

SERVICE LEVEL IMPROVEMENT PLAN

FINAL



URBAN TRANSPORT

(Non-Motorized, Ferries, Waterways)

THIRUVANANTHAPURAM MUNICIPAL CORPORATION

What is baseline information available for the improvement of city transportation? Whether City has prepared City Mobility Plan? If yes then, Does CMP includes NMT, Ferries, waterways?

The baseline information's available for transport system of the city are from Comprehensive Mobility Plan for Thiruvananthapuram Final draft prepared by National Transportation Planning and Research Centre (NATPAC), Pedestrian Friendly Urban Transport for Thiruvananthapuram study report prepared by NATPAC, Census 2011.

SERVICE LEVEL GAPS ASSESSMENT

Under this section, assess the existing situation and service levels gaps for Urban Transport including Non-motorized transport (NMT), Ferries and Waterways.(AMRUT Guidelines; para 3 & 6).Service Level gaps will be analyzed as per indicators prescribed in Service Level Benchmarks (SLBs) for urban transport of MoUD, Gol.

1.1 Service Level Status

There are four Levels of Services (LOS) which will be calculated considering various indicators as LOS1, LOS2, LOS3 and LOS4 correspond to adequacy and quality of city's available transportation services. The summary of the service level gap and performance should be presented as per illustrative Table 1.

Table 1: Service level Benchmark

Sl. No	Benchmark	Levels of service as per SLB, MoUD	Present Service level
1	Availability of public transport	1 (≥ 0.60)	1 (0.61)
2	Available Pedestrian facilities Percentage of City Covered (%) by footpaths	1 (≥ 75)	4 (15)
3	Non Motorised Transport Facilities Percentage of network covered	1 (≥ 50)	4 (<15)
	a) % of network covered	2 (50-25)	4 (<15)

Sl. No	Benchmark	Levels of service as per SLB, MoUD	Present Service level
	b) Encroachment on NMT roads by vehicle parking (%)	1 (≤ 10)	4
	c) NMT parking facilities at interchanges (%)	1 (≥ 75)	4 (0.00)
	Level of usage of Intelligent Transport System(ITS) Facilities	-	-
4	a) Availability of Traffic Surveillance (%)	1 (≥ 75)	3 (27)
	b) Passenger Information System (%)	1 (≥ 75)	4 (4.40)
	c) Global Positioning System (GPS)/ General Pocket Radio Service (GPRS) (%)	1 (≥ 75)	4 (0.00)
5	Parking: Availability of On-street paid public parking spaces (%)	3 (25-50)	4 (20)

(Source - Comprehensive Mobility Plan for Thiruvananthapuram Final draft prepared by NATPAC)

While assessing present service level gaps, please provide information in 500 words responding to the following questions;

- **Does City Mobility Plan have introduced components such as NMT, Ferries, Waterways?**

Yes, City Mobility Plan of the city under preparation which includes NMT, ferries and water ways.

- **Does Comprehensive Mobility Plan prepared have given adequate attention to Non - Motorized transport?**

Yes.

- **Do you think city roads are safe for pedestrians? If no then, which section needs immediate attention?**

No. Pedestrian infrastructure facilities like foot paths, street lighting and pedestrian facilities at intersections and zebra line crossings need immediate attention.

- **What type of NMV infrastructure available in the city?**

- **Lanes reserved for NMV**

No separate lanes reserved for NMV, shares a common way with motorized vehicles.

- **Footpath allocated for both pedestrian and NMV**

For pedestrians only. Infrastructure for NMV not allocated.

- **Area allocated to NMV parking**

At present no parking area is allocated for NMV.

- **Whether parking supply inventory is available for the city including;**

- **Types of on-road and off road parking**

Yes. Paid parking spaces are available in the city and some improvements may be required for the parking spaces. No survey has been conducted for validation of parking capacity. On street parking are available for only auto rickshaws and goods delivery vehicles. There is only minimum space for on street and off street parking for the private vehicles.

