Greater Chennai Corporation

Request for Proposal (RfP)

for

Design, Build, Finance, Operate and Transfer of

Public Convenience Toilet Lounges

in locations under Zone 5, 6 and 9 (Marina only)

of Chennai City

RFP Ref: S.P.D.C. No. B1/00452/2022

Dated: 29-09-2022

Part III – Volume 1 -
Asset Inventorisation Report

Status of Asset Inventories of
Public Convenience Toilets at Zone 5, 6, 9 (Marina only)
of Greater Chennai Corporation (GCC)
Final Report

JULY 2022

Akara Research & Technologies P Ltd

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List of Abbreviations

Public / Community Toilets	PCT
Request for Proposal	RFP
Request for Qualification	RFQ
Letter of Award	LOA
Greater Chennai Corporation	GCC
Urban Local Body	ULB

CHAPTER I - PROJECT BACKGROUND

Chennai, Tamil Nadu

Tamil Nadu with a land size of over 130,000 km² (10th) and population of over 72 million (6th) is one of the largest states in India. Tamil Nadu is also economically significant as it has second highest GDP in the country and home to major cities that specialize in technological services. Chennai being the metropolitan hub of TN with a population of more than 80 lakh people and road length of more than 2800 km.

Greater Chennai Corporation (GCC) has been entrusted to manage and run the urban municipal services including Water, Sanitation, Solid, waste management etc for the residents of Chennai. GCC is one of the oldest municipal institutions that has managed and improved the delivery of municipal services through various initiatives over time.

Several initiatives have been taken Corporations, State and GoI for improving sanitation facilities in ULBs. The GoIs flagship scheme -- Swachh Bharat Mission (SBM) of GoI talks about not only increasing the access to toilets but also to eradicate practices of open defecation and manual scavenging, adoption of scientific waste management methods, facilitating appropriate behavioural changes, capacity augmentation and creating supporting environment for private sector's involvement. In addition, GoI wants ULBs to follow SBM norms such as -- PCT facilities should be located within reasonable walking distance of the 'activity generating' areas for deciding new toilet construction.

Greater Chennai Corporation

GCC, the oldest municipal institution in India was established on 29th September 1688. The "GCC" has a rich administrative history of providing commendable citizen services over a period of 328 years. Keeping in view the rapid growth and commercialization of urban areas in recent years, GCC has drawn upon an ambitious plan to promote Private Sector Participation in urban Infrastructure Development and Infrastructure Service Delivery by engaging reputed international and/ or national private sector organizations who possess strong credentials of delivering efficient and affordable Infrastructure Development and Service Delivery, thereon, on long term Public Private Partnership (the "PPP") contract.

Public Convenience Toilets

GCC's Health Department looks after the administration of public health, dispensaries and sanitation facilities. GCC is responsible for the upkeep and maintenance of the Public Convenience Toilets and staff by providing modern cleaning equipment. Currently there are 800+ Public convenience Toilets with 8000+ seats within Chennai city limits. However, like many ULBs across India, GCC also faces many challenges in managing the PCTs.

Challenges Existing in Public Convenience Toilets

- **Open Defecation**- Perennial Challenge is the fourfold increase in open defecation with defecation sites being close to garbage dumps and local water bodies making it difficult for sanitation workers.

- **Gender Based Sanitation insecurity**- There is a disproportionate burden faced by women regarding shortage of or the non-availability of sanitation facilities. Overused, Unclean and Lesser Number of Toilets for Women Are Just Some of Chennai's Sanitation Woes.

- **Operation and Maintenance**- Cleanliness challenges arise when this is not linked to envisaged KPIs which is creating reluctant behaviour among public to use PCT. Free services of PCT's based on the old Council Resolution invoked a sense of lethargic behaviour among the public.

- **Real time monitoring**- Lack of real time monitoring which may lead to the possibility of potential misuse of toilets.

- **Third party audits**- There are no independent third-party audits for compliance as it is an In-house Performance monitoring by GCC.

- **Centralised monitoring system**- Lack of automated centralized monitoring system and creation of city level exclusive policy guidelines to access data points on usage demand, pattern and feedback.

In the light of the above, the GCC is continuously working with the endeavour to improve the Sanitation facilities including the PCTs for the residents of Chennai.

CHAPTER II - NEED AND OBJECTIVE

The GCC is focussed on addressing the challenges to meet the needs of the users both in terms of the accessibility & availability of the requisite number of toilets, as well as ensuring its usability through proper maintenance of the toilets. While the challenges are multidimensional and require citizens participation for behavioural changes. In this regard corporations including GCC are working in a collaborative manner with the citizens like --- a lot of communication to the users to have a cleanliness mindset for public utilities.

