CHAPTER 12

TRANSPORT

Transportation is becoming a major cause of concern for the eternally expanding cities. Delhi, with the added demands of the satellite towns, is no exception to the rule. It has to cater to millions of vehicles on a daily basis resulting in huge traffic jams, staggeringly high levels of pollution and waste of quality time for its citizens. However, the mega city cannot just keep building more and more roads to cater to the hastily increasing vehicular population. Instead, what it desperately needs is an efficient transit system along with a planned, comfortable and dependable public transport system. The public transportation system mentioned has to have the offer the basic advantage of better mobility, in addition to offering societal advantages like reducing traffic congestion on the roads and air pollution. However, in order to gather a large number of commuters to public transport, there is a need to offer good quality and comfortable service.

2. Transport infrastructure needs are assessed based on the demand scenario of such activities which form the potential market for transport infrastructure and services. It is in this context, that the provision of transport related infrastructure and services varies in accordance with its market potential. Accordingly, characteristics of the mobility needs of the people form the basis of the types of infrastructural needs and characteristics of the required transportation services. During recent times, mobility needs of the people, due to increasing economic activities, have been insatiably increasing across the globe in general. Transport systems have become environmentally unsustainable and are now one of the major contributors of greenhouse gas emissions worldwide. Thus, a sustainable and equitable transport system is one that provides mobility related facilities and services while minimizing emissions both at local and global level and also serve as safe, reliable and economical means of mobility for all the sections of society including elderly, women and disabled persons.

3. Despite the major improvements in public transport systems, India's capital city, Delhi is still suffering from these ills affecting both the provision of infrastructure and its related services. Delhi is a hub for personal motorized vehicles in India. Rising incomes combined with a demand for greater personal mobility and inadequate last mile connectivity are likely to result in pronounced increase in personal motorized vehicles. In Delhi the number of vehicles is estimated to increase from 39 lakh in 2000 to 113.90 lakh in 2018. Government of Delhi is promptly working on sustaining the public transport system in the city.

4. Public Transport has three major components viz. the Local Railway, Bus and Metro Rail. Out of these major transport systems i.e. Bus services and Metro rail are playing a vital role in facilitating public transport in Delhi. In fact, both the systems are the lifeline of the people of Delhi. The average daily ridership in Delhi Metro was 25.97 lakh during the year 2018-19. At present, the average daily line utilization of Delhi Metro is 56.61 lakh per day by January 2020. Ridership on Metro Rail is further expected to increase after completion of the final stage of construction of Metro Phase-IV. However, daily average passenger ridership on DTC was 30 lakh and 12.24 lakh in Cluster buses during the year 2018-19. 65.1 Kms length of Metro line has been completed under Phase-I. 124.93 Kms length has been completed under Phase-II. Phase-III, additional corridors and NCR extensions comprises 160 Kms route length with 109 stations (including 42.496 Kms of route length with 30 stations of NCR), of which 157.94 Kms have already been commissioned in stages from June, 2014 to October, 2019. Remaining Mayur Vihar Pocket-I to Trilokpuri stretch is scheduled to be completed in September, 2020 and Extension to Dhansa Bus Stand is scheduled in December, 2020. After completion of Phase IV, the total length of Metro Line in Delhi including NCR will be about 453.96 Kms.

5. Govt. of NCT of Delhi approved all six corridors of the metro Phase-IV project i.e R.K.Ashram-Janakpuri (West), Inderlok-Delhi Gate- Indraprastha, Aerocity-Saket-Tughlakabad Lajpat Nagar-ChiragDelhi-Saket G Block, Mukundpur-Burari-Mauzpur and Rithala-Bawana-Narela. However, Govt. of India accorded sanction to 3 priority corridors of the metro Phase-IV project namely R.K.Ashram-Janakpuri (West), Inderlok-Delhi Gate- Indraprastha and Aerocity-Saket-Tughlakabad. Remaining 3 corridors are under consideration.

6. Motor Vehicles

a. The total number of motor vehicles on road in NCT of Delhi on 31st March, 2019 was 113.92 lakh, showing the growth per cent of 3.69. The category wise number of motor vehicles in Delhi is presented in Statement 12.1

Statement 12.1

Year wise growth of Vehicle Population

S. No	Details	Number of Vehicles				
		2014-15	2015-16	2016-17	2017-18	2018-19
1	Cars and Jeeps	2790566	2986579	3152710	3246637	3249670
2	Motor Cycles & Scooters/ Two wheelers	5681265	6104070	6607879	7078428	7556002
3	Ambulances	1527	2990	3059	3220	2358
4	Auto Rickshaws (Passenger)	81633	198137	105399	113074	113240
5	Taxies	79606	91073	118308	118060	109780
6	Buses	19729	34365	35206	35285	32218
7	Other Passenger Vehicles*	11284	6368	59759	76231	81422
8	Tractors	161821	281159	300437	315080	246861
9	Goods Vehicles (All Type)					
10	Others					
	Total	**8827431**	**9704741**	**10382757**	**10986015**	**11391551****

* Data include the e-rickshaws and maxi cabs etc.
**Number of vehicles registered are excluding NOC, RC Cancellation, Surrendered, De-registered and Scrapped Vehicles (Record available in Vahan 4.0 database).

b. The details regarding number of vehicles in Delhi and their annual growth rate are presented in statement 12.1 and 12.2 respectively.

c. The annual growth of vehicles in Delhi decreased from 8.13 per cent in 2005-06 to 3.69 per cent in 2018-19. During the same period the number of vehicles per thousand population increased considerably from 317 to 616.

