

PROMOTION OF SEAMLESS INTERGRATION IN THE MAJOR HUBS OF CENTRAL STATION AND ST. THOMAS MOUNT STATION AREAS OF CHENNAI CITY

Mid Term Review Presentation

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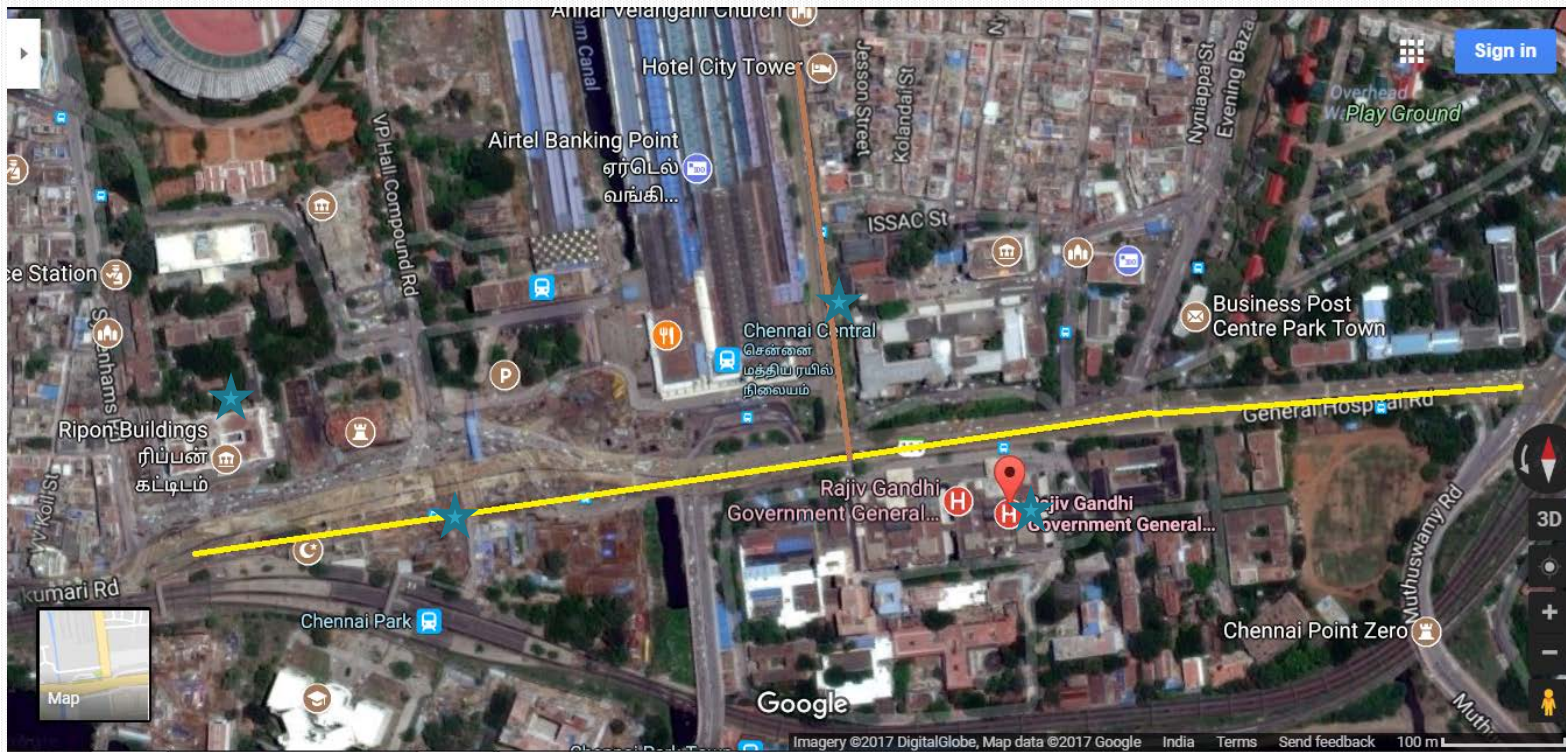
OBJECTIVE