The Objective

The GCC is in the process of addressing the need for adequate toilets in different zones of Chennai, and in this regard the GCC has laid down the following objectives:

- Select an operator through open bidding system.
- The operator shall Design, Build, Finance, Operate and Transfer of the Public Conveniences Toilets adhering to a set of Key Performance Indicators (KPIs).
- The operator shall maintain these PCTS toilets for the concession period.
- The service operations would be measured through the compliances to KPIs.

The Scope of work for the selected bidder will broadly include "Design, Build, Finance, Operate and Transfer of Public Convenience Toilet Lounges in Select Locations of Chennai city" for Greater Chennai Corporation on a Public-Private Partnership on a Design, Build, Finance, Operate and Transfer Framework in Zones 5, 6 and 9 (Marina only) of Chennai city for a period 1 Year (Design Build & Commissioning Period) and 8 Years (O & M Phase) and in accordance with the terms and conditions, to be set forth in a concession agreement, to be entered.

To execute & meet its objectives, the GCC has appointed Akara Research & Technologies P Ltd to provide Consultancy services with the objective of "Preparation of Request for Proposal for selection of Concessionaire to build and maintain Public Convenience Toilets in Zones 5, 6 and 9 (Marina only) in Chennai".

In order to prepare the RFP, as a first task, it is imperative to assess current state of Asset inventories of the Public Convenience Toilets in Zones 5, 6 and 9 (Marina only) and this report addresses the objective.

CHAPTER III - APPROACH AND METHODOLOGY

The overall approach & methodology in assessing the current state of PCTs in the Zones is detailed below

The Overall Approach

It is important that PCTs facilities are viewed and understood from two sides - the demand side (user related) and the supply side (infrastructure and institution related). An integrated approach towards assessment provides the extent of requirement of toilet service provision. User understanding is essential while creating new toilets as well as improving service levels for existing toilet facilities. Key learning areas include siting appropriate location for toilets; selecting toilets for service improvements; understanding user catchment and usage patterns; improving the infrastructure and facilities in each toilet; cost implications and revenue generation potential among others.

Data to be used for planning PT / CT facilities in the city needs to be analysed by integrating the demand and supply database. While demand side input on location would indicate the location where the toilets need to be provided, supply side input provides the number of existing toilets in the vicinity which could be retrofitted to be made more usable. This will enable the authorities to identify and site locations for new toilets construction.

In addition, gaps in number of toilets and services level can be combined at city level to quantify overall city requirement and commitments. These identified gaps would indicate the areas in which the city needs to focus on for better planning and management of the toilet facilities. In addition, the demand side input can also help calculating potential revenue possible from user fees, other revenue sources, cash flows for management of toilet(s). Such assessments are important to evaluate the possibilities of ULB managing the newly created assets or formulate alternative operational models.

Methodology

Given below is a detailed methodology adopted to assess the Toilet inventories across the Zones 5, 6 and 9 (Marina only).

Asset Inventory

As indicated in the table below, the GCC provided the list of locations of the PCTs under three categories for assessment of the inventories:

- New Construction
- Major Refurbishment PCTs
- Minor Refurbishment PCTs

Table 1: Locations as per GCC

Particulars	No of PCT Locations				No of PCT Seats			
Type of Work	**Z-5**	**Z-6**	**Z-9**	**Total**	**Z-5**	**Z-6**	**Z-9**	**Total**
Refurbishment (Major)	26	3	0	**29**	104	12	0	**116**

Particulars	No of PCT Locations				No of PCT Seats			
Type of Work	**Z-5**	**Z-6**	**Z-9**	**Total**	**Z-5**	**Z-6**	**Z-9**	**Total**
Refurbishment (Minor)	89	66	8	**163**	1262	538	80	**1880**
New Construction	27	30	3	**60**	342	266	20	**628**
Total	**142**	**99**	**11**	**252**	**1708**	**816**	**100**	**2624**

These were taken as merely suggestive, and Akara carried out its own complete and comprehensive on-ground survey to thereafter derive its own set of numbers and the categorization of these numbers under different assessment frameworks.

The Assessment Framework

Akara developed an assessment framework to facilitate actionable inputs for the preparation of the RFP. The framework is a combination of

- Categorization of the Toilets
  - Toilet Category
  - Toilet Condition & Quality
- Geo-visualization of Toilets

Categorization of Toilets

To ease planning efforts by cities, it is important to categorize different types of toilets so that they can be planned & constructed based on the user needs as well as local conditions.

Toilet Category

The toilets have been categorized based on the location of the facility in relation to its usage. The type of infrastructure and facilities provided for each type have also been arrived from various guidelines. They are categorized and qualified as in the table below.