Statement 12.2

GROWTH AND VEHICLES PER 1000 POPULATION

S.No	Years	Vehicles		Annual Growth (Per cent)	No. of Vehicles Per 1000 Population
		Number	Increase		
1	2005-06	4830136	-	8.13	317
2	2006-07	5232426	402290	8.33	337
3	2007-08	5627384	394958	7.55	356
4	2008-09	6026561	399177	7.09	374
5	2009-10	6466713	440152	7.30	393
6	2010-11	6947536	480823	7.44	415
7	2011-12	7452985	505449	7.27	436
8	2012-13	7785608	332783	4.46	446
9	2013-14	8258284	472676	6.07	465

S.No	Years	Vehicles		Annual Growth (Per cent)	No. of Vehicles Per 1000 Population
		Number	Increase		
10	2014-15	8827431	569147	6.89	491
11	2015-16	9704741	877310	9.94	530
12	2016-17	10382757	678016	6.99	556
13	2017-18	10986015	603258	5.81	598
14	2018-19	11391551	405536	3.69	616

d. Delhi is a hub for personal motorized vehicles in India. Total motorized vehicles in Delhi are 113.92 lakh. Car and jeeps accounted for around 29% of the total registered mortised vehicles, whereas two wheelers are about 66% of total registered vehicles. Percentage of vehicles in Delhi during 2018-19 is depicted in Chart 12.1.

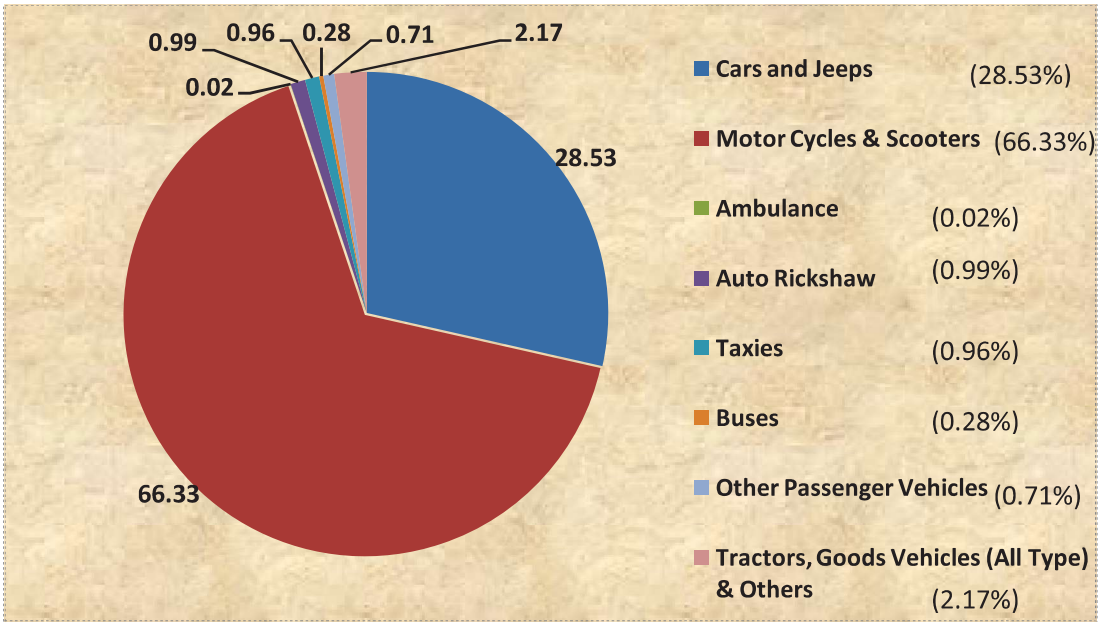
Statement 12.3

Category wise Number of Vehicle and percentage

S. No	Details	Number of Vehicles	
		2018-19	Percentage
1	Cars and Jeeps	3249670	28.53
2	Motor Cycles & Scooters (Two wheelers)	7556002	66.33
3	Ambulances	2358	0.02
4	Auto Rickshaws	113240	0.99
5	Taxies	109780	0.96
6	Buses	32218	0.28
7	Other Passenger Vehicles	81422	0.71
8	Tractors	246861	2.17
9	Goods Vehicles (All Type)		
10	Others		
	Total	**11391551**	100

Chart 12.1

PERCENT OF VEHICLES POPULATION 2018-19



e. There is a contradiction regarding the actual number of vehicles plying on Delhi's road as the large number of vehicles registered in Delhi are plying in NCR areas and vis- a-vis the vehicles registered in NCR are plying in Delhi.

f. Transport Department is making efforts to estimates the actual number of vehicles in Delhi by taking into account vehicles that have outlived their life due to any account, transferred to and from other states etc.

g. The information regarding the mode of transportation facilities in Delhi during the last two decades as per the Census of India is presented in the statement 12.4.

Statement 12.4

DISTRIBUTION OF HOUSEHOLDS ON THE BASIS OF THE MODE OF TRANSPORTATION IN DELHI: 2001 & 2011

(Per cent)