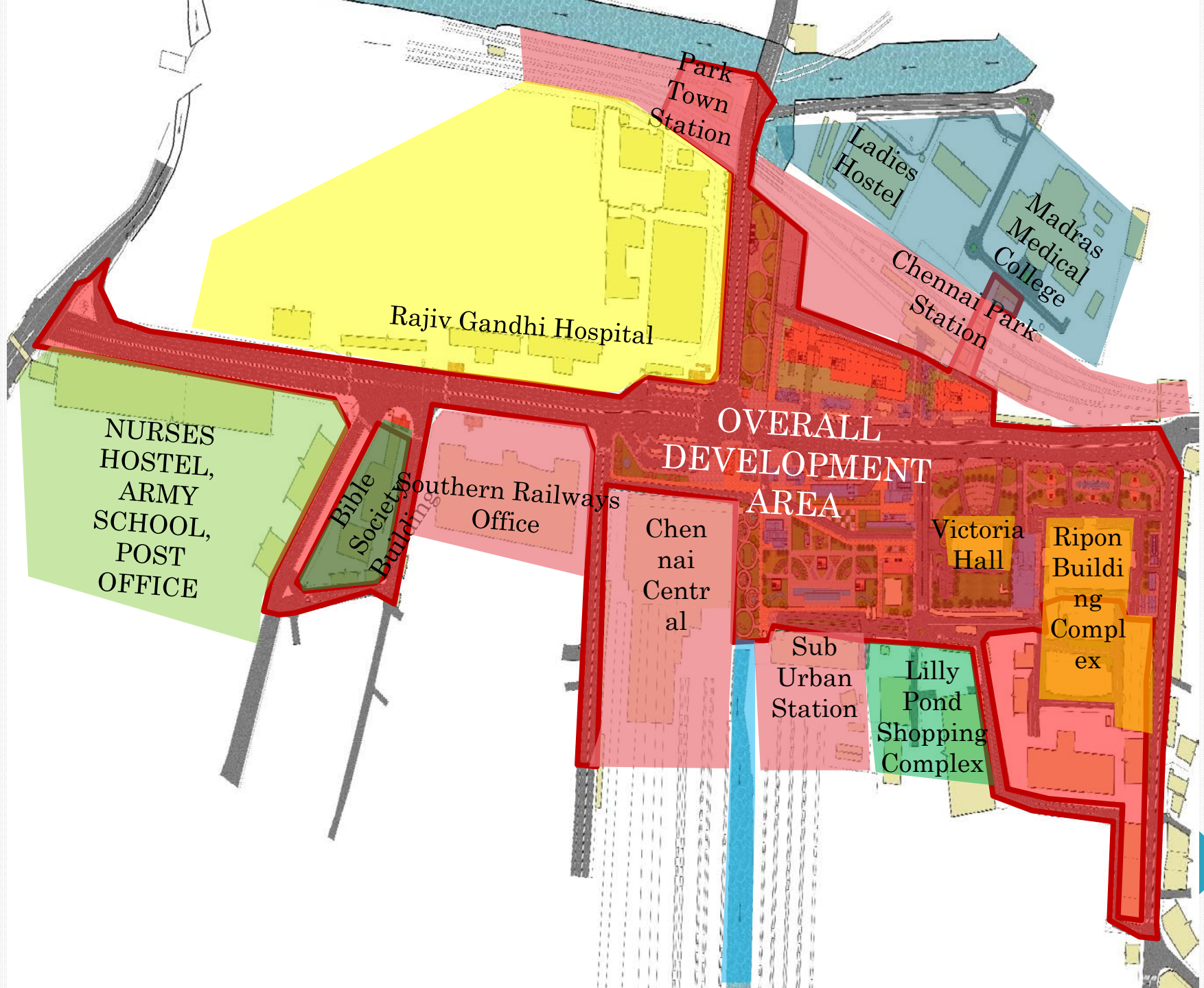
Main objective is intermodal integration including

- To minimize the pedestrian-vehicular conflict point
- Provide safe and smooth transfer between each of the termini in the area and between termini & major traffic generating buildings.
- Provide parking facilities in and around study area.
- Improve the efficiency of roads.
- Increase safety, security & quality of services (pedestrian & parking facilities) and may have their highest and best pedestrian flow and parking system with help of Intelligent Transport Systems (ITS)



