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Upgradation and Revival Plan

For

Jammu & Kashmir State Road Transport Corporation

(JKSRTC)

SHAKTI SUSTAINABLE ENERGY FOUNDATION

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1 Introduction

Jammu and Kashmir (Figure 1), is a hill state in Northern India with a population of 1.25 Cr. As per the Census 2011 out of total population of Jammu and Kashmir, 27.38% people lived in urban regions while 72.62% in rural areas. The total urban population is 3,433,242 and rural population is 9,108,060 (Census of India, n.d.) .

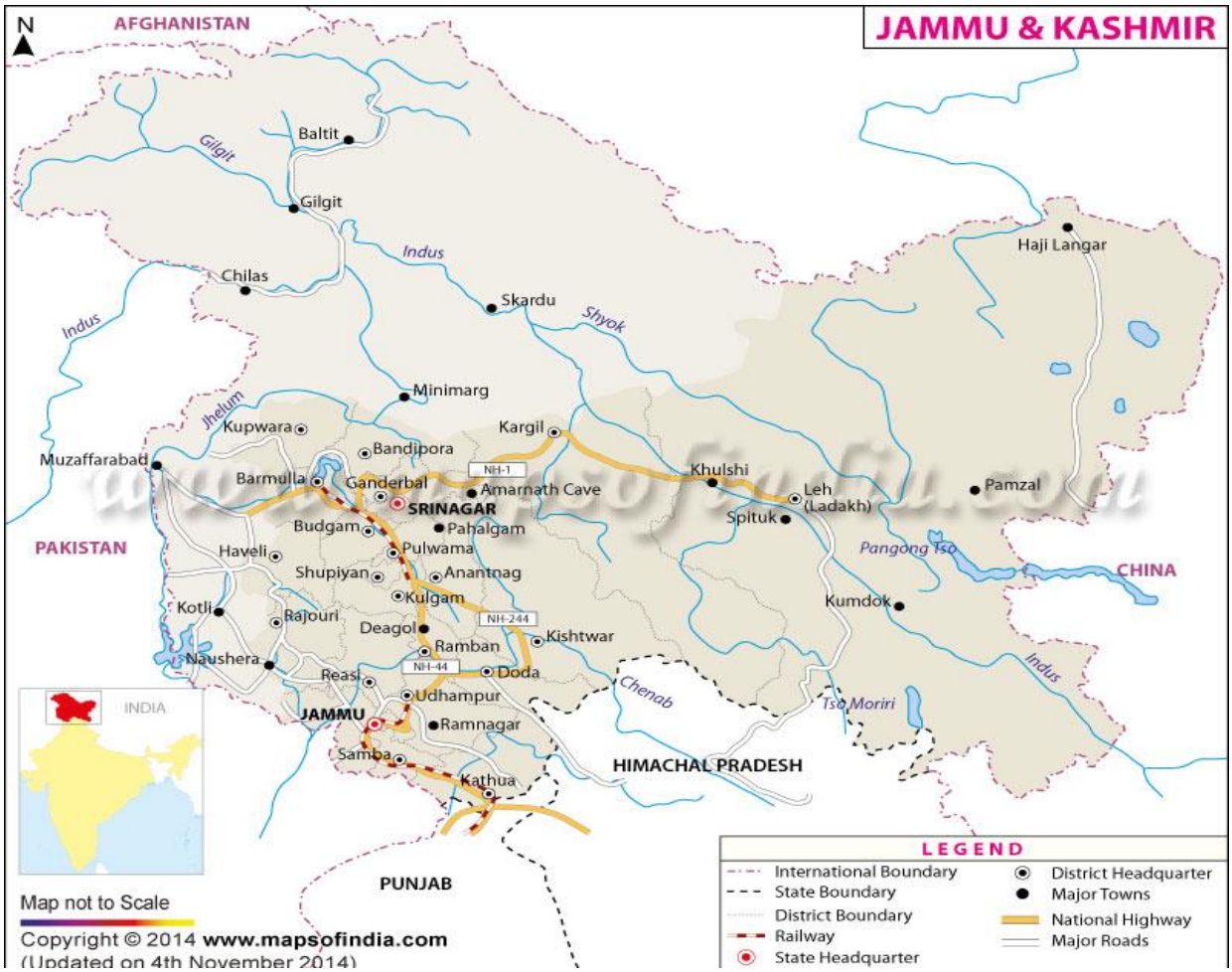


Figure 1: Jammu and Kashmir (Source -mapsofindia.com)

Jammu and Kashmir is a famous as the tourist destination and is visited by travelers throughout the year. The State is distributed in three regions : Jammu, the Kashmir Valley and Ladakh. The area distribution of the state is presented in the Table 1.Srinagar is the summer capital, and Jammu is the winter capital.

Table 1: Region wise Area Distribution

Division	Area km²	Percentage Area
Kashmir	15,948	15.73%
Jammu	26,293	25.93%
Ladakh	59,146	58.33%
Total Area	**101,387 km²**	**100%**

Jammu and Kashmir State Road Transport Corporation (JKSRTC), is the state government agency of that provides passenger (on both intra city and intercity routes) and freight

transport services in Jammu and Kashmir and the adjacent states. Due to high altitude and adverse geographical settings the bus system here has been the lifeline of the transportation in the state. These factors underscore the need for a more modern and efficient bus service in the state.

Figure 2: JKSRTC Bus service in Jammu and Kashmir (Source - aanavandi.com)

To achieve this, JKSRTC has shown interest in receiving expert assistance to address various operational, quality of service and capacity issues affecting the current bus services in the state. Thus, to enable a planned and optimally staggered investments in to the corporation, a long-range plan for JKSRTC revival has been developed focusing on augmenting fleet, infrastructure and staff strength for the corporation. A critical objective of this study is the development of a bus and truck fleet upgradation plan for JKSRTC and provide policy level recommendation for bus service improvement in Jammu and Kashmir, based on the findings and outcomes generated by Bus fleet estimation tool developed by SGArchitects. This tool is expected to provide quantified and comparative, scenario-based data to the decision and policy makers. This estimation and projection are governed by a current condition and expected scenario as desired by JKSRTC. The Current conditions are defined by data such as existing fleet strength, number of trips catered, fleet age, etc. The tool estimates a 33-year roadmap for JKSRTC revival and expansion based on capturing the target ridership as per a defined scenario. The outputs generated intend to contribute an overall increase in ridership and improvement in the efficiency of the existing bus system in Jammu and Kashmir in terms of projected/recommended - fleet size, land requirement, annual budgetary provision, staff strength, etc.

This report highlights the background of bus fleet upgradation tool, components and its functionality and focusses on the outcomes obtained through the tool for generated out for JKSRTC.

2 Fleet Estimation Tool

The fleet estimation tool is designed to assist state transport undertakings (STU) in forecasting demand in different scenarios to allow long range planning to address the projected demand including and associated infrastructural, fleet and financial requirements.

2.1 Tool Architecture

The fleet estimation tool has been developed as a spread sheet based model (Figure 3) with three basic elements – a dashboard which serves as a user interface and data input module, a default sheet, which provides a scenario building interface and an output sheet which presents outputs as both numbers and graphs. The tool architecture is based on an annual projection/estimation basis and it generates annual outputs for a 33year period from the date of input. It also allows user to use older data (older than the year of estimation), and projects these to the current date (to be further used for future projections) based on growth rates provided by the user. The tool is designed to provide macro or state level outputs (for both inter district and intra city operations), however it can also be tweaked to provide district level results.

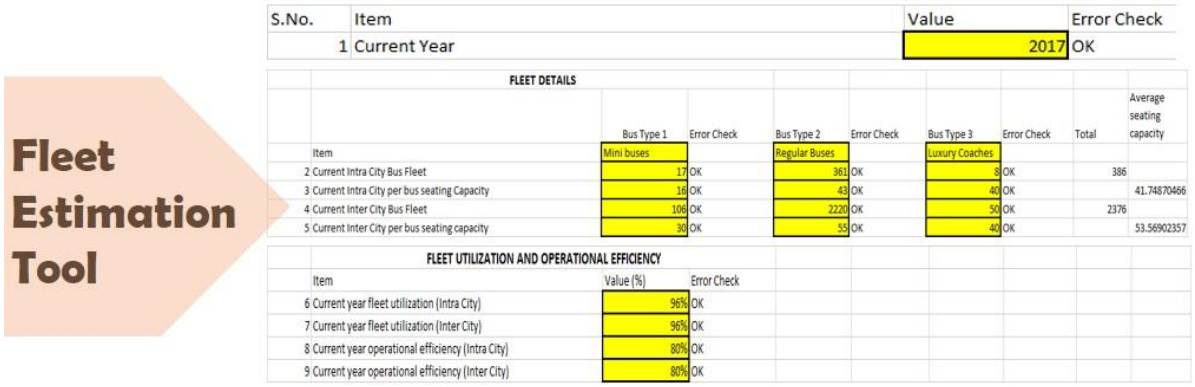


Figure 3: Fleet estimation Tool – Architecture

2.2 Working and Methodology

The tool estimates a total of 37 outputs (ranging from annual fleet requirement to annual budgetary requirements: (Annexure-4.3) using 81 inputs(Annexure - 4.1) and 128 default values (Annexure -4.2) The user is required to insert the data in the dash board tab and can obtain the results under output tab. The default tab includes a list of (editable by the user) default values or assumptions used in estimating the output values. These include target mode shares, annual rates of change, fleet and infrastructure development cost, etc. The tool uses a series of validated algorithms to input values and the default values to generate output for each successive year. Each year estimates form the input for successive year estimates, thereby generating annual output values for 33 successive years, which are then presented as a table and graph for each of the 37 outputs. Figure 4 presents a diagrammatic representation of the basic tool working methodology.

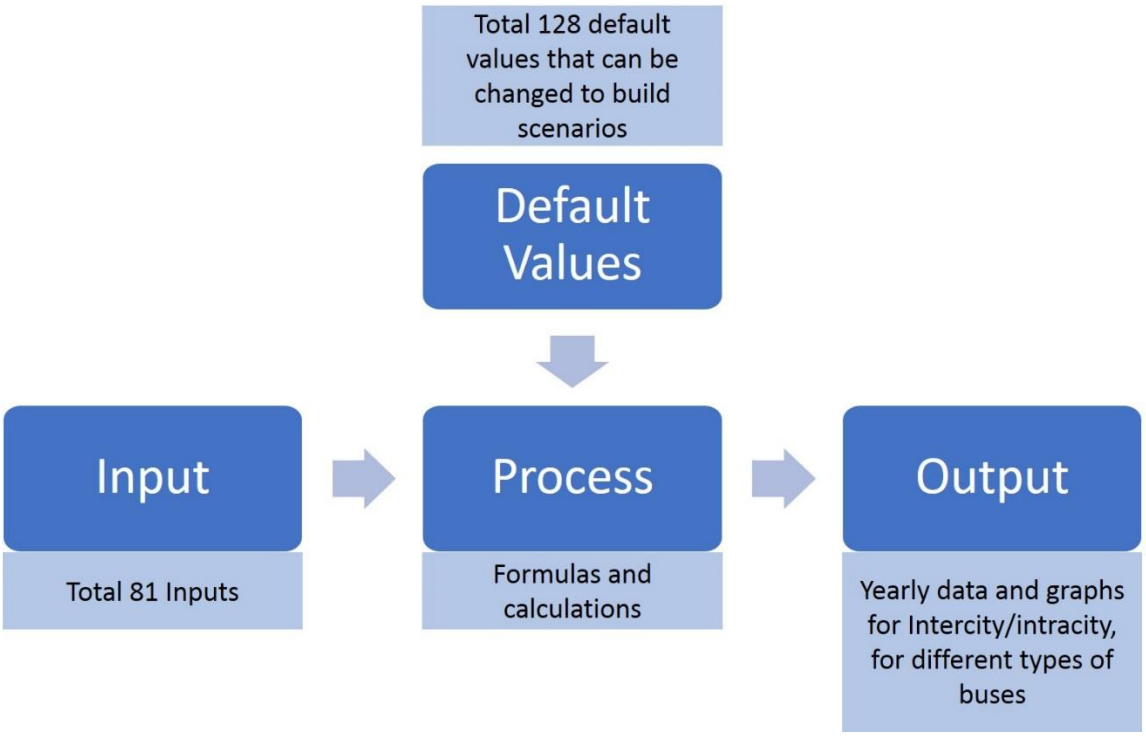


Figure 4: Fleet estimation Tool –Working and Methodology

2.3 Tool Components

The three main components of the tool described above have been described in detail in the following sub sections.

2.3.1 Outputs

A total of 37 outputs present results under the following three broad categories:

1. Future (annual) fleet size requirement categorized by service type and by vehicle type.
2. Future (annual) land requirement for depots and terminal classified by service type
3. Future annual budget requirement i.e. cost of fleet acquisition and infrastructure development classified by service type.

In addition, outputs are presented as rate of change, depicting growth/decline in different public transport mode share, staff requirement, efficiency, etc.

2.3.2 Inputs

To generate the outputs, the model requires a list of data inputs along with assumptions (such as expected/desired mode share or efficiency) which define a scenario. The data input in dashboard has been designed keeping in mind the easy availability of data with the STU's and from other sources such as census. The user defines the current year and defines the data year. The model then projects the data from the data year (data such as census data is typically a historic data) to the current year and this is used in all output estimates. A total of 81 data inputs under the following 16 categories is required. List of all input data in the dashboard has been presented in Annexure - 4.1

1. Trip profile (length, mode share) – source: Census
2. Trip characteristics (work, leisure) – source: Census and other secondary reports
3. Population – source: Census
4. Growth rate (urban, rural and tourist) – Government projection reports
5. Fleet size, composition and age – Source: STU
6. Route length & service frequency – Source: STU
7. Fleet utilization – Source: STU
8. Operational efficiency – Source: STU
9. Total No. of routes operated – Source: STU
10. Average Route length (Inter district and intra city) – Source: STU
11. Total no. of Bus trips (daily/annual ticket sales) – Source: STU
12. Average trip length – Source: Census
13. Average Occupancy – Source: STU
14. Ownership percentage of buses (private/JKSRTC) – Source: STU
15. Earnings per Kilometre (EPK) – Source: STU
16. Cost per Kilometre (CPK) – Source: STU

2.3.3 Default Values

The default values are the values of various parameters to be used in the tool for analysis and for defining different scenarios (such as different growth rates). These values are based on standard accepted norms. These values are editable and if required the user can change these values by accessing the default tab on the spreadsheet. Thus, changes to these values are required only when different scenarios need to be generated and compared. A total of 128 default values are used by the tool and have been listed in Annexure - 4.2

2.4 Data collection

The fleet estimation tool requires a series of secondary data inputs. Based on this data the tool computes the projected scenarios. The two broad categories of data required for the tool and their use in output estimation has been described below.

1. Latest census based demographic data from the State. This data is used to project demographic profile of the state (such as population data, urbanization) over the next 33 years. This helps generate the overall demand in terms of daily trips. This is further bifurcated as inter district and intra city trips, trips by different modes, trips by purpose and trips by length. Such bifurcation allows application of trip characteristic specific growth rates to generate more realistic projections.

2. Data for current bus fleet being operated by the STU. This includes details on fleet size, fleet age, average occupancy, efficiency, fleet utilization, etc. Current fleet data (STU) is used to estimate expected fleet size for the state over the next 33 years in a business as usual scenario. This when compared to estimated fleet requirement in a defined scenario (such that based on a defined expected mode share in the horizon year) over the same period shall provide expected gap in required operational bus fleet on an annual basis.

2.5 Basis Of estimation

The Fleet estimation tool generates estimate of fleet size required in each projected year based on expected bus trips, average passenger trip length, expected average occupancy, average run by each bus and expected fleet utilization. All other outputs are generated based on this projected fleet size. This includes staff requirements, Infrastructure requirements, land and budget. Average daily bus trips are estimated based on population (urban and rural) of the state, growth rate trend applied (urban rural and tourist) and the total trips catered which are comprised of work trips estimated from (Census of India, n.d.) and non- work, educational and tourist trips distinctly extracted from other secondary sources[1]. Figure 5 presents basis of the fleet estimation and the components and data inputs involved in the process.

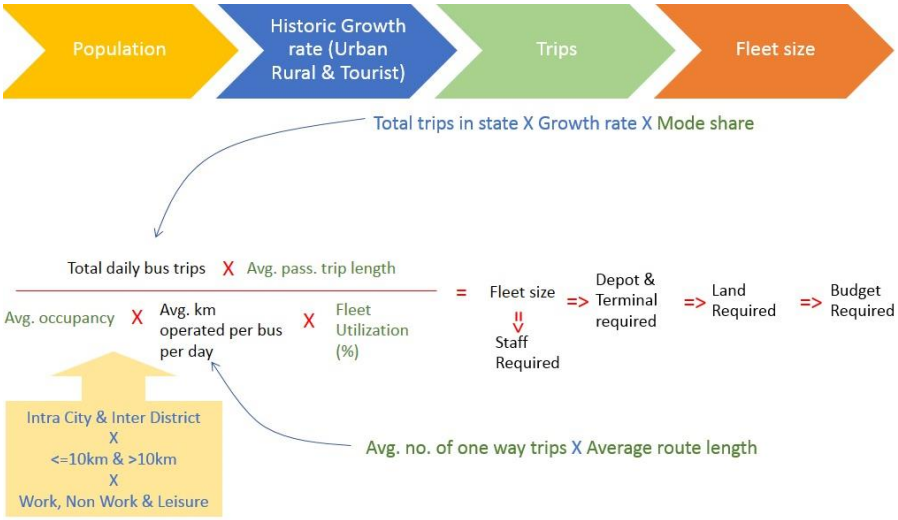


Figure 5: Fleet estimation Tool –Basis Of estimation

1

For Educational trips – as direct data is not available reference data from other contexts (Comprehensive Transportation Study (CTS) for Hyderabad Metropolitan Area -HMA) is used to estimate numbers. Source: (LEA Associates South Asia Pvt. Ltd., October, 2013)
For Tourist trips – Source: (Unjum, December 2016), (Santek, 2014)

3 Projections for JKSRTC Upgradation and Revival

This long-range revival plan is based on modelling JKSRTC fleet requirement using the fleet estimation tool developed by SGArchitects, Delhi. It is expected that the outputs from the tool will contributed to an informed short, medium and long-term planning to achieve the vision and the goals for the corporation. To achieve the fleet, budgetary, operational, staffing and infrastructural requirements data provided by JKSRTC were used. This segment presents the fleet estimation process undertaken for JKSRTC's long range planning.

Figure 6: JKSRTC Bus Fleet (source: JKSRTC.co.com)

3.1 Data and Context

As discussed in previous sections, the tool uses State and STU specific data to generate outputs which can be helpful for long range planning by a STU. For JKSRTC, this data was derived from the following sources:

1. Data provided by JKSRTC – Jammu.
2. Data available on web which constituted census level population (2011) and trip data extracted from tourism report (Santek, 2014), (Unjum, December 2016) and other prior studies carried out for Jammu and Kashmir.

Key excerpts from this data have been listed in Table 2 and Table 3 respectively.

