	5-7
62	Ayodhya Prasad Lane	PCC	290	3-4
63	Majlis Sahay Lane	PCC	140	3-4
64	Krishan Toil Road	Pitch	647	4-9
65	Madipura School Road	PCC	172	4-5
66	Chitragupt Puri Road	PCC	477	7-15
67	Ram Raji Road	PCC	464	3-5
68	Professor Colony Road	Soling	233	4-5
69	Bela Road	PCC	529	4-6
70	Pankha Toli Road	PCC	863	4-6
71	Orient Club Lane	PCC	225	4-5
72	Patwa Toli Lane	PCC	273	4-5
73	Pitambar Babu Lane	Pitch	318	5-6
74	Data Lambal Shah Mazar Road	PCC	200	6-7

**Table -2** : Major Roads under Muzaffarpur Municipal Corporation

Source: Draft Master Plan, Muzaffarpur --2027

Sl. No.	Name of the Road	Type of Road	Length (m)	Width (m)
1	Motihari Road (Juran Chapra Chowk to Laxmi Chowk)	Pitch	2583	14-30
2	Rewa Ghat Road (Juran Chapra Chowk to Bhagwanpur Chowk)	Pitch	1637	10-18
3	Kachhari Road (Juran	Pitch	2575	12-

	Chapra Chowk to Banaras Bank Chowk)			24
4	Hajipur Road (Purani Thana Chowk to Ramdayalu Nagar over bridge)	PCC & Pitch	3294	8-22
5	Devaria Road (Brahampura Thana Chowk to Damodarpur)	Pitch	1028	12-25
6	Gaushala Road	Pitch	976	16-19
7	Madipur Chowk to Butler Chowk	Pitch	615	9-12
8	Dak Bangle Road(Malgodam Chowk to Dak Bangla Chowk)	Pitch	376	15-22
9	Butler Chowk to Butler Railway Gumati	Pitch	332	12-13
10	Chakkar Road	Pitch	1262	8-24
11	Sikandarpur Road	Pitch	978	9-19
12	Akhada Ghat Road(Tower Chowk to Zero mile)	Pitch	1467	13-31

**Table-3 :** Major roads under PWD, Muzaffarpur  
Source: Draft Master Plan, Muzaffarpur --2027

Sl. No.	Name of the Road	Type of Road	Length (m)	Width (m)
1	Kalam Bagh Road (Butler Chowk to Mithan Pura Chowk)	PCC & Pitch	3523	5-17
2	Ladora Road (Madipur Power House Chowk to Railway Gumti)	PCC & Pitch	782	13-15
3	Dalsingh Sarai Road (Masjid Chowk to Gulgula Chowk)	PCC & Pitch	2314	20
4	Padmoula Road (Kachhi Pucki Road)	PCC	2314	20
5	Sahpur Road (Jubba Sahnipark to Nigam Limit)	PCC & Pitch	595	19-22
6	Brahampura Thana Chowk to N.H.-28	Pitch	1000	12-14
7	Ashram Road	Pitch	2263	20
8	Kathal Road	PCC	725	12-16
9	Major Ganj	PCC & Pitch	860	8-24
10	Khadi Board to Ram Bagh Chowk	Soling	439	17
11	Satpura to Bhorpur	Soling	570	4-7
12	Madipur Chowk to N.H.-28	PCC	509	5-6

13	Mithan Pura Road (Bela Road to Gaushala Road)	PCC	1067	11-19
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**Table -4:** Major roads under District Council, Muzaffarpur  
Source: Draft Master Plan, Muzaffarpur --2027

### 3.2 Classification of Urban Roads and Traffic Characteristics

The type of construction of roads within Muzaffarpur is shown in Table 5. The town has about 26 km long concrete roads and 24.4 km long black top roads, together, which constitutes more than 70% of total road network. In addition, road stretches of 18 km length have been categorised as both concrete / blacktop construction. Nearly 3.7% road length (2.7 km) is kutcha.