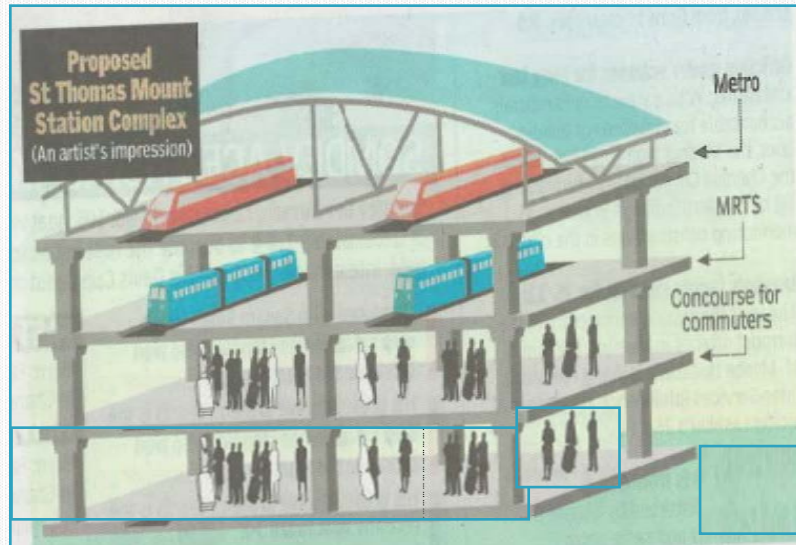
CHENNAI CENTRAL





MULTI MODEL INTEGRATION AT ST. THOMAS MOUNT STATION

At St. Thomas Mount, an integrated station is being provided to cater to the needs of both CMRL and MRTS. It is an elevated station with MRTS platforms and tracks (Broad gauge) at the first higher level and CMRL's platform and tracks (Standard gauge) at the second higher level.



NECESSITY

- Inter change movement happens between MRTS, Sub-Urban, Southern railway Central station
- Metro corridor 1 & Corridor 2 interchange
- Houses Rippon building, Government hospital, southern Railway head Quarters
- About 4 laks passengers uses the chennai central terminus every day
- About 2 laks commuters using Mero in 2026 in both the corridors (1.2lakhs in C1 & 0.8Lakhs in C2).
- At any given time, around 1.8lakh passengers is in the station
- Approximately 3255no of employees working in all three nearby stations
- Moore Market complex is closer by



STUDY METHODOLOGY FOR TRAFFIC PATTERN

○ Phase 1

- Personal interview
- Road Network inventory & Area Inventory
- Pedestrian volume count survey
- Parking survey
- Origin-Destination Survey

○ Phase 2

- Traffic characteristics
- Travel Characteristics
- Pedestrian Characteristics
- Speed and Delay characteristics
- Network Characteristics



UPDATED PROGRESS OF WORKS

- Topographical survey of study areas
- Road inventory data for Chennai Central
- Pedestrian counts for Chennai Central
- Classified volume count at Chennai Central
- Co-ordination with Various department i.e Southern railway, PWD, Highway, Greater Municipal Corporation of Chennai, Traffic Police, CMDA, TANGEDCO, CMWSSB
- The uniform road width along with pathway modification finalized which shall be implemented first
- Traffic survey work is in progress at St.Thomas Mount.



OUTCOMES EXPECTED FROM TRAFFIC STUDY

Type of Traffic Survey	Outputs	Applications
Classified Volume Counts	Traffic volume, Vehicle Composition, share of Public transport system, Peak Hour, Directional split, hourly variation, ADT.	Road Capacity, Traffic Forecast & Pedestrian-Traffic conflict numbers.
Pedestrian Volume Count Survey	Pedestrian Volume	Planning for pedestrian underpasses or foot over bridge for hassle free movement
Parking surveys	Parking demand & duration	Planning parking facilities for study area
Origin – Destination (Interview Survey)	Trip purpose & trip distribution	Demand modeling, private mode and public mode users, potential shift to public mode after development.
Speed & Delay Study	Journey & Running speeds, Delays	identification of congested locations.
Road Network Inventory	Physical features of road covering junctions, stretches between junctions, bus stops, encroachments etc.	Planning for pedestrian facilities incorporating other amenities in study area .