- **Parking restrictions (time of day, duration, private etc)**

Yes, partial parking restrictions enforced in the city during peak hours and seasonal restrictions are also there in the city.

- **Whether parking facilities available for bicycles, auto rickshaw, goods delivery.**

For bicycles no separate parking facilities are now available and for auto rickshaw and goods delivery on-road parking facilities are available at some places.

- **Is private sector involved in parking?**

Yes. Private commercial buildings provide its own parking facilities.

- **What is the average Travel Time to Work by Public Transit and Non Motorized Modes?**

The average travel time to work by Public Transport is 20 minutes and by Non Motorized Modes is 45 minutes.

- **What is average Travel Distance to Work by Public Transit and Non Motorized Modes?**

The average Travel Distance to work by Public Transit is 12 kms.

- **Have level of services (LOS) been calculated based on the indicators prescribed in the SLB for urban transport by Ministry of Urban Development?**

Yes.

- **Do you think there is adequate capacity in cities to implement Service Level Benchmarks concept?**

No. Lack of space for implementing Service Level Benchmarks concept.

- **What are the challenges and opportunities associated with current performance level?**

Lack of Pedestrian Infrastructure facilities, Intelligent Transport System (ITS) Facilities, Parking facilities, inadequate design of intersections & improper Roundabouts & lesser width of junctions resulting in traffic conflicts & traffic bottle necks are the challenges associated with current performance level.

The opportunities are construction of multi level parkings, pedestrian walkways/ footpaths etc.

- **Has budget provision for NMT included in the transportation projects in the city?**

No. Only the maintenance of existing footpath is included in the budget.

- **Have specific issues for the city been identified and addressed including issues with the existing traffic, NMT, parking / transport environment?**

Yes, specific issues are encroachments on roads by vehicle parking, lack of authorized parking spaces, lack of pedestrian walkway/ footpaths, narrow roads etc. Relevant projects are proposed under AMRUT on priority basis.

- **What are major challenges facing achieving these service level benchmarks related to urban transport components including NMT?**

Non availability of free space for road widening, which may lead to land acquisition and financial overburden.

- **What is the percentage of Intersections designed under Complete Streets Design standards?**

Zero percentage. Street intersections are not designed as per complete streets design standards due to the scarcity of land.

- **What is the percentage of City footpaths designed with accessibility and urban design norms?**

20% of the major roads within the CBD areas of the city have footpath but not strictly as per the norms. Only 10% of roads have footpath width more than 1.2m on both sides.

- **Whether adopted parking bans/restrictions in CBD and TOD districts?**

Yes, parking bans/restrictions enforced by traffic authorities.

- **Whether City has adopted the concept of parking maximums and zero parking minimums in DCRs for TODs?**

No.

- **Whether Provision of bicycle parking at transit stations and TOD developments?**

No.

- **Bicycle sharing program in a city?**

No.

- **What is the percentage of streets designated as pedestrian and bicycle/NMT only streets?**

Pedestrian/BiCycle track is not available in any of the major streets in Thiruvananthapuram city.

- **Presence of UMTA with legislative, executive and financial commitments. Presence of an NMT program within the UMTA with budgetary commitments?**

No.

1.2 Institutional Set Up

Describe the institutional framework including role and responsibilities in terms; administration and Policy making, planning, Vehicle Registration, public transportation operators including Private operators and overall traffic management.

Role and Responsibilities of all the agencies shall be provided in the illustrative table No. 2

Table 2: Role and responsibility of agencies involved in management of City transport

Sl.No.	Agencies	Responsibilities
1	Regional Transport Authority	Policy making, Registration and Route Permit
2	City Traffic Police	Traffic control and implementing traffic rules
3	KSRTC, KURTC	Operation and management of Public Transport services
4	Private Bus Transport	Operation and management of Private Transport services
5	PWD, NH	Construction and maintenance of major district roads, highways and footpath
6	ULB	Construction and maintenance of corporation roads and footpath
7	Road Fund Board	Construction and maintenance of major district roads and footpath
8	TRIDA	Proposals for new roads, road widening etc
9	National Transportation Planning and Research Centre	Planning, Research and Study Centre for transport facilities.

