

ROADMAP FOR ROLLING OUT CITY BUS SERVICES IN JAMMU METROPOLITAN AREA



BY

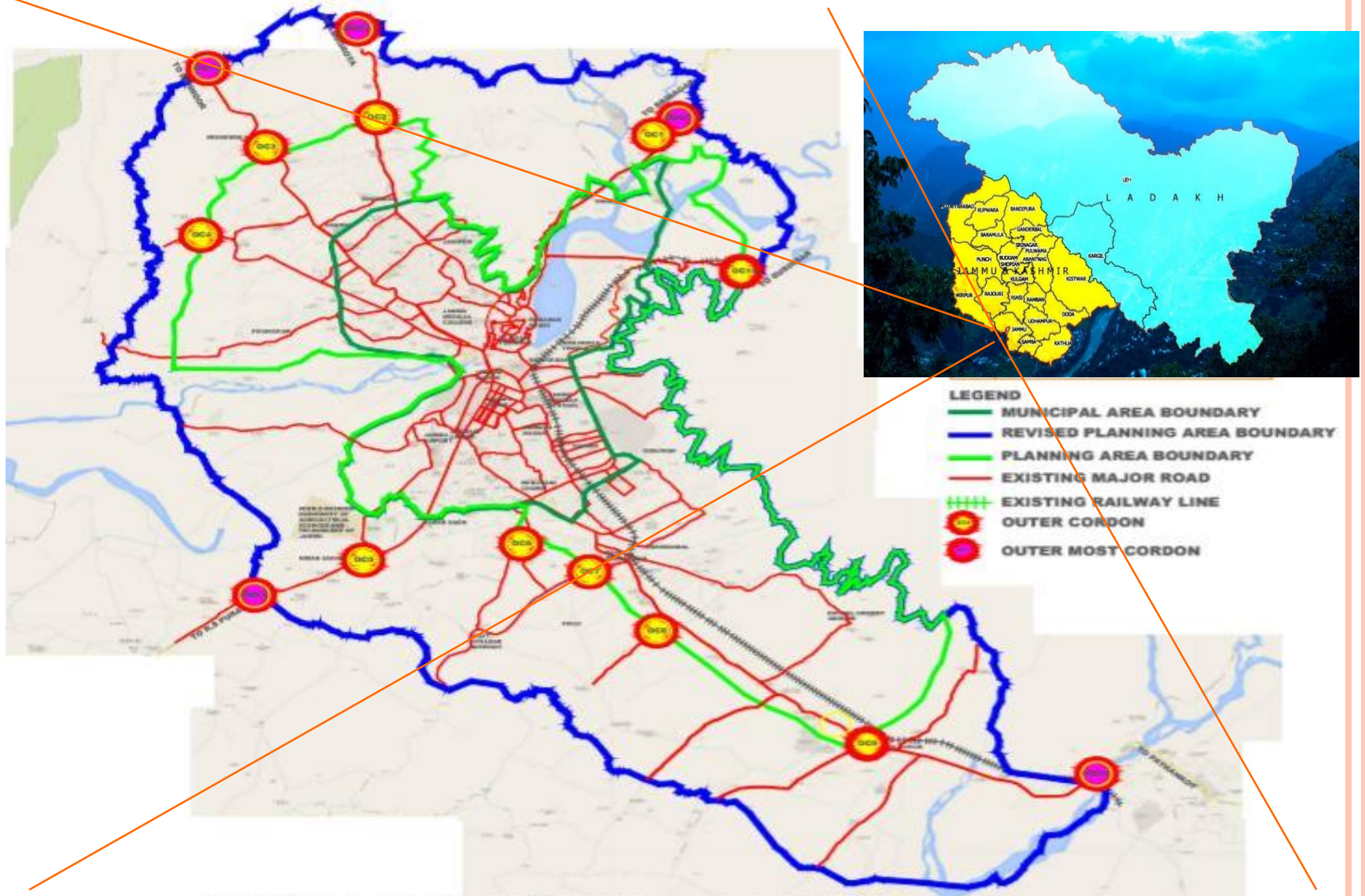
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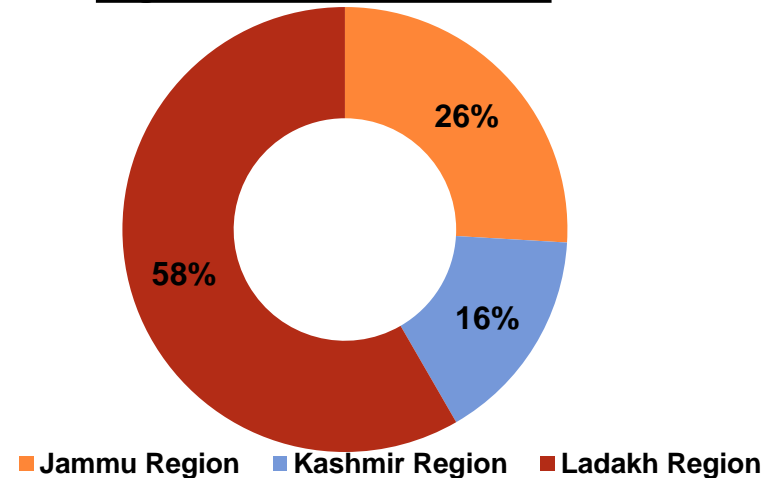
JAMMU METROPOLITAN AREA