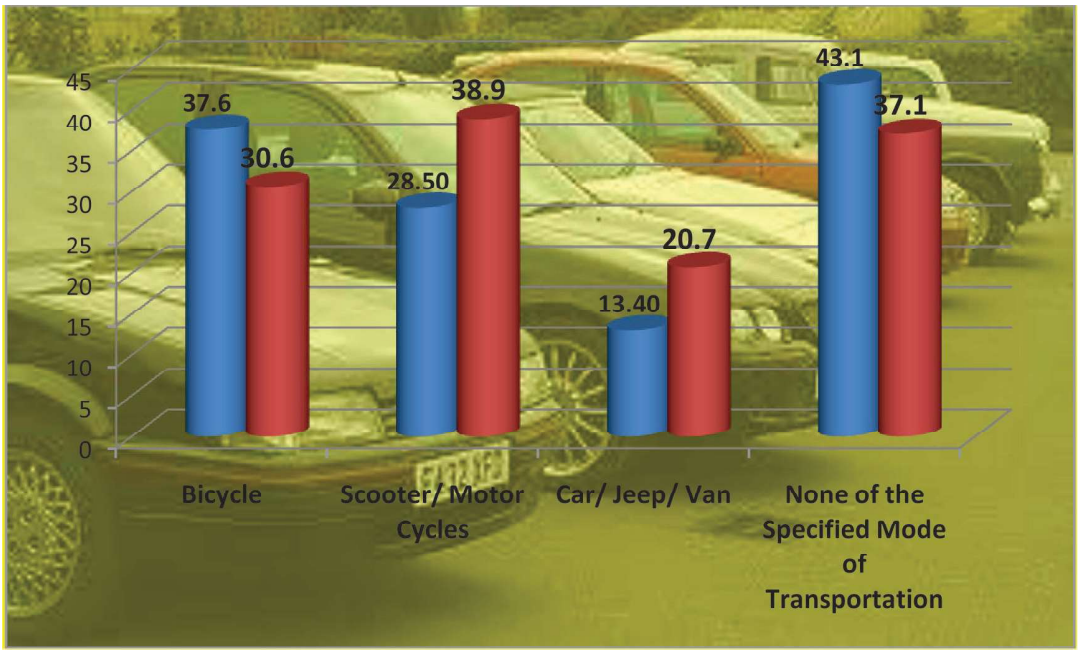
S. No	Mode of Transportation Facilities	2001			2011		
		Rural	Urban	Total	Rural	Urban	Total
I	**No. of Households**	**169528**	**2384621**	**2554149**	**79115**	**3261423**	**3340538**
1	Bicycles	48.70	36.80	37.60	44.20	30.30	30.60
2	Scooter/ Motor Cycles	20.70	28.50	28.00	38.50	38.90	38.90
3	Car/ Jeep/ Vans	7.30	13.40	13.00	10.80	21.00	20.70
4	None of the Specified Mode of Transportation	38.90	43.40	43.10	34.70	37.20	37.10

Source: - Census of India, 2011, Houses, Household Amenities and Assets.

h. It may be inferred from Statement 12.4 that during the last decade the percentage of household using scooter/motor cycles has increased from 28 percent in 2001 to 38.90 percent in 2011. During the same period the percentage of household using car/ jeep/vans as the mode of transportation in Delhi has also increased from 13 percent to 20.7 percent. Contrary to this, the percentage of household using bicycles as the mode of transport has declined from 37.6 percent in 2001 to 30.6 percent in 2011. Besides these the above statement also indicates the reduction in the percentage of none of the specified mode of transportation from 43.10 percent in 2001 to 37.10 percent in 2011. The information regarding the distribution of households in Delhi on the basis of the mode of transportation facilities in Delhi during the last decade is depicted in Chart 12.2.

Chart 12.2

DISTRIBUTION OF HOUSEHOLDS ON THE BASIS OF THE MODE OF TRANSPORTATION IN DELHI: 2001 & 2011



i. The number of registered vehicle in 2015-16 in Greater Mumbai was 28.20 lakh, Chennai was 49.38 lakh, Bangluru was 61.13 lakh, Hyderabad was 23.69 lakh and Kolkata was 7.41 lakh as per the information in Statistical Year Book 2018 of MoSPI, GoI wherein total registered vehicle in Delhi was 97.04 lakh. Thus the numbers of Registered Vehicle in Delhi are more than the total number of registered vehicle in Greater Mumbai, Chennai & Kolkata.

7. Road Network

a. The road network in Delhi is being developed and maintained by National Highway Authority of India (NHAI), Public Works Department (PWD), Municipal Corporations of Delhi, New Delhi Municipal Council (NDMC), Delhi Cantonment Board (DCB) and Delhi Development Authority (DDA).

b. The road network is increasing day by day in NCT of Delhi. A revised outlay of 1096 crore was approved for Road and Bridges and an expenditure of 924 crore was incurred during 2018-19. Further, an outlay of 1900 crore has been kept in B.E. 2019-20 for development of roads & bridges in NCT of Delhi. The road length maintained by different agencies in NCT of Delhi is presented in Statement 12.5.

Statement 12.5

GROWTH OF ROAD NETWORK IN DELHI-AGENCY-WISE

(As on 31st March 2019 in Lane KM)

S.No.	Agency	Road Length
1	East DMC	532 Lane Km
2	South DMC	9592 Lane Km
3	North DMC	3272.65 Lane Km
4	New Delhi Municipal Council	1290 Lane Km
5	Public Works Deptt. (Delhi Govt.)	
a.	National Highway	616 Lane Km (68* Km)
b.	Other Roads	6308 Lane Km (1240 Km)
6	DSIIDC	1844.77 Lane Km
7	I&FC	298 Km
8	DDA	435Lane Km

* Flyovers of length of 62 kms included

8. Inter State Bus Terminals (ISBTs)

Master Plan of Delhi- 2021 suggested five ISBTs for Delhi. With the setting up of two new ISBTs at Sarai Kale Khan and Anand Vihar, three ISBTs are functioning at present. Two more ISBTs are proposed to be constructed at Dwarka and Narela. ISBT, Kashmere Gate has been renovated and made operational with state of the art facilities in May 2013. Regarding ISBT at Dwarka, architect has been appointed. Process for renovation of ISBTs at Anand Vihar and Sarai Kale Khan is under progress.

a. Development of ISBTs

The work of Sarai Kale Khan ISBT is proposed to be undertaken in two phases. Line of Position (LOP) and conceptual drawings based on Transit Oriented Development (TOD) concept have been developed for Phase-I and approval from local bodies is being perused. The work of comprehensive planning based on TOD concept of Anand Vihar ISBT and Dwarka ISBT hand over to PWD.