Table 2: Collated Data From JKSRTC

Parameters – Current year (2016-17)	Data	Source
Fleet strength	373 Buses (Intercity- 349 buses &Intracity -24 Buses)	JKSRTC
Operational Efficiency	Intercity - 65% & Intracity – 75%	JKSRTC
Total Passenger carried annually	41.913 Lakhs	JKSRTC

Earnings Per Kilometer	37.18	JKSRTC
Cost Per Kilometer	60.05	JKSRTC
Vehicle to staff ratio	2.81 (2016-17)	JKSRTC

Table 3: Growth rates and Demographic data – Jammu and Kashmir

Data	Online source & reports	Source
Population	Urban - 3.43 lakhs & Rural – 9.1 lakhs	Census 2011
Mode share - JKSRTC	0.12%	Census 2011
Urban population growth rate	0.0305	Census 2011
Rural population growth rate	0.0180	Census 2011
Tourist growth rate	0.1000	(Santek, 2014) (Unjum, December 2016)

3.2 Current Situation for JKSRTC

JKSRTC operates two different kind of services. These are passenger services, provided by a fleet of buses and freight services provided by a fleet of trucks (Figure 7). An assessment of current JKSRTC operational and financial data suggests that the corporation is burdened by an ageing fleet of vehicles and lack of capacity. For example, bus operations lack adequate staff strength and operate on a much-reduced fleet size, which has led to high levels of operational inefficiencies leading to poor financial performance. Similarly, nearly 80% of vehicles in the fleet of trucks running freight services for the corporation require immediate replacement. While freight operations are generating operational profits for JKSRTC, the passenger services form the backbone of JKSRTC services - though currently is a lock making propositions.

Figure 7: JKSRTC Truck Fleet (Source: kashmirreader.com)

3.2.1 JKSRTC Passenger Services – Current Scenario

The staff to bus ratio for the corporation in 2016-17 is 2.81 as against a desirable ratio of 5.2 and a bare minimum of between 4 and 5. This shortage of staff leads to reduced maintenance of vehicle and poor utilization of the fleet (as the number of shifts reduce). Poor maintenance reflects in the fleet utilization factor which for JKSRTC currently is low at 69% for intercity or regional operations (though it is 98% for city bus operations). Similarly lack of staff has a direct effect on operational efficiency (actual number of trips/scheduled trips) which is also very low at 65% for intercity and regional operations and 75% for city operations.

Both these factors have likely adversely affected the financial performance of the corporation, leaving it with little capital to expand fleet size and to replace an ageing fleet or to increase staff strength and improve operational practices. This has led to a very small operational fleet with JKSRTC totalling 373 buses (including both for intercity and city operations) of which 56% or 208 number of buses are older than 8 years and require immediate replacement. This reduced fleet size has an adverse impact on reliability of the bus service and has led to a very high average headway of more than 9 hours on intercity or regional routes and 1 hour 40 minutes on city bus routes – leading to an average wait time of 4.5 hours on intercity routes and 50 minutes on city bus routes. Reduced reliability has likely led to commuters opting for more reliable private bus service and other options such as shared taxis, vans or jeeps. This reflects in the low occupancy ratio of 61% on intercity routes and 52% on city bus routes. All these factors have led to a low earning per km of rupees 37.18, against total cost per km of rupees 60.05, leading to accumulated losses of rupees 22.87 per km.

All these factors have led to a low earning per km of rupees 37.18, against total cost per km of rupees 60.05, leading to accumulated losses of rupees 22.87 per km. It is evident that to reverse this current loss-making trend and to revive the JKSRTC immediate and sustained investments are required in improving staff and fleet strength, as well associated infrastructure (including depots and terminals - Figure 8) and operational practices. This investment shall enhance the capacity of the corporation to better plan and undertake bus operations, and to improve overall fleet utilization, operational efficiency and occupancy ratio in a gradual but sustained manner.

Figure 8: Bus Infrastructure – Srinagar Bus Stand – Batamallu. (source: greaterkashmir.com)

3.2.2 JKSRTC Passenger Services – Revival Plan

To enable a planned and optimally staggered investments in to the corporation, a long-range plan for JKSRTC revival has been developed focussing on augmenting fleet, infrastructure and staff strength for the corporation. As a part of this, a long-range investment plan has been generated based on a defined scenario. To develop this scenario, current population growth trends are used to forecast future population and estimates of trips. Additionally, insights from interactions with JKSRTC officials as well web resources (2011 census data) were applied to generate an estimate of mode share in horizon year between different trip types (work, non-work and educational trips). Based on these a scenario based on desired but achievable mode shares and efficiency levels was developed based on inputs provided by JKSRTC planning team.

3.2.3 Moderate scenario for JKSRTC

This scenario accounts for the total number of passenger trips in the state estimated for every year up to 2050 (33 years). This estimate is disaggregated for city and intercity trips and is based on historical growth trends of urban and rural population (Census of India, n.d.). The current year numbers are estimated from 2011 census data and other secondary sources. Where direct data is not available reference data from other contexts is used to estimate numbers (*Refer Section* 2.5). The Scenario focusses on two complementing strategies for revival of JKSRTC – improvement in overall efficiency of operations to increase profitability and improvement in the scale of operations to improve sustainability.

The strategy for improved efficiency of operations focusses on capacity building in terms of requisite staff strength. The target staff strength for JKSRTC bus operations is based on a scenario with a proposed target staff to bus ratio of 4.1 and a rate of change of 10% annually to achieve the target. This implies that 10% of the gap from the current staff to bus ration to the target ratio, shall be covered every year, and equivalent personnel shall be hired by JKSRTC on an annual basis. At this rate JKSRTC should shall add nearly 6200 personnel to its list of employees over the next three years (by the end of financial year 2022-23) and increased its staff to bus ratio to 3.41. Of these around 2000 personnel need to be added to JKSRTC staff strength in 2018-19. It is expected that this cumulative increase in staff strength shall result in an improved fleet utilization by 8.0% annually and operational efficiency by 8.0% annually. This should result in an improved fleet utilization and efficiency of 100% and 84.42% respectively on intra city operations and 97% and 78.51% respectively on intercity operations by the end of financial year 2022-23 – with a sustained improvement over the following years.

While improvement in operational efficiency and fleet utilization as an outcome of increase in staff strength shall lead to increased earnings and improved profitability, the quantum of earnings or profits and thus overall sustainability of the corporation is governed by the scale of the operations. Additionally, scale of the operations is essential to ensure increased occupancy in the bus, leading to improved earnings.

3.2.3.1 Outputs

The collated data revealed that in 2017, out of 89 lakh trips made daily in the state of Jammu and Kashmir, 26 lakhs or about 29% trips are made by buses. Out of these bus trips only about 10,728 or about 0.1% (of total trips in the state) trips were made by JKSRTC buses in 2017 and amounts to about 0.4% of total bus trips in the State. This suggests that there exists sufficient scope for JKSRTC to expand its operations without risking reduced occupancy. Basis this mode share scenarios for JKSRTC buses and private buses in the state has been defined using three inputs – current year mode share, desired mode share and rate of change for achieving the desired mode share. This has been presented in Table 4.

Table 4: Mode share scenario for Jammu and Kashmir bus operations

Intercity/ Intra City	<=10km/ >10km trip length	JKSRTC - current	JKSRTC - target	Other/private buses - current	Other/private buses - target
Intra city	<=10 km	0.15%	21%	26.43%	13%
	>10 km	0.06%	30%	42%	20%
Inter city	<=10 km	0.10%	15%	17.76%	12%
	>10 km	0.15%	38%	59.39%	25%

The annual rate of change for all operations and trip lengths has been considered as 6.0%.

Based on the projections, it is estimated that Jammu and Kashmir will witness over nearly threefold increase in the total number of daily trips made in the state (by all modes including walk) from 89 lakhs in 2017 to 275 lakhs in 2050. The long-range plan accounts for this increase in trips along with any expected changes in mode share - which is expected to be in favour of public transport based on renewed effort by national and international bodies to promote sustainable transport.

It is estimated that with the proposed target mode share and rate of change, an additional of around 54,000 seats (total for intra and intercity operations) would need to be added by the end of financial year 2022-23. This amounts to a total of about 1476 buses. Including replacement for some 598 buses that will need to be scrapped in this period (from 2017-18 till 2022-23) a total of 2074 buses (including low floor buses for city services) need to be purchased in this period. This includes 418 mini buses, 1551 regular buses and 105 luxury buses. Luxury/semi-luxury buses include AC luxury coaches for intercity operations and low floor urban buses for city operations. Out of these 609 buses (in total for intercity and city operations) shall be purchased in the financial year 2018-19.

With the purchase of additional buses and the resultant reduced headway, it is expected that the mode share of JKRTC shall improve to 5.70% and 8.02% for <=10km trip length and >10km trip length respectively on intra city operations and 4.06% and 10.22% for <=10km and >10km trip length respectively on intercity operations. The resultant increase in buses shall not only result in increased coverage of services but also reduced waiting time. With this proposed procurement, over the next three years the average waiting time for intra city buses shall

reduce by 7 minutes and that on intercity operations shall reduce by an average of 38 minutes. This will lead to an increased patronage leading to a rise in occupancy to 72.96% on city buses and 76.40% on intercity buses by the end of financial year 2022-23. It is expected that with a sustained investment in fleet strength this occupancy increase shall be sustained for both intra and intercity services at the rate to 8.0% annually.

As expected, the increased staff strength, will lead to increase in annual operational cost. It is expected that this cost shall increase to per kilometre cost of operations to Rupees 64.14 from the current 62.65 by 2022-23. However, it is estimated that this shall be offset by increased earnings. It is expected that investments in augmentation of bus fleet and staff strength (as listed above) and the resultant improvement in operational efficiency, fleet utilization, occupancy, widening of coverage, etc. will result not only in increased passenger kilometres but also an increased passenger per kilometre and increased average kilometres covered by each bus in a day. For example, the passenger per kilometre of operations is expected to increase from 1.04 and average kilometres operated by each bus is expected to increase from 168.77 to 171.97 in 2017-18 to 1.66 in 2022-23. This will result in an increased earning per km to Rupees 69.04 by the year 2022-23 from the current rupees 37.18.

Aggregated these earnings should allow JKSRTC to generate cumulative operational profits for bus operations, from 2021-22. Even though inter-city operations should be profitable from the year 2020-21, with operational profit on intercity services of Rupees 19.40 crore for that year; the overall bus operations for JKSRTC are not profitable for that year because city bus services are expected to book operational losses of 27.97 crores for the same year. As is in line with most state transport corporations, city bus operations are estimated to show continued and increasing losses as the intra city fleet expands. However, these shall be offset by profit making intercity operations from the year 2021-22. Further it is estimated that cumulative operational profits shall continue to increase with increasing intercity fleet size and the same shall be able to support fleet size augmentation and infrastructure development for JKSRTC from the year 2023-24.

Thus, JKSRTC shall be self-reliant and profitable in the financial year 2023-24, with an expected annual operational profit of Rupees 39.11 crores before taxes and after including all operational infrastructure development and fleet upgradation cost from bus operations for that year. With a sustained investment in staff strength and fleet size, it is expected that these profits shall continue to increase as operations expand. The critical base values using which JKSRTC requirements have been projected for desired scenario have been listed in

Table 5

Table 5: Critical base values for Bus operations

S.No	Critical base values for bus operations	2017	2022	2050
1	Fleet Utilization – Intra city	98%	100%	100%
	Fleet Utilization – Intercity	69%	97%	100%
2	Operational Efficiency – Intra city	75%	84.4%	97.3%
	Operational Efficiency- Intercity	65%	78.5%	97%
3	Pass. trips catered per Day (by JKSRTC)	0.11 lakhs	6.0 lakhs	53.7 lakhs
4	Average Occupancy – Intracity	54.90	75.56	97.64
5	Average Occupancy – Intercity	63.50%	78.26%	94.03%
6	Staff to bus ratio	2.94	3.48	4.06

Table 6 presents the details of projected requirements for JKSRTC up to 2050. The detailed outputs for the desired scenario have been included in Annexure - 4.3

Table 6: Specific Expected Year Wise Outputs for bus operations

S.no	Specific Expected Year Wise Outputs for bus operations	2017	2020	2030	2040	2050
1	Cumulative Trips per day *in Lakhs*	0.11	3.68	15.75	30.53	53.70
2	Cumulative Routes *in Numbers*	28	600	1546	2164	2997
3	Cumulative Fleet requirement *in Numbers*	61	1440	4301	6986	11336
4	Cumulative staff requirement *in numbers*	1046	4684	16366	27924	46070
5	Cumulative land requirement *in Ha*	8.55	38.53	100.72	159.10	254.79
6	Cumulative bus terminal requirement *in numbers*	7	29	71	115	190
7	Cumulative depot requirement *in Numbers*	3	15	43	70	114
8	Annual Budget requirement *in Cr* [2]	0	130	178	243	427
9	Expected annual Operating Cost *in Cr*	22.56	539.88	2049.57	4095.26	7699.66
10	Expected annual Earning *in Cr*	14.13	531.31	2784.05	6202.91	12176.77
11	Expected operational profit before taxes *in Cr*	-8.43	-8.57	734.49	2107.66	4477.11
12	Expected annual profit before taxes (Buses) *in Cr*	-8.46	-138.39	556.41	1864.81	4050.02

The graphical representation of critical outputs of the desired scenario, as generated by the tool are presented in the

Figure 9. This includes cumulative fleet and land requirement, expected year-wise annual operating cost, earnings and profit, year wise staff required by JKSRTC, and year-wise budgetary requirement for the fleet and infrastructure.

[2] *Annual Budget requirement comprises of sum of Budget for Depot Development (Crore Rs.) + Budget for Terminal Development (Crore Rs.) + Budget for purchase of new buses (Crore Rs.)*

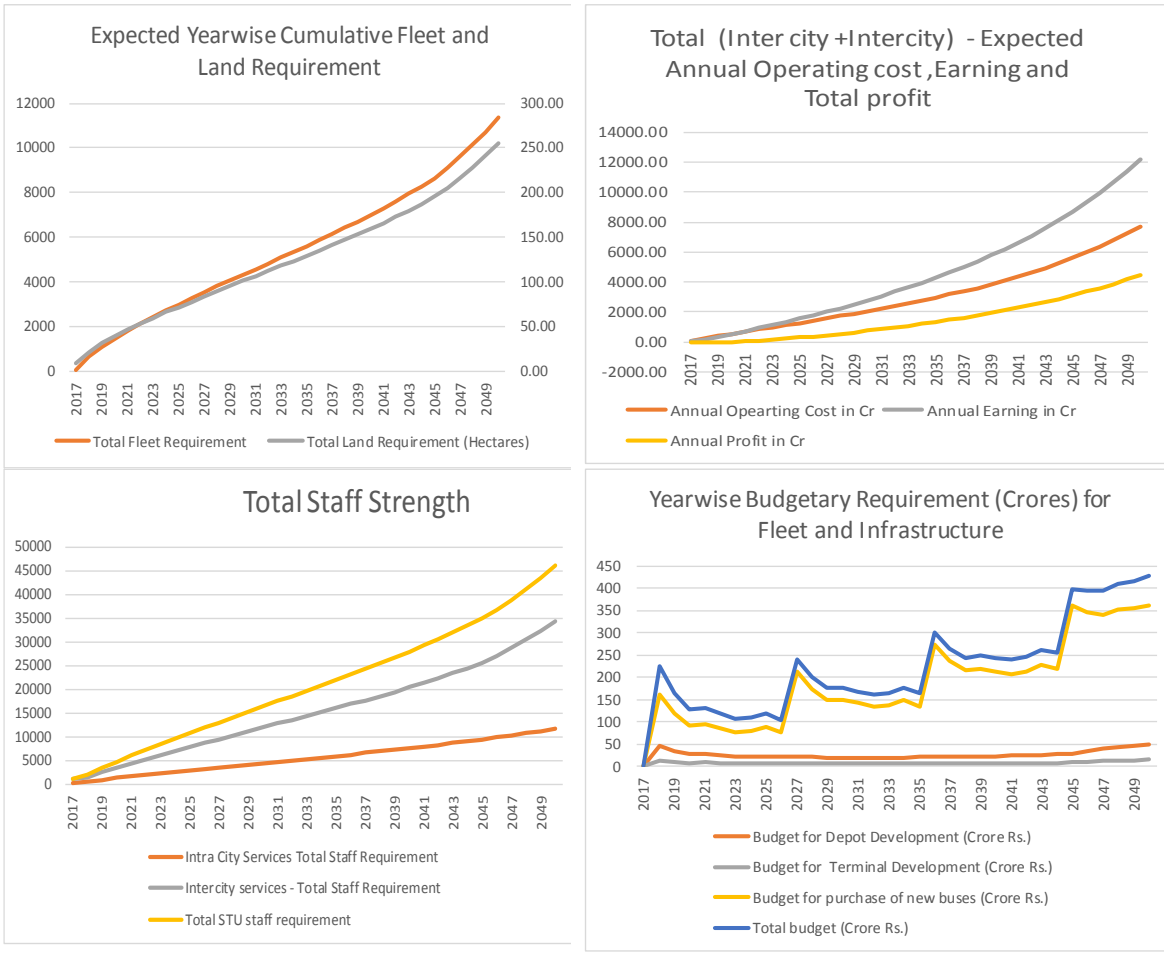


Figure 9: Graphical representation of critical outputs in desired scenario

To ensure a sustained profitability of JKSRTC bus operations in the long term, a cumulative investment of Rupees 783.41 crores, is required over the next six years, i.e. up to and including 2022-23. This includes offsetting cumulative operational losses of passenger services for this period totalling to 11.56 crores[3], purchase of required number of buses for approximately Rupees 557 crores to achieve the required fleet strength and Rupees 215 crores for developing infrastructure (depots and terminals) for the same. A total of 18 additional depots and 27 additional terminals shall be developed resulting in a total land development requirement of 44.54 hectares over this period. Of these 4 depots and 4 terminals shall need to be developed on a total land parcel of 12.90 hectares by the end of the year 2018-19. This will require a cumulative investment of Rupees 287.03 crores in JKSRTC bus operations by the end of financial year 2018-19. This includes funds to offset bus operational losses of Rupees 62.33 crores (for that period) 163 crores for the purchase of new buses and Rupees 62 crores for bus depot and terminal development.

3 Part of the initial cumulative operational losses are offset by operational profits from the year 2021-22

3.2.4 JKSRTC Freight Services – Current Scenario

Freight operations by JKSRTC are undertaken by around 255 trucks owned by the corporation and another 700-hired goods vehicle fleet. The corporation is currently recording Rupees 60/km earnings from these operations against a cost of Rupees 55 per km, for the fleet owned by the corporation. However, the current fleet utilization for these goods vehicles is low at 80% and about 80% of the fleet is more than 12 years old and need immediate replacement. Additionally, the corporation intends to augment its own truck fleet to phase out hiring of goods vehicle over the next couple years at an annual rate of 20% per year. Additionally, it is expected that the overall staff strength augmentation for JKSRTC will result in improvement of fleet utilization at an annual rate of 15%.