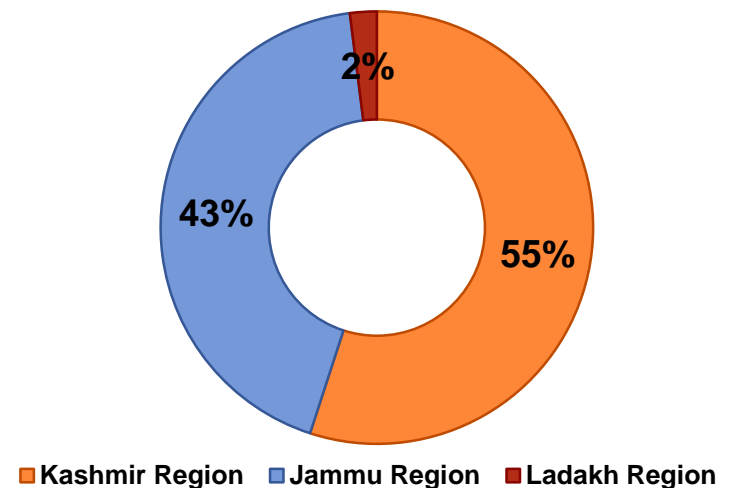
URBAN PROFILE OF JAMMU & KASHMIR

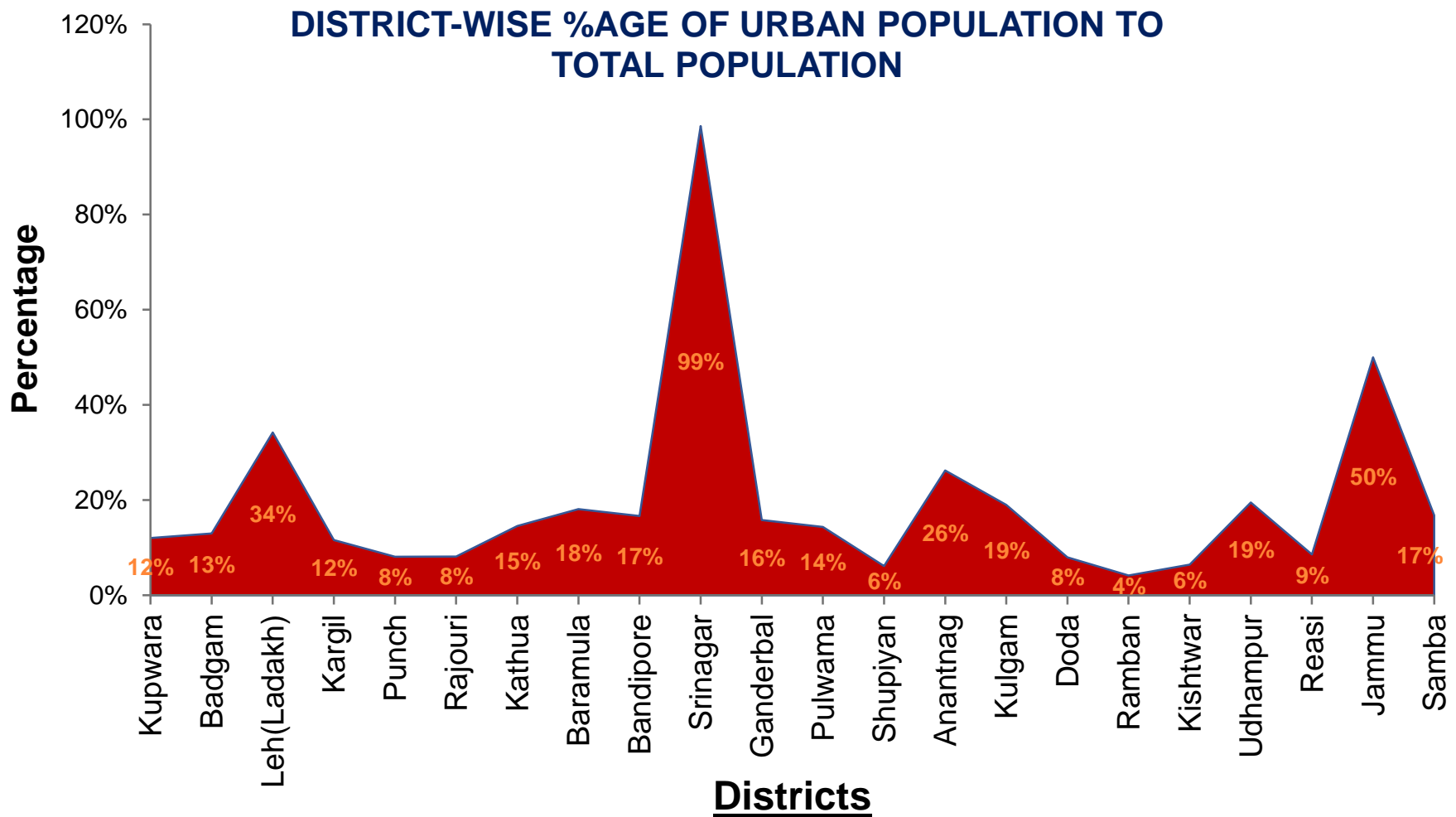
- Population of 12.5 Million (Census – 2011)
- Urban Population of 3.43 Million (27%)
- Increase in Urban Population by 36.42% in last decade
- Annual Growth Rate of Urban Population – 3.6%
- Urban Population projected around 6.0 Million by 2030 and 10.0 Million by 2050

Region-wise Area Distribution



Region Wise Population Distribution





- District level pattern of urbanisation in J&K is highly skewed towards capital cities of Srinagar and Jammu.
- Srinagar constitutes 36% of the total urban population of the State, Jammu with 22% is the second largest city of the State.

APPROACH & METHODOLOGY

- Identification and appraisal of data to arrive at major problem areas, its adequacy and degree of reliability.
- Juxtaposition of the data related to demand for public transport from Master Plan and CMP with the existing supply of conventional buses.
- Review of existing legal framework, institutional set-up and operational mechanisms to identify the gaps and underline the need and scope for their improvement.
- Analysis and synthesis of data using GPS and statistical tools.
- Plan and strategize the comprehensive city bus service.
- Suggest an institutional set-up for the implementation of city bus services in time-bound manner.



DATA SOURCES

- Jammu Master Plan – 2032.
- Comprehensive Mobility Plan – 2014.
- Census Data – 2011.
- Traffic/Transport Studies.
- Transport Department/Regional Transport Office.
- Development Authorities.
- Town Planning Organization.
- Other Policy Documents.



OBJECTIVES OF THE STUDY

- To plan a robust, reliable, safe and convenient city bus service for Jammu – Winter Capital of J&K.
- To strategize the implementation of the shift from individual transport modes to the public transport by improving its image, visibility and reliability through ITS-enabled high capacity bus system.
- To improve and upgrade the PT system through efficient operations planning, fleet renewal/ acquisition bus technology, infrastructure, human resource, capacity development, institutional and organizational structuring.



SCOPE OF THE STUDY

The scope of study is confined to the Jammu Metropolitan Area.

The broad scope of work for the study will cover the following major areas:

- Study the available reports/plans on traffic and transport, and collection of relevant data from relevant sources.
- Analysis and interpretation of the data to understand the traffic & travel characteristics.
- Study of public transport system.



SCOPE OF THE STUDY (cont...)

- Appreciate city's travel demand and its travel characteristics for route network planning, fleet augmentation, scheduling, manpower acquisition, organizational structuring and capacity development.
- Understand travel demand with and patterns with emphasis on the public transport demand.
- Understand spatial characteristics which inter-alia includes the residential and other land uses.



SCOPE OF THE STUDY (cont...)

- Public transport route network planning.
- SWOT analysis of the existing Public Transport System vis-à-vis the performance characteristics.
- Work out preliminary cost estimates of the proposed city bus service, proposed projects and their phasing and an implementation schedule.



EXISTING PUBLIC TRANSPORT SYSTEM IN WINTER CAPITAL

- About 2200 mini buses on roads.
- Mainly operated by single owner private operators.
- Route Permits are awarded by RTO.
- Operations managed and controlled by bus operator unions.
- Highly Unregulated (Routes and Schedules not planned scientifically) resulting in traffic snarls.
- Lopsided distribution of public transport services;
- Very limited bus infrastructure in terms of bus stops and terminals/depots. Buses stop anywhere when signaled by passenger - requires up gradation.



EXISTING PUBLIC TRANSPORT SYSTEM IN WINTER CAPITAL

- Conventional bus technology.
- Over-aged and obsolete fleet.
- Overloading, delays etc. resulting in passengers inconvenience.
- Lack of skilled and motivated manpower.
- Not user friendly.
- Inefficient and Unreliable.
- Very poor outlook.
- Social tag connected with present PT system as a service for poor and under privileged class.



PUBLIC TRANSPORT SYSTEM – PRE-REQUISITES AND COMPLIANCES

S. No.	PRE-REQUISITES	COMPLIANCES
1.	Access to All	Yes
2.	Fixed Routes	Yes (With Some Deviations)
3.	Fixed and Pre-announced Fare Structure	Yes (With Complaints of Over-Charging)
4.	Fixed Schedules	No

CITY TRANSPORT IN JAMMU

Existing urban transport in J&K can be simply described as:—

“Very poor and conventional without ITS base, highly un-organized with disproportionate fleet of buses/ minibuses, infrequent delayed trips causing higher waiting time and discomfort”



The city has a huge potential to identify and develop a safe, reliable and comfortable public transport system together in the short, medium and long-term perspectives.

CITY TRANSPORT IN JAMMU



ISSUES WITH EXISTING PUBLIC TRANSPORT SYSTEM

- Very poor and conventional without ITS base
- Highly un-organized with disproportionate fleet.
- Infrequent delayed trips causing higher waiting time and discomfort.
- Overlapping routes with number of buses in excess of demand.
- Routes and schedules not planned scientifically to meet the passenger demand of the city.
- Private bus operation has led to lopsided distribution of services
 - Some areas have excess of demand and some are inaccessible by public transport.
- Boarding - alighting takes place on road/junctions - raising the issues of passenger safety.
- Traffic congestion and chaos due to road side idle parking and maintenance activity.