9. Development of Bus Terminals and Depots.

The objective of the project is to create bus transport infrastructure for the benefit of the bus commuters. The scheme envisages purchase of land for bus terminals & bus depots and construction of terminals & depots over there. With the new acquisition

of bus fleet under cluster scheme (DTC and private entities), Transport Department will require additional bus depots. Due to scarcity of land, the statutory authorities are pressing hard to have multi-level bus depots in place of the conventional bus depots. There are 58 number of bus depot in operation and construction of 12 Bus depots are under progress. Further there are 16 numbers of bus terminals are in operation. New Bus Terminals at Sector 4, dwarka, Sector 12, Dwarka, Vikashpuri and Narela are under construction.

10. Rail Network

Delhi is a major junction on the rail map of India linked with the entire major metropolitan cities directly. There are five main railway stations viz. at New Delhi, Old Delhi, Hazrat Nizamuddin, Sarai Rohila and Anand Vihar, besides Container Depots at Patparganj and Tuglakabad.

11. Mass Rapid Transit System (MRTS)

a. The Mass Rapid Transit System (MRTS) is an ambitious project that aims at providing a non-polluting and efficient rail-based transport system, properly integrated with the road transport system. The Delhi Metro is being built in phases. Phase-I completed with 59 stations (including interchange stations) and 65.1 km of route length of which 13.17 km is underground and 51.93 km surface or elevated. The inauguration of the Barakhamba Road-Indraprastha corridor of the Blue Line marked the completion of Phase-I in November, 2006. Phase-II of the network comprises 124.93 km of route length with 86 stations (including interchange stations) having 16.62 Km of route length with 13 stations in NCR and is fully completed with the first section opened in June, 2008 and the last line opened in August, 2011. Phase-III, additional corridors and NCR extensions comprises 160 km route length with 109 stations (including 42.496 km of route length with 30 stations of NCR), of which 153.638 km have already been commissioned in stages from June 2014 to March 2019. Dwarka to Najafgarh (4.302 km) has been commissioned from 04.10.2019. Remaining Mayur Vihar Pocket I to Trilokpuri stretch is scheduled to be completed in September 2020 and Extension to Dhansa Bus Stand is scheduled in December 2020. Phase IV of Delhi MRTS project has been approved by GNCTD. 3 Priority Corridors of Phase IV have been sanctioned by GoI. Work on these corridors has been started. Remaining 3 corridors are under consideration of GoI. At present, the average daily Line Utilization of Delhi Metro is about 57 lakh (incl. Airport Line and Rapid Metro Gurugram). In Delhi, the Metro Trains run from 6.00 AM in the morning till about 11.00 PM in the night. The train frequency varies from 2 minutes 30 seconds in peak time up to 10 minutes in non-peak hours.

b. **MRTS Phase-III:** The approved corridors of MRTS Phase III of new metro lines and extensions of its corridors are presented in statement 12.6 and year wise fund released by GNCTD in statement 12.7.

Statement 12.6

MRTS Phase III - Approved by Cabinet

S. N.	Corridors	Length(KM)			No. of stations			Expected time to be started/ completed
		Under ground	Elevated	Total	Under ground	Elevated	Total	
A	**In NCT of Delhi**							
1.	Line-7: Majlis Park-Shiv Vihar	19.139	39.457	58.596	12	26	38	Commissioned in stages except Mayur Vihar Pkt I to Trilokpuri (about 1.0 km) which will be completed by September 2020.
2.	Line-8: Janakpuri West-Kalindikunj	23.116	10.383	33.499	15	8	23	Commissioned in stages in May 2018
3.	Line 6 Ext: Central Sectt.-Kashmere Gate	9.370	-	9.370	7	-	7	Commissioned in stages in May 2017
4.	Line 2 Ext.: Jahangirpuri-Badli	-	4.373	4.373	-	3	3	Commissioned on 10.11.2015
5.	Line 5 Extn.:Mundka-Tikri Border	-	6.307	6.307	-	4	4	Commissioned on 25.06.2018
6.	Dwarka-Najafgarh	1.547	2.755	4.302	1	2	3	Commissioned on 4.10.2019
7.	Extension to Dhansa Bus Stand	1.180	-	1.180	1	-	1	December 2020
	Sub-Total	**54.352**	**63.275**	**117.627**	**36**	**43**	**79**	
B	**In NCR**							
8.	Line 6 Extn: Badarpur-Faridabad	-	13.875	13.875	-	9	9	Commissioned on 06.09.2015
9.	Line 5 Extn.:Tikri Border-Bahadurgarh	-	4.875	4.875	-	3	3	Commissioned on 25.06.2018
10.	Escorts Mujesar - Ballabhgarh	-	3.350	3.350	-	2	2	Commissioned on 19.11.2018
11.	Kalindi Kunj – Botanical Garden	-	3.962	3.962	-	2	2	Commissioned on 25.12.2017
12.	Dilshad Garden to New Bus Adda Ghaziabad *	-	9.635	9.635	-	8	8	Commissioned on 08.03.2019
13	Noida City Centre to Noida Electronic City	-	6.799	6.799	-	6	6	Commissioned on 09.03.2019
	Total	**54.352**	**105.771**	**160.123**	**36**	**73**	**109**	

Statement 12.7

YEAR-WISE FUND RELEASED FOR MRTS PHASE -III & IV BY GNCTD

(₹ in Crore)