Sl. No.	Surface Type	Length of Roads (km)	Percentage
1	Concrete Roads (PCC)	26.738	37.05%
2	Concrete Roads + Blacktop	18.273	25.32%
3	Black Topped/ Bituminous	24.440	33.86%
4	Earthen Road	2.724	3.77%
	<b>Total</b>	<b>72.175</b>	<b>100%</b>

**Table 2.45 Division of Roads based on Surface Type**  
Source: Municipal Corporation Muzaffarpur

### 4. ISSUES IDENTIFICATION

This section of the paper will talk about the issues of traffic and transport in Muzaffarpur for this author has surveyed the area and clicked photographs to address the issues.

#### 4.1 Garbage Collection Issue

There is a lack of garbage collection points in the city. Garbage pits has not been found throughout the city except some places, figure 1,2 &3 describes the scenario of garbage in the city.



**Figure-1:** Garbage on road  
Source: Author



**Figure-3:** Garbage in between road, Chhata Bazar  
Source: Author



**Figure-3:** Garbage on road, Shukla road  
Source: Author

#### 4.1.1 Issues:

- 1) No space for pedestrian
- 2) Very difficult to ride non motorized vehicle
- 3) Less Carriage way for movements
- 4) Cause of traffic congestions
- 5) Creates Unhygienic conditions as the animals take their food out of the garbage
- 6) Slow traffic as animals sits over the garbage.
- 7) No pedestrian movement
- 8) Difficult to travel NMT modes
- 9) Unhygienic condition
- 10) Movement of traffic is slow
- 11) Foul smell to traveller

## 4.2 Street Vendor Issue

Most of the major roads of the city is captured by street vendors. They capture 20% -30% Right of way, where as

city is already facing the narrow roads and streets. Figure 4 & 5 is indicating such street vendors on the road.

#### 4.2.1 Issues:

- 1) No space for pedestrian
- 2) Less Carriage way for movements
- 3) Cause of traffic congestions
- 4) 30% to 40% ROW is occupied by the vendors and the customers'



**Figure-4:** Vegetable street vendor, Chhoti Sariaya Ganj  
Source: Author



**Figure-5:** Street Food vendor  
Source: Author

## 4.3 Bottle neck at major road

Bottle neck in the city is one of the major causes of slow traffic and traffic congestions. Muzaffarpur is also having such bottlenecks in the city figure 6 indicates the bottle neck point in the city

#### 4.3.1 Issues:

- 1) No space for pedestrian
- 2) Suddenly traffic gets slow
- 3) Cause of traffic congestions
- 4) Accident prone area



**Figure-6:** bottle neck at Saraiyajang

Source: Author

#### 4.4 Electric Poles On Carriage Way

It has been observed that in many places the electrical poles are standing in between carriage ways. Without considering this, it will create another kind of bottle neck. It has also been observed that people use the space around the pole as a garbage dump area, since there is no movement of vehicles near the pole. Figure 7 & 8 are showing the condition of electric poles standing in between the road.

##### 4.4.1 Issues:

- 1) Place used as a garbage dump area
- 2) Suddenly traffic gets slow
- 3) Accident prone area
- 4) Carriage way is not utilized properly
- 5) Area near the pole used as a parking space



**Figure-7:** Electric Pole on carriage way

Source: Author

#### 4.5 Water logging Issue

Drains of Muzaffarpur are not designed and cleaned properly. Most of the area is facing the issue of overflow of drainage. Drains are open in nature and clogged due to non-maintenance issues. Grey and black water on the road creates trouble for pedestrians and other vehicular movements. Some of the areas like Kedar Nath Road are facing this problem



**Figure-8:** Electric Pole on carriage way

Source: Author



**Figure-9:** Overflow of drain, Kaidar Nath Road

Source: Author



**Figure-10:** Overflow of Drain

Source: Author

throughout the year. Now traffic moves through that road as it is negligible because people do not want to opt that

route. Figure 9,10 and 11 shows the scenario of water logging in usual days.