Please provide information in 200 words responding to the following questions;

- **Who is responsible for management of urban transport in the city?**

Regional Transport Authority and City Traffic Police.

- **Is there enough provisions for enforcement of traffic rules for pedestrian safety on roads?**

No. Lack of infrastructure facilities and police personals.

- **How are you planning for execution of transport related projects for AMRUT, whether, present role and responsibilities lying with these organizations is capable to implement projects under AMRUT?**

Planning for execution of transport related projects are done on priority basis through stake holder consultations and public opinion. Yes, the transport related projects shall be executed through the above mentioned departments and is capable of implementing the projects under AMRUT.

1.3 Status of On-going Projects

Critically examine the existing and ongoing projects for improvement of urban transport as to be filled in illustrative Table No.3

Table 3: Status of Ongoing Projects

Project/Sector	Approved Cost (Rs. lakhs)	Status of projects (till May 13)	Expenditure (Rs. Lakhs)	Scheme
Bus procurement Project	5340.00	completed	5572.00	JnNURM

(Source - KSUDP)

Please provide information in 200 words responding to the following questions;

- **Which are the initiatives taken for implementation of NMT facilities in the city? Please list out initiatives undertaken in different ongoing programs and projects to address these gaps.**

At present there are no initiatives taken for implementation of NMT facilities in the city.

- **Whether convergence with other ongoing Central and State and Local Government Programs/Schemes can be done at this stage?**

No.

- **Whether ongoing scheme and projects has been critically reviewed? Please explain what is the extent of convergence to bridge the gaps?**

No.

1. BRIDGING THE GAP

1.1 Demand Gap Assessment

Despite the fact, non-motorized modes and public transit account for a significant proportion of travel activity of a city. The city needs to pursue different strategies and programs for bridging the gap on transportation facilities where the city is and where it wishes to go in future.

Please provide information in 200 words responding to the following questions;

- **What steps can be taken to bridge these gaps? Please explain in 200 words.**

The gaps can be filled to a certain extent by the new proposals under AMRUT. The efficiency of the Public transport system can be increased by allocating High Capacity Buses on NH Bypass and thereby can reduce the number of ordinary buses. For this the types of buses recommended are AC low floor and semi low floor buses on NH-Bypass, standard buses on other main routes and mini buses for feeder routes. Construction of outer ring roads and inner ring roads thereby diverting all the regional traffic which is now passing through the city.

For NMT facility improvement plan, provision for footpaths with a minimum width of 1.20m should be provided on all roads and thereby walking trips can be encouraged. Foot Over Bridges are proposed due to high pedestrian vehicle conflicts. A network of

By-Cycle lanes should be provided on prime locations, connecting all the important destinations of the city.

- **Whether present level gaps as identified through SLB indicators will be achievable by 2021 as compare with the present level of gap and demand?. (Table No.4)**

Table 4; Bridging the gap- Demand Assessment

Sl. No	Bench mark	Levels of service as per SLB, MoUD	Present Service level	Current Gap	Demand/Target by 2021
1	Availability of public Transport	1	1	0	-
2	Percentage of City Covered (%) by footpaths	1	4	3	2
3	Non Motorised Transport Facilities including; a) % of network covered, b) encroachment on NMT roads by vehicle parking (%), c) NMT parking facilities at interchanges (%)	1	4	3	3
4	Availability of Traffic Surveillance (%)	1	3	2	2
5	Passenger Information System (%)	1	4	3	2
6	Global Positioning System (GPS)/ General Pocket Radio Service (GPRS) (%)	1	4	3	2
7	Availability of On-street paid public parking spaces (%)	3	4	1	3