S. No	Year	Equity	Subordinate Debt for Land acquisition	Reimbursement/ Subordinate debt towards sales tax on works contract Act to DMRC	Loan to MRTS for reimbursement of Central Taxes	Total
1	2011-12	749.70	216.00	-	294.00	1259.7
2	2012-13	749.70	216.00	-	294.00	1259.7
3	2013-14	672.20	200.00	-	170.00	1042.2
4	2014-15	600.00	40.51	-	-	640.51
5	2015-16	827.00	40.00	577.00	-	1444.00
6	2016-17	323.27	39.50	300.00	671.00	1333.77
7	2017-18	240.00	5.50	660.00	424.00	1329.5
8	2018-19 (Ph-III)	38.13	-	37.78	22.10	98.01
	2018-19 (Ph-IV)	50.00	100.00	-	50.00	200.00
	Total	**4250.00**	**857.51**	**1574.78**	**1925.10**	**8607.39**

c. The total cost of Phase-III within Delhi is ₹ 39784.56 crore out of which GNCTD share was ₹ 8407.38 crore. GNCTD had released its total share of funds to DMRC towards DMRTS Phase-III till 31.03.2019.

d. **MRTS Phase- IV:** DMRC prepared and submitted the Detailed Project Report (DPR) for Phase -IV of Delhi Metro, consisting of six corridors to Govt. of Delhi and Ministry of Housing & Urban Affairs, Govt. of India for approval. Proposed six corridors for phase-IV are presented in statement 12.8

e. Government of NCT of Delhi approved all six corridors of the metro phase-IV project and 334 cars vide Cabinet decision 2666 dated 19.12.2018 at the cost of ₹ 46,845 crore wherein GNCTD share would be ₹ 9707.50 crore. Government of India accorded sanction to 3 Priority corridors of the metro phase-IV project and 244 cars vide Sanction Order dated 04.07.2019 at the cost of ₹ 24948.65 crore wherein GNCTD share is ₹ 7844.70 crore which has been further revised vide Sanction Order dated 02.01.2020 to ₹ 5886.95 cr.

Statement 12.8

MRTS Phase IV*

S.No.	Corridors	Length (km)	No. of stations
i	Mukundpur-Burari-Maujpur	12.55	06
ii	R.K.Ashram-Janakpuri (West)	28.92	25
iii	Aerocity-Saket-Tughlakabad	20.20	15
iv	Inderlok-Delhi Gate- Indraprastha	12.58	10
v	Lajpat Nagar-Chirag Delhi-Saket G Block	7.96	07
vi	Rithala-Bawana-Narela	21.72	16
	Total	**103.93**	**79**

*Corridors at S.No. (i), (ii) & (iii) have been sanctioned by GoI, remaining 3 corridors are under consideration of GoI.

a. The details regarding year-wise Average Daily Ridership is presented in Statement 12.9

Statement 12.9

AVERAGE DAILY RIDERSHIP AND ROLLING STOCK

Year	Ridership	Operational Route (Km) Excluding Airport Express line	Rolling Stock (No. of Cars)
2007-08	625,000	65.10	280
2008-09	722,000	74.55	280
2009-10	919,000	95.79	376
2010-11	1259,000	161.45	844
2011-12	1660,000	167.33	1022
2012-13	1926,000	167.33	1094
2013-14	2190,000	167.33	1282
2014-15	2386,000	170.56	1306
2015-16	2600,000	189.747	1392
2016-17	2761,342*	194.844	1426
2017-18	2537,175*	228.78	1818
2018-19	2597,000*	320.968*	2140*

*Except Airport Line.

g. DMRC Feeder Bus Service.

Feeder Bus Services is a special provision made by DMRC to facilitate the last mile connectivity. 174 Non-AC metro feeder buses are in service, which are being plied on 32 routes as on February 2020. Presently, DMRC is in the process to procure 100 AC e-buses to be operated on 10 new routes under FAME-2 scheme.

12. RRTS

To address the issues of pollution and congestion in NCR, "Functional Plan on Transport for NCR-2032" prepared by National Capital Region Planning Board (NCRPB) recommended eight Regional Rapid Transit System (RRTS) Corridors to connect various important towns of NCR with high speed rail based mass commuter transit system. The Task Force constituted by the Planning Commission prioritized three corridors i.e Delhi-Ghaziabad-Meerut, Delhi-Sonipat-Panipat and Delhi-Gurgaon-Rewari-Alwar for implementation in the first phase. RRTS has been identifies as one of the most priority project for the NCR region for sustainable urban development, reducing congestion and pollution and improving quality of life in Delhi.

The three prioritized RRTS corridors are planned to originate from a common elevated terminus station Sarai Kale Khan in Delhi. Such a common terminus station will facilitate inter-connectivity/inter-operability among three corridors.

a. Delhi-Meerut RRTS Corridor is of 82.15 km length of which 68.03 km is elevated and 14.12 km is underground. Delhi portion 13 km length comprises 03 stations at Shastri Nagar, Anand Vihar and Sarai Kale Khan. The project completion cost is estimated as ₹ 30,274 crore and contribution of GNCTD is ₹ 1,180 crore.

b. Delhi-Gurgaon-Rewari-Alwar corridor is to be implemented in following three phases:

Phase-I: Delhi-Gurgaon-Rewari-SNB (Shahjahanpur-Neemrna-Behror) Urban Complex
Phase-II : SNB Urban Complex-Sotanala RIICO Industrial area
Phase-III : SNB Urban Complex-Alwar

The total length of this corridor is 106.5 km, of which Delhi portion is 22.08 km comprises 04 stations. The project completion cost is estimated as ₹ 37,690 cr. and contribution of GNCTD is ₹ 3,152 cr.

c. Regarding Delhi-Panipat RRTS Corridor as per the draft DPR, Originating Point is common terminus station at Sarai Kale Khan and the end point is Panipat depot station. The said corridor is of 104 km length of which 93 km is elevated and 11 km is underground. The six stations proposed in Delhi at Sarai Kale Khan, Indraprastha, Kashmere Gate, Burari Crossing, Mukarba Chowk & Alipur.