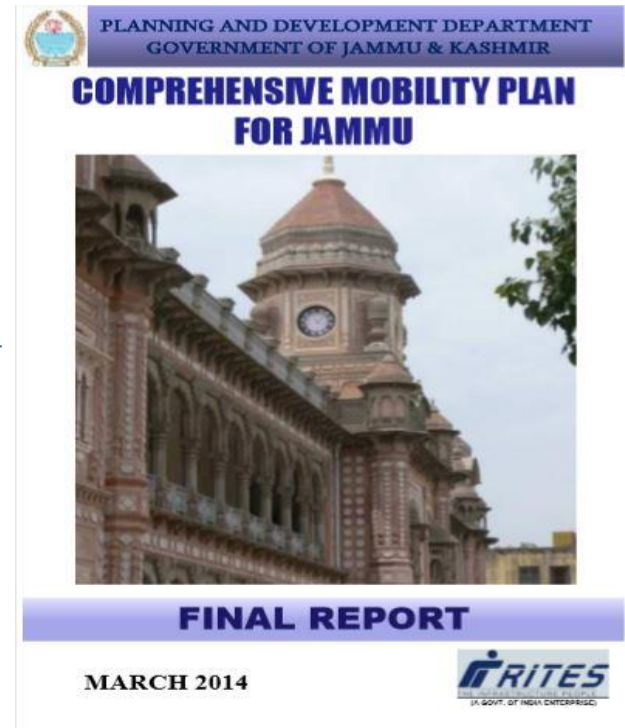
NEED FOR INTRODUCING CITY BUS SERVICES - MASTER PLAN - 2032

- The city including its suburban areas has more than 50% of the total population of the district.
- Spotlight on efficient and reliable public transport as the backbone of urban mobility.
- Aims at **promoting inclusiveness, accessibility, and walkability (not just mobility)**.
- Recognize high capacity bus system as preferred mode of travel which can subsequently be upgraded to dedicated bus operations on some selected corridors.
- Set the target of more than 60% of motorised trips to be catered to by public transport systems with equitable share for all modes.
- Guiding principle is to place “**People before Cars**’ for their mobility on city roads.



NEED FOR INTRODUCING CITY BUS SERVICES - COMPREHENSIVE MOBILITY PLAN

- Seeks to “move people, not vehicles”.
- Vision is to “Provide safe, efficient, and economical means of transportation for improving mobility of people and goods in both city”.
- Envisage a sustainable and inclusive transportation system for the city.
- Ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs within the city.
- Incorporate urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement.



NEED FOR INTRODUCING CITY BUS SERVICES - COMPREHENSIVE MOBILITY PLAN (cont...)

- While population growth rate is 2%, growth in vehicular traffic is 4%.
- Daily intra-city travel demand is projected to reach 16.9 lakhs person trips by 2031 with average Per Capita Trip Rate (PCTR) of 1.32 in the city.
- Underline the need for keeping the share of non-personal transport at 65–75% to achieve the goal of National Urban Transport Policy.
- Strong assertion that on the basis of trip assignment for all motorised modes on BAU scenario for 2031-32, the road based transport systems in the city need to be overhauled and upgraded to high capacity bus systems.

DESIRED OUTCOMES

- Implementation of City Bus Service to serve as the first step towards introducing more advanced means of transportation.
- Provide better & safe transportation to the people of the city and its surrounding areas through ITS-enabled high capacity bus system.
- Reduce journey times and their unpredictability.
- Large savings of travel time and vehicle operating costs and thus release city's economic and social potentials.



DESIRED OUTCOMES (cont...)

- Helping the city in realizing the targets of a successful and efficient multimodal transportation system.
- Improve the image of public transport by planning for better and competitive transport systems.
- Phase out the menace of mini-buses and *sumos* from the city areas.
- Achieve efficiency in urban transport sector.
- Compliances to National and State level policy goals.



APPROACH & METHODOLOGY : FOCUS

- Understanding the existing routing pattern of the bus services.
- Identification of potential bus routes – route network planning – on the basis of spatial travel demand.
- Demand-Supply assessment of bus fleet, and their operational procedures as per potential passenger loads.
- Identification of implementation challenges, and the steps/mechanism for their reprisal.
- Optimization an rationalization of routes for improved operational headway by factoring in spatial trip loads and their calibration w.r.t. commuter choices like travel time, waiting time, cost to the passenger, passenger conveniences etc.

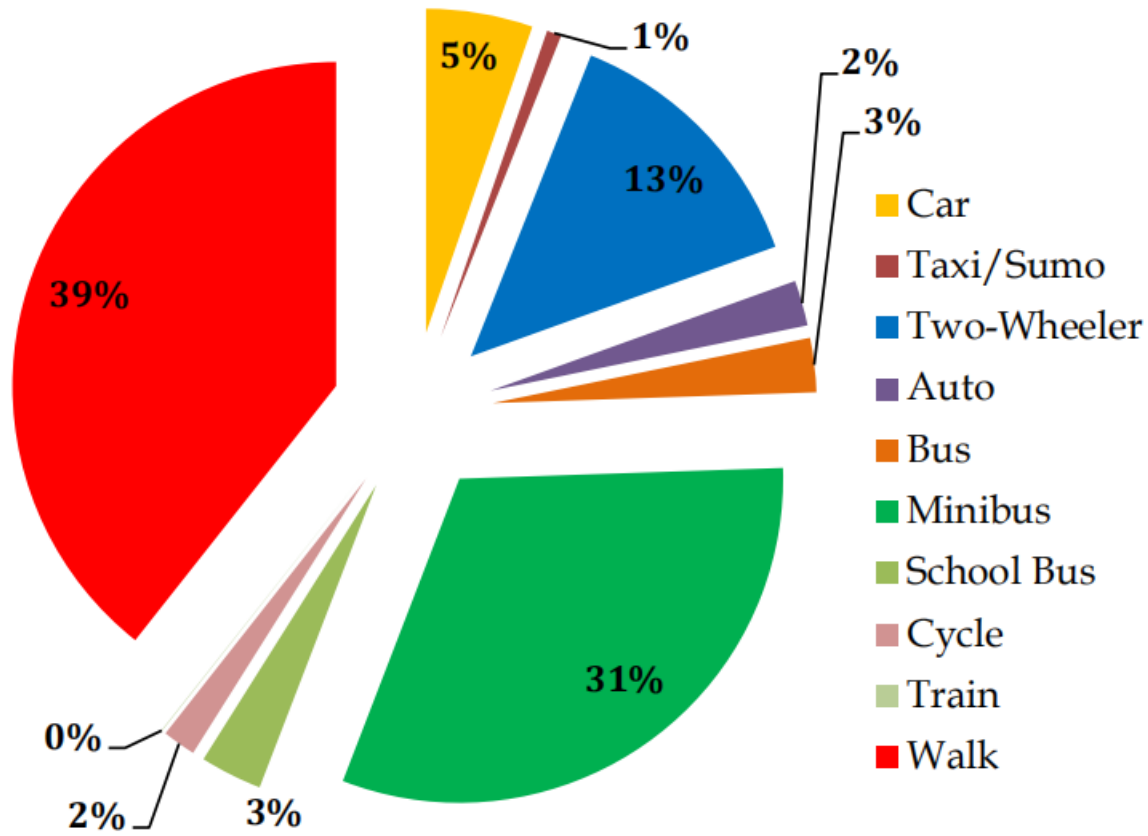


APPROACH & METHODOLOGY : FOCUS (Cont...)