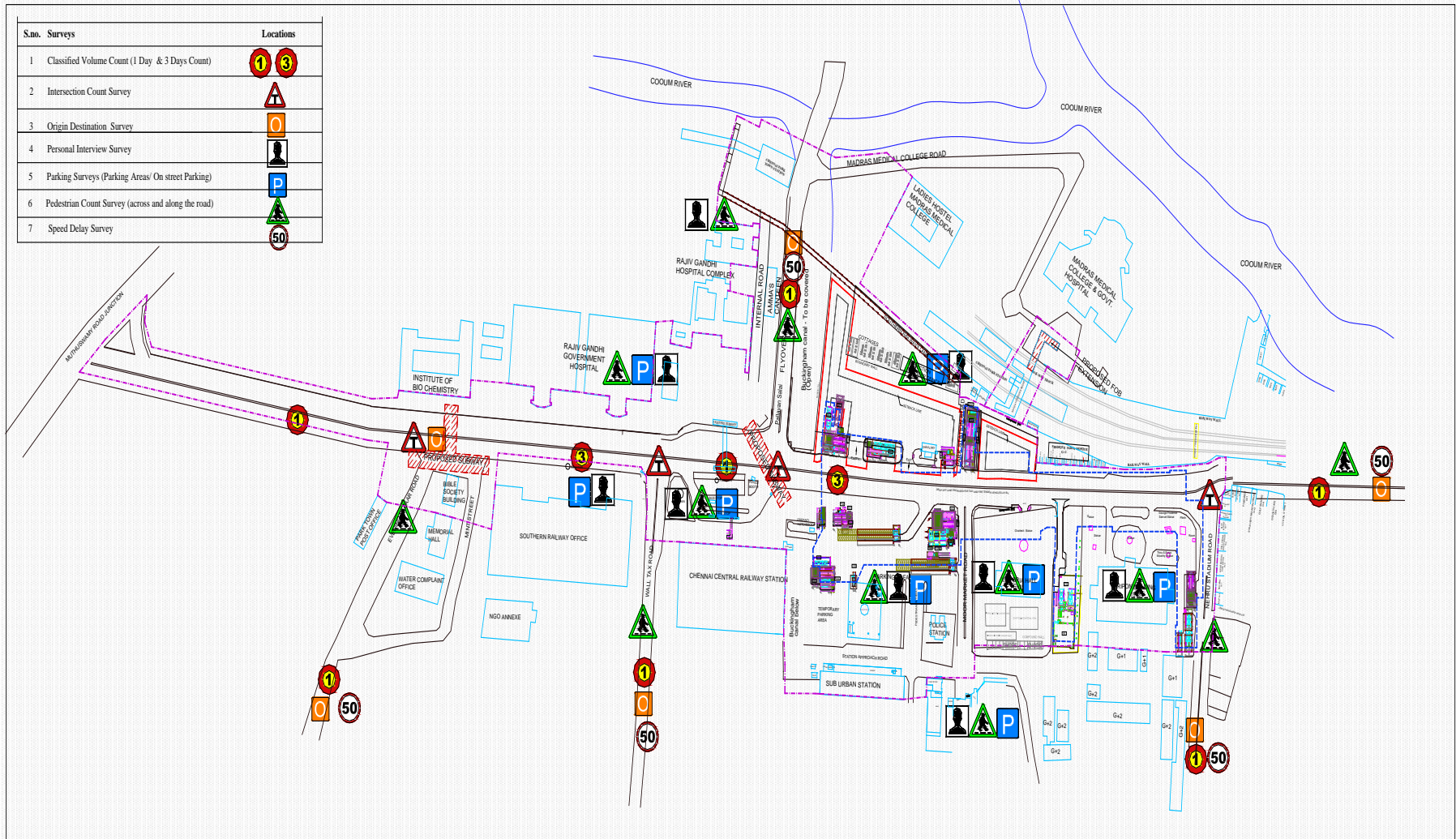
ROAD NETWORK INVENTORY

Sl. No.	Location	Lane Configuration	ROW	Carriage-way Width	Footpath
1	Veerasamy Road near Veerasamy Road & PH Road Junction	4-Lane Divided Carriageway with .5m paved shoulder & raised median	21.01m	7.5 m	2.5m (One side demoralised due to on site construction and one side partially occupied by vendors)
2	Raja Muthiah Road	4 Lane Divided Carriageway with .5m paved shoulder but presently operational 2-Lane only for entry traffic.	18.6m	7m	0.5m to 1m (Occupied by vendors)
3	More Market Road near Nehru Stadium/ Allikulam Road	2-Lane Carriageway with 1m paved shoulder using for exit traffic only	Varies - 9.55m, 16.79m, 18.06, 10.26m	7m	0.5m (available at some places only)
4	On general Hospital Road between Chennai Park Station and Pallavan Salai Junction	4-Lane Divided Carriageway with .5m paved shoulder & raised median.	32.0m	7m	Due to construction work no proper footpath available
5	On Pallavan Salai Flyover Bridge	4-Lane Divided Carriageway with 0.5m paved shoulder & raised median	18m	7m	1.5m
6	Between Wall tax Road junction and Pallavan Salai Junction on General Hospital Road	6-Lane Divided Carriageway with 0.5m paved shoulder & raised median	29.42m	10.5m	2.5m

CONTINUED...