13. Flyovers and Bridges:

A number of transport infrastructure projects at Ring Road and Outer Ring Road were made to encourage uses of public transport in Delhi. Flyovers at Madhuban Chowk to Mukerba Chowk, Vikas Puri to Meera Bagh, Mangolpuri to Madhuban Chowk, Wazirabad to Mukerba Chowk has been opened for public. At present there are 86 number of flyovers including **Signature Bridge** completed at various places in Delhi.

a. **C/o Signature Bridge at Wazirabad, Delhi: -** Due to tremendous increase in population of Trans-Yamuna Area, there was pressing demand for additional East-West corridors over River Yamuna. Therefore, a new bridge was proposed on the down-stream of existing bridge-cum-barrage at Wazirabad. The objective of this project was to have a signal free approach from NH-1 (Road No. 45) on western bank and Wazirabad Road (Road No. 59 Khajuri Khas intersection) on the Eastern bank for entry & exit of traffic in two directions. The main Signature Bridge and approaches on both sides at a cost of ₹ 1518.37 crore constructed and have been opened to traffic now.

b. **Construction of Flyover at Shastri Park and Seelampur :-**The project has been sanctioned for ₹ 303 crores on 2019-20. The work is in progress and an amount of ₹ 147 crore has been incurred till January 2020. About 60% work has been done in this project till Dec, 2019. The work is likely to be completed by August' 2020.

c. **Barapullah Phase-III :** Barapullah, Phase-III stretch from Sarai Kale Khan to Mayur Vihar Phase-I has been sanctioned for ₹ 1260.63 crore and the work is in progress and about 73% work has been done in this project till Dec, 2019. An amount of ₹ 690.55 crore has been spent on the project till December 2020. Progress of work is held up due to some land acquisition issues. The land is to be acquires under Land Acquisition Act 2013. The work will be completed tentatively by 30.9.2021.

d. **Corridor improvement of outer Ring Road from IIT to NH-8:-** The project of Construction of (Part-A) Flyover on portal structure linking existing Munirka Flyover in the east to the point beyond Army RR Hospital in the west on the Outer Ring

Road and (Part-B) Underpass at junction of BJ Marg and Inner Ring road has been approved at the cost of ₹ 364 crore. 82% work of the project has been completed till Dec, 2019. The Flyover from Munirka to RR Hospital on ORR has been completed and opened to traffic. The remaining work will be completed by June, 2020.

e. **Construction of Underpass at Ashram Chowk along Mathura Road**: - The estimated cost of this project is ₹ 77.92 crore along with shifting of services. This project has been awarded recently. Project will be completed by July 2020.

f. **Streets scapping of PWD Roads:-** The work of improvement of road geometry, provision of pedestrian facilities, improvement of footpaths/intersection islands had been undertaken for seven important corridors in Delhi. Budget Provision of ₹ 100 crore has been kept in BE 2019-20.

g. **Installation of CCTV Cameras:-** The work of installing CCTV Cameras at desired locations for safety and surveillance has been taken up by PWD. The work of Supply, Installation, Testing and Commissioning of 2.80 lakh CCTV cameras (4000 in each Assembly Constituency) in Delhi is in progress. Vide cabinet Decision No. 2731 dated 8.8.2019 installation of CCTV cameras in Assembly Constituencies (ACs) increased to 4000 from 2000 has been approved. The Phase-I work of installation of CCTV cameras throughout Delhi is in progress. The estimated cost for phase-I work is ₹ 571.40 crore. (₹ 320.96 crore capital cost and ₹ 250.44 crore maintenance cost). The estimated cost of Phase-II of Commissioning of CCTV cameras is ₹ 613.53 crore (₹ 355.59 crore capital cost and ₹ 257.94 crore maintenance cost). Expenditure of ₹ 116 crore has been incurred till January 2020 and the work is in progress. Approx.1,27,000 cameras at desired locations in Delhi have been installed till December 2019.

14. Pedestrian Facilities - Foot Over Bridges (FOBs)

Traffic regulation and road construction in Delhi have to take care of cyclists and pedestrians including bus commuters. On main arterial roads, there are very few pedestrian crossing and a few over bridges or subways. Approximately 90 numbers of footover Bridges have also been completed at various places in Delhi by end of 2019. The work of 22 FOBs are in progress and likely to be completed by 31.12.2020. An evaluation study on footover bridge and subways in Delhi was carried out to get feedback on utilization pattern and to take remedial measures to eradicate bottlenecks for improving utilization of FOBs and subways. The survey data of users indicates that most people are concerned about deployment of security, cleanliness and mechanised system like lifts and escalators.

15. Delhi Transport Infrastructure Development Corporation (DTIDC).

The Corporation has been created with the objectives of development, implementation, operation and maintenance of urban transport infrastructure and funding of the expenses associated with transport planning, project development expenses for specific projects, capital expenditure support for specific projects and operations and maintenance expenditure for providing sustainable public service, infrastructural improvement for all ISBTs.

16. Delhi Transport Corporation (DTC).

a. DTC is the largest public transport entity in the NCR. DTC operates 3849 buses on 437 city routes and 8 NCR routes. DTC has also been operating International Bus Service on Delhi– Kathmandu. Daily average passengers in DTC buses is about 30.15 lakh during 2018-19. Common Mobility Cards (One) have been implemented in all DTC Buses. Electronic Ticketing Machine (ETMs) based automatic fare collection system (AFCS) in DTC Buses has been fully implemented. The performance of DTC is presented in Statement 12.10 and an activity of DTC is presented in Statement 12.11.