(Source - Comprehensive Mobility Plan for Thiruvananthapuram Final draft prepared by NATPAC)

2. OBJECTIVES

The objective will lead to explore and examine viable alternatives options available to address these gaps. These will include out of box approaches. (AMRUT Guidelines; para 6.4 & 6.8 & 6.9). Please provide information in 200 words responding to the following questions;

- **How will you define your overall goal to improve city transport?**

For improving city transport system, Public transport facilities should be improved. Availability of Traffic surveillance, passenger information system, Global Positioning System, Integrated ticketing system and signal synchronization should be provided.

- **How well does goals and objective for developing efficient urban transportation facilities can articulate the use of NMT options and parking facilities to improve the quality of life of local citizens?**

By providing multi level parking, unauthorized vehicle parking can be avoided.

Non availability of land is a constraint for NMT options.

- **How identified each objective can evolve considering bridging the gap with present level of services as to achieve SLB indicators?**

The implementation of the Projects shall fulfill the goals and objectives in CMP.

- **How objectives can be framed ensuring sustainable mobility solutions and creating city-wide NMT facilities for pedestrians and cyclists?**

Better awareness about sustainable mobility solutions should be imparted to public. People should be encouraged to use public transport, promote walking trips and cycle usage by highlighting its impact on their health, environment and money savings. Integrated land use and transport development promotes balanced regional growth.

- **Howe objectives for improvement of NMT facilities integrate with other modes of transport?**

Introducing TOD by integrating various modes of transport ensures better accessibility and connectivity. Development of the non motorized transport infrastructures such as Pedestrian walkways/footpaths, pedestrian cross-walk facilities etc can improve the NMT facilities.

3. ALTERNATE ACTIVITIES TO MEET OBJECTIVES

Evolve overall objective is to ensure that mobility solutions for the city that are sustainable and create city-wide NMT facilities for pedestrians and cyclists and integrate them with other modes of transport. Suggest possible strategies and options to achieve each objective with estimate cost of alternate solutions as per table 5 & Table 6.

Table 5: Possible Strategies to meet objectives

Sl.No	Objectives	Possible Activities	Financing Source
	The objective is to formulate strategies and action plan for a pedestrian and bicycle friendly transportation system facilitating movement of non motorized transport modes in areas of intense activity and also for improving the accessibility to public transport. Due to high pedestrian vehicle conflicts, foot over bridges is proposed.	<p>i) Provision of multi level parking complex ii) Provision of pedestrian walkway/ footpaths and bicycle tracks for major road corridors iii) Provision of foot over bridges iv) Provision of street furniture, pedestrian amenities and landscaping of central dividers, traffic islands etc. v) construction of side drains, rehabilitation of existing drains</p> <p>vi) Junction improvements at selected locations and</p> <p>vii) maintenance of pedestrian and bicycle infrastructures for three years.</p>	AMRUT, State PWD, ULB, Kerala Road Fund Board (KRFB), External Aids.

Table 6: Estimated Cost for various possible activities

No	Projects	Unit	Quantity	Total Cost (in Crore)
1.	Pedestrian walkway	sqm	4,54,876	33.14
2.	Foot Over bridge	Each	6	18.00
3.	Multi level parking complex	Each	3	45.00
4.	Bicycle track	sqm	3,52,278	15.85

(Source - Pedestrian Friendly Urban Transport for Thiruvananthapuram study report prepared by NATPAC, SI No. 2, 3 - ULB)

While addressing alternate solution to achieve these objects, please provide information in 500 words responding to the following questions;

- **How realistic and feasible urban transport strategies are to be evolved to address key challenges, priorities as an outcome of the citizen consultation?**

Consultation with citizens groups and all major stake holders will help in evolving better solutions.