Sl. No.	Location	Lane Configuration	ROW	Carriage-way Width	Footpath
7	Wall tax Road	4-Lane Divided Carriageway with paved shoulder & raised median	22.44m	7m	2m (Partially occupied by vendors)
8	In front of Govt. General Hospital between Wall tax road junction and Evening Bazar Road	6-Lane Divided Carriageway with 1m paved shoulder & raised median	26.51m	10.5m	1.5m
9	On PH Road (After General Hospital)	6-Lane Divided Carriageway with 1m paved shoulder & raised median with plantation at some places on median	28.27m	10.5m	2m
10	South Mint Street	2-Lane Carriageway with 1m paved shoulder	Varies - 11m to 17.87m	7m	0.5m to 1m (occupied by vendors)
11	Evening Bazar Road	6 Lane divided carriageway with 0.5m paved shoulder but presently operational 3-Lane for exit traffic only.	27.34m	10.5m	1.5m (Partially Occupied by vendors)

SURVEY LOCATIONS

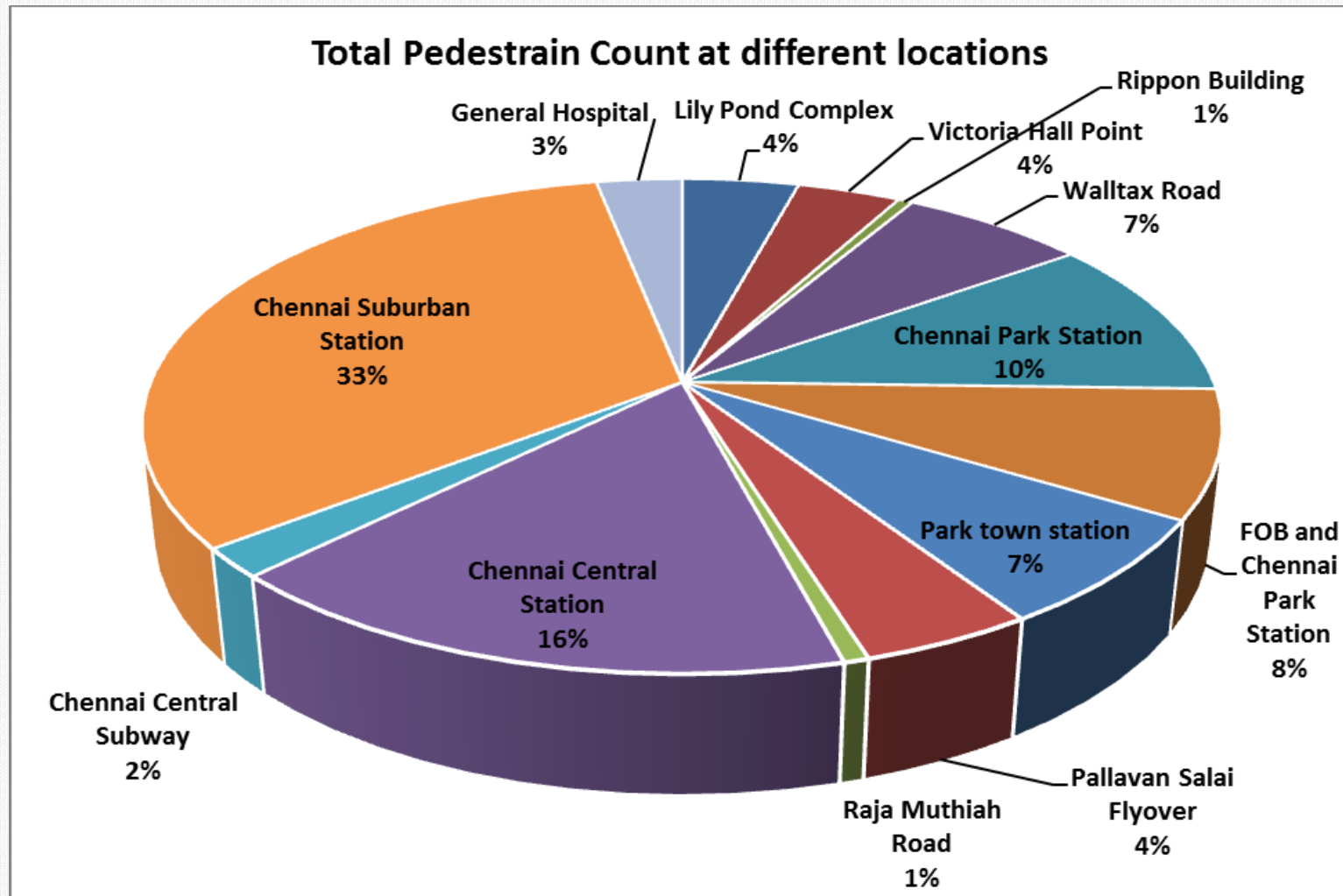


PEDESTRIAN COUNT SURVEY- LOCATIONS

Sr. No.	Location	Sub-Location
1	Lily Pond Complex	Gate 1
		Gate 2
		Gate 3
		Gate 4
		Gate 5
		Along the road(Entrance Road to Lily Pond (Victoria hall Side)
		Along the road(Entrance Road to Lily Pond (Suburban Railway Side))
		Across the Road(Towards Suburban)
		Across the Road(Towards Moore Market)
2	Victoria Hall Point	Central Side opposite side
3	Rippon Building	Gate 1 (Lily pond Side)
		Gate 2 (PH Road Side)
		Gate 3 (Muthiah Road Side)
4	Wall tax Road	Along the road(Central Side & left side of the central railway gate)
		Along the road(Opposite Side& left side of the central railway gate)
		Along the road(Central Side & right side of the central railway gate)
		Along the road(opposite & right side of the central railway gate)
5	Chennai Park Station	Chennai Park(CP) -Park Town Subway(PT)
		Chennai Park(CP) -PallavanSalai(PS)
6	FOB and Chennai Park Station	FOB stairs -Chennai Park
		FOB- Main Road Chennai Park-Main Road