Statement 12.10

PERFORMANCE OF DELHI TRANSPORT CORPORATION (DTC)

S. No.	Years	Fleet (In No's)	Fleet Utilization (In %)	Vehicle Utilization (Km/Bus/Day)	Load Factor (In %)	Passenger Carried per bus daily (In No's)	Daily Average Passengers (In Lakh)
1	2005-06	3469	90.51	226	74.42	973	30.52
2	2006-07	3444	81.47	199	77.18	951	26.77
3	2007-08	3537	82.47	177	87.82	848	24.04
4	2008-09	3804	77.03	171	68.83	772	22.62
5	2009-10	4725	80.99	184	69.84	776	24.16
6	2010-11	6204	75.03	185	71.43	700	30.32
7	2011-12	5892	84.27	199	77.75	863	44.2
8	2012-13	5445	85.77	202	92.90	973	46.77
9	2013-14	5223	85.51	190	86.63	952	43.47
10	2014-15	4712	83.99	188	85.02	930	38.87
11	2015-16	4352	83.63	191	82.00	927	35.37

S. No.	Years	Fleet (In No's)	Fleet Utilization (In %)	Vehicle Utilization (Km/Bus/Day)	Load Factor (In %)	Passenger Carried per bus daily (In No's)	Daily Average Passengers (In Lakh)
12	2016-17	4027	85. 12	199	81. 36	890	31. 55
13	2017-18	3951	85.69	191	83.83	878	29.86
14	2018-19	3849	84.62	195	81.34	915	30.15

Source: - Operational Statistics of DTC

Statement 12.11

ACTIVITIES OF DELHI TRANSPORT CORPORATION: 2016-17 to 2018-19

S. No	Details	2016-17				2017-18				2018-19			
		Non-AC	AC	Standard	Total	Non-AC	AC	Standard	Total	Non-AC	AC	Standard	Total
1.	Total Buses in the Fleet (At the end)	2506	1275	246	4027	2506	1275	170	3951	2506	1275	68	3849
2.	Buses on Road (Daily Average)	2238	1065	244	3547	2232	1078	92	3402	2197	1071	27	3295
3.	Passengers (in Crore)	87.96	20.63	6.57	115.16	84.86	21.77	2.35	108.98	84.96	24.35	0.74	110.15
4.	Daily Average Passengers (in Lakh)	24.13	5.65	1.80	31.55	23.25	5.97	0.64	29.86	23.28	6.67	0.20	30.15
5.	Kilometer operated (in Crore)	16.60	7.64	1.54	25.78	15.78	7.41	0.54	23.73	15.68	7.57	0.15	23.40
6.	Kilometer operated Daily Average (in lakh)	4.55	2.10	0.42	7.07	4.32	2.03	0.15	6.50	4.30	2.07	0.04	6.41
7.	Break-down per 10000 buses	706	952	461	763	713	923	730	780	710	898	735	781
8.	Accidents	82	35	11	128	75	43	3	121	79	45	1	125
9.	Inter-State Bus Route Service	-	-	-	9	-	-	-	8	-	-	-	8
10.	D.T.C. Workshop	-	-	-	2	-	-	-	2	-	-	-	2
11.	D.T.C. Depots	-	-	-	39	-	-	-	39	-	-	-	39

b. Government is providing various concessions in the bus fares to students, senior citizens, Disabled, freedom fighters etc in DTC and Cluster Burses. The concession amount is reimbursed by GNCTD. The Govt. of NCT of Delhi has reimbursed an amount of ₹ 100.00 Crore for concessional passes during 2018-19.

17. Cluster Buses: - The Government of NCT of Delhi initiated the Scheme in 2011-12 for Corporatization of Private Stage Carriage Service to substitute the Blue line private stage carriage system under Public Private Partnership (PPP) model. Under this scheme, 657 stage carriage bus routes of Delhi have been divided into 17 distinct clusters. As on February 2020, 2412 cluster buses are being operated in 12 clusters in the NCT of Delhi. Electronic Ticketing Machine (ETMs) based automatic fare collection system (AFCS) in Cluster Buses has been fully implemented. Further, Common Mobility Card has been successfully implemented in all the cluster buses to promote digital transaction inter-alia with common ticketing amongst Delhi Metro, DTC and Cluster buses in fares. The performance data of the cluster buses are given under:-

Statement 12.12

PERFORMANCE OF CLUSTER BUSES

S.No	Years	Fleet (No)	Fleet Utilization (In %)	Vehicle Utilization (Km/Bus/Day)	Load Factor* (In %)	Passenger Carried per bus daily	Daily Average Passengers (In Lakh)
1.	2013-14	1090	93.49	218.43	81	950	6.36
2.	2014-15	1402	97.30	217.61	78	899	9.95
3.	2015-16	1490	98.84	214.52	74	831	10.61
4.	2016-17	1651	98.10	210.02	78	755	10.25
5.	2017-18	1744	97.16	205.15	81	753	11.65
6.	2018-19	1803**	98.66	211.02	88	760	12.24

*LF is calculated using Central Institute of Road Transport (CIRT) Formula,
** including reserve fleet.
Source: DIMTS Ltd.