- **What alternative innovative solution can be adopted for improving the service delivery by creating;**

- a. **Citizen friendly provision of barrier free pedestrian facilities including, footpaths, road marking and signage's,**
- b. **pathways,**
- c. **parking**
- d. **traffic management using Intelligent Transport System**

By implementing all the above proposed projects will improve the service delivery and thereby can improve the quality of life of the citizens.

- **What strategic intervention is required in the implementation of above projects?**

- (i) Site survey;
- (ii) Collection of secondary data and review of earlier study reports/ development proposals;
- (iii) Conducting pedestrian surveys, traffic surveys, and road inventory surveys;
- (iv) Analysis and interpretation of data - identification of shortcomings in the existing pedestrian facilities;
- (v) Integration of pedestrian access with major transport centers, work centers, educational institutions, and recreational areas.
- (vi) Consultations with various stake holders and citizens.
- (vii) Policy level interpretations.

- **Whether alternative modes of transport such as cycling can be provided in major roads?**

Yes. But land acquisition is a major constraint.

- **Whether Non-Motorised Transport (NMT) facilities corridor suggested with dedicated NMV, Cycle track and Signalized Intersection count?**

Yes.

- **How innovative solutions for alternative modes of transport including NMT such as cycling, pedestrian and public transportation system will address the overall transportation issue of the city?**

These innovative solutions will help in the overall improvement in the city's environment, mental and physical health of the citizens etc.

- **What will be the source of funding for identified project?**

AMRUT Fund, State Plan Fund, ULB Own Fund and PPP mode.

- **Whether convergence with other scheme has been made. Please explain each identified projects and their source of funding such as AMRUT, 14th FC and also converge with other schemes?**

No. Convergence with other scheme has not been made.

4. CITIZEN ENGAGEMENT

Each alternative will be discussed with citizens and activities to be taken up will be prioritized to meet the service level gaps. The section will summarize the Citizens priorities for adoption of alternate solution of urban mobility, drawing on SLIP preparation.

Please provide information in 200 words responding to the following questions;

- **Have all stakeholders including residents (RWAs), Transporters, RTOs, Traffic Police attended the citizen consultation?**

Yes.

- **Has alternate proposed crowd sourced?**

Yes.

- **What is feedback on the suggested alternatives and innovations?**

Very receptive. Multi level parking facilities at Palayam, Thampannoor and Chalai are suggested. Parking system and pollution levels in the city are discussed. For Non-Motorised Transport facility bicycle tracks are proposed with an appropriate width. For pedestrian infrastructure facilities foot over bridges are proposed due to high pedestrian vehicle conflicts in prime locations.

- **Has alternative taken up for discussions are prioritized on the basis of consultations?**

Yes.

- **What methodology adopted for prioritizing the alternatives?**

Phasing of projects depends on future requirements. Present situation, public opinion and fund availability were analyzed.

- **How citizen has been exposed best practices and smart solutions in order to generate citizen-driven solutions for urban mobility?**

By showing examples of other cities and convincing the citizens about the benefits of NMT.

- **Please examine whether identified solutions are addressing citizens requirement?**

Yes.

- **Whether ULB have adequate resources to implement prioritized alternate solutions?**

Yes.

- **How innovative alternate options of NMT facilities examined and shared with citizens?**

Presented before public in stake holder meeting.

5. PRIORITIZATION OF PROJECTS

Based on the citizen engagement, ULB will prioritize these activities and their scaling up based on the available resources to meet the respective objective.(AMRUT Guidelines; para 6.6, 6.7 & 7.2).Please provide information in 200 words responding to the following questions;

- **Are innovative solution prioritized based on the available resources and demand of citizens?**

Yes.

- **Has source of funding considered while prioritizing the project?**

Yes.

- **Whether project has been prioritized considering last mile connectivity?**

Yes.