3.2.5 JKSRTC Freight Services – Revival Plan

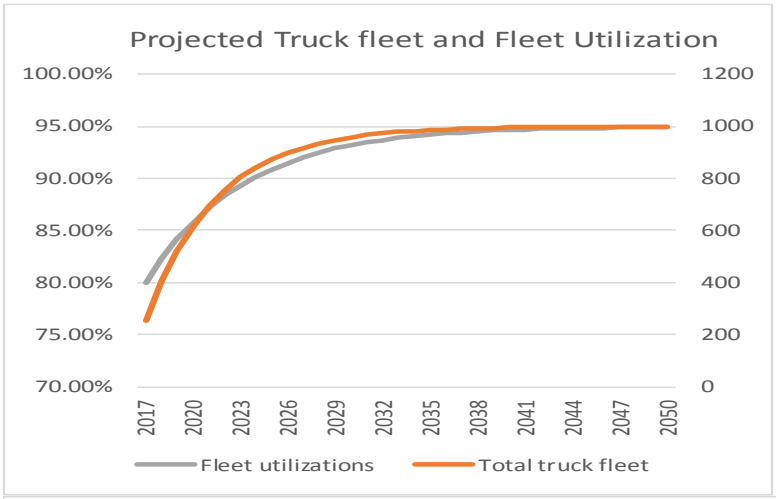
Thus, additional investments are required to expand the truck fleet size operated by JKSRTC. It is estimated that truck fleet currently generates an annual profit of Rupees 4.5 crores for JKSRTC. However, investments required to purchase additional fleet to both replace the ageing fleet and to augment the same result in a cumulative requirement of 69.50 crores over the next five years up to and including financial year 2021-22. Following this, from the year 2022-23, JKSRTC truck operations shall be self-sustaining and generate operational profits before taxes and after investments in additional truck fleet. It is estimated that these operational profits for truck operations for the year 2022-23 shall be Rupees 3.63 crore. A total of Rupees 51.80 crore investment is required to purchase new trucks till the end of financial year 2018-19. This will result in the purchase of 353 new trucks, increasing the truck fleet size for JKSRTC to 404 in this period. Table 7 presents the details of projected requirements for JKSRTC freight services up to 2050, under the desired scenario. The detailed outputs for this scenario have been included in Annexure -4.3

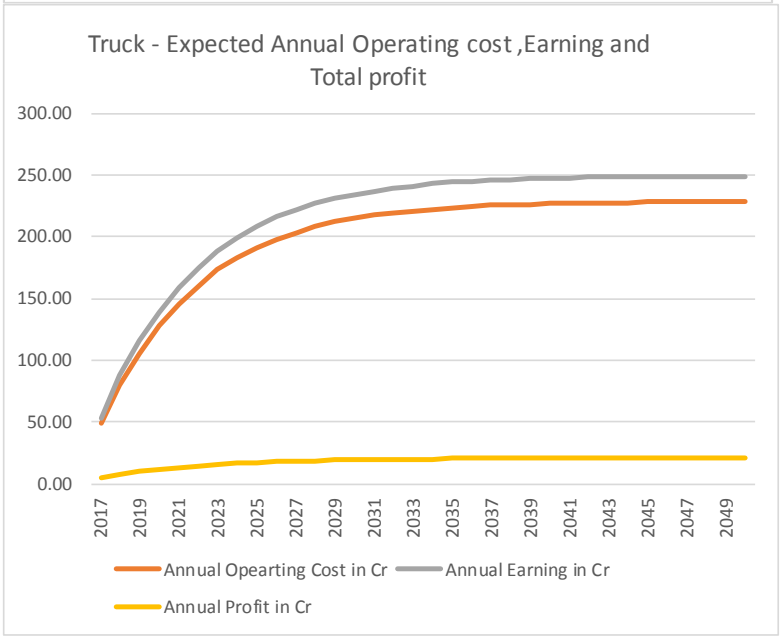
Table 7: Expected Year Wise Outputs for JKSRTC Freight Services

S.no	Expected Year Wise Outputs for JKSRTC Freight Services	2017	2020	2030	2040	2050
1	Total Fleet requirement *in Numbers*	255	618	958	995	998
2	Fleet utilization	80%	85.79%	93.19%	94.64%	94.93%
3	*New trucks to be purchased in Numbers*	204	95	159	17	27
4	Budget required for New trucks *in Cr*	36.72	17.1	25.9	2.77	43.7
5	Annual Operating Cost *in Cr*	49.14	127.72	215.06	226.85	228.23
6	Annual Earning *in Cr*	53.61	139.33	234.61	247.48	248.98
7	Annual Profit *in Cr*	4.47	11.61	19.55	20.62	20.75
8	Profit after purchase of New Trucks	-32.25	-5.49	-6.39	17.85	16.37

The graphical representation of critical outputs as generated by the tool are presented in the Figure 10.This includes year-wise truck fleet required and projected fleet utilization, expected

year-wise annual operating cost, earnings & annual profit and year wise new trucks required to be procured, budgetary requirement and profit after purchase of new trucks by JKSRTC.





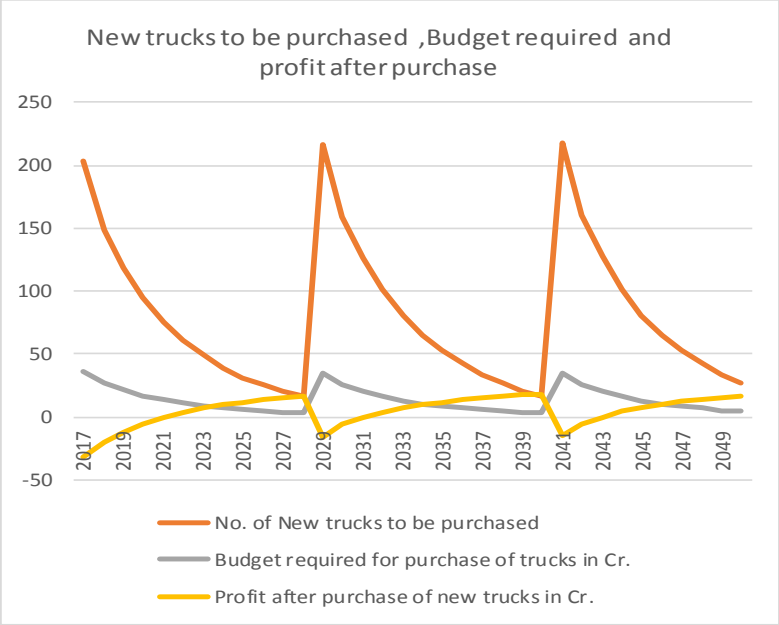


Figure 10: Graphical representation of critical freight outputs in desired scenario

3.3 Conclusion

For overall JKSRTC passenger and freight operations, it is estimated that a capital infusion in terms of support from the State, totalling to Rupees 849.28 crores is required over the next six years, i.e. up to and including financial year 2022-23. This will allow JKSRTC to expand its fleet size, expand operations, and improve operational efficiency, fleet utilization and occupancy to a level that financial 2023-24 onwards the corporation shall be able to book profits. These profits before taxes and after investments in fleet and infrastructure development, at an shall increase gradually to an average rate of Rupees 1572 crores over the next 27 years, starting with Rupees. 46.02 crores in the financial year 2023-24. As per this road map, it is estimated that JKSRTC (both passenger and freight services) shall require financial support in terms of capital infusion totalling to 338.82 crores up to the end of the financial year 2018-19.

It is expected that the estimated infusion of capital over the initial six years shall propel the corporation on to a revival path, which in an optimistic scenario, is expected to result in a JKSRTC fleet size in excess of 11300 buses and 998 trucks by 2050-51. Total number of depots and terminal expected to increase to 143 depots and 202 terminals, by 2050-51. It is expected that operational efficiency will improve to 97% for both intra and intercity operations, fleet utilization shall touch 100% while occupancy level shall exceed 94% for intercity operations and 97% for intra city operations. Staff to bus ration of 4.1 shall be achieved by this target year with the cumulative staff strength exceeding 46,000, total number of routes served close to 3,000, and a reduced average waiting time of under 19 minutes on intra city routes and under 2 hours on intercity routes. At this level of operations JKSRTC buses should be operating

on 31.84 lakh cumulative kilometres every day, carrying over 53.7 lakh passenger trips on a daily basis.

The overall projected profit (Including Bus +Truck) of JKSRTC is presented in the Figure 11.

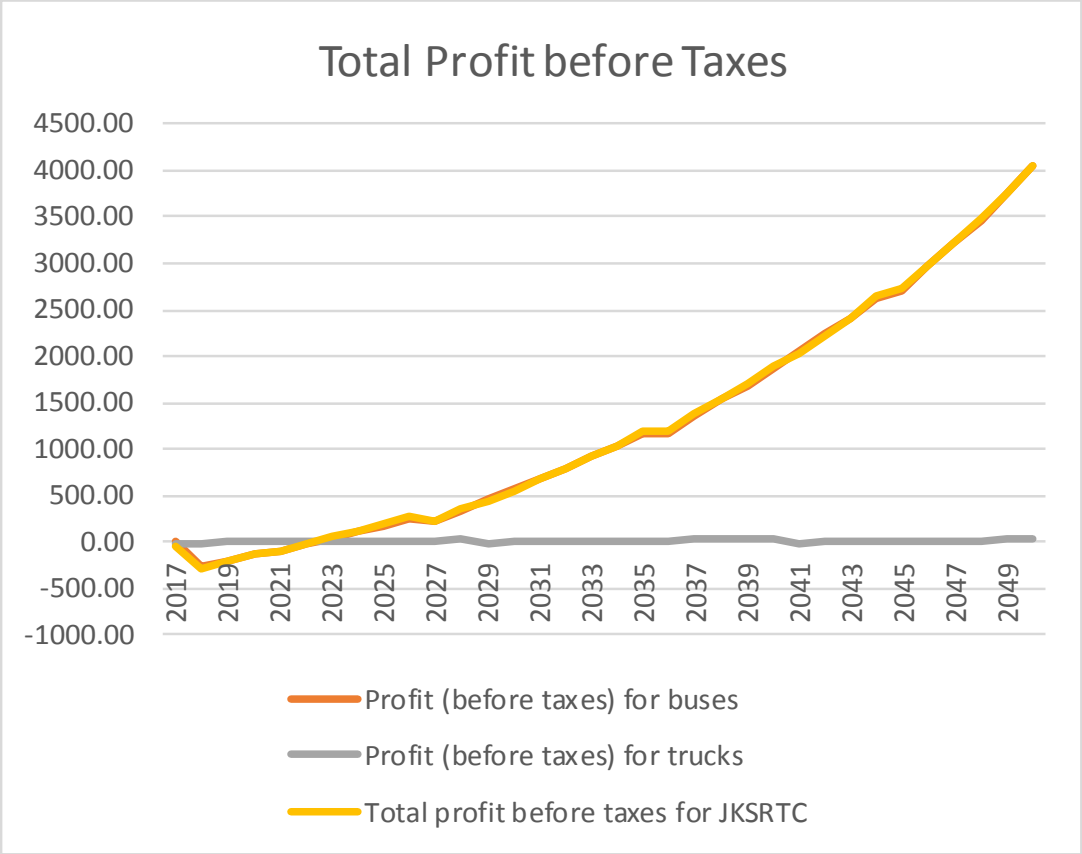


Figure 11: Graphical representation of Overall (Including Bus +Truck) profit of JKSRTC

4 Annexure

4.1 Annexure 1: List of Inputs in Dash Board

	CURRENT YEAR							
S.No	Item	Value	Error Check					
1	Current Year	2017	OK					
	FLEET DETAILS							
		Bus Type 1	Error Check	Bus Type 2	Error Check	Bus Type 3	Error Check	Total
	Item	Mini/ Midi buses		Regular Buses		Luxury Coaches		
2	Current Intra City Bus Fleet	5	OK	19	OK	0		24
3	Current Intra City per bus seating Capacity	19	OK	48.5	OK	39	OK	
4	Current Inter City Bus Fleet	127	OK	222	OK	0		349
5	Current Inter City per bus seating capacity	30	OK	48.5	OK	39	OK	
								373
	FLEET UTILIZATION AND OPERATIONAL EFFICIENCY							
	Item	Value (%)	Error Check					
6	Current year fleet utilization (Intra City)	98%	OK					
7	Current year fleet utilization (Inter City)	69%	OK					
8	Current year operational efficiency (Intra City)	75%	OK					
9	Current year operational efficiency (Inter City)	65%	OK					
	FLEET AGE							
	Item	Value (%)	Error Check					
	INTRA CITY FLEET	Mini/ Midi buses		Regular Buses		Luxury Coaches		
10	Percent of fleet size with age <=1 year	2%	OK	2%	OK	0%		
11	Precent of fleet size with age >1 to 2 years	0%	OK	0%	OK	0%		
12	Precent of fleet size with age >2 to 3 years	0%	OK	0%	OK	0%		
13	Precent of fleet size with age >3 to 4 years	0%	OK	0%	OK	0%		
14	Precent of fleet size with age >4 to 5 years	0%	OK	0%	OK	0%		
15	Precent of fleet size with age >5 to 6 years	9%	OK	9%	OK	0%		
16	Precent of fleet size with age >6 to 7 years	0%	OK	0%	OK	0%		
17	Precent of fleet size with age >7 to 8 years	34%	OK	34%	OK	0%		
18	Precent of fleet size with age >8 years	55%	OK	55%	OK	0%		
	Total	100%		100%		0%		
	INTER CITY FLEET	Mini/ Midi buses		Regular Buses		Luxury Coaches		
19	Percent of fleet size with age <=1 year	20%	OK	21%	OK	0%		
20	Precent of fleet size with age >1 to 2 years	0%	OK	0%	OK	0%		
21	Precent of fleet size with age >2 to 3 years	0%	OK	0%	OK	0%		
22	Precent of fleet size with age >3 to 4 years	0%	OK	0%	OK	0%		
23	Precent of fleet size with age >4 to 5 years	0%	OK	0%	OK	0%		
24	Precent of fleet size with age >5 to 6 years	0%	OK	0%	OK	0%		
25	Precent of fleet size with age >6 to 7 years	0%	OK	0%	OK	0%		
26	Precent of fleet size with age >7 to 8 years	0%	OK	5%	OK	0%		
27	Precent of fleet size with age >8 years	80%	OK	74%	OK	0%		
	Total	100%		100%		0%		

	TRIP AND CITY PROFILE DATA (CENSUS AND OTHER REPORTS)		
	Item	Value (no. of trips)	Error Check
28	Data Year	2011	OK
29	Total urban population	3,433,242	OK
30	Total rural population	9,108,060	OK
	NO. OF TRIPS (TOTAL DAILY WORK TRIPS)		
31	Total daily intra city trips from urban area (<=10km)	873,392	OK
32	Total daily intra city trips from urban areas (>10km)	98,676	OK
33	Total daily inter city trips from rural areas (<10km)	960,992	OK
34	Total daily inter city trips from rural areas (>=10km)	542,308	OK
	NO. OF TRIPS (TOTAL EDUCATION TRIPS)		
35	Total daily intra city trips from urban area	1,137,320	OK
36	Total daily inter city trips from rural areas	1,503,300	OK
	NO. OF BUS TRIPS (TOTAL DAILY NON WORK TRIPS) Intra + Inter city		
37	Daily same day trips	2,681,184	OK
38	Daily overnight trips	45,290	OK
39	Daily Foreign trips	5,793	OK
	NO. OF IPT TRIPS (TOTAL DAILY NON WORK TRIPS) Intra + Inter city		
40	Daily same day trips	179,744	OK
41	Daily overnight trips	5,215	OK
42	Daily trips by foreign visitors	9,414	OK
	AVERAGE TRIP LENGTH		
	Item	Value (Km)	Error Check
43	Average trip length of intra city trips	7.44	OK
44	Average trip length on inter city trips	28.97	OK
	Item	Value (%)	Error Check
	INTRA CITY TRIPS (MODE SHARE)		
45	Mode share of IPT trips (trip length <=10km)	3.180%	OK
46	Mode share of Bus trips (trip length <=10km)	29.610%	OK
47	Mode share of IPT trips (trip length >10km)	4.140%	OK
48	Mode share of Bus trips (trip length >10km)	73.520%	OK
	INTER CITY TRIPS (MODE SHARE)		
49	Mode share of IPT trips (trip length <=10km)	1.980%	OK
50	Mode share of Bus trips (trip length <=10km)	22.500%	OK
51	Mode share of IPT trips (trip length >10km)	4.040%	OK
52	Mode share of Bus trips (trip length >10km)	76.210%	OK
	NATURE OF tourist TRIPS		
53	Tourist trips as percent of non work same day trips	5%	OK
54	Tourist trips as percent of non work overnight trips	5%	OK
55	Tourist trips as percent of non work Foreign trips	5%	OK
56	Percent of inter city trips >10km originating from urban area	10%	OK

	STU DATA		
	Data Year	2016	OK
57	No. of daily intra city STU trips	5475.00	OK
58	No. of daily inter city STU trips	6008.00	OK
59	Total number of intra city routes operated daily	15.00	OK
60	Average route length of intra city routes (km)	18.10	OK
61	Total number of (bus) trips (one way) on intra city routes	144.00	OK
62	Total number of inter city routes operated daily	131.00	OK
63	Average route length of inter city routes (km)	265.04	OK
64	Total number of (bus) trips (one way) on inter city routes	158.00	OK
65	Intra city average occupancy (% of seating capacity)	50.00%	OK
66	Inter city average occupancy (% of seating capacity)	60.00%	OK
	GROWTH RATES		
	Item	Value	Error Check
67	Average annual urban population growth rate	0.0305	OK
68	Average annual rural population growth rate	0.0180	OK
69	Expected average tourism growth rate over next 30 years	0.1000	OK
70	Current Intra City average staff per bus for the STU	2.810	
71	Current Inter City average staff per bus for the STU	2.810	
	Cost and Earning		
	Item	Value	
72	Earning per km Intracity	37.180	
73	Earnings per Pass (Intra City)	12.000	
74	Ticket price per km (Intra City)	1.140	
75	Average trip length per pass. (Intra City)	10.530	
76	Operating cost per km (Intra city)	60.050	
77	Earning per km Inter city	37.180	
78	Earnings per Pass (Inter City)	56.450	
79	Ticket price per km (Inter City)	0.870	
80	Average trip length per pass. (Inter City)	64.890	
81	Cost per km (Intercity)	60.050	