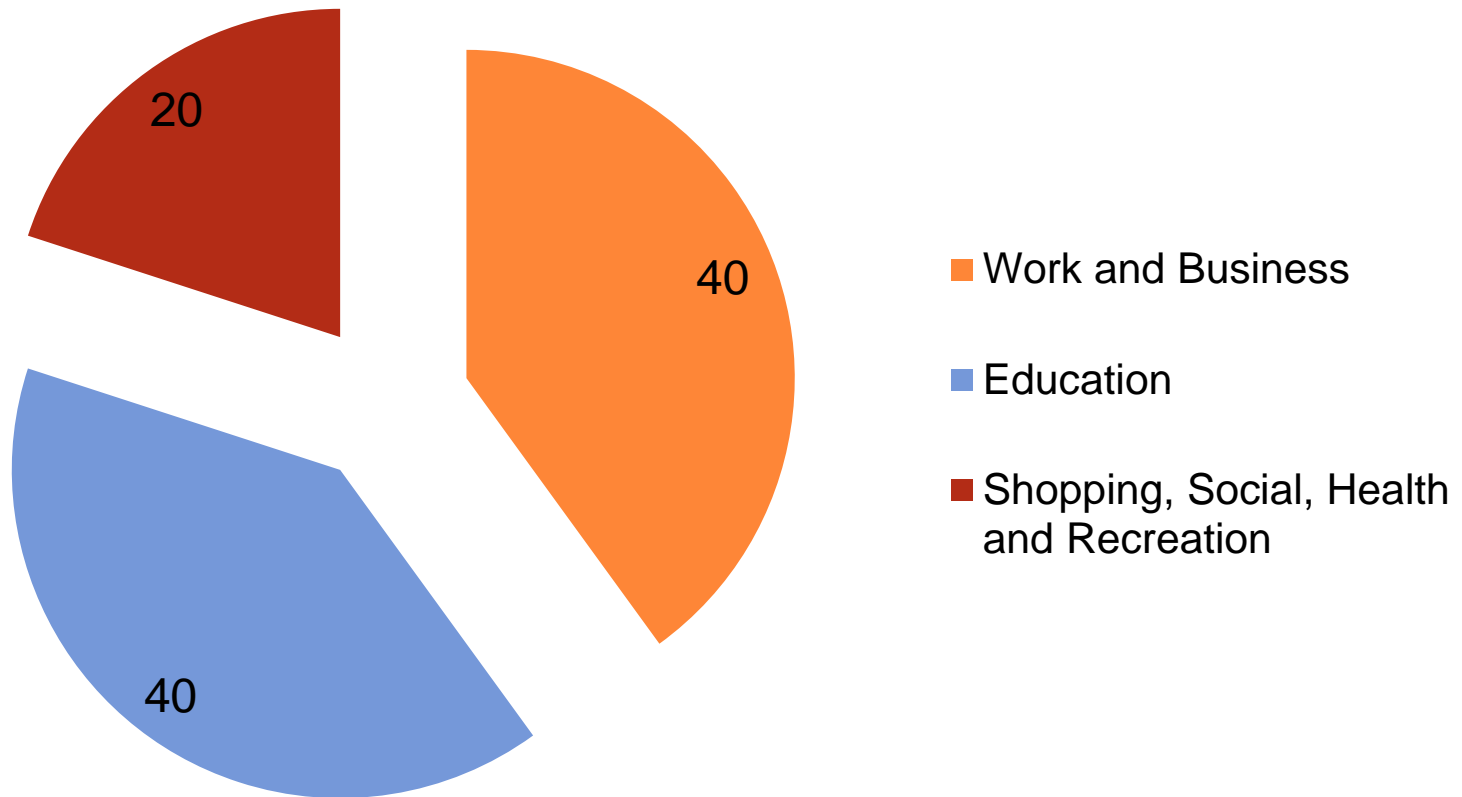
- Assessment of bus fleet – renewal and acquisition – manpower acquisition, identification of implementation challenges, and the steps/mechanism for their redressal.
- Identification of possible funding sources for meeting up the capital and operational costs of the project.
- Passenger pricing, and a structure for fare payment adopted by advanced countries of the world.
- Benefit-Cost estimates of the project—both tangible and intangible.