Table 8 Prioritization of Projects

Priority No.	Project	Cost (Rs Cr)	Financing Source
1.	Multi level parking complex (3 Nos)	45.00	AMRUT, State PWD, ULB, External Aids.
2.	Foot Over bridge (6 Nos)	18.00	“
3.	Pedestrian walkway	33.14	“
4.	Bicycle track	15.85	“

6. OUT OF BOX SOLUTION USED

Please provide information in 200 words responding to the following questions;

- **What are the out of box thinking on alternative and new innovative solutions for the following;**
 - a. **Citizen friendly provision of barrier free pedestrian facilities including, footpaths, road marking and signages,**
 - b. **pathways,**
 - c. **parking**
 - d. **traffic management using ITS**

Proposed in CMP.

- **Whether solution provided to improve the safety of vulnerable groups such as old age/handicapped/children?**

Yes.

6. CONDITIONALITIES FULFILLED AND RESILIENCE BUILT-IN

First and foremost condition is to identify the availability of land for projects such as parking, widening of roads for pedestrian, cycle tracks and hawkers zone. Further, agencies need to be brought on board for any new initiatives as part of convergence process and necessary approval and permissions.

Please provide information in 200 words responding to the following questions;

- **Whether described the conditionalities of each project in terms of availability of land parking, widening of roads for pedestrian, cycle tracks and hawkers zone?**

Requires clearance from the concerned departments.

- **How these projects will be funded? Are projects being implemented through own sources or borrowing then which is the commitment in this regard?**

The implementation depends on the availability of fund from Central, State, ULB and external aids.

- **Has environmental obligation such as clearances and NOC required? Please suggest action and initiatives need to be taken in this regards?**

Yes. Preliminary discussions initiated to obtain clearance from the concerned departments.

7. FINANCIAL PLAN

Prepare Financial Plan for the complete life cycle of the prioritized development. The financial plan will include percentage share of different stakeholders (Centre, State, ULBs and) including financial convergence with various ongoing projects. Describe briefly the institutional arrangement), leveraging potential partnerships, convergence with other Government Schemes, monitoring and evaluation and also provide year-wise milestones and outcomes.

- **How the proposed finance plan is structured for transforming and creating infrastructure projects? Explain in 200 words how these institutional arrangements are leveraging partnership and converge with government scheme and provide list of individual projects which is being financed by various stakeholders.**

Subject to availability of fund from Central, State, ULB and external aids.

- **Has financial plan prepared for identified projects based on financial convergence and consultation with funding partners?**

Yes.

- **What are the different sources of funding being tapped for this project?(75 words)**

Central, State and ULB Fund.

- **Is the proposed financial structure is sustainable? If so then whether project has been categorized based on financial considerations?(100 words)**

Yes. The Project has been categorized based on financial considerations.

- **Have the financial assumptions been listed out? Please provide the list? (100 words)**

Yes. Financial assumptions been listed out as GOI 50%, State 30%, ULB 20%.

8. FINALIZATION OF MASTER SERVICE LEVEL IMPROVEMENT PLAN

Discuss Draft Master Service Level Improvement Plan with citizen. Based on the final citizen consultations, prepare final Master Service Level Improvement Plan. Annual Plan will be prepared as an application for monitoring the improvement in achieving the service level indicators as targeted in the Service level improvement plan.(AMRUT Guideline; Table 2.1, 2.2, 2.3., 2.4 and 2.5) and Annual Plan (AMRUT Guidelines; Annexure-2, 3, 4, 5& 6)

Table 1.7 Master Plan of Traffic & Transportation for Mission period

(As per Table 2.1of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Project Name	Priority number	Year in which to be implemented	Year in which proposed to be completed	Estimated Cost
1.	Multi level parking complex (3 Nos)	1	2017	2020	45.00
2.	Foot Over bridge (6 Nos)	2	2017	2020	18.00
3.	Pedestrian walkway	3	2016	2020	33.14
4.	Bicycle track	4	2017	2020	15.85
Grand Total					111.99