4.2 Annexure 2: List of Default values

S.NO.	Item	Value	Unit	Error Check
1	Expected annual improvement in fleet utilization (if current <90%) - Intra City	8.00%	Percent	OK
2	Expected annual improvement in fleet utilization (if current <99%) - Intra City	2.00%	Percent	OK
3	Expected annual improvement in fleet utilization (if current >=99%) - Intra City	0.5%	Percent	OK
4	Expected annual improvement in fleet utilization (if current <90%) - Inter City	8.0%	Percent	OK
5	Expected annual improvement in fleet utilization (if current <99%) - Inter City	2.00%	Percent	OK
6	Expected annual improvement in fleet utilization (if current >=99%) - Inter City	0.5%	Percent	OK
7	Annual expected improvement in operational efficiency 'GAP' (other than fleet utilization) - Intra City	10.00%	Percent	OK
8	Annual expected improvement in operational efficiency 'GAP' (other than fleet utilization) - Inter City	10.00%	Percent	OK
9	Average annual increase in income levels	9%	Percent	OK
10	Average expected life of a Type 1 - Intra City Bus	8	Years	OK
11	Average expected life of a Type 2 - Intra City Bus	8	Years	OK
12	Average expected life of a Type 3 - Intra City Bus	8	Years	OK
13	Average expected life of a Type 1 - Inter City Bus	8	Years	OK
14	Average expected life of a Type 2 - Inter City Bus	8	Years	OK
15	Average expected life of a Type 3 - Inter City Bus	8	Years	OK
16	Achievable target mode share (Intra City Trips) - IPT for less than 10km trip length	8.00%	Percent	OK
17	Achievable target mode share (Intra City Trips) - STU Bus for less than 10km trip length	21.00%	Percent	OK
18	Achevable target mode share (Intra City Trips) - Other Bus for less than 10km trip length	13.00%	Percent	OK
19	Achevable target mode share (Intra City Trips) - IPT for more than 10km trip length	11.00%	Percent	OK
20	Achevable target mode share (Intra City Trips) - HRTC Bus for More than 10km trip length	30.00%	Percent	OK
21	Achevable target mode share (Intra City Trips) - Other Bus for More than 10km trip length	20.00%	Percent	OK
22	Achevable target mode share (Inter City Trips) - IPT for less than 10km trip length	4.00%	Percent	OK
23	Achevable target mode share (Inter City Trips) - STU Bus for less than 10km trip length	15.00%	Percent	OK
24	Achevable target mode share (Inter City Trips) - Other Bus for less than 10km trip length	12.00%	Percent	OK
25	Achevable target mode share (Inter City Trips) - IPT for More than 10km trip length	8.00%	Percent	OK
26	Achevable target mode share (Inter City Trips) - STU Bus for More than 10km trip length	38.00%	Percent	OK
27	Achevable target mode share (Inter City Trips) - Other Bus for More than 10km trip length	25.00%	Percent	OK
28	Annual rate of Change (Intra City Trips) - IPT for less than 10km trip length	6.00%	Percent	OK
29	Annual rate of change (Intra City Trips) - STU Bus for less than 10km trip length	6.00%	Percent	OK
30	Annual rate of change (Intra City Trips) - OTHER Bus for less than 10km trip length	6.00%	Percent	OK
31	Annual Rate of change (Intra City Trips) - IPT for more than 10km trip length	6.00%	Percent	OK
32	Annual rate of change (Intra City Trips) - STU Bus for More than 10km trip length	6.00%	Percent	OK
33	Annual rate of change (Intra City Trips) - OTHER Bus for More than 10km trip length	6.00%	Percent	OK
34	Annual rate of change (Inter City Trips) - IPT for less than 10km trip length	6.00%	Percent	OK
35	Annual rate of change (Inter City Trips) - STU Bus for less than 10km trip length	6.00%	Percent	OK
36	Annual rate of change (Inter City Trips) - OTHER Bus for less than 10km trip length	6.00%	Percent	OK
37	Annual rate of change (Inter City Trips) - IPT for More than 10km trip length	6.00%	Percent	OK
38	Annual rate of change (Inter City Trips) - STU Bus for More than 10km trip length	6.00%	Percent	OK
39	Annual rate of change (Inter City Trips) - OTHER Bus for More than 10km trip length	6.00%	Percent	OK
40	Percent of same day non work trips from within state	96.00%	Percent	OK
41	Percent of overnight non work trips from within state	15.00%	Percent	OK
42	Percent of same day non work trips less than 10km	60.00%	Percent	OK
43	Percent of overnight non work trips from within state	33.00%	Percent	OK
44	Percent of overnight non work trips less than 10km	0.00%	Percent	OK
45	Percent of same day non work trips by city bus	22.50%	Percent	OK
46	Percent of same day non work trips by intercity bus	22.50%	Percent	OK
47	Percent of overnight non work trips by city bus	1.00%	Percent	OK
48	Percent of overnight non work trips by intercity bus	22.50%	Percent	OK
49	Percent non-work trips that are intra-city	48.00%	Percent	OK

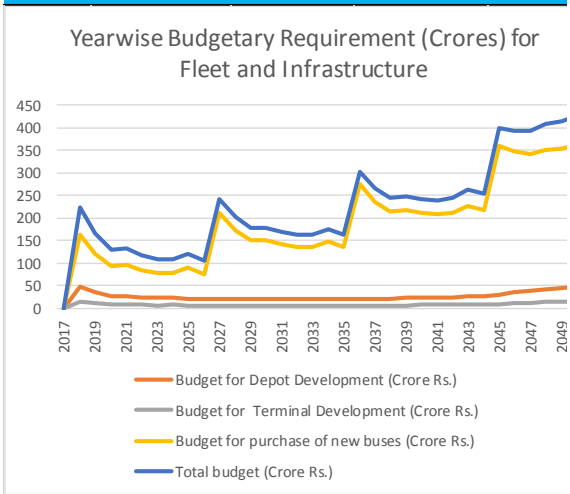
50	Percent of same day education trips less than 10km in urban areas	85.00%	Percent	OK
51	Percent of same day education trips less than 10km by public buses in urban areas	10.00%	Percent	OK
52	Percent of same day education trips less than 10km by IPT in urban areas	4.00%	Percent	OK
53	Percent of same day education trips more than 10km by public buses in urban areas	25.00%	Percent	OK
54	Percent of same day education trips more than 10km by IPT in urban areas	15.00%	Percent	OK
55	Percent of same day education trips less than 10km in rural areas	96.00%	Percent	OK
56	Percent of same day education trips less than 10km by public buses in rural areas	2.00%	Percent	OK
57	Percent of same day education trips less than 10km by IPT in rural areas	0.50%	Percent	OK
58	Percent of same day education trips more than 10km by public buses in rural areas	90.00%	Percent	OK
59	Percent of same day education trips more than 10km by IPT in rural areas	4.00%	Percent	OK
60	Non Work bus trips origin from HP (travelling outside state) as percent of non-work bus trips in state	5.00%	Percent	OK
61	Non-work IPT trips origin from HP (travelling outside state) as percent of Non-work IPT trips in state	5.00%	Percent	OK
62	Work bus trips origin from other states (travelling to state) as percent of work bus trips in state	1.00%	Percent	OK
63	Work IPT trips origin from outside state (travelling to state) as percent of work IPT trips in state	1.00%	Percent	OK
64	Desired/Target Average occupancy as percent of average seating capacity (Intra City buses)	99.00%	Percent	OK
65	Desired/Target Average occupancy as percent of average seating capacity (Inter City buses)	95.00%	Percent	OK
66	Ultimate achievable intra city trip length	18.00	km	OK
67	Expected annual percent change in Intra city trip length	1.00%	Percent	OK
68	Ultimate achievable average inter city trip length	300.00	km	OK
69	Expected annual percent change in intercity trip length	1.00%	Percent	OK
70	Ultimate achievable average number of intra city trips per bus per day	10.00		OK
71	Expected change in average number of intra city trips per bus per day	1.50%	Percent	OK
72	Ultimate achievable average number of inter city trips per bus per day	1.00		OK
73	Expected change in average number of inter city trips per bus per day	1.50%	Percent	OK
74	Expected maximum average route length for Intra city trips	30.00	km	OK
75	Expected annual change in average intra city route length	1.00%	Percent	OK
76	Expected maximum average intercity route length	300.00	km	OK
77	Expected annual change in average inter city route length	0.30%	Percent	OK
78	Average Cost of Intra City Bus Type 1	1,800,000	Rs	OK
79	Average Cost of Intra City Bus Type 2	2,800,000	Rs	OK
80	AverageCost of Intra City Bus Type 3	6,500,000	Rs	OK
81	Average Cost of Inter City Bus Type 1	1,800,000	Rs	OK
82	Average Cost of Inter City Bus Type 2	2,800,000	Rs	OK
83	AverageCost of Inter City Bus Type 3	4,000,000	Rs	OK
84	Average expected revenue from scrapping of Intra City Mini Bus	200,000	Rs	OK
85	Average expected revenue from scrapping of Intra City Regular Bus	400,000	Rs	OK
86	Average expected revenue from scrapping of Intra City Luxury Coach	800,000	Rs	OK
87	Average expected revenue from scrapping of Inter City Mini Bus	200,000	Rs	OK
88	Average expected revenue from scrapping of Inter City Regular Bus	400,000	Rs	OK
89	Average expected revenue from scrapping of Inter City Luxury Coach	800,000	Rs	OK
90	Land Required per bus for intra city depot development	160.00	sqm	OK
91	Land Required per bus for inter city depot development	160.00	sqm	OK
92	Land Required per bus for intra city terminal development	14.00	sqm	OK
93	Land Required per bus for inter city terminal development	70.00	sqm	OK
94	Cost per bus for developing intra city depot	800,000	Rs.	OK
95	Cost per bus for developing Inter city depot	800,000	Rs.	OK
96	Cost per bus for developing intra city terminal	250,000	Rs.	OK
97	Cost per bus for developing Inter City Terminal	250,000	Rs.	OK
98	Average intra city depot capacity	100.00	Buses	OK
99	Average Inter City Depot Capacity	100.00	Buses	OK
100	Average Intra city terminal capacity	20.00	Bays	OK
101	Average Inter city terminal capacity	40.00	Bays	OK
102	Factor to relate Intra city terminal capacity to bus fleet (Fleet/(Capacity*X), where X=)	12.00		OK
103	Factor to relate Inter city terminal capacity to bus fleet (Fleet/(Capacity*X), where X=)	1.25		OK
104	% of non local STU buses using inter city terminal (as % of STU buses)	5%	%	OK

		Current (%)	Proposed (%)	Error Check
			X	OK
	INTRA CITY			
105	Mini/ Midi buses	20.83%	21%	
106	Regular Buses	79.17%	74%	
107	Luxury Coaches	0.00%	5%	OK
	INTER CITY			
108	Mini/ Midi buses	36.39%	20%	
109	Regular Buses	63.61%	75%	
110	Luxury Coaches	0.00%	5%	OK
111	Average Intra City Seating Capacity	42.35416667	41.83	
112	Average Inter City Seating Capacity	41.76790831	44.325	
113	Rate of change of occupancy % as % of gap (Intra City buses)	10.00%	Percent	OK
114	Rate of change of occupancy % as % of gap (Inter City buses)	10.00%	Percent	OK
115	Target/intended average staff number for each bus (Intra City)	4.1	Number	OK
116	Expected annual percentage change in staff to bus ration (Intra City)	10%	Percent	OK
117	Target/intended average staff number for each bus (Inter City)	4.1	Number	OK
118	Expected annual percentage change in staff to us ration (Inter City)	10%	Percent	OK
119	Target Operational Efficiency Intra City	98%		
120	Target Operational Efficency Inter City	98%		
121	Target Intra city buses per route	22		
122	Average annual rate of change of (as percent of current ratio) of Intra buses per route	1.50%	Percent	OK
123	Target Inter city buses per route	6		
124	Average annual rate of change of (as percent of current ratio) of Intra buses per route	1.50%	Percent	OK
125	Current average operational hours - Intra City	16	Hours	
126	Current average operational hours - Inter City	16	Hours	
127	Average staff salary Intercity (per month)	30000		
128	Average staff salary Intracity (per month)	30000		

4.3 Annexure 3: Tool Outputs

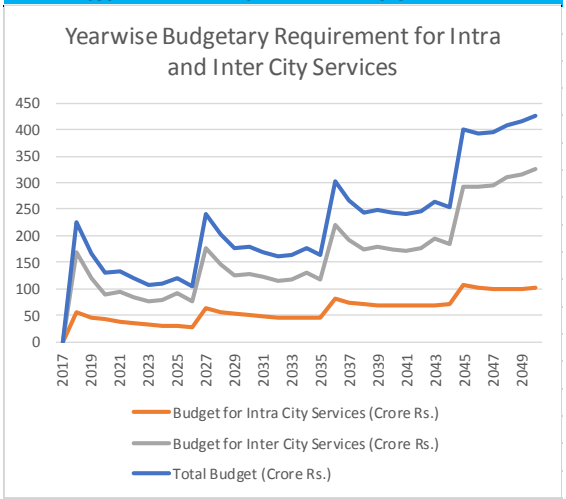
1. Year-wise Budgetary Requirement (Crores) for Fleet and Infrastructure

Year	Budget for Depot Development (Crore Rs.)	Budget for Terminal Development (Crore Rs.)	Budget for purchase of new buses (Crore Rs.)	Total buc (Crore Rs
2017	0	0	0	
2018	47	15	163	
2019	36	11	120	
2020	28	9	94	
2021	28	9	95	
2022	25	8	85	
2023	23	7	78	
2024	23	7	79	
2025	22	7	90	
2026	22	7	76	
2027	22	7	213	
2028	21	7	174	
2029	21	7	150	
2030	21	6	151	
2031	20	6	142	
2032	20	6	135	
2033	21	6	137	
2034	21	6	149	
2035	21	7	136	
2036	21	7	275	
2037	22	7	237	
2038	22	7	215	
2039	23	7	218	
2040	24	7	212	
2041	24	8	208	
2042	25	8	212	
2043	26	8	228	
2044	28	9	219	
2045	29	9	362	
2046	36	11	347	
2047	41	13	341	
2048	43	14	352	
2049	46	14	356	
2050	49	15	362	



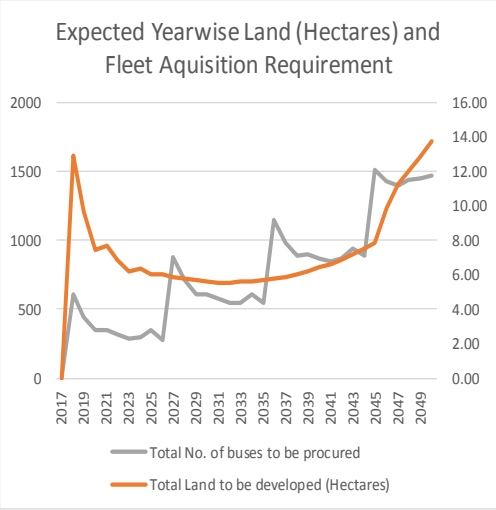
2. Year Wise Budgetary Requirement for Intra and Inter City Services

Year	Budget for Intra City Services (Crore Rs.)	Budget for Inter City Services (Crore Rs.)	Total Budget (Crore Rs.)
2017	0	0	0
2018	57	168	225
2019	46	120	166
2020	42	88	130
2021	37	95	132
2022	34	85	119
2023	32	76	108
2024	30	79	110
2025	29	90	119
2026	28	77	105
2027	64	178	242
2028	56	146	202
2029	53	125	178
2030	50	128	178
2031	48	121	169
2032	46	116	162
2033	45	118	164
2034	45	132	176
2035	45	118	163
2036	81	221	302
2037	74	191	265
2038	72	173	245
2039	69	179	248
2040	68	175	243
2041	68	172	240
2042	68	178	246
2043	69	194	263
2044	70	185	255
2045	107	292	399
2046	101	292	394
2047	101	294	394
2048	100	309	409
2049	101	316	416
2050	102	325	427



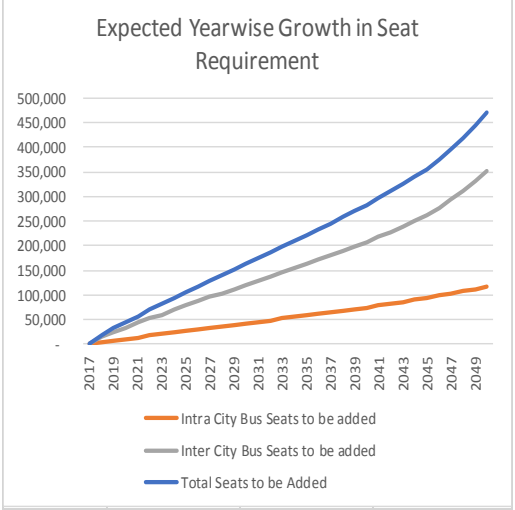
3. Expected Year-wise Land (Hectares) and Fleet Acquisition Requirement

Year	Total Land to be developed (Hectares)	Total No. of buses to be procured
2017	0.00	3
2018	12.90	609
2019	9.65	444
2020	7.42	347
2021	7.68	354
2022	6.88	317
2023	6.23	288
2024	6.38	293
2025	6.05	350
2026	6.06	281
2027	5.89	879
2028	5.76	709
2029	5.66	608
2030	5.60	611
2031	5.57	573
2032	5.56	544
2033	5.58	550
2034	5.62	609
2035	5.69	543
2036	5.78	1145
2037	5.90	980
2038	6.05	886
2039	6.21	897
2040	6.41	868
2041	6.64	849
2042	6.89	867
2043	7.18	939
2044	7.51	888
2045	7.87	1506
2046	9.87	1428
2047	11.22	1393
2048	11.98	1438
2049	12.81	1446
2050	13.73	1467



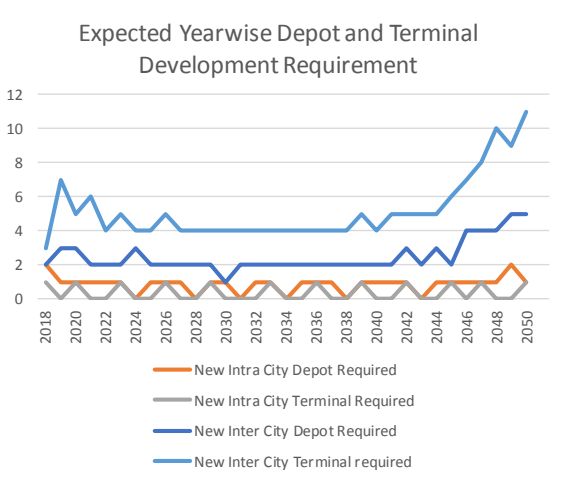
4. Expected Year-wise Growth in Seat Requirement

Year	Intra City Bus Seats to be added	Inter City Bus Seats to be added	Total Seats to be Added
2017	344	1,403	1,747
2018	3,854	14,617	18,471
2019	7,327	25,180	32,507
2020	10,744	33,701	44,445
2021	14,107	43,229	57,336
2022	17,419	52,150	69,570
2023	20,685	60,510	81,196
2024	23,909	69,387	93,297
2025	27,097	78,007	105,104
2026	30,253	86,824	117,078
2027	33,384	95,513	128,897
2028	36,497	104,095	140,591
2029	39,596	112,592	152,189
2030	42,691	121,030	163,721
2031	45,787	129,434	175,221
2032	48,891	137,831	186,723
2033	52,013	146,249	198,262
2034	55,159	154,716	209,875
2035	58,339	163,264	221,603
2036	61,560	171,925	233,485
2037	64,833	180,733	245,566
2038	68,166	189,724	257,891
2039	71,571	198,937	270,508
2040	75,058	208,412	283,470
2041	78,638	218,193	296,831
2042	82,323	228,326	310,650
2043	86,128	238,861	324,988
2044	90,064	249,850	339,914
2045	94,147	261,351	355,499
2046	98,393	276,273	374,666
2047	102,818	293,457	396,275
2048	107,441	311,835	419,276
2049	112,279	331,533	443,812
2050	117,355	352,687	470,042



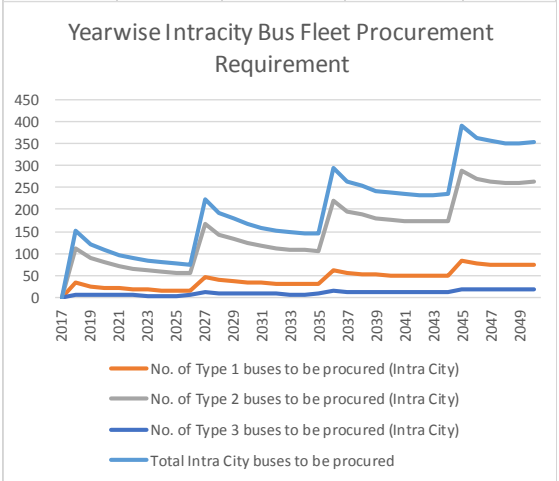
5. Expected Year-wise Depot and Terminal Development Requirement