COMPOSITION OF TRIPS BY MODE OF TRAVEL



PERCENTAGE OF TRIPS BY PURPOSE

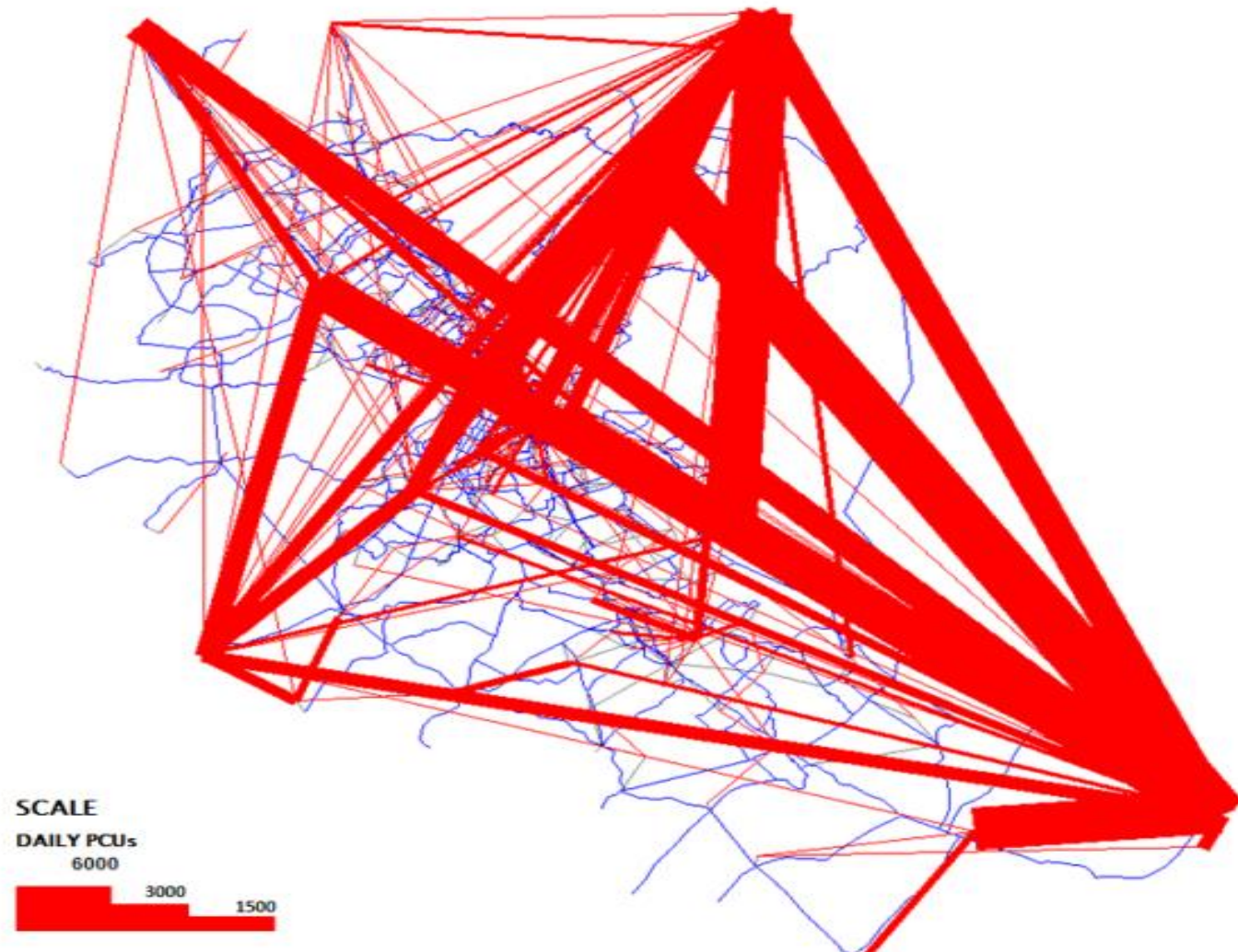


MODAL SHARE

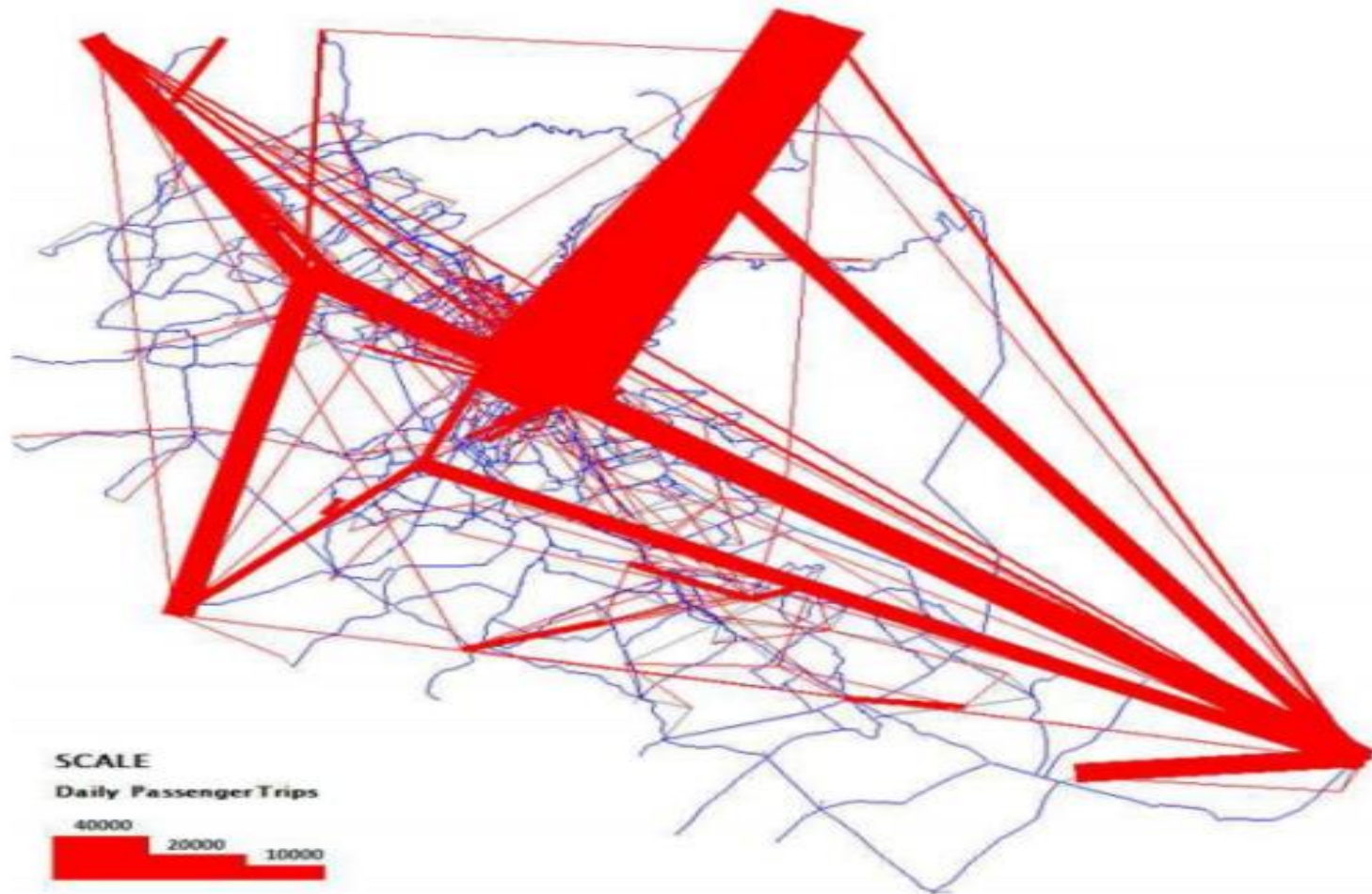
Modal share	Rail based Survey	ISBTs Survey	Airport Survey
Two Wheeler	3.90	2.40	3.20
Car (Personal)	11.70	3.20	29.60
Auto	10.60	2.20	41.70
Taxi /Sumo	1.40	1.40	14.30
Bus/Mini-bus	69.10	57.80	10.50
Walk	3.10	32.90	0.70
Other	0.20	0.10	-
Total	100	100	100