7	Park town station	Park Town Subway(PT)-PS Junction
		Park Town -PS Flyover
		Park Town Subway
		Park Town Station Platform

Sr. No.11	Location	Sub-Location
8	Chennai Central Station	In Front of Subway Entrance towards Wall tax Road
		Central Station Exit Gate (Wall tax side)
		Central Station Bus bay 1
		Central Station Bus bay 2
		GH & Subway to Central Station
		Central station to Subway & GH
		Central Station to Park Station
		Park Station to Central Station
		Subway to FOB
		FOB to Subway
		FOB to Central Station
		Central Station to FOB
		Gate 1 (towards PS Junction)
9	Chennai Central Subway	Gate 2 (towards GH)
10	Chennai Suburban Station	Entrance 1 (from Gate no-4 towards Suburban)
		Entrance 2-Central Side gate (Suburban Side)
		Entrance 3-Lily Pond side
		Entrance 4 -Escalator to Suburban
11	General Hospital	Gate 1
		Gate 2

SHARE OF PEDESTRIANS



DATA GATHERED FROM PEDESTRIAN SURVEY

Location	Road Name	Peak Hour Time	Peak Hour Pedestrian Count	Total
Pedestrian Count at Lily Pond Complex	Gate 1	6:00PM-7:00PM	736	1781
	Gate 2	6:00PM-7:00PM	272	
	Gate 3	6:00PM-7:00PM	230	
	Gate 4	6:00PM-7:00PM	128	
	Gate 5	6:00PM-7:00PM	415	
Victoria Hall Front	Central Side	8:00PM - 9:00PM	3328	3529
	opposite side	8:00PM - 9:00PM	201	
Rippon Building	Gate 1 (Lily pond Side)	5:00PM-6:00PM	34	643
	Gate 2 (PH Road Side)	5:00PM-6:00PM	316	
	Gate 3 (Muthiyah Road Side)	5:00PM-6:00PM	293	
Walltax Road	Along the road(Central Side & left side of the central railway gate)	6:00PM - 7:00PM	4470	6430
	Along the road(Opposite Side& left side of the central railway gate)	6:00PM - 7:00PM	1960	
Chennai Park Station	Chennai Park main entrance	7:00PM-8:00PM	19045	19673
	Chennai Park(cp) -Pallavan Salai(PS)	9:00AM-10:00AM	628	
Park Town	Park Town -PS Flyover	3:00PM-4:00PM		857
	Park Town Subway	9:00AM-10:00AM	857	
Pallavan Salai Flyover		3:00PM-4:00PM	1112	1112
Raja Muthiah Road		1:00PM-2:00PM	680	680

CONTD...