Year	New Intra City Depot Required	New Intra City Terminal Required	New Inter City Depot Required	New Inter City Terminal required
2017	0	0	0	0
2018	2	1	2	3
2019	1	0	3	7
2020	1	1	3	5
2021	1	0	2	6
2022	1	0	2	4
2023	1	1	2	5
2024	0	0	3	4
2025	1	0	2	4
2026	1	1	2	5
2027	1	0	2	4
2028	0	0	2	4
2029	1	1	2	4
2030	1	0	1	4
2031	0	0	2	4
2032	1	0	2	4
2033	1	1	2	4
2034	0	0	2	4
2035	1	0	2	4
2036	1	1	2	4
2037	1	0	2	4
2038	0	0	2	4
2039	1	1	2	5
2040	1	0	2	4
2041	1	0	2	5
2042	1	1	3	5
2043	0	0	2	5
2044	1	0	3	5
2045	1	1	2	6
2046	1	0	4	7
2047	1	1	4	8
2048	1	0	4	10
2049	2	0	5	9
2050	1	1	5	11



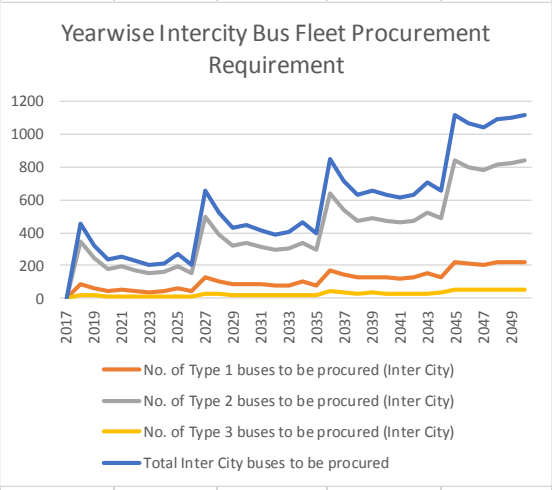
6. Year-wise Intracity Bus Fleet Procurement Requirement

Year	No. of Type 1 buses to be procured (Intra City)	No. of Type 2 buses to be procured (Intra City)	No. of Type 3 buses to be procured (Intra City)	Total Intra City buses to be procured
2017	0	0	1	1
2018	33	113	7	153
2019	26	90	6	121
2020	23	81	5	109
2021	20	72	5	97
2022	19	66	4	89
2023	18	62	4	84
2024	17	59	4	79
2025	16	56	4	76
2026	15	54	4	74
2027	48	166	11	224
2028	40	142	10	192
2029	37	133	9	179
2030	35	123	8	166
2031	33	117	8	158
2032	32	113	8	152
2033	31	110	7	148
2034	31	108	7	146
2035	30	107	8	145
2036	63	219	14	296
2037	56	196	13	265
2038	53	188	13	254
2039	51	180	12	243
2040	50	176	12	237
2041	49	173	12	234
2042	49	173	12	233
2043	49	173	12	234
2044	49	174	13	236
2045	83	289	19	391
2046	76	270	18	364
2047	75	265	18	358
2048	74	260	18	352
2049	74	260	18	352
2050	74	262	18	354



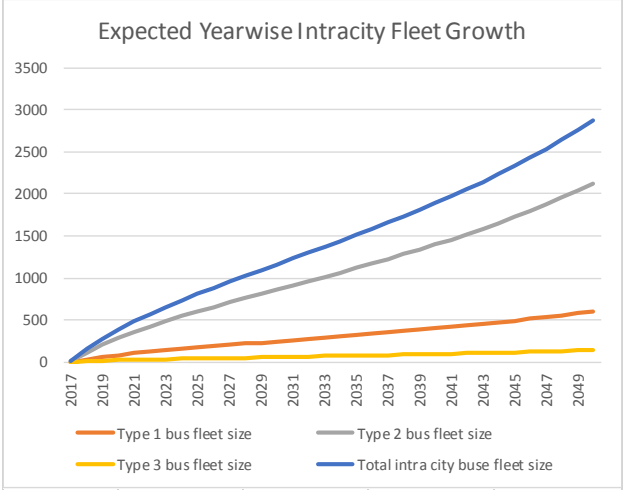
7. Year-wise Intercity Bus Fleet Procurement Requirement

Year	No. of Type 1 buses to be procured (Inter City)	No. of Type 2 buses to be procured (Inter City)	No. of Type 3 buses to be procured (Inter City)	Total Inter City buses to be procured
2017	0	0	2	2
2018	89	345	22	456
2019	65	242	16	323
2020	48	178	12	238
2021	51	192	13	257
2022	46	171	11	228
2023	41	153	10	204
2024	43	161	11	214
2025	66	199	10	275
2026	41	154	13	207
2027	129	494	32	655
2028	103	388	26	517
2029	86	322	21	429
2030	89	334	22	445
2031	83	311	21	415
2032	78	294	20	391
2033	80	301	20	401
2034	103	341	20	463
2035	79	297	22	398
2036	168	639	42	849
2037	143	536	36	715
2038	126	474	32	632
2039	131	490	33	654
2040	126	473	32	631
2041	123	461	31	615
2042	127	475	32	634
2043	152	522	32	705
2044	130	487	35	652
2045	221	839	55	1115
2046	213	798	53	1064
2047	207	776	52	1035
2048	217	814	54	1086
2049	219	821	55	1094
2050	223	835	56	1113



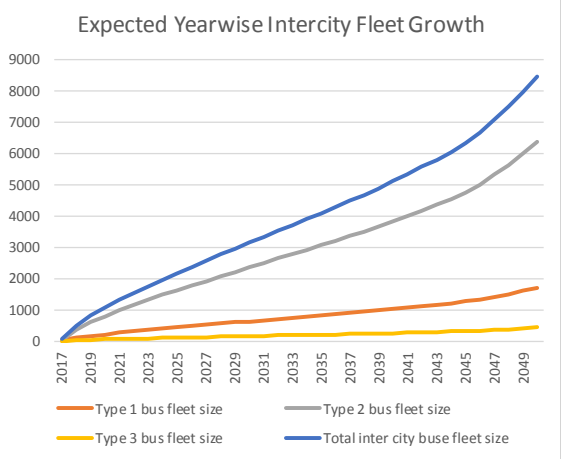
8. Expected Year-wise Intracity Fleet Growth

Year	Type 1 bus fleet size	Type 2 bus fleet size	Type 3 bus fleet size	Total intra city buse fleet size
2017	2	8	1	11
2018	33	115	8	155
2019	58	205	14	277
2020	81	284	19	384
2021	101	356	24	481
2022	120	422	29	571
2023	137	484	33	654
2024	154	543	37	734
2025	170	599	40	810
2026	185	653	44	883
2027	200	706	48	954
2028	215	758	51	1025
2029	230	809	55	1094
2030	244	860	58	1163
2031	259	911	62	1231
2032	273	962	65	1300
2033	287	1013	68	1369
2034	302	1065	72	1439
2035	317	1117	75	1510
2036	332	1170	79	1582
2037	348	1225	83	1655
2038	363	1280	87	1730
2039	380	1338	90	1808
2040	396	1396	94	1887
2041	413	1457	98	1969
2042	431	1520	103	2054
2043	450	1585	107	2141
2044	469	1652	112	2233
2045	489	1723	116	2328
2046	510	1796	121	2427
2047	531	1873	127	2531
2048	554	1953	132	2639
2049	578	2038	138	2753
2050	603	2126	144	2873



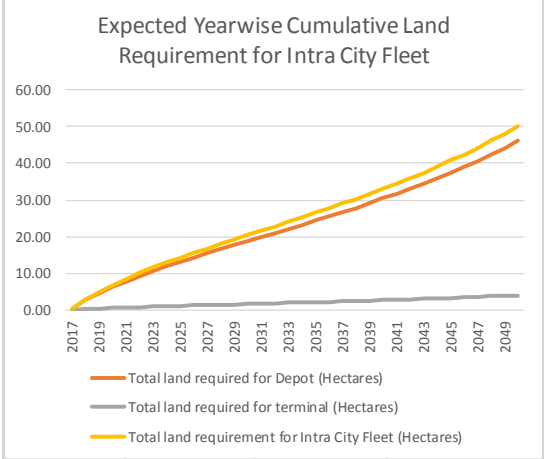
9. Expected Year-wise Intercity Fleet Growth

Year	Type 1 bus fleet size	Type 2 bus fleet size	Type 3 bus fleet size	Total inter city buse fleet size
2017	10	37	2	50
2018	99	371	25	495
2019	164	613	41	818
2020	211	792	53	1055
2021	262	984	66	1312
2022	308	1155	77	1540
2023	349	1308	87	1744
2024	392	1469	98	1958
2025	432	1621	108	2161
2026	473	1774	118	2366
2027	513	1924	128	2565
2028	552	2069	138	2759
2029	590	2213	148	2950
2030	628	2354	157	3139
2031	665	2495	166	3326
2032	703	2635	176	3513
2033	740	2775	185	3700
2034	778	2917	194	3889
2035	816	3060	204	4080
2036	855	3206	214	4274
2037	894	3354	224	4472
2038	935	3506	234	4675
2039	977	3663	244	4884
2040	1020	3824	255	5099
2041	1064	3992	266	5322
2042	1111	4166	278	5555
2043	1159	4347	290	5797
2044	1210	4538	303	6050
2045	1263	4737	316	6316
2046	1333	4999	333	6665
2047	1414	5301	353	7068
2048	1500	5625	375	7500
2049	1593	5973	398	7964
2050	1692	6347	423	8462



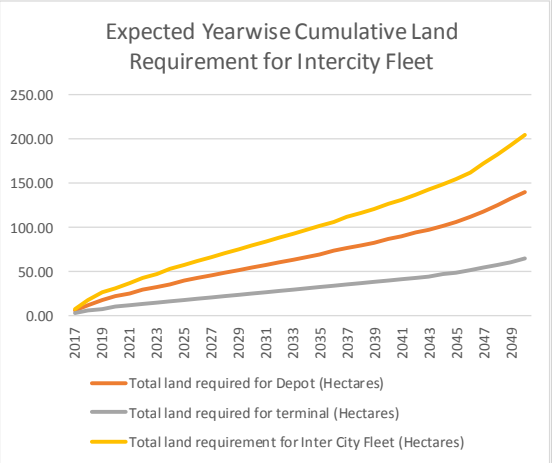
10. Expected Year-wise Cumulative Land Requirement for Intra City Fleet

Year	Total land required for Depot (Hectares)	Total land required for terminal (Hectares)	Total land requirement for Intra City Fleet (Hectares)
2017	0.37	0.03	0.40
2018	2.68	0.23	2.92
2019	4.63	0.40	5.03
2020	6.34	0.56	6.90
2021	7.90	0.69	8.59
2022	9.33	0.82	10.14
2023	10.67	0.93	11.60
2024	11.93	1.04	12.98
2025	13.15	1.15	14.30
2026	14.32	1.25	15.58
2027	15.47	1.35	16.82
2028	16.59	1.45	18.04
2029	17.70	1.55	19.24
2030	18.80	1.64	20.44
2031	19.89	1.74	21.63
2032	20.99	1.84	22.83
2033	22.10	1.93	24.03
2034	23.22	2.03	25.25
2035	24.35	2.13	26.48
2036	25.50	2.23	27.74
2037	26.68	2.33	29.01
2038	27.88	2.44	30.32
2039	29.12	2.55	31.66
2040	30.39	2.66	33.05
2041	31.70	2.77	34.47
2042	33.05	2.89	35.95
2043	34.46	3.02	37.47
2044	35.92	3.14	39.06
2045	37.44	3.28	40.72
2046	39.03	3.41	42.44
2047	40.69	3.56	44.25
2048	42.42	3.71	46.14
2049	44.25	3.87	48.12
2050	46.17	4.04	50.21



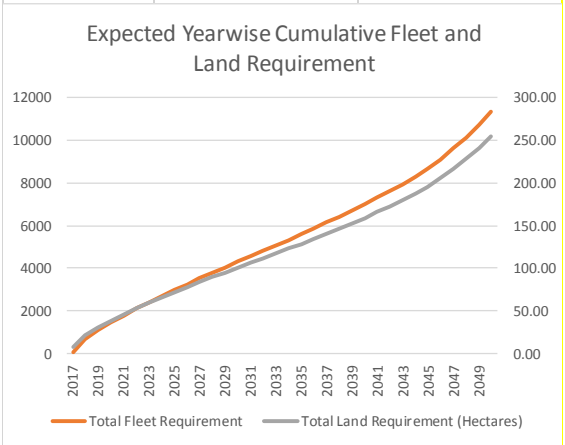
11. Expected Year-wise Cumulative Land Requirement for Intercity Fleet

Year	Total land required for Depot (Hectares)	Total land required for terminal (Hectares)	Total land requirement for Inter City Fleet (Hectares)
2017	5.58	2.57	8.15
2018	12.70	5.84	18.54
2019	17.87	8.21	26.07
2020	21.67	9.96	31.63
2021	25.78	11.84	37.62
2022	29.43	13.52	42.94
2023	32.70	15.02	47.72
2024	36.12	16.59	52.71
2025	39.36	18.08	57.44
2026	42.64	19.59	62.23
2027	45.82	21.05	66.87
2028	48.93	22.48	71.41
2029	51.99	23.88	75.87
2030	55.01	25.27	80.28
2031	58.00	26.65	84.65
2032	61.00	28.02	89.01
2033	63.99	29.40	93.39
2034	67.01	30.78	97.80
2035	70.07	32.19	102.26
2036	73.18	33.62	106.79
2037	76.34	35.07	111.41
2038	79.59	36.56	116.15
2039	82.93	38.09	121.02
2040	86.37	39.68	126.05
2041	89.95	41.32	131.26
2042	93.66	43.02	136.68
2043	97.53	44.80	142.34
2044	101.59	46.67	148.25
2045	105.85	48.62	154.47
2046	111.43	51.19	162.61
2047	117.88	54.15	172.03
2048	124.79	57.33	182.12
2049	132.21	60.73	192.94
2050	140.18	64.40	204.58



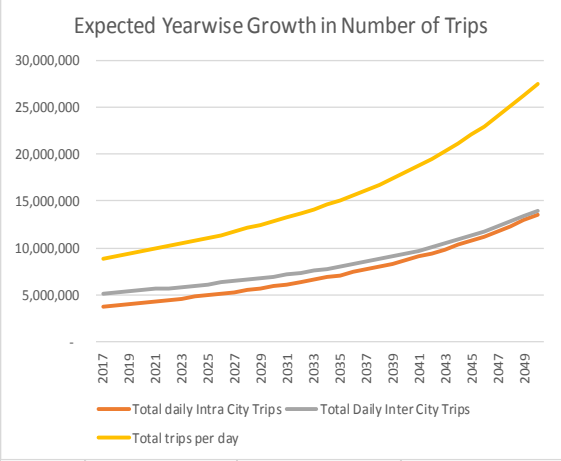
12. Expected Year-wise Cumulative Fleet and Land Requirement

Year	Total Fleet Requirement	Total Land Requirement (Hectares)
2017	61	8.55
2018	650	21.45
2019	1094	31.10
2020	1440	38.53
2021	1793	46.21
2022	2111	53.09
2023	2399	59.32
2024	2692	65.69
2025	2971	71.74
2026	3249	77.80
2027	3519	83.69
2028	3784	89.45
2029	4044	95.12
2030	4301	100.72
2031	4557	106.28
2032	4813	111.85
2033	5069	117.43
2034	5328	123.05
2035	5590	128.74
2036	5856	134.53
2037	6128	140.43
2038	6406	146.47
2039	6691	152.69
2040	6986	159.10
2041	7291	165.74
2042	7608	172.63
2043	7938	179.81
2044	8283	187.32
2045	8644	195.18
2046	9092	205.05
2047	9599	216.28
2048	10140	228.26
2049	10717	241.07
2050	11336	254.79



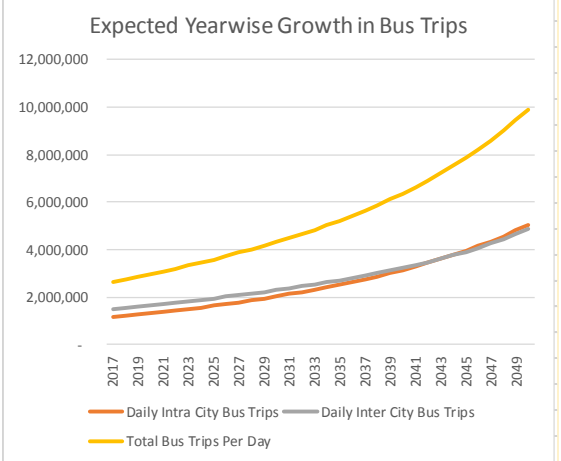
13. Expected Year-wise Growth in Number of Trips

Year	Total daily Intra City Trips	Total Daily Inter City Trips	Total trips per day
2017	3,758,555	5,113,654	8,872,209
2018	3,884,843	5,225,219	9,110,062
2019	4,016,147	5,340,609	9,356,756
2020	4,152,739	5,460,072	9,612,811
2021	4,294,906	5,583,878	9,878,784
2022	4,442,960	5,712,322	10,155,282
2023	4,597,235	5,845,726	10,442,961
2024	4,758,093	5,984,441	10,742,534
2025	4,925,921	6,128,850	11,054,771
2026	5,101,138	6,279,373	11,380,511
2027	5,284,197	6,436,468	11,720,665
2028	5,475,587	6,600,637	12,076,224
2029	5,675,836	6,772,429	12,448,265
2030	5,885,518	6,952,445	12,837,963
2031	6,105,251	7,141,342	13,246,593
2032	6,335,709	7,339,841	13,675,550
2033	6,577,621	7,548,732	14,126,353
2034	6,831,778	7,768,881	14,600,659
2035	7,099,041	8,001,237	15,100,278
2036	7,380,345	8,246,839	15,627,184
2037	7,676,707	8,506,830	16,183,537
2038	7,989,234	8,782,461	16,771,695
2039	8,319,132	9,075,106	17,394,238
2040	8,667,715	9,386,273	18,053,988
2041	9,036,414	9,717,617	18,754,031
2042	9,426,792	10,070,955	19,497,747
2043	9,840,553	10,448,281	20,288,834
2044	10,279,558	10,851,786	21,131,344
2045	10,745,840	11,283,876	22,029,716
2046	11,241,619	11,747,192	22,988,811
2047	11,769,322	12,244,639	24,013,961
2048	12,331,603	12,779,404	25,111,007
2049	12,931,366	13,354,992	26,286,358
2050	13,571,787	13,975,251	27,547,038



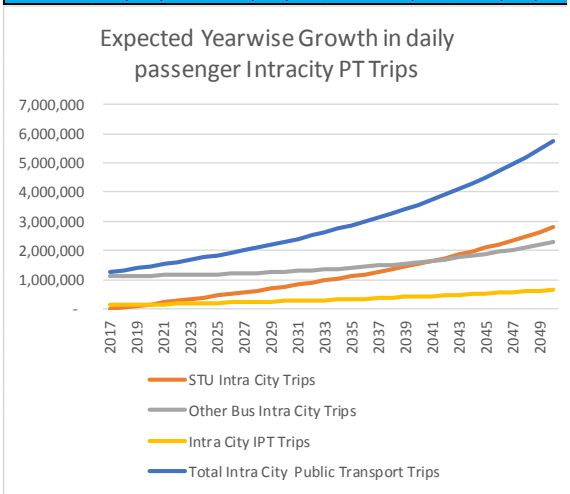
14. Expected Year-wise Growth in Bus Trips