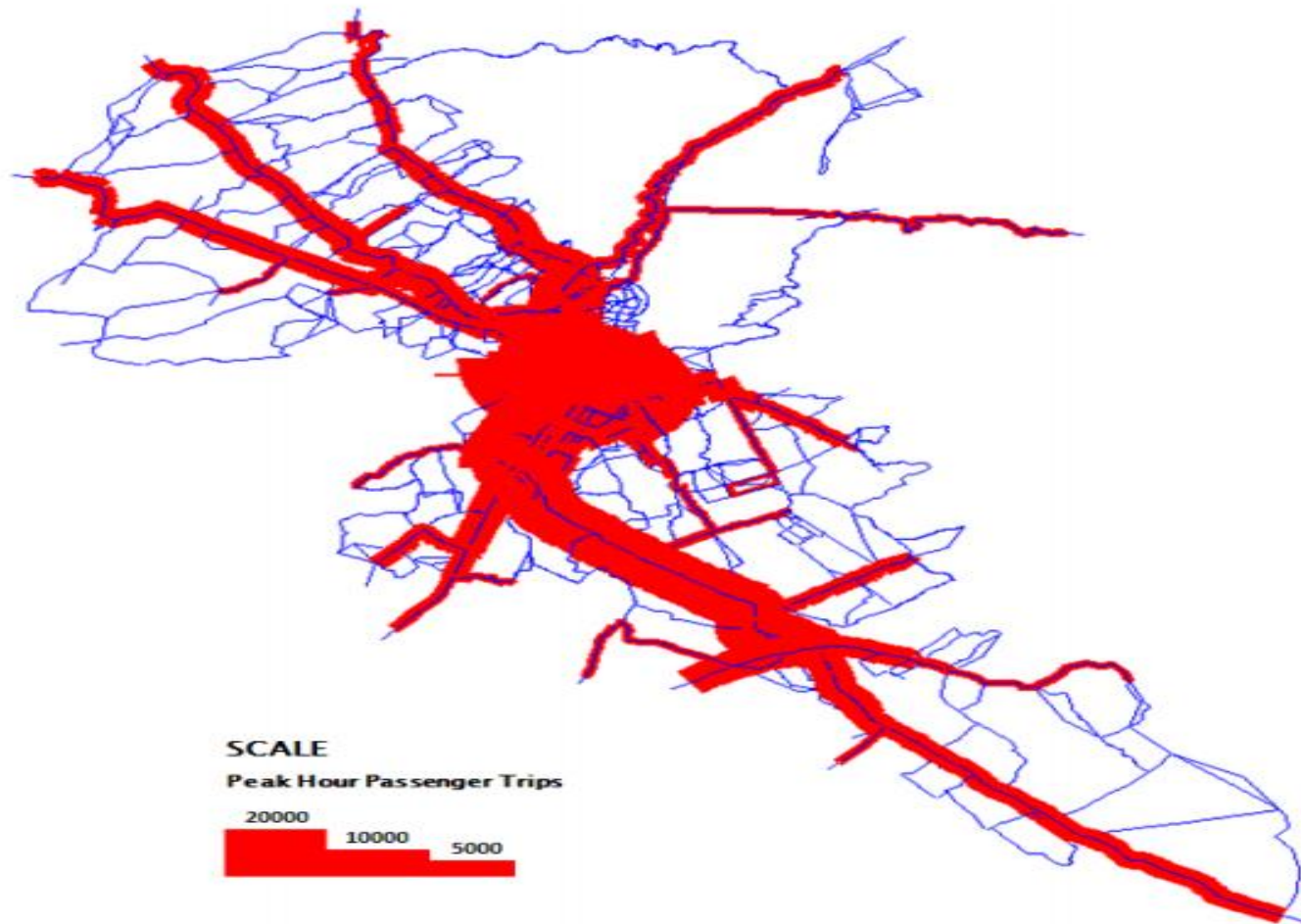
DESIRE LINE CHART FOR PT PASSENGER TRIPS BY 2031 IN BAU SCENARIO



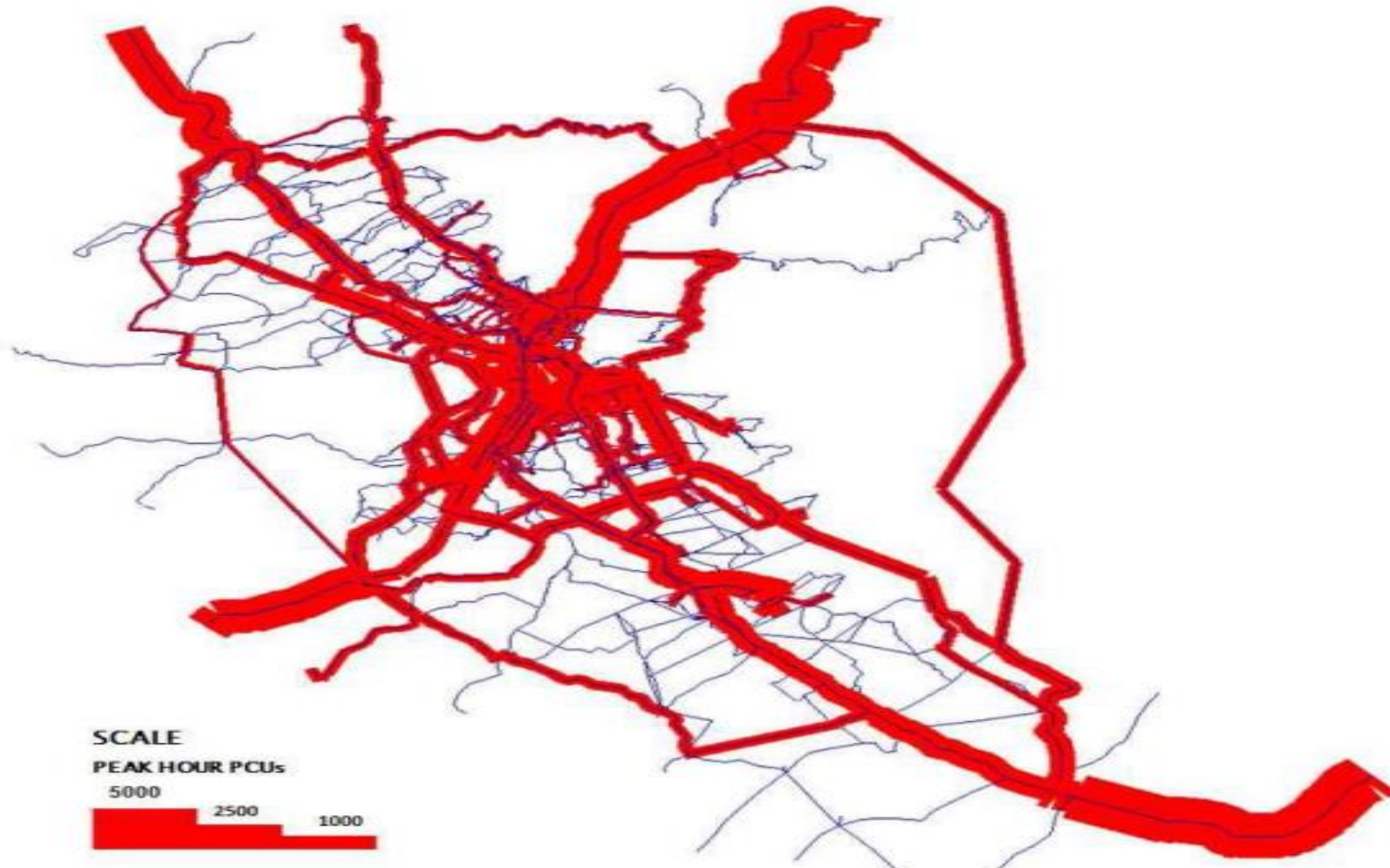
DESIRE LINE CHART FOR OTHER THAN PT MODES BY 2031 IN BAU SCENARIO



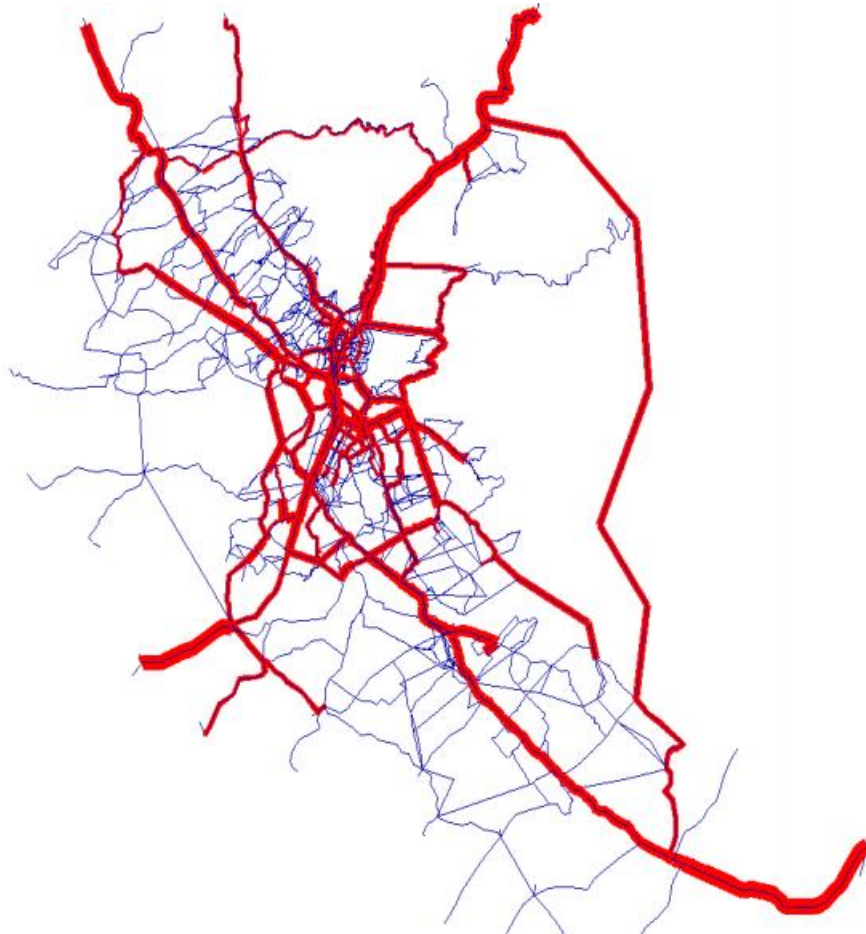
EXPECTED PEAK HOUR PT PASSENGERS ON ROAD NETWORK BY 2031 IN BAU SCENARIO



EXPECTED PEAK HOUR TRAFFIC VOLUMES (IN PCU"s) ON ROAD NETWORK IN 2031 IN BAU SCENARIO



EXPECTED PH TRAFFIC VOLUMES IN PCUs ON TRANSPORT NETWORK BY 2031



SURVEY DATA AND ANALYSIS

- 80% passengers willing to pay more than existing fares provided a better quality public transport service is made available.
- 98% passengers recorded their willingness to shift to food quality public transport.
- 31% willing to shift to public transport if the saving in travel time is up to 10 minutes compared to other modes.
- 69% willing to shift to new public transport if the time saving is about 20 minutes or more compared to other modes.