**4.5.1 Issues:**

- 1) Around the pole area used as a garbage dump area
- 2) Suddenly movement of traffic gets slow
- 3) Accident prone area
- 4) Carriage way is not utilized properly
- 5) Difficult to travel NMT modes
- 6) Unhygienic condition
- 7) Foul smell to traveller
- 8) Almost unused lane by travellers
- 9) Movement of Public transport is nil



**Figure-11:** Open and clogged drain  
Source: Author

**4.6 Un-organized Traffic**

In the city traffic is not managed properly . enforcement of traffic rule is violated most of time by the users, this leads to traffic jam and congestions. User dont follow their lane especially two wheelers, bicycle and cycle rikshaw. Figure 12 indicates the scenario of un-organized traffic



**Figure-12:** Un-organized traffic  
Source: Author

**4.6.1 Issues:**

- 1) Traffic Jam

- 2) Pollution noise and fossil fuel

**4.7 Movement of NMT modes on Flyover**

While designing the flyover the movement space for NMT was not provided in sufficient below the flyover so the NMT are bound to use the flyover which is difficult due to elevation of flyover. Figure 13 shows that NMT using the flyover



**Figure-13:** Movement of NMT on motijheel fly over  
Source: Author

**4.6.1 Issues:**

- 1) Extra effort to the user
- 2) De-motivate the user to use NMT
- 3) Compelling to use motorised vehicle for travelling
- 4) Traffic gets slow as the NMT moves very slow in ascending direction.
- 5) To control NMT on descending direction is another difficult task.

**4.8 Rope as a divider**

Due to minimal width of right of way (ROW) to design proper divider is difficult as divider will take some of the area of carriage way. So the smart solution was thought of by the authority to control the traffic by dividing the road into two way road system. But in the rush hour rope is not able to serve its purpose. Figure 14 shows the use of rope as a divider



**Figure-14:** Rope as a divider at Tower Chowk  
Source: Author

#### 4.9 Other Issues

- No proper parking space in the town
- Intercity bus has not plied on the road
- Traffic is not managed properly
- No space for pedestrian to move
- Minimal carriage way to move motorised 4 wheeler
- IPT modes does not have proper route designated
- Lack in traffic signals on squares
- Zebra crossing is missing from entire city
- No speed limit
- Mix transport modes
- Right of way is shared by Cows in dogs, authority does not take proper care
- Garbage collection system is not proper so it is usually dumped on the ROW.
- Instead of tricycle electric rickshaw should be promoted
- Building norms and byelaws as not been followed properly most of the building has illegal construction eating up right of way
- Open Drainage system which eats up the pedestrian space.
- Improper drainage system due to this 20% of the roads or lane are used seldom for movement
- Fly over is used as parking space.
- Poor traffic management
- Big poth holes, slows the traffic
  - Speed breakers are not designed properly creates trouble for NMT as well as mechanically driven vehicle.
  - Big vehicles like MUV's and SUV's are having big share on the roads eating up much of the space of limited carriageway
  - Squares are not designed properly, so movement from one direction to another is difficult and slows down the traffic
  - On an average length of roads are 500 mtrs. 60% - 70 % of the roads/lanes are of less than 500 mtrs. Number of turnings is higher.
  - Bus stand is not designed properly with platforms
  - Street vendors eating up the movement space of narrow streets

#### 5. CONCLUSIONS

It has been identified that most of the issues are related to management of traffic and transport. If the executing body and maintaining authority will work properly many of the issues may be resolved without much expenditure. Issues like open drain, overflow of drain, street vendors, electric pole etc. these issues could be resolved without much hindrance. So If the concern authority look with in and analyze the problems of traffic and transport it can be solved easily.

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