Year	Daily Intra City Bus Trips	Daily Inter City Bus Trips	Total Bus Trips Per Day
2017	1,140,528	1,473,172	2,613,700
2018	1,196,532	1,529,297	2,725,829
2019	1,254,168	1,586,073	2,840,242
2020	1,313,550	1,643,614	2,957,165
2021	1,374,796	1,702,042	3,076,838
2022	1,438,033	1,761,483	3,199,515
2023	1,503,395	1,822,073	3,325,469
2024	1,571,030	1,883,959	3,454,989
2025	1,641,093	1,947,294	3,588,387
2026	1,713,751	2,012,244	3,725,995
2027	1,789,184	2,078,988	3,868,172
2028	1,867,588	2,147,718	4,015,305
2029	1,949,170	2,218,640	4,167,810
2030	2,034,158	2,291,979	4,326,137
2031	2,122,795	2,367,977	4,490,773
2032	2,215,346	2,446,899	4,662,245
2033	2,312,097	2,529,028	4,841,125
2034	2,413,357	2,614,677	5,028,034
2035	2,519,464	2,704,184	5,223,648
2036	2,630,781	2,797,919	5,428,700
2037	2,747,707	2,896,283	5,643,990
2038	2,870,672	2,999,717	5,870,390
2039	3,000,146	3,108,702	6,108,848
2040	3,136,640	3,223,763	6,360,403
2041	3,280,710	3,345,476	6,626,186
2042	3,432,963	3,474,470	6,907,433
2043	3,594,061	3,611,435	7,205,496
2044	3,764,727	3,757,127	7,521,853
2045	3,945,748	3,912,375	7,858,122
2046	4,137,986	4,078,087	8,216,073
2047	4,342,382	4,255,260	8,597,643
2048	4,559,966	4,444,989	9,004,955
2049	4,791,861	4,648,473	9,440,334
2050	5,039,299	4,867,031	9,906,330



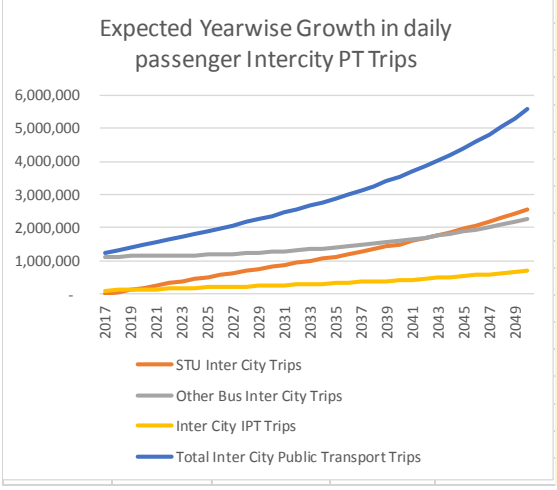
15. Expected Year-wise Growth in daily Intracity passenger intracity PT Trips

Year	STU Intra City Trips	Other Bus Intra City Trips	Intra City IPT Trips	Total Intra City Public Transport Trips
2017	4,916	1,135,612	127,122	1,267,650
2018	58,858	1,137,705	136,525	1,333,088
2019	113,137	1,141,117	146,099	1,400,353
2020	167,841	1,145,875	155,860	1,469,576
2021	223,064	1,152,004	165,823	1,540,891
2022	278,904	1,159,538	176,003	1,614,445
2023	335,466	1,168,510	186,418	1,690,394
2024	392,856	1,178,963	197,087	1,768,906
2025	451,191	1,190,939	208,028	1,850,158
2026	510,593	1,204,490	219,261	1,934,344
2027	571,191	1,219,670	230,808	2,021,669
2028	633,123	1,236,540	242,693	2,112,356
2029	696,537	1,255,170	254,939	2,206,646
2030	761,590	1,275,633	267,573	2,304,795
2031	828,450	1,298,011	280,623	2,407,084
2032	897,300	1,322,397	294,119	2,513,815
2033	968,334	1,348,888	308,093	2,625,315
2034	1,041,762	1,377,595	322,580	2,741,937
2035	1,117,810	1,408,639	337,617	2,864,066
2036	1,196,724	1,442,150	353,245	2,992,118
2037	1,278,767	1,478,273	369,507	3,126,547
2038	1,364,227	1,517,168	386,450	3,267,844
2039	1,453,414	1,559,008	404,124	3,416,546
2040	1,546,666	1,603,982	422,585	3,573,233
2041	1,644,350	1,652,301	441,892	3,738,543
2042	1,746,864	1,704,192	462,109	3,913,165
2043	1,854,643	1,759,905	483,307	4,097,855
2044	1,968,158	1,819,715	505,562	4,293,436
2045	2,087,927	1,883,922	528,957	4,500,805
2046	2,214,510	1,952,855	553,581	4,720,946
2047	2,348,521	2,026,875	579,533	4,954,929
2048	2,490,632	2,106,377	606,919	5,203,927
2049	2,641,573	2,191,793	635,855	5,469,222
2050	2,802,147	2,283,598	666,470	5,752,215



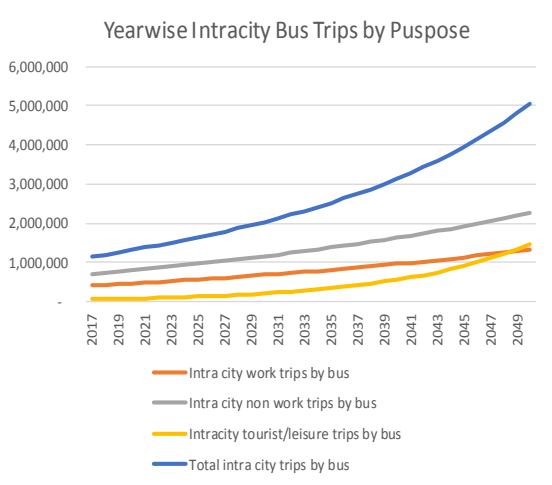
16. Expected Year-wise Growth in daily Intercity passenger intercity PT Trips

Year	STU Inter City Trips	Other Bus Inter City Trips	Inter City IPT Trips	Total Inter City Public Transport Trips
2017	5,812	1,135,612	115,553	1,256,977
2018	71,554	1,137,705	126,170	1,335,429
2019	136,204	1,141,117	136,787	1,414,109
2020	199,891	1,145,875	147,429	1,493,195
2021	262,744	1,152,004	158,123	1,572,872
2022	324,897	1,159,538	168,896	1,653,331
2023	386,484	1,168,510	179,777	1,734,771
2024	447,642	1,178,963	190,798	1,817,402
2025	508,513	1,190,939	201,990	1,901,443
2026	569,244	1,204,490	213,390	1,987,124
2027	629,987	1,219,670	225,033	2,074,689
2028	690,899	1,236,540	236,960	2,164,400
2029	752,147	1,255,170	249,214	2,256,530
2030	813,904	1,275,633	261,839	2,351,376
2031	876,355	1,298,011	274,887	2,449,253
2032	939,695	1,322,397	288,409	2,550,501
2033	1,004,131	1,348,888	302,465	2,655,485
2034	1,069,884	1,377,595	317,118	2,764,597
2035	1,137,190	1,408,639	332,435	2,878,263
2036	1,206,303	1,442,150	348,490	2,996,943
2037	1,277,496	1,478,273	365,366	3,121,135
2038	1,351,064	1,517,168	383,149	3,251,382
2039	1,427,325	1,559,008	401,938	3,388,271
2040	1,506,624	1,603,982	421,836	3,532,442
2041	1,589,334	1,652,301	442,959	3,684,594
2042	1,675,861	1,704,192	465,433	3,845,486
2043	1,766,648	1,759,905	489,396	4,015,949
2044	1,862,175	1,819,715	515,000	4,196,890
2045	1,962,968	1,883,922	542,409	4,389,299
2046	2,069,599	1,952,855	571,806	4,594,260
2047	2,182,695	2,026,875	603,389	4,812,959
2048	2,302,940	2,106,377	637,377	5,046,694
2049	2,431,083	2,191,793	674,010	5,296,887
2050	2,567,945	2,283,598	713,552	5,565,095



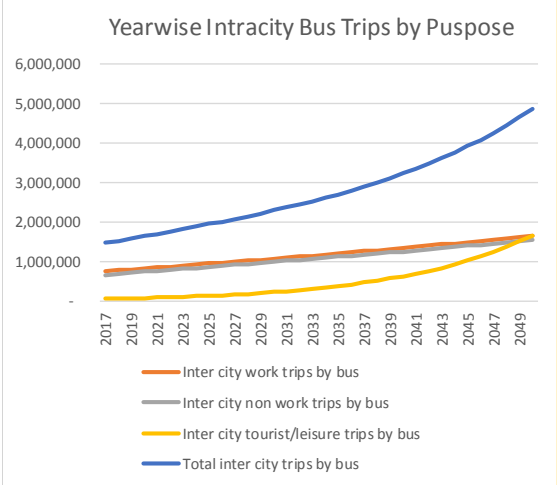
17. Year-wise Intracity Bus Trips by Purpose

Year	Intra city work trips by bus	Intra city non work trips by bus	Intracity tourist/leisure trips by bus	Total intra city trips by bus
2017	400,539	687,692	52,297	1,140,528
2018	419,174	718,992	58,365	1,196,532
2019	438,177	750,924	65,068	1,254,168
2020	457,564	783,516	72,470	1,313,550
2021	477,354	816,798	80,644	1,374,796
2022	497,565	850,801	89,666	1,438,033
2023	518,216	885,557	99,623	1,503,395
2024	539,324	921,097	110,609	1,571,030
2025	560,910	957,454	122,729	1,641,093
2026	582,994	994,660	136,096	1,713,751
2027	605,595	1,032,751	150,838	1,789,184
2028	628,735	1,071,760	167,092	1,867,588
2029	652,434	1,111,724	185,012	1,949,170
2030	676,714	1,152,679	204,764	2,034,158
2031	701,598	1,194,663	226,534	2,122,795
2032	727,108	1,237,713	250,526	2,215,346
2033	753,266	1,281,868	276,962	2,312,097
2034	780,098	1,327,170	306,089	2,413,357
2035	807,628	1,373,659	338,177	2,519,464
2036	835,880	1,421,378	373,524	2,630,781
2037	864,880	1,470,370	412,457	2,747,707
2038	894,655	1,520,679	455,338	2,870,672
2039	925,232	1,572,352	502,563	3,000,146
2040	956,638	1,625,434	554,568	3,136,640
2041	988,902	1,679,975	611,832	3,280,710
2042	1,022,054	1,736,025	674,884	3,432,963
2043	1,056,123	1,793,633	744,306	3,594,061
2044	1,091,140	1,852,852	820,735	3,764,727
2045	1,127,138	1,913,735	904,874	3,945,748
2046	1,164,148	1,976,339	997,499	4,137,986
2047	1,202,205	2,040,720	1,099,458	4,342,382
2048	1,241,342	2,106,935	1,211,688	4,559,966
2049	1,281,596	2,175,046	1,335,219	4,791,861
2050	1,323,003	2,245,114	1,471,183	5,039,299



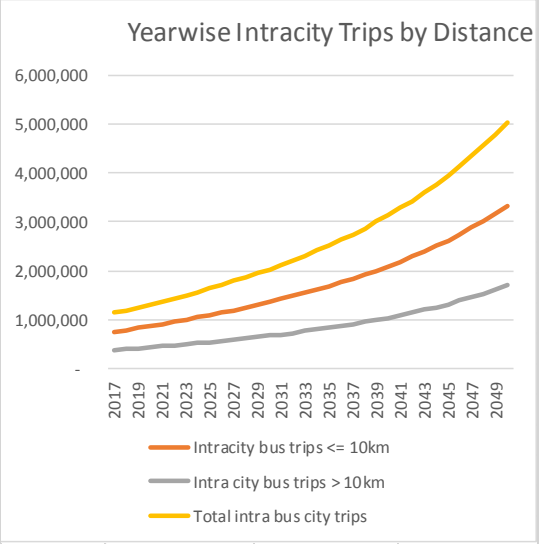
18. Year-wise Intercity Bus Trips by Purpose

Year	Inter city work trips by bus	Inter city non work trips by bus	Inter city tourist/leisure trips by bus	Total inter city trips by bus
2017	753,867	662,756	56,548	1,473,172
2018	777,924	688,016	63,357	1,529,297
2019	802,007	713,180	70,886	1,586,073
2020	826,134	738,273	79,208	1,643,614
2021	850,323	763,315	88,404	1,702,042
2022	874,592	788,327	98,563	1,761,483
2023	898,959	813,331	109,783	1,822,073
2024	923,442	838,346	122,171	1,883,959
2025	948,056	863,392	135,846	1,947,294
2026	972,818	888,488	150,938	2,012,244
2027	997,745	913,652	167,591	2,078,988
2028	1,022,852	938,904	185,962	2,147,718
2029	1,048,156	964,260	206,224	2,218,640
2030	1,073,671	989,738	228,570	2,291,979
2031	1,099,413	1,015,355	253,209	2,367,977
2032	1,125,398	1,041,129	280,372	2,446,899
2033	1,151,639	1,067,075	310,314	2,529,028
2034	1,178,152	1,093,210	343,316	2,614,677
2035	1,204,951	1,119,549	379,684	2,704,184
2036	1,232,051	1,146,110	419,758	2,797,919
2037	1,259,465	1,172,906	463,912	2,896,283
2038	1,287,209	1,199,954	512,555	2,999,717
2039	1,315,296	1,227,268	566,138	3,108,702
2040	1,343,740	1,254,863	625,159	3,223,763
2041	1,372,556	1,282,755	690,165	3,345,476
2042	1,401,757	1,310,958	761,755	3,474,470
2043	1,431,358	1,339,485	840,592	3,611,435
2044	1,461,371	1,368,353	927,403	3,757,127
2045	1,491,811	1,397,575	1,022,989	3,912,375
2046	1,522,692	1,427,165	1,128,230	4,078,087
2047	1,554,028	1,457,137	1,244,095	4,255,260
2048	1,585,832	1,487,507	1,371,650	4,444,989
2049	1,618,119	1,518,287	1,512,067	4,648,473
2050	1,650,903	1,549,491	1,666,637	4,867,031



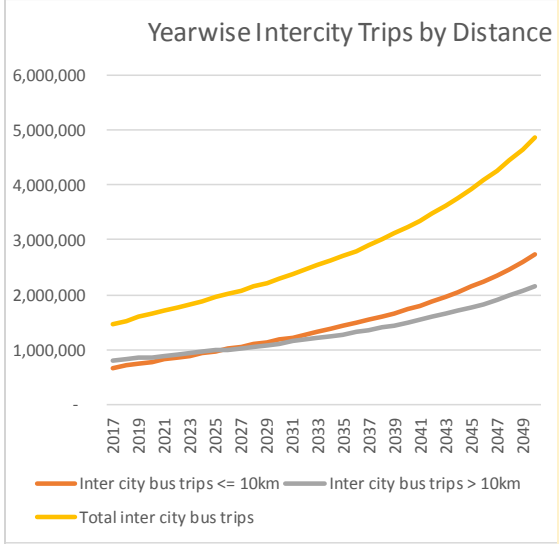
19. Year-wise Intracity Trips by Distance

Year	Intracity bus trips <= 10km	Intra city bus trips > 10km	Total intra bus city trips
2017	756,392	384,136	1,140,528
2018	794,719	401,813	1,196,532
2019	834,100	420,069	1,254,168
2020	874,607	438,943	1,313,550
2021	916,318	458,478	1,374,796
2022	959,314	478,719	1,438,033
2023	1,003,682	499,713	1,503,395
2024	1,049,517	521,514	1,571,030
2025	1,096,917	544,176	1,641,093
2026	1,145,989	567,761	1,713,751
2027	1,196,850	592,334	1,789,184
2028	1,249,622	617,965	1,867,588
2029	1,304,439	644,731	1,949,170
2030	1,361,444	672,714	2,034,158
2031	1,420,792	702,004	2,122,795
2032	1,482,649	732,697	2,215,346
2033	1,547,196	764,900	2,312,097
2034	1,614,630	798,727	2,413,357
2035	1,685,161	834,303	2,519,464
2036	1,759,019	871,762	2,630,781
2037	1,836,454	911,253	2,747,707
2038	1,917,735	952,937	2,870,672
2039	2,003,158	996,988	3,000,146
2040	2,093,042	1,043,598	3,136,640
2041	2,187,734	1,092,975	3,280,710
2042	2,287,615	1,145,348	3,432,963
2043	2,393,097	1,200,964	3,594,061
2044	2,504,631	1,260,095	3,764,727
2045	2,622,708	1,323,039	3,945,748
2046	2,747,865	1,390,121	4,137,986
2047	2,880,687	1,461,696	4,342,382
2048	3,021,814	1,538,152	4,559,966
2049	3,171,945	1,619,916	4,791,861
2050	3,331,845	1,707,454	5,039,299



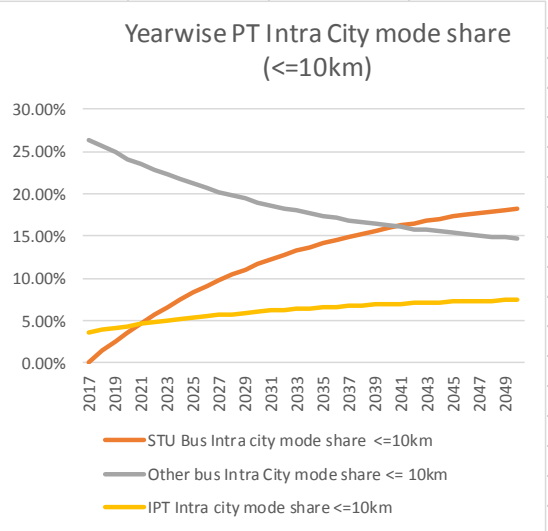
20. Year-wise Intercity Trips by Distance

Year	Inter city bus trips <= 10km	Inter city bus trips > 10km	Total inter city bus trips
2017	673,422	799,750	1,473,172
2018	709,237	820,060	1,529,297
2019	745,212	840,861	1,586,073
2020	781,425	862,190	1,643,614
2021	817,958	884,084	1,702,042
2022	854,897	906,585	1,761,483
2023	892,334	929,739	1,822,073
2024	930,366	953,593	1,883,959
2025	969,096	978,198	1,947,294
2026	1,008,632	1,003,613	2,012,244
2027	1,049,091	1,029,897	2,078,988
2028	1,090,601	1,057,117	2,147,718
2029	1,133,294	1,085,345	2,218,640
2030	1,177,318	1,114,661	2,291,979
2031	1,222,829	1,145,148	2,367,977
2032	1,269,997	1,176,901	2,446,899
2033	1,319,007	1,210,021	2,529,028
2034	1,370,058	1,244,619	2,614,677
2035	1,423,368	1,280,816	2,704,184
2036	1,479,174	1,318,744	2,797,919
2037	1,537,734	1,358,549	2,896,283
2038	1,599,330	1,400,387	2,999,717
2039	1,664,269	1,444,433	3,108,702
2040	1,732,887	1,490,876	3,223,763
2041	1,805,552	1,539,924	3,345,476
2042	1,882,665	1,591,805	3,474,470
2043	1,964,667	1,646,768	3,611,435
2044	2,052,041	1,705,086	3,757,127
2045	2,145,314	1,767,060	3,912,375
2046	2,245,068	1,833,019	4,078,087
2047	2,351,937	1,903,323	4,255,260
2048	2,466,619	1,978,370	4,444,989
2049	2,589,880	2,058,593	4,648,473
2050	2,722,561	2,144,471	4,867,031