OVERALL IMPACT OF VARIOUS VARIABLES ON ROUTE NETWORK PLAN

Impact Factor

Level of Importance Assigned

Travel Time

High

Travel Cost

Low

Last Mile Connectivity

Medium

Interchange Integration

Medium

Density norms

Low

Trip length

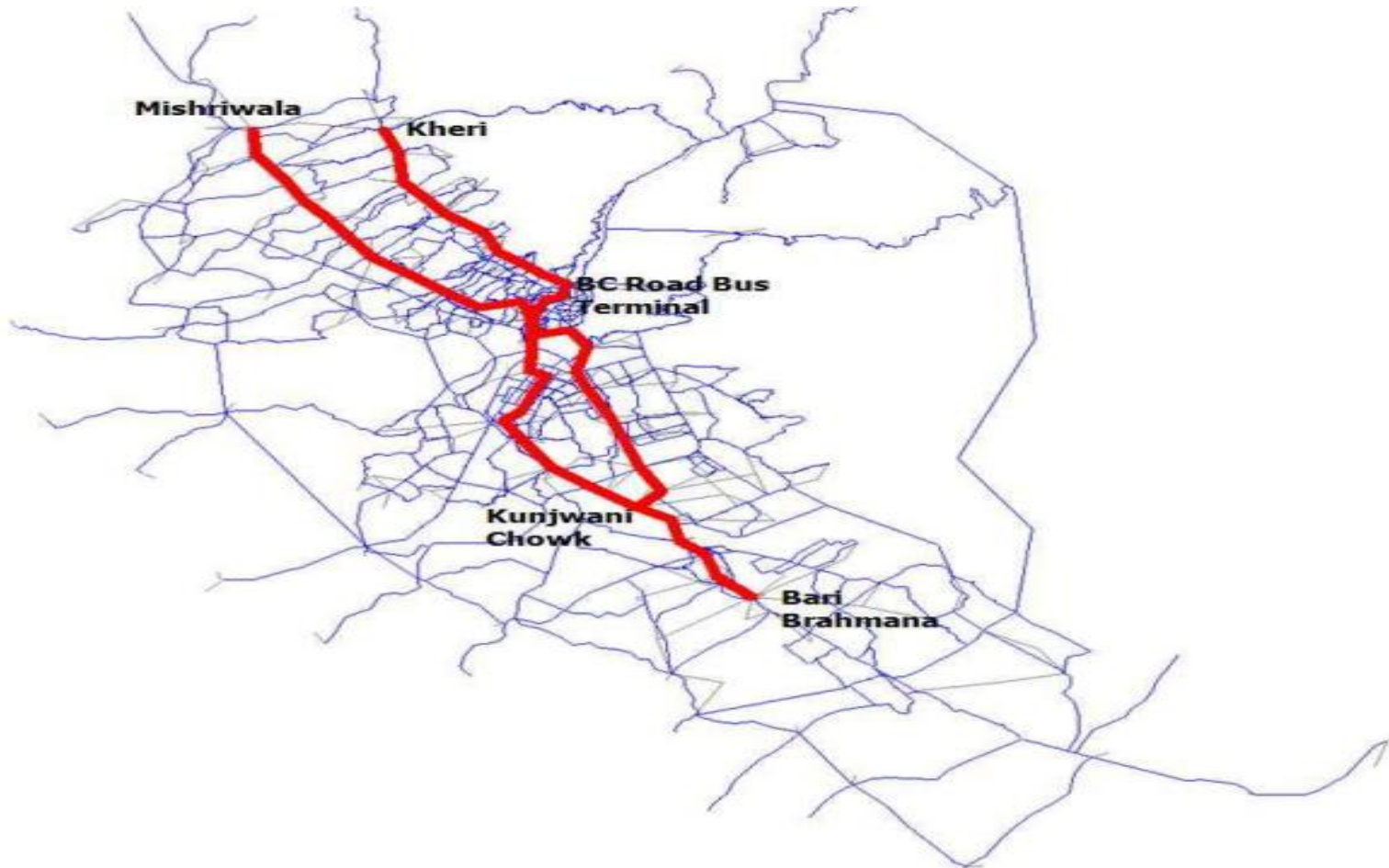
Medium

Trip Load

High



ALIGNMENT OF MASS RAPID TRANSIT CORRIDORS (AS PER CMP-2014)



OVERLOADED CORRIDORS

- National Highway.
- B. C. Road.
- Akhnoor Road.
- Ambgrota Road.
- Nagrota Bypass.
- Talab Tillo Road.
- University Road.
- Green Belt Road.
- Shalamar Road.
- R. S. Pura Road.

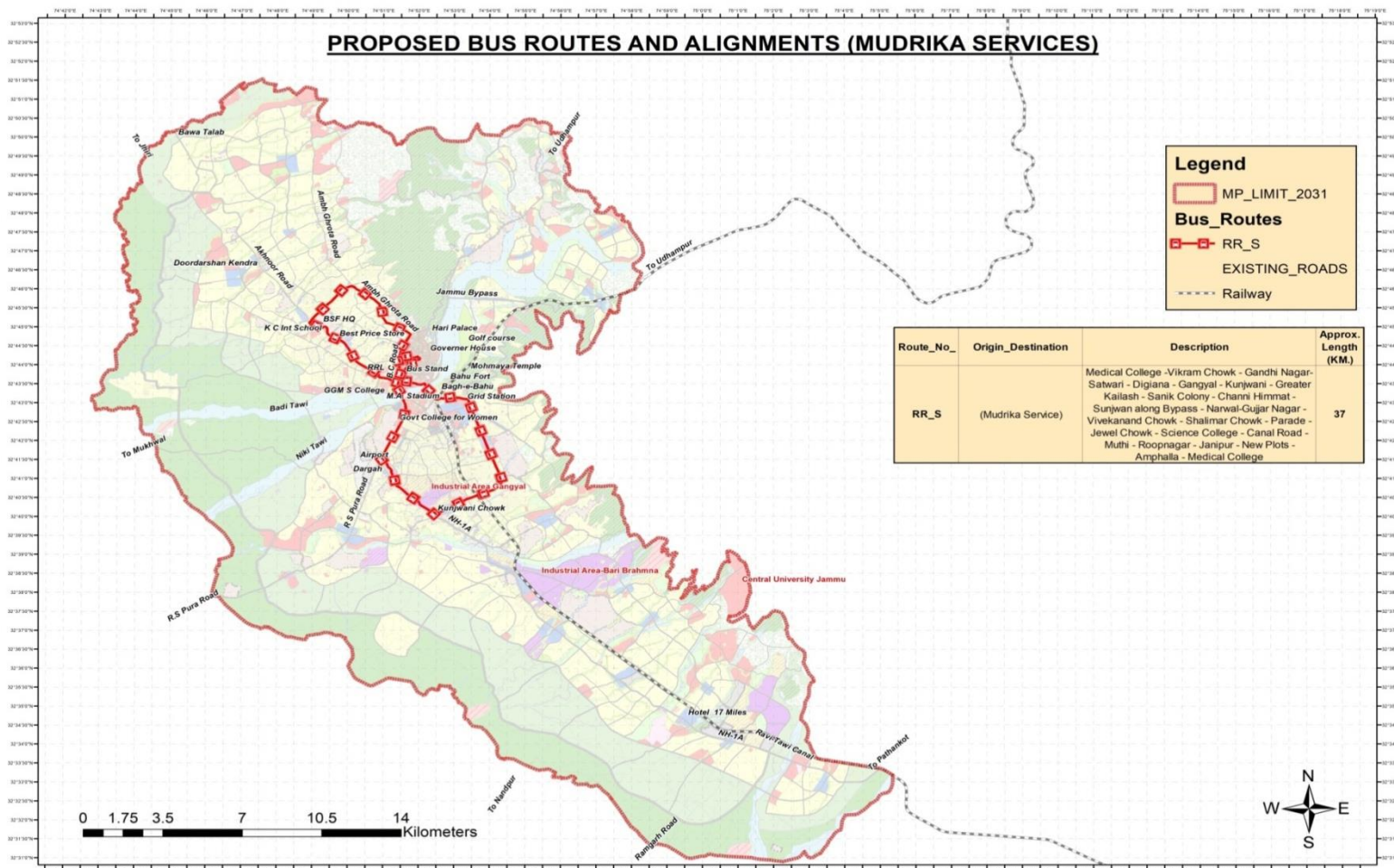


PROPOSED BUS ROUTE AND ALIGNMENTS (ASHTAM ROUTES)

Sl. No.	Route No.	Origin - Destination	Description of Route Alignment
01	R-8 [+ and -] (clock-wise and anti-clock wise)	(Ashtam Bus Service)	Medical College – Jewel Chowk – Science College– Canal Road – Muthi – Roop Nagar – Janipur – New Plots – Amphalla – Medical College – ISBT - Vikram Chowk – Gandhi Nagar – Satwari – Digyana – Gangyal – Kunjwani –Greater Kailash -Sainik Colony – Channi Himmat – Sunjwan along Bypass – Narwal – Gujjar Nagar – Vivekanand Chowk – Shalimar Chowk – Parade – Medical College. (and Reverse Route)