Table 1.8 Master Service Levels Improvements during Mission Period

(As per Table 2.2 of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Project Name	Physical Components	Change in Service Levels			Estimated Cost
			Indicator	Existing (As-Is)	After (To-be)	
1.	Pedestrian walkway	Provision of pedestrian walkway/ footpaths.	Pedestrian Infrastructure facilities.	15 LoS-4	50-75 LoS-2	33.14
2.	Foot Over bridge (6 Nos)	Provision of foot over bridge/sub way.	Pedestrian Infrastructure facilities.	LoS-4	LoS-3	18.00
3.	Multi level parking complex (3 Nos)	Multi-level parking complex for cars, lorries and other vehicles.	Parking spaces for vehicles.	20 LoS-4	25-50 LoS-3	45.00
4.	Bicycle track	Bicycle tracks for major road corridors.	Non motorized Transport facility.	<15 LoS-4	25-15 LoS-3	15.85

Table1.9 Annual Fund Sharing Pattern for Traffic & transportation Projects

(As per Table 2.3.1of AMRUT guidelines)

(Amount in Rs. Cr)

Sr. No.	Name of Project	Total Project Cost	Share				
			GOI	State	ULB	Others	Total
1.	Pedestrian walkway	33.14	16.57	9.942	6.628	-	33.14
2.	Foot Over bridge (6 Nos)	18.00	9.00	5.40	3.60	-	18.00
3.	Multi level parking complex (3 Nos)	45.00	22.50	13.50	9.00	-	45.00
4.	Bicycle track	15.85	7.925	4.755	3.17	-	15.85
	Total	111.99	55.995	33.597	22.398	---	111.99

Table 1.10 Annual Fund Sharing Break-up for traffic & Transportation Projects

(As per Table 2.3.2 of AMRUT Guidelines)

Year 2017-18

(Amount in Rs.Cr)

Sr. No.	Project	Gol	State			ULB			Convergence	Others	Total
			14 th FC	Others	Total	14 th FC	Others	Total			
1.	Pedestrian walkway						-		-	-	
2.	Foot Over bridge (6 Nos)			-			-		-	-	
3.	Multi level parking complex (3 Nos)			-			-		-	-	
4.	Bicycle track			-			-		-	-	
	Total			-			-		-	-	

Table 1.11 Year wise Plan for Service Levels Improvements
(As per Table 2.5 of AMRUT guidelines)

Proposed Projects	Project Cost	Indicator	Baseline	Annual Targets (Increment from the Baseline Value)					
				FY2016		FY	FY	FY	FY
				H1	H2	2017	2018	2019	2020
Pedestrian walkway	33.14 crores	Provision for pedestrian walkway/ footpaths. LoS - 2	LoS - 4	20%	25%	35%	50%	60%	75%
Foot Over bridge (6 Nos)	18.00 crores	Provision for foot over bridge/sub way. LoS - 3	LoS - 4	10%	15%	20%	35%	40%	50%
Multi level parking complex (3 Nos)	45.00 crores	Parking spaces for vehicles. LoS - 3	LoS - 4	20%	25%	30%	35%	40%	50%
Bicycle track	15.85 crores	Bicycle tracks for major road corridors. LoS - 3	LoS - 4	10%	15%	17%	20%	23%	25%

PROPOSED PROJECTS

1. PEDESTRIAN WALKWAY (FOOTPATH)

- | | |
|---|-------------------|
| - MG road from LMS to Manacaud | (3.69 km x 3m) |
| - War Memorial to Kochulloor via Pattom | (5.18 km x 3m) |
| - SC Bose to Sasthamangalam via Vellayambalam | (2.54 km x 3m) |
| - Over Bridge to Karamana via Thampanoor | (2.58 km x 3m) |
| - Thampanoor Fly-over to Kaudiar via Vazhuthacaud | (4.28 km x 3m) |
| - Thampanoor to Chaka via Palayam | (5.64 km x 3m) |
| - AKG to DPI/ Idappazhanji via Vazhuthacaud | (3.66 km x 3m/2m) |
| - Kaudiar to Ulloor via Pattom | (5.10 km x 3m) |
| - Killipalam to Eanchakkal via Attakulangara | (2.72 km x 3m) |
| - Nalumukku to Over Bridge via Uppidamoodu | (2.03 km x 3m) |
| - Vanchiyoor (Nalumukkurd) to General Hospital | (1.06 km x 3m) |
| - Murinjapalam to Kumarapuram | (0.81 km x 3m) |
| - Pallimukku to Medical College via Kumarapuram | (3.18 km x 3m) |
| - Kesavadasapuram to Nalanchira | (1.74 km x 3m) |