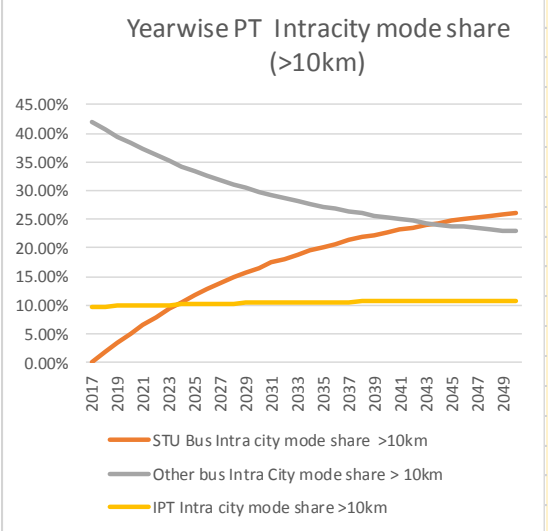
21. Year-wise PT Intra City mode share (<=10km)

Year	STU Bus Intra city mode share <=10km	Other bus Intra City mode share <= 10km	IPT Intra city mode share <=10km
2017	0.15%	26.43%	3.62%
2018	1.41%	25.62%	3.88%
2019	2.58%	24.87%	4.13%
2020	3.69%	24.15%	4.36%
2021	4.73%	23.49%	4.58%
2022	5.70%	22.86%	4.79%
2023	6.62%	22.26%	4.98%
2024	7.48%	21.71%	5.16%
2025	8.29%	21.19%	5.33%
2026	9.06%	20.70%	5.49%
2027	9.77%	20.23%	5.64%
2028	10.45%	19.80%	5.78%
2029	11.08%	19.39%	5.92%
2030	11.67%	19.01%	6.04%
2031	12.23%	18.65%	6.16%
2032	12.76%	18.31%	6.27%
2033	13.25%	17.99%	6.37%
2034	13.72%	17.69%	6.47%
2035	14.16%	17.41%	6.56%
2036	14.57%	17.14%	6.65%
2037	14.95%	16.90%	6.73%
2038	15.32%	16.66%	6.81%
2039	15.66%	16.44%	6.88%
2040	15.98%	16.24%	6.94%
2041	16.28%	16.04%	7.01%
2042	16.56%	15.86%	7.07%
2043	16.83%	15.69%	7.12%
2044	17.08%	15.53%	7.18%
2045	17.31%	15.37%	7.23%
2046	17.53%	15.23%	7.27%
2047	17.74%	15.10%	7.32%
2048	17.94%	14.97%	7.36%
2049	18.12%	14.85%	7.40%
2050	18.29%	14.74%	7.43%



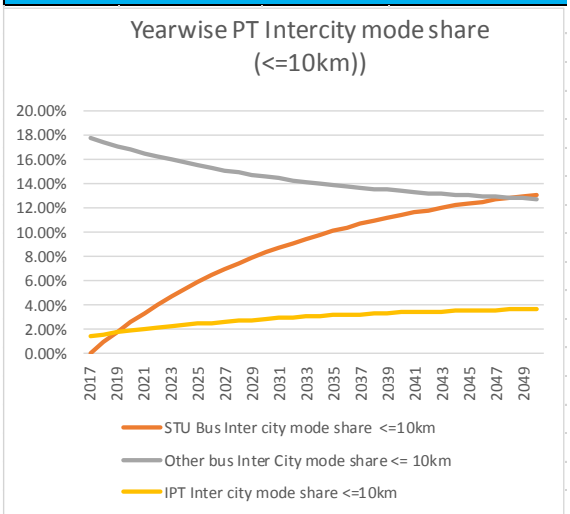
22. Year-wise PT Intracity mode share (>10km)

Year	STU Bus Intra city mode share >10km	Other bus Intra City mode share > 10km	IPT Intra city mode share >10km
2017	0.06%	42.00%	9.71%
2018	1.85%	40.68%	9.79%
2019	3.54%	39.44%	9.86%
2020	5.13%	38.28%	9.93%
2021	6.62%	37.18%	9.99%
2022	8.02%	36.15%	10.05%
2023	9.34%	35.18%	10.11%
2024	10.58%	34.27%	10.16%
2025	11.75%	33.41%	10.21%
2026	12.84%	32.61%	10.26%
2027	13.87%	31.85%	10.31%
2028	14.84%	31.14%	10.35%
2029	15.75%	30.47%	10.39%
2030	16.60%	29.84%	10.42%
2031	17.41%	29.25%	10.46%
2032	18.16%	28.70%	10.49%
2033	18.87%	28.18%	10.52%
2034	19.54%	27.69%	10.55%
2035	20.17%	27.22%	10.58%
2036	20.76%	26.79%	10.60%
2037	21.31%	26.38%	10.63%
2038	21.83%	26.00%	10.65%
2039	22.32%	25.64%	10.67%
2040	22.78%	25.30%	10.69%
2041	23.22%	24.98%	10.71%
2042	23.62%	24.68%	10.73%
2043	24.01%	24.40%	10.74%
2044	24.37%	24.14%	10.76%
2045	24.70%	23.89%	10.77%
2046	25.02%	23.66%	10.79%
2047	25.32%	23.44%	10.80%
2048	25.60%	23.23%	10.81%
2049	25.87%	23.04%	10.82%
2050	26.11%	22.86%	10.83%



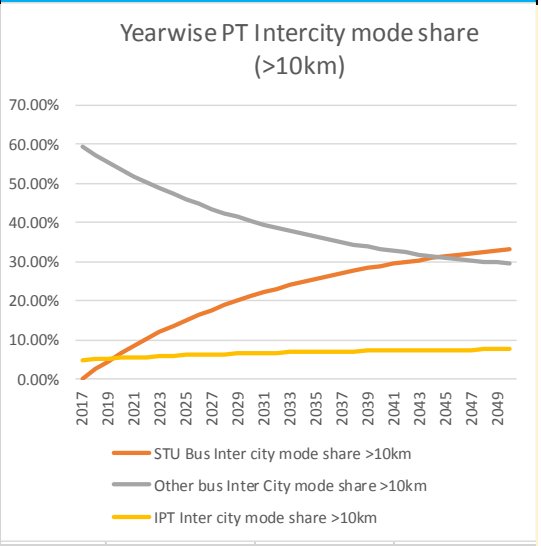
23. Year-wise PT Intercity mode share (<=10km)

Year	STU Bus Inter city mode share <=10km	Other bus Inter City mode share <= 10km	IPT Inter city mode share <=10km
2017	0.10%	17.76%	1.47%
2018	0.99%	17.42%	1.62%
2019	1.83%	17.09%	1.76%
2020	2.62%	16.78%	1.90%
2021	3.37%	16.50%	2.02%
2022	4.06%	16.23%	2.14%
2023	4.72%	15.97%	2.25%
2024	5.34%	15.74%	2.36%
2025	5.92%	15.51%	2.46%
2026	6.46%	15.30%	2.55%
2027	6.97%	15.10%	2.64%
2028	7.46%	14.92%	2.72%
2029	7.91%	14.74%	2.79%
2030	8.33%	14.58%	2.87%
2031	8.73%	14.42%	2.93%
2032	9.11%	14.28%	3.00%
2033	9.46%	14.14%	3.06%
2034	9.80%	14.01%	3.11%
2035	10.11%	13.89%	3.17%
2036	10.40%	13.78%	3.22%
2037	10.68%	13.67%	3.26%
2038	10.94%	13.57%	3.31%
2039	11.18%	13.48%	3.35%
2040	11.41%	13.39%	3.39%
2041	11.63%	13.30%	3.43%
2042	11.83%	13.23%	3.46%
2043	12.02%	13.15%	3.49%
2044	12.20%	13.08%	3.52%
2045	12.36%	13.02%	3.55%
2046	12.52%	12.96%	3.58%
2047	12.67%	12.90%	3.60%
2048	12.81%	12.85%	3.63%
2049	12.94%	12.80%	3.65%
2050	13.07%	12.75%	3.67%



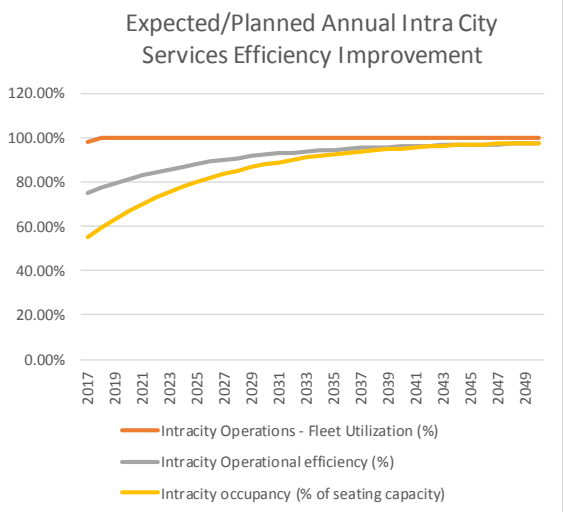
24. Year-wise PT Intercity mode share (>10km)

Year	STU Bus Inter city mode share >10km	Other bus Inter City mode share >10km	IPT Inter city mode share >10km
2017	0.15%	59.39%	4.84%
2018	2.42%	57.33%	5.03%
2019	4.56%	55.39%	5.21%
2020	6.57%	53.56%	5.37%
2021	8.45%	51.85%	5.53%
2022	10.22%	50.24%	5.68%
2023	11.89%	48.72%	5.82%
2024	13.46%	47.30%	5.95%
2025	14.93%	45.96%	6.07%
2026	16.31%	44.71%	6.19%
2027	17.62%	43.52%	6.30%
2028	18.84%	42.41%	6.40%
2029	19.99%	41.37%	6.50%
2030	21.07%	40.38%	6.59%
2031	22.08%	39.46%	6.67%
2032	23.04%	38.59%	6.75%
2033	23.94%	37.78%	6.83%
2034	24.78%	37.01%	6.90%
2035	25.57%	36.29%	6.96%
2036	26.32%	35.61%	7.02%
2037	27.02%	34.98%	7.08%
2038	27.68%	34.38%	7.14%
2039	28.30%	33.82%	7.19%
2040	28.88%	33.29%	7.24%
2041	29.43%	32.79%	7.28%
2042	29.94%	32.32%	7.33%
2043	30.43%	31.88%	7.37%
2044	30.88%	31.47%	7.41%
2045	31.31%	31.08%	7.44%
2046	31.71%	30.72%	7.47%
2047	32.09%	30.37%	7.51%
2048	32.44%	30.05%	7.54%
2049	32.77%	29.75%	7.56%
2050	33.09%	29.46%	7.59%



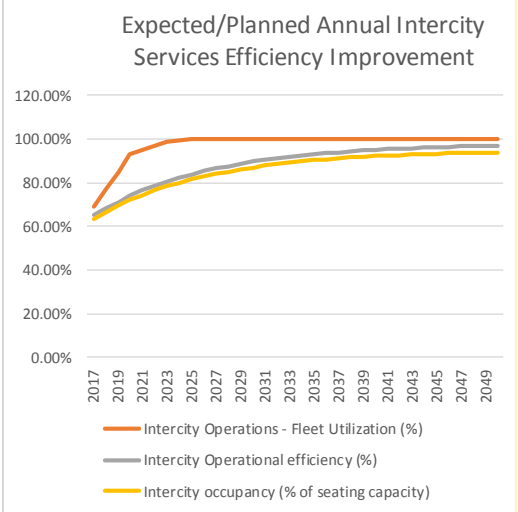
25. Expected/Planned Annual Intra City Services Efficiency Improvement

Year	Intracity Operations - Fleet Utilization (%)	Intracity Operational efficiency (%)	Intracity occupancy (% of seating capacity)
2017	98.00%	75.00%	54.90%
2018	100.00%	77.30%	59.31%
2019	100.00%	79.37%	63.28%
2020	100.00%	81.23%	66.85%
2021	100.00%	82.91%	70.07%
2022	100.00%	84.42%	72.96%
2023	100.00%	85.78%	75.56%
2024	100.00%	87.00%	77.91%
2025	100.00%	88.10%	80.02%
2026	100.00%	89.09%	81.91%
2027	100.00%	89.98%	83.62%
2028	100.00%	90.78%	85.16%
2029	100.00%	91.50%	86.54%
2030	100.00%	92.15%	87.79%
2031	100.00%	92.74%	88.91%
2032	100.00%	93.26%	89.92%
2033	100.00%	93.74%	90.83%
2034	100.00%	94.16%	91.65%
2035	100.00%	94.55%	92.38%
2036	100.00%	94.89%	93.04%
2037	100.00%	95.20%	93.64%
2038	100.00%	95.48%	94.17%
2039	100.00%	95.74%	94.66%
2040	100.00%	95.96%	95.09%
2041	100.00%	96.17%	95.48%
2042	100.00%	96.35%	95.83%
2043	100.00%	96.51%	96.15%
2044	100.00%	96.66%	96.44%
2045	100.00%	96.80%	96.69%
2046	100.00%	96.92%	96.92%
2047	100.00%	97.03%	97.13%
2048	100.00%	97.12%	97.32%
2049	100.00%	97.21%	97.49%
2050	100.00%	97.29%	97.64%



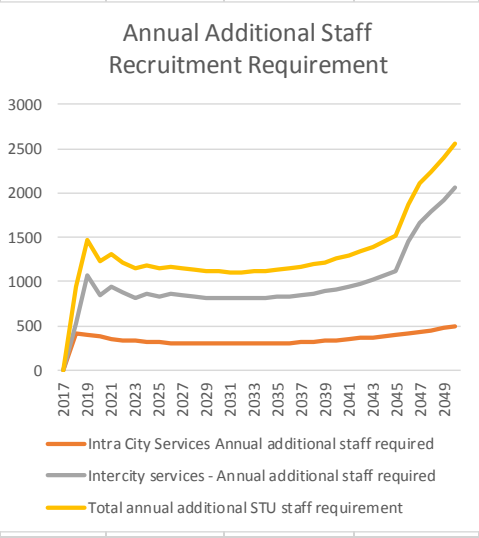
26. Expected/Planned Annual Intercity Services Efficiency Improvement

Year	Intercity Operations - Fleet Utilization (%)	Intercity Operational efficiency (%)	Intercity occupancy (% of seating capacity)
2017	69.00%	65.00%	63.50%
2018	77.00%	68.30%	66.65%
2019	85.00%	71.27%	69.49%
2020	93.00%	73.94%	72.04%
2021	95.00%	76.35%	74.33%
2022	97.00%	78.51%	76.40%
2023	99.00%	80.46%	78.26%
2024	99.50%	82.22%	79.93%
2025	100.00%	83.79%	81.44%
2026	100.00%	85.22%	82.80%
2027	100.00%	86.49%	84.02%
2028	100.00%	87.64%	85.11%
2029	100.00%	88.68%	86.10%
2030	100.00%	89.61%	86.99%
2031	100.00%	90.45%	87.79%
2032	100.00%	91.21%	88.51%
2033	100.00%	91.89%	89.16%
2034	100.00%	92.50%	89.75%
2035	100.00%	93.05%	90.27%
2036	100.00%	93.54%	90.74%
2037	100.00%	93.99%	91.17%
2038	100.00%	94.39%	91.55%
2039	100.00%	94.75%	91.90%
2040	100.00%	95.08%	92.21%
2041	100.00%	95.37%	92.49%
2042	100.00%	95.63%	92.74%
2043	100.00%	95.87%	92.96%
2044	100.00%	96.08%	93.17%
2045	100.00%	96.27%	93.35%
2046	100.00%	96.45%	93.52%
2047	100.00%	96.60%	93.66%
2048	100.00%	96.74%	93.80%
2049	100.00%	96.87%	93.92%
2050	100.00%	96.98%	94.03%



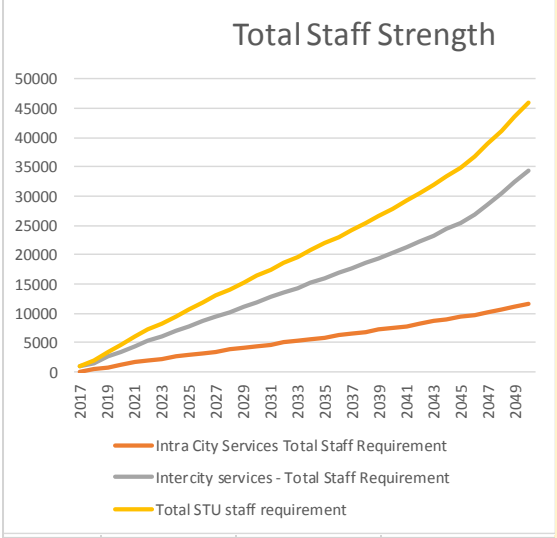
27. Annual Additional Staff Recruitment Requirement

Year	Intra City Services Annual additional staff required	Intercity services - Annual additional staff required	Total annual additional STU staff requirement
2017	0	0	0
2018	410	531	941
2019	400	1071	1471
2020	375	851	1226
2021	357	946	1303
2022	342	878	1220
2023	330	818	1148
2024	322	866	1188
2025	314	838	1152
2026	308	856	1164
2027	304	841	1145
2028	300	830	1130
2029	299	821	1120
2030	297	815	1112
2031	298	811	1109
2032	298	810	1108
2033	299	812	1111
2034	303	817	1120
2035	306	825	1131
2036	310	836	1146
2037	316	851	1167
2038	322	869	1191
2039	329	891	1220
2040	338	917	1255
2041	348	947	1295
2042	359	982	1341
2043	370	1020	1390
2044	384	1066	1450
2045	399	1116	1515
2046	416	1449	1865
2047	433	1670	2103
2048	453	1787	2240
2049	475	1916	2391
2050	499	2057	2556



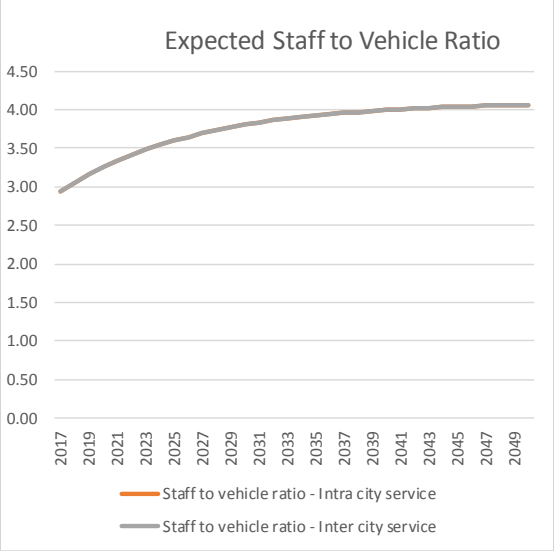
28. Total STU Staff Strength/ Requirement