PROPOSED BUS ROUTE AND ALIGNMENTS (ASHTAM ROUTES)

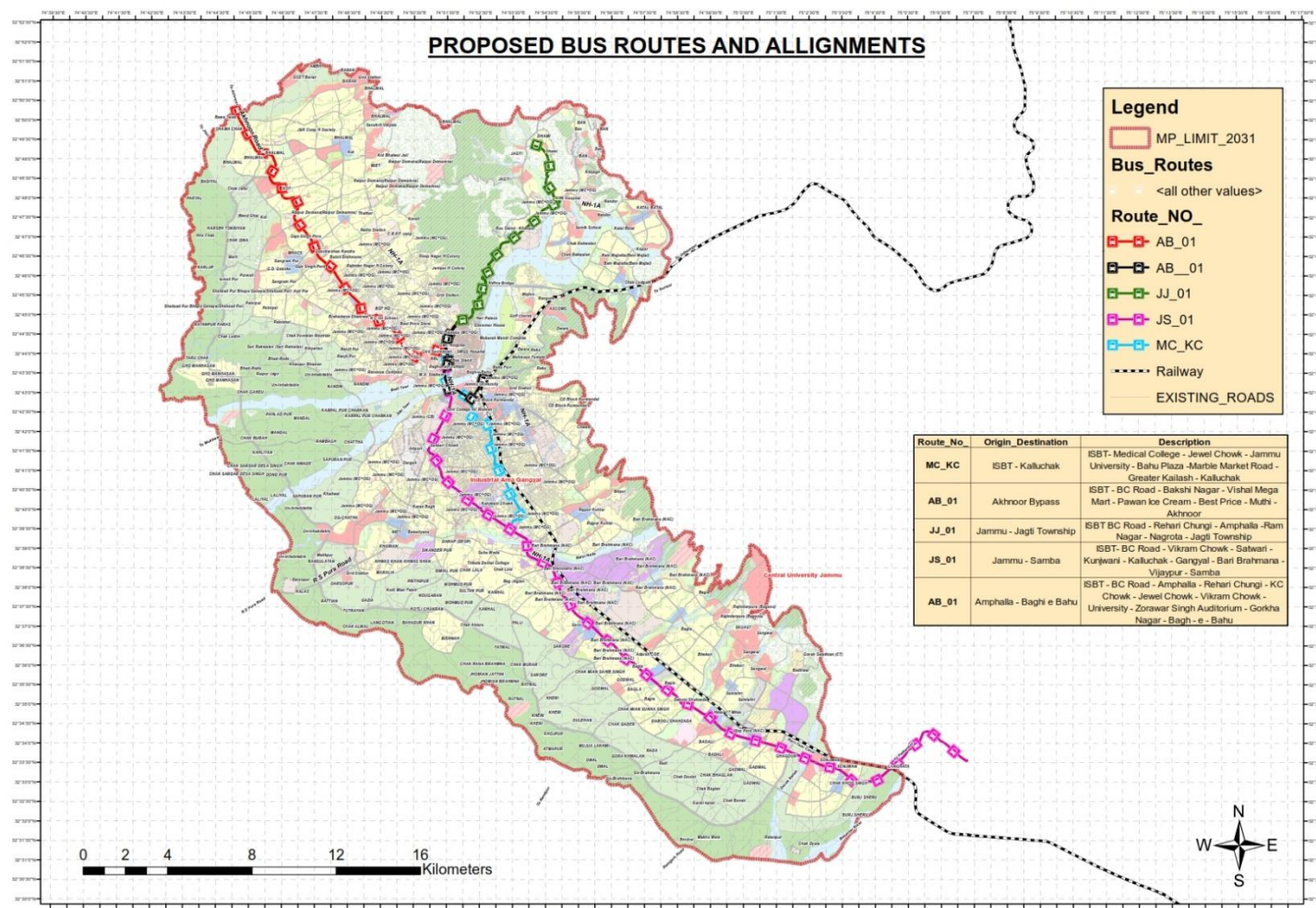


PROPOSED BUS ROUTES AND ALIGNMENTS (LINEAR ROUTES)


Sl. No.	Route No.	Origin - Destination	Description of Route Alignment
01	MC - KC	ISBT - Kalu Chak	ISBT – Medical College – Jewel Chowk – Jammu University – Bahu Plaza – Marble Market Road – Greater Kailash – Kalu Chak
02	AB_01	ISBT - Akhnoor	ISBT – B.C. Road – Bakshi Nagar – Vishal Mega Mart – Pawan Ice Cream – Best Price – Muthi-- Akhnoor
03	JS_01	ISBT - Samba	ISBT – B. C. Road – Vikram Chowk – Satwari – Kunjwani – Kalu Chak – Gangyal – Bari Brahmana – Vijaypur – Samba
04	AB_01	ISBT – Bagh-e-Bahu	ISBT – B. C. Road –Jewel Chowk – Vikram Chowk –University – Zorawar Singh Auditorium – Gorkha Nagar – Bagh-e--Bahu
05	JJ_01	ISBT – Jagti Township	ISBT – B. C. Road – Ram Nagar – Nagrota – Jagti Township



PROPOSED BUS ROUTES AND ALIGNMENTS (LINEAR ROUTES)



Buses

- 20 e-Buses already received under FAME-I.
 - 50 e-Buses already sanctioned under FAME-II.
 - 50 Additional buses (including those procured under JNNURM) to be deployed by J&K State Road Transport Corporation for the purpose.
 - Proposal of procurement/hiring of 50 more buses every year for next five years to be submitted to the Finance Department.
 - Further/future requirement to be reviewed after five years.
- 

Bus Depot/Terminal/Stops

- New Inter-State Bus Terminal has sufficient space and, as such, will act as Inter-city Bus Terminal also.
- Other existing bus terminals at Jammu Railway Station, Warehouse, Transport Nagar, Nagrota, Purmandal Chowk and Akhnoor will also be used to run the operations.
- These terminals will also act as inter-modal interchange points with existing transport system as well as proposed Mass Rapid Transit System.
- Bus Queue Shelters be created at all stops.



Operational Model

- Running of buses already procured through drivers and conductors (declared surplus after closure of many institutions in new Union Territory).
- New Buses to be run of Gross Cost Contract (GCC) basis.
- Exploring possibility of running buses in PPP Mode in future.



Existing Mini Bus Infrastructure

- All outdated mini-buses to be retired with forfeiture of permit.
- Healthy mini-buses on the proposed routes will be given fresh permits to provide last mile connectivity to the city bus commuters.
- On other routes, existing mini-buses will be allowed to continue till the life of vehicle after which these will be retired from road running.



Institutional Framework

- **Section 18 of the Jammu and Kashmir Metropolitan Region Development Authorities Act, 2018, reads as under:**

“18. City Bus service within Metropolitan Region.— The Government shall, in public interest and pursuant to a proposal regarding a scheme published in accordance with the provisions of sub-section (1) of section 99 of the Motor Vehicles Act, 1988 (59 of 1988) and published under sub-section (3) of section 100 of the said Act for the purpose of providing an efficient, adequate, economical and properly coordinated road transport service, permit the Authority to operate a city bus service within the Metropolitan Region.”

- **Jammu Metropolitan Region Development Authority, which also has a mandate to prepare Mobility Management Plan will operate city bus service in the Jammu Metropolitan Area.**



Financials/Viability

- Capital cost for purchase of buses to be provided by the Finance Department (app. 20 crore every year).
- Operational losses (of both self-operated as well as on GCC contract) will be met either by Metropolitan Region Development Authority or the State Government (app. 20 crore every year).
- Proposal for Creation of Urban Transport Fund to fund the above deficit is also in pipeline. The Fund will be sourced by levying special cess/tax on diesel/petrol and running of buses/mini-buses/para-transit in the city.



Thank
you