Location	Road Name	Peak Hour Time	Peak Hour Pedestrian Count	Total
Chennai Central Subway	Gate 1 (towards PS Junction)	9:30AM-10:30AM	919	3225
	Gate 2 (towards GH)	9:30AM-10:30AM	2306	
Suburban Station	Entrance 3-Lily Pond side	8:00AM-9:00AM	3591	15400
	Entrance 4 -Escalator to Suburban	8:00AM-9:00AM	11809	
General Hospital	Gate 1	8:00AM-9:00AM	4069	5153
	Gate 2	8:00AM-9:00AM	1084	
Chennai Central Railway Station	CENTRAL STN TO PARK STN	8:00AM-9:00AM	1427	6013
	PARK STN TO CENTRAL STN	8:00AM-9:00AM	4586	
Chennai Central Railway Station	GH & SUBWAY TO CENTRAL STN	8:00AM-9:00AM	1341	1796
	CENTRAL STN TO SUBWAY & GH	8:00AM-9:00AM	455	
Chennai Central Railway Station	SUBWAY TO FOB	8:00AM-9:00AM	168	368
	FOB TO SUBWAY	8:00AM-9:00AM	200	
Chennai Central Railway Station	FOB TO CENRAL STATION	8:00AM-9:00AM	172	368
	CENTRAL STATION TO FOB	8:00AM-9:00AM	196	
Evening Bazar Road				1038
Total				68066

CLASSIFIED TRAFFIC VOLUME SURVEY

- Vehicle classification and PCU factor used in the study as per IRC 106-1990

Vehicle Type	PCU Factor	
Fast Moving Vehicles	5%	10% and Above
Passengers Vehicles		
Two wheelers	0.5	0.75
Car, jeep and van (New and Old technology)	1	1
Three wheeler (Passenger & Goods carrying)	1.2	2
Light motor vehicles (Passenger & Goods carrying)	1.2	2
Freight Vehicles		
Light commercial vehicle (Goods carrying)	1.4	2
Truck or Bus	2.2	3.7
Agricultural tractor	2.2	3.7
Agricultural tractor with trailer	4	5
Slow Moving Vehicles	5%	10% and Above
Passengers Vehicles		
Cycle	0.4	0.5
Cycle rickshaw	1.5	2
Freight Vehicles		
Animal drawn cart	1.5	2
Hand drawn cart	2	3

TRAFFIC SURVEY LOCATIONS

Location	Location Code
Near Veerasamy Road	CVC-1
Raja Muthiah Road	CVC-2
More Market Road/Allikulam Road	CVC-2 (Near Nehru Stadium)
On general Hospital Road Between Chennai Park Station and Pallavan Salai Junction	CVC-3
Pallavan Salai Flyover	CVC-4
Between Wall tax Road junction and Pallavan Salai Junction on General Hospital Road	CVC-5
Wall tax Road	CVC-6
In front of Govt. General Hospital between Wall tax road junction and Evening Bazar Road	CVC-7
On PH Road after General Hospital	CVC-8
South Mint Street	CVC-9 (South Mint Street)
Evening Bazar Road	CVC-9 (Evening Bazar Road)



AVERAGE DAILY TRAFFIC

Location	CVC-1	CVC-2	CVC-2 (Nehru road)	CVC-3	CVC-4	CVC-5
Car/ Jeep/Van	13792	6462	1942	19024	6864	22554
Taxi	9395	5260	1127	12172	7697	17636
Two-wheeler	37496	13887	9868	57374	40504	45870
Auto	15687	4314	3240	22549	11094	17247
Share Auto	3052	980	994	2049	593	1274
Ambulance	164	26	21	185	49	252
Bus (Govt.)	3363	192	547	4602	4007	5367
Bus (Pvt)	1122	73	136	788	292	626
LCV	2345	637	304	2583	1156	3335
3W Goods	506	550	112	373	283	1170
2-Axle Trucks	413	233	148	826	330	794
3-Axle Trucks	533	206	191	457	224	1139
Multi Axle Trucks	84	36	18	236	18	248
Tractor	58	13	15	38	5	2
Tractor with Trailer	0	0	0	0	0	0
Cycle	758	250	568	686	680	642
Cycle Rickshaw	261	56	79	244	254	217
Others	0	0	0	0	0	0
Passenger Vehicles	85090	31500	18522	119671	72034	111685
Freight Vehicles	3939	1675	788	4512	2016	6688
Total Fast Moving Vehicles	88010	32869	18663	123253	73116	117514
Total Slow Moving Vehicles	1019	306	647	930	934	859
Total Vehicles	89029	33175	19310	124183	74050	118373