- Public Library to Kanakakunnu via Nandavanam (0.72 km x 3m)
- VJT to Aasan Square (0.19 km x 3m)
- VettimurichanKotta to Eanchakkal via West fort (1.83 km x 3m)
- Valiyathura to Kochuveli Railway Station (7.91 km x 3m)
- Kumarichanda to Thiruvallam NH bypass (1.17 km x 3m)
- Eanchakkal to Chaka NH bypass (1.81 km x 3m)
- Attinkuzhi to Kazhakkoottam NH bypass (1.71 km x 3m)
- East fort One-Way around Gandhi Park (0.27 km x 3m)

2. FOOT OVER BRIDGE (6 Nos)

1. Over bridge junction
2. Statue
3. Palayam – VJT Hall
4. St Mary's School, Pattom
5. Vazhuthakkad
6. Technopark

3. MULTI LEVEL PARKING COMPLEX (3 Nos)

1. At Palayam (behind of Corporation Main Office building)
2. At Thampanoor (paid parking area of thiruvananthapuram corporation near railway station) and
3. At Chalai (behind of putherikandam maidanam and transport depot)

4. BICYCLE STREETS

Bicycle streets of 2 m width may be provided on either side of the road. It should be segregated from the main carriage-way and must be near pedestrian facility. Areas where bi-cycle tracks proposed are:

- Chala Road (Killipalam to Gandhi Park) (Vehicle free zone) (0.99 km x 2m)
- East Fort One-way around Gandhi Park (0.27 km x 2m)
- East Fort to Padmanabha Temple Entrance gate(Vehicle free zone) (0.12 km x 2m)
- RTO office to Ramachandra (Vehicle free zone) (0.46 km x 2m)
- North of PadmatheerthaKulam (Vehicle free zone) (0.44 km x 2m)
- RTO office to Eanchakkal via West Fort (1.83 km x 2m)
- Attinkuzhi to Kazhakkootam (1.71 km x 2m)
- Kumarichanda to Thiruvallam (1.17 km x 2m)

- LMS to Manakkad	(3.69 km x 2m)
- War Memorial to PMG (Planetarium)- Plammood to Ullor	(5.18 km x 2m)
- Kesavadasapuram to Nalanchira	(1.74 km x 2m)
- SC Bose to Sasthamangalam via Vellayambalam	(2.54 km x 2m)
- Public Library to Kanakakunnu	(0.72 km x 2m)
- Thycaud to Kaudiar	(4.28 km x 2m)
- Vazhuthacaud to Idappazhanji	(3.66 km x 2m)
- Kaudiar to Ulloor via Pattom, Medical College	(5.10 km x 2m)
- Pallimukku to Medical College	(3.18 km x 2m)
- Murinjapalam to Kumarapuram	(0.81 km x 2m)
- Overbridge to Karamana via Thampanoor and ChurakaatuPalayam	(2.58 km x 2m)
- Thampanoor to Chaka via Bakery, Palayam, General Hospital	(5.64 km x 2m)
- VJT Hall to Asan Square	(0.19 km x 2m)
- General Hospital to Vanchiyoor	(1.06 km x 2m)
- Valiyathura to Kochuveli	(7.91 km x 2m)
- Eanchakkal to Chaka NH bypass	(1.81 km x 2m)