Year	Intra City Services Total Staff Requirement	Intercity services - Total Staff Requirement	Total STU staff requirement
2017	65	981	1046
2018	475	1512	1987
2019	875	2583	3458
2020	1250	3434	4684
2021	1607	4380	5987
2022	1949	5258	7207
2023	2279	6076	8355
2024	2601	6942	9543
2025	2915	7780	10695
2026	3223	8636	11859
2027	3527	9477	13004
2028	3827	10307	14134
2029	4126	11128	15254
2030	4423	11943	16366
2031	4721	12754	17475
2032	5019	13564	18583
2033	5318	14376	19694
2034	5621	15193	20814
2035	5927	16018	21945
2036	6237	16854	23091
2037	6553	17705	24258
2038	6875	18574	25449
2039	7204	19465	26669
2040	7542	20382	27924
2041	7890	21329	29219
2042	8249	22311	30560
2043	8619	23331	31950
2044	9003	24397	33400
2045	9402	25513	34915
2046	9818	26962	36780
2047	10251	28632	38883
2048	10704	30419	41123
2049	11179	32335	43514
2050	11678	34392	46070



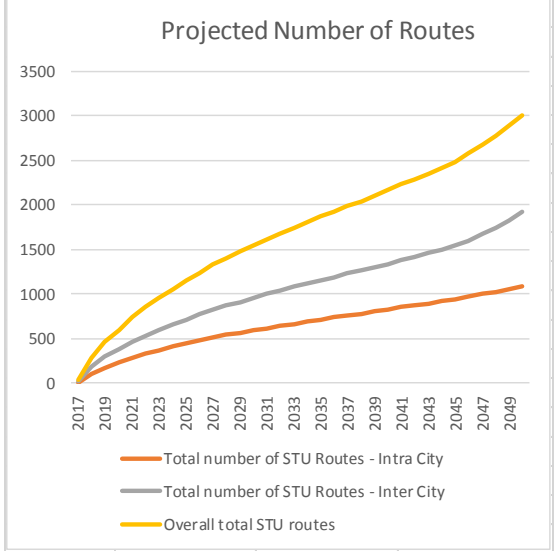
29. Expected Staff to Vehicle Ratio

Year	Staff to vehicle ratio - Intra city service	Staff to vehicle ratio - Inter city service
2017	2.94	2.94
2018	3.06	3.06
2019	3.16	3.16
2020	3.25	3.25
2021	3.34	3.34
2022	3.41	3.41
2023	3.48	3.48
2024	3.54	3.54
2025	3.60	3.60
2026	3.65	3.65
2027	3.70	3.70
2028	3.74	3.74
2029	3.77	3.77
2030	3.80	3.80
2031	3.83	3.83
2032	3.86	3.86
2033	3.88	3.88
2034	3.91	3.91
2035	3.93	3.93
2036	3.94	3.94
2037	3.96	3.96
2038	3.97	3.97
2039	3.99	3.99
2040	4.00	4.00
2041	4.01	4.01
2042	4.02	4.02
2043	4.02	4.02
2044	4.03	4.03
2045	4.04	4.04
2046	4.05	4.05
2047	4.05	4.05
2048	4.06	4.06
2049	4.06	4.06
2050	4.06	4.06



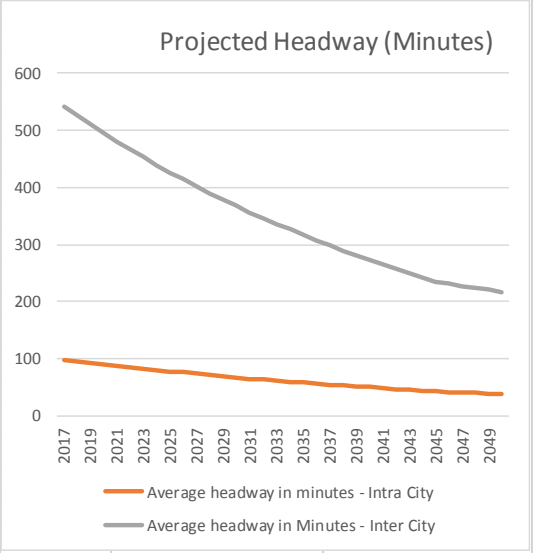
30. Projected Number of Routes

Year	Total number of STU Routes - Intra City	Total number of STU Routes - Inter City	Overall total STU routes
2017	9	18	28
2018	94	180	275
2019	165	293	459
2020	226	373	600
2021	279	457	736
2022	326	529	855
2023	369	590	959
2024	407	653	1060
2025	443	709	1152
2026	475	765	1241
2027	506	817	1324
2028	536	866	1402
2029	563	912	1476
2030	590	956	1546
2031	615	999	1614
2032	640	1039	1679
2033	664	1078	1743
2034	688	1117	1805
2035	711	1154	1865
2036	734	1191	1925
2037	757	1228	1985
2038	779	1265	2044
2039	802	1302	2104
2040	825	1339	2164
2041	848	1377	2225
2042	872	1416	2287
2043	895	1456	2351
2044	920	1497	2417
2045	945	1540	2484
2046	970	1601	2571
2047	997	1672	2669
2048	1024	1748	2773
2049	1053	1829	2882
2050	1083	1915	2997



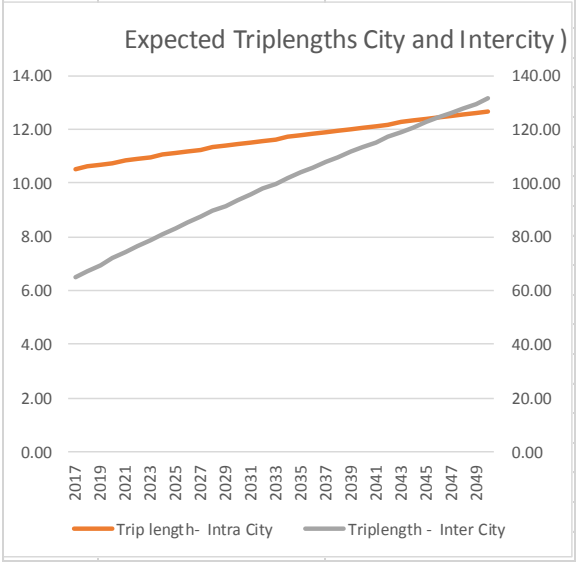
31. Projected Headway (Minutes)

Year	Average headway in minutes - Intra City	Average headway in Minutes - Inter City
2017	99	541
2018	96	525
2019	93	510
2020	90	495
2021	87	480
2022	85	466
2023	82	453
2024	80	439
2025	78	426
2026	75	414
2027	73	402
2028	71	390
2029	69	379
2030	67	367
2031	65	357
2032	63	346
2033	61	336
2034	59	326
2035	58	317
2036	56	307
2037	54	298
2038	53	290
2039	51	281
2040	50	273
2041	48	265
2042	47	257
2043	45	249
2044	44	242
2045	43	235
2046	42	231
2047	40	227
2048	39	224
2049	38	220
2050	37	217



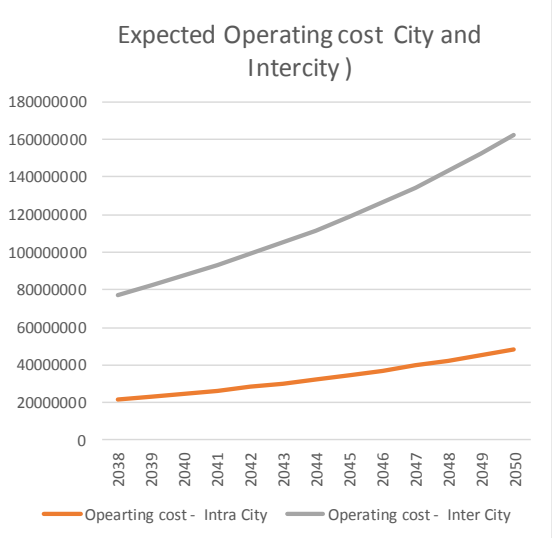
32. Expected Trip length City – Intercity

Year	Trip length- Intra City	Triplength - Inter City
2017	10.53	64.89
2018	10.60	67.24
2019	10.68	69.57
2020	10.75	71.87
2021	10.82	74.15
2022	10.90	76.41
2023	10.97	78.65
2024	11.04	80.86
2025	11.11	83.05
2026	11.18	85.22
2027	11.24	87.37
2028	11.31	89.50
2029	11.38	91.60
2030	11.44	93.69
2031	11.51	95.75
2032	11.58	97.79
2033	11.64	99.81
2034	11.70	101.82
2035	11.77	103.80
2036	11.83	105.76
2037	11.89	107.70
2038	11.95	109.62
2039	12.01	111.53
2040	12.07	113.41
2041	12.13	115.28
2042	12.19	117.13
2043	12.25	118.96
2044	12.31	120.77
2045	12.36	122.56
2046	12.42	124.33
2047	12.47	126.09
2048	12.53	127.83
2049	12.58	129.55
2050	12.64	131.25



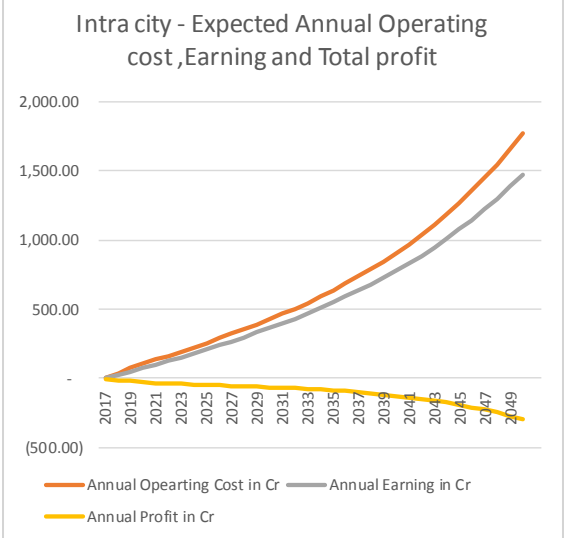
33. Expected Operating cost City and Intercity

Year	Opearting cost - Intra City	Operating cost - Inter City
2017	97592	520618
2018	1056717	5317263
2019	1959049	9030145
2020	2823614	11967563
2021	3667033	15256590
2022	4501352	18347581
2023	5335751	21277494
2024	6177571	24439759
2025	7032946	27574205
2026	7907217	30851386
2027	8805218	34164613
2028	9731472	37528634
2029	10690335	40957799
2030	11686110	44466368
2031	12723134	48068777
2032	13805858	51779870
2033	14938906	55615118
2034	16127141	59590831
2035	17375723	63724362
2036	18690160	68034314
2037	20076374	72540756
2038	21540754	77265447
2039	23090225	82232074
2040	24732312	87466512
2041	26475214	92997097
2042	28327884	98854937
2043	30300115	105074233
2044	32402634	111692652
2045	34647209	118751725
2046	37046762	126297707
2047	39615495	134381386
2048	42369033	143058715
2049	45324578	152391586
2050	48501081	162448502



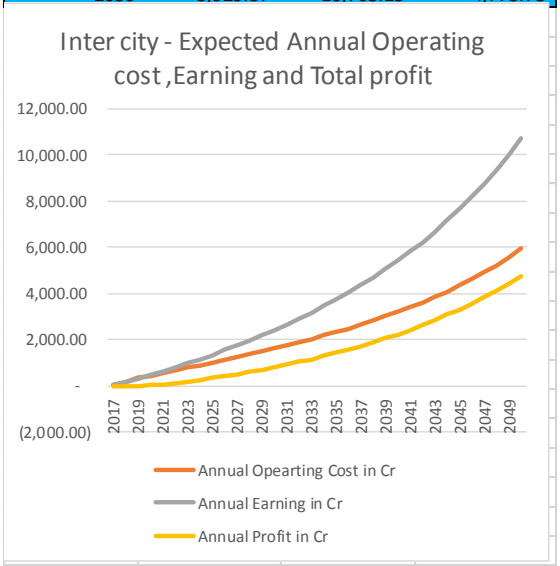
34. Intra city - Expected Annual Operating cost, Earning and Total profit

Year	Annual Opearting Cost in Cr	Annual Earning in Cr	Annual Profit in Cr
2017	3.56	2.15	-1.41
2018	38.57	25.97	-12.60
2019	71.51	50.27	-21.23
2020	103.06	75.09	-27.97
2021	133.85	100.47	-33.38
2022	164.30	126.45	-37.85
2023	194.75	153.09	-41.67
2024	225.48	180.43	-45.05
2025	256.70	208.53	-48.18
2026	288.61	237.44	-51.17
2027	321.39	267.25	-54.15
2028	355.20	298.00	-57.20
2029	390.20	329.79	-60.41
2030	426.54	362.69	-63.86
2031	464.39	396.79	-67.61
2032	503.91	432.19	-71.73
2033	545.27	468.99	-76.28
2034	588.64	507.31	-81.33
2035	634.21	547.27	-86.94
2036	682.19	589.01	-93.18
2037	732.79	632.67	-100.11
2038	786.24	678.42	-107.81
2039	842.79	726.43	-116.36
2040	902.73	776.90	-125.83
2041	966.35	830.02	-136.33
2042	1,033.97	886.03	-147.94
2043	1,105.95	945.18	-160.77
2044	1,182.70	1,007.74	-174.95
2045	1,264.62	1,074.02	-190.61
2046	1,352.21	1,144.32	-207.88
2047	1,445.97	1,219.03	-226.94
2048	1,546.47	1,298.52	-247.95
2049	1,654.35	1,383.22	-271.12
2050	1,770.29	1,473.62	-296.67



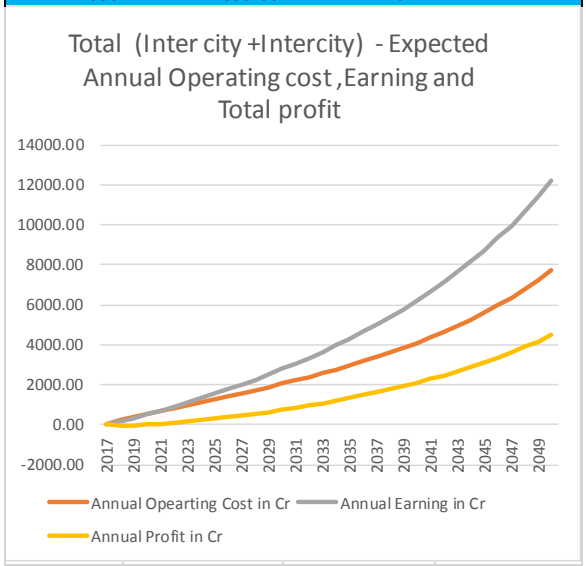
35. Intercity - Expected Annual Operating cost, Earning and Total profit

Year	Annual Opearting Cost in Cr	Annual Earning in Cr	Annual Profit in Cr
2017	19.00	11.98	-7.03
2018	194.08	152.79	(41.29)
2019	329.60	300.90	(28.70)
2020	436.82	456.22	19.40
2021	556.87	618.70	61.84
2022	669.69	788.36	118.67
2023	776.63	965.24	188.61
2024	892.05	1,149.44	257.39
2025	1,006.46	1,341.13	334.68
2026	1,126.08	1,540.52	414.44
2027	1,247.01	1,747.87	500.86
2028	1,369.80	1,963.52	593.72
2029	1,494.96	2,187.86	692.90
2030	1,623.02	2,421.36	798.34
2031	1,754.51	2,664.57	910.06
2032	1,889.97	2,918.11	1,028.14
2033	2,029.95	3,182.68	1,152.73
2034	2,175.07	3,459.10	1,284.03
2035	2,325.94	3,748.28	1,422.34
2036	2,483.25	4,051.24	1,567.99
2037	2,647.74	4,369.13	1,721.39
2038	2,820.19	4,703.24	1,883.05
2039	3,001.47	5,055.00	2,053.53
2040	3,192.53	5,426.02	2,233.49
2041	3,394.39	5,818.06	2,423.67
2042	3,608.21	6,233.11	2,624.91
2043	3,835.21	6,673.37	2,838.16
2044	4,076.78	7,141.28	3,064.50
2045	4,334.44	7,639.53	3,305.10
2046	4,609.87	8,171.14	3,561.27
2047	4,904.92	8,739.42	3,834.50
2048	5,221.64	9,348.06	4,126.41
2049	5,562.29	10,001.13	4,438.83
2050	5,929.37	10,703.15	4,773.78



36. Total (Inter+Inter)-Expected Annual Operating cost, Earning and Total profit

Year	Annual Opearting Cost in Cr	Annual Earning in Cr	Annual Profit in Cr
2017	22.56	14.13	-8.43
2018	232.65	178.76	-53.89
2019	401.11	351.17	-49.94
2020	539.88	531.31	-8.57
2021	690.71	719.17	28.46
2022	833.99	914.81	80.82
2023	971.38	1118.33	146.94
2024	1117.53	1329.87	212.34
2025	1263.16	1549.66	286.50
2026	1414.69	1777.96	363.27
2027	1568.40	2015.12	446.72
2028	1724.99	2261.52	536.53
2029	1885.16	2517.65	632.49
2030	2049.57	2784.05	734.49
2031	2218.90	3061.36	842.45
2032	2393.88	3350.29	956.41
2033	2575.22	3651.67	1076.45
2034	2763.71	3966.41	1202.70
2035	2960.15	4295.55	1335.39
2036	3165.44	4640.25	1474.80
2037	3380.53	5001.80	1621.28
2038	3606.43	5381.66	1775.24
2039	3844.26	5781.44	1937.17
2040	4095.26	6202.91	2107.66
2041	4360.74	6648.08	2287.34
2042	4642.17	7119.15	2476.97
2043	4941.16	7618.56	2677.39
2044	5259.48	8149.02	2889.54
2045	5599.06	8713.55	3114.49
2046	5962.07	9315.46	3353.39
2047	6350.89	9958.45	3607.56
2048	6768.11	10646.57	3878.46
2049	7216.64	11384.35	4167.71
2050	7699.66	12176.77	4477.11



37. Profit before taxes after Infrastructure development and Fleet Upgradation cost

Year	Profit (before taxes) for buses	Profit (before taxes) for trucks	Total profit before taxes for JKSRTC
2017	-8.46	-32.25	-40.71
2018	-278.57	-19.54	-298.11
2019	-216.14	-11.78	-227.92
2020	-138.39	-5.49	-143.88
2021	-103.89	-0.43	-104.32
2022	-37.96	3.63	-34.33
2023	39.11	6.91	46.02
2024	102.63	9.63	112.26
2025	167.04	11.82	178.86
2026	257.99	13.52	271.51
2027	205.16	14.93	220.08
2028	334.89	16.06	350.94
2029	454.69	-16.11	438.58
2030	556.41	-6.39	550.03
2031	673.31	-0.95	672.36
2032	794.11	3.31	797.42
2033	912.66	6.90	919.56
2034	1026.28	9.62	1035.91
2035	1171.93	11.68	1183.61
2036	1172.35	13.57	1185.92
2037	1355.88	15.11	1370.99
2038	1530.61	16.14	1546.75
2039	1688.98	17.17	1706.15
2040	1864.81	17.85	1882.66
2041	2047.45	-14.68	2032.77
2042	2231.37	-5.25	2226.11
2043	2414.52	-0.04	2414.48
2044	2634.57	4.20	2638.77
2045	2715.00	7.61	2722.61
2046	2959.44	10.20	2969.64
2047	3213.36	12.15	3225.51
2048	3469.28	13.94	3483.22
2049	3751.38	15.40	3766.78
2050	4050.02	16.37	4,066.39