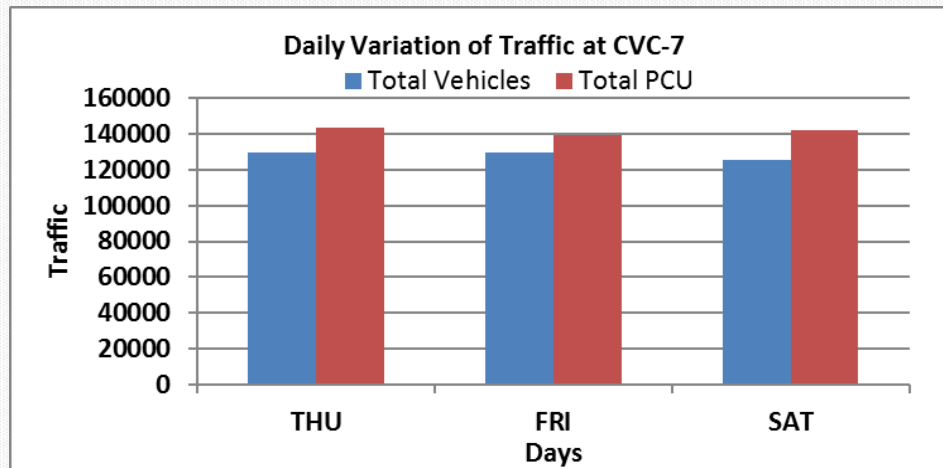
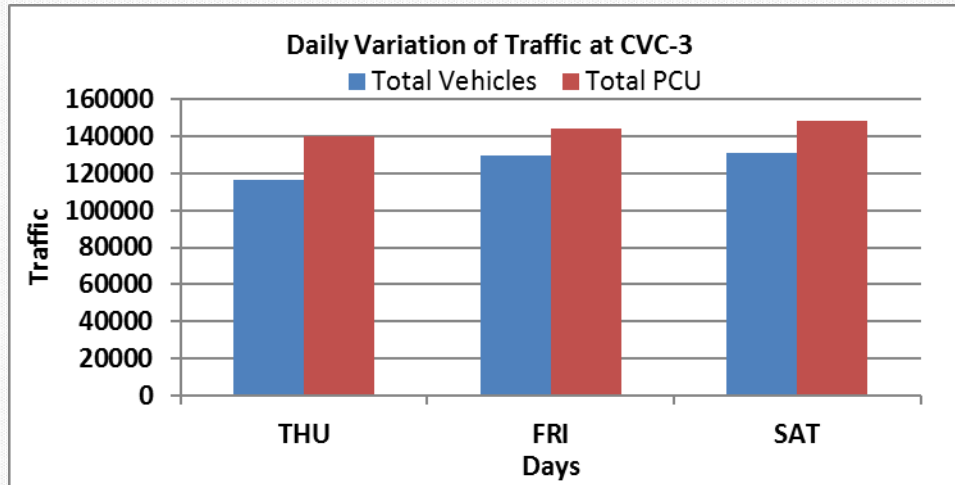


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Location	CVC-6	CVC-7	CVC-8	CVC-9 (South Mint Street)	CVC-9 (Evening Bazar Road)
Car/ Jeep/Van	3821	11474	6624	1696	2999
Taxi	3556	10831	5819	1238	1220
Two-wheeler	14788	72791	26913	9133	15424
Auto	4316	17848	6168	3682	4505
Share Auto	2619	1278	563	287	626
Ambulance	56	159	111	4	0
Bus (Govt.)	887	7098	3432	2334	1192
Bus (Pvt)	350	507	275	44	5
LCV	1026	2797	2150	577	1027
3W Goods	159	636	256	153	192
2-Axle Trucks	454	868	783	89	116
3-Axle Trucks	121	458	137	37	19
Multi Axle Trucks	24	110	212	2	7
Tractor	1	8	6	1	4
Tractor with Trailer	0	0	0	0	0
Cycle	432	909	349	319	348
Cycle Rickshaw	386	542	172	172	633
Others	0	0	0	0	0
Passenger Vehicles	31211	123437	50426	19102	26952
Freight Vehicles	1785	4877	3544	859	1365
Total Fast Moving Vehicles	32178	126863	53449	19470	27336
Total Slow Moving Vehicles	818	1451	521	491	981
Total Vehicles	32996	128314	53970	19961	28317
Total PCU	38972	141647	61162	25096	31828



VARIATION IN ADT



WAY FORWARD

- Personal interviews for O-D surveys
 - Zoning will be done to understand movement within the study area
- Parking surveys
- Analysis on Traffic and travel characteristics
- Recommendations
 - Sub-ways
 - FOB
 - Parking
 - Drop & Pick up bay
 - Landscaping
 - Use of Solar power