18. Road Safety.

a. Government of NCT of Delhi is taking various initiatives such as construction of pedestrian lanes, foot over bridges at traffic intersections, conducting Road Safety campaigns at schools and college level, educating the general public about the road safety and other measures.

b. The Delhi State Road Safety Council was earlier constituted under the chairmanship of Commissioner (Transport) in 2005. However, on the directions of the Supreme Court Committee on Road Safety, the Government of NCT of Delhi has re-constituted the Delhi State Road Safety Council on 07.07.2017 under the Chairpersonship of Hon'ble Transport Minister for political commitment to assure co-ordination among various agencies for safety of pedestrian, non-motorized vehicles & road users, to assure safety measures for Road users and facilities for design for engineering, re-engineering, repair etc. on technical standards.

c. The District Road Safety Committees have also been established vide notification dated 17.06.2014 in all the eleven revenue districts of NCT of Delhi headed by the Deputy Commissioner of each district and Deputy Commissioner of Police; Deputy Commissioner Police (Traffic); Superintending Engineer (PWD); Superintending Engineer (MCD/NDMC); Superintending Engineer (DDA); Additional CDMO (Health); Deputy Director (Education) and Motor Licensing Officer (Transport) of each district concerned as its Members and Additional District Magistrate Convener/Member of each district concerned. The District Road Safety Committees are performing the functions related to Road Safety measures at the district level.

d. Delhi Road Safety Policy has been notified on 13.07.2018. Objective of road safety policy is to ensure road safety for all road users in the NCT of Delhi, with priority to pedestrians and cyclists, to achieve zero fatalities due to road accidents in the long run. It includes awareness regarding road safety, strengthening institutional arrangements, establish road safety management information system, ensure safe road infrastructure, planning & designing of roads, safer motor vehicles, safe divers, safety for vulnerable road users, road safety education and training etc.

19. Measures taken for Safe Public Transport.

a. Installation of CCTV Cameras in Buses: CCTV video surveillance system has been installed in 200 buses of DTC i.e. 100 buses of Sarojini Nagar Depot and 100 buses of Rajghat Depot-I. DTC has installed these CCTV cameras with its own resources. Government has decided to install CCTV cameras in all DTC & Cluster buses.

Further, the new buses inducted under the cluster scheme and DTC fleet would be equipped with CCTV, Panic Buttons and Vehicle Tracking System. 733 new buses are added in the cluster scheme upto February 2020 during the current financial year. These buses are equipped with CCTV, Panic Buttons and Vehicle Tracking System.

b. **Augmentation of DTC Night bus service (11 PM – 5 AM):** Gender Sensitization Program for bus crew undertaken by DTC is also being conducted on a regular basis for safety of women passengers. Numbers of buses have been increased to 88 buses on 27 routes. 30 Ladies Special Buses are also being plied during peak hours on 30 routes. 25% seats have been reserved for women in stage carriage buses (i.e. Low floor buses-10 seats, & standard floor buses -12 seats). Comparative detail for the years 2017-18 and 2018-19 is presented in Statement 12.13.

Statement 12.13

Performance of DTC buses

Details	2017-18	2018-19
No. of Buses in Night Bus Service	86	88
No. of routes of Night Bus Service	26	27
No. of Civil Defence Marshals & Homeguards	2153	3041
No. of Ladies Special bus routes	28	30
Percentage of seats reserved for ladies	25	25

c. Deployment of Marshals in Buses:

The Govt. of NCT of Delhi has decided to depute "Marshals" in all DTC & Cluster buses in both shifts from 29.10.2019. As on 13.11.2019, 7431 marshals in DTC and 2809 marshals in Cluster buses were deployed for women safety and security.

20. New Initiatives:-

The air pollution has emerged as a significant issue risking the health and well being of residents in cities across India and especially Delhi. GNCTD has undertaken a Green Budgeting initiative in 2018-19 to implement several long term measures to combat air pollution in Delhi. Some of the initiatives are as under:-

a. Electric Vehicle Policy: To replacement of old vehicles and to encourage the electric vehicles, "Delhi Electric Vehicle Policy 2019" has been approved; vide Cabinet Decision no. 2796 dated 23.12.2019. The primary objective of the Delhi EV Policy 2019 is to bring about a material improvement in Delhi's air quality by bringing down

emissions from the transport sector. To do so, this policy will seek to drive rapid adoption of Battery Electric Vehicles (BEVs) such that they contribute to 25% of all new vehicle registrations by 2024. This policy will also seek to put in place measures to support the creation of jobs in driving, selling, financing, servicing and charging of EVs. The GNCTD will also develop an intensive communication plan focused on deriving awareness regarding the benefits of adopting electric vehicle and the key elements of this policy.

b. **Electric Buses:** The National Electric Mobility Mission Plan (NEMMP) 2020 is a National Mission document providing the vision and the roadmap for the faster adoption of electric vehicles and their manufacturing in the country. As part of the NEMMP 2020, Department of Heavy Industry formulated a Scheme viz. Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme in the year 2015 to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same. GNCTD has decided to engage pure electric buses in Delhi which will go a long way to reduce overall vehicular emissions in Delhi. Ministry of Heavy Industries & Public Enterprises, GoI conveyed the approval of the competent authority to extend financial support for deployment of 300 electric buses on operational cost Model under phase-II of FAME India scheme to DTC. A proposal of 1000 fully-electric Cluster buses for augmenting environment-friendly public transport system is under progress.

c. **Installation of Weigh Bridges**: To ensure stringent action on over-loaded trucks causing pollution, the Transport Department is strengthening the enforcement wing of the Transport Department. Weigh Bridges at three impounding pits in Burari, Sarai Kale Khan and Dwarka have been installed. New vehicles, body worn cameras and E-challaning tabs have also been purchased.

21. **Free Travel for Women**: The free travel facility for women in DTC/ Cluster buses has been given by GNCTD from 29.10.2019. A single journey based pass of ₹ 10/- for both AC and Non AC buses is being issued in the form a similar size of ticket currently being distributed in the colour “Pink”. DTC is printing these passes and issues to DIMTS for cluster buses and proper accounting of these tickets is being maintained by both the DTC & DIMTS. An amount of ₹ 90.00 crore towards subsidy to DTC and ₹ 50.00 crore to DIMTS due to free travel of women has been kept in the Current Financial Budget.