Table 2: Toilet category

Toilet Category	Public	Facilities are provided for the floating population/general public in places such as markets, train stations or other public areas and used by mostly undefined users.
	Community	Shared facility provided for a defined group of residents or an entire settlement/community. It is normally located in or near the community area and used by almost community members.
	Institutional	Typically found in commercial, institutional and industrial areas such as airports, theatres, stadiums, shopping malls, and office buildings.
	Transit	Cater to places that have high footfall due to the presence of railway stations, bus stands, metro stations, fuel stations, road walkways, and intersections.

Refer to **Annexure -1** for visualization of those different toilets and its environs for each of them to be classified under any one of the category mentioned hereinabove.

Toilet Condition and Quality

Akara's Urban Governance research team developed a matrix to understand the useability of the PCT. The quality of the toilet indicates its utility or convenience to the public. The condition of the Toilet determined the classification of the toilet into Good, Bad or Defunct. The Field assessment of Toilet quality was based on the following matrix of conditions.

Table 3: Toilet Quality Framework

Toilet Quality	Good	• Cleanliness • Availability of water • Availability of electricity • All fittings in working condition • Access to the Toilet Complex
	Bad	• Building with damages • Unclean • Non-availability of water/clean water • Non-availability of electricity • Fittings not working or in damaged condition • Inaccessible toilet complex
	Defunct	• Inoperative toilets due to multiple reasons irrespective of the good/bad condition of the toilets

Refer to **Annexure -2** for visualization of those different toilets and its environs for each of them to be classified under any one of the quality framework mentioned hereinabove.

Geo-visualization of Toilets

The Geo-coordinates of the toilets were captured by the field enumerators, and these were overlayed on the ward boundary to precisely understand the geo-locations & its vicinity.

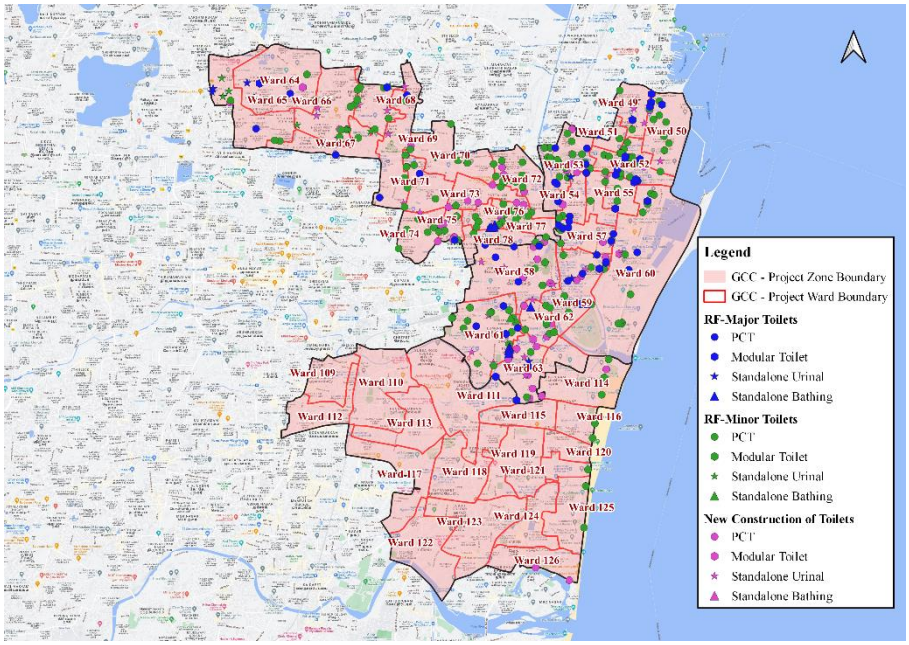

Figure 1: Geo Visualization of Toilet Locations on Map

Questionnaire to Capture Inventory

Akara developed a questionnaire to capture the details of the inventory for each toilet. The key parameters captured during the survey are as follows:

a. General
b. Infrastructure Related
c. Water Availability Status
d. Sewerage And Waste Disposal
e. Electricity
f. Geography And Appearances

Akara's IT team developed a mobile APP to capture the data on the toilets based on the Questionnaire. A sample questionnaire is placed as **Annexure-3.**

Primary Survey Execution

Akara set up a team of enumerators who visited each Toilet location in the Zones 5, 6 and 9 (Marina only). The enumerators deployed for the work were experienced in conducting surveys in the WASH sector across Tamil Nadu. The enumerators took 20 days to complete the survey exercise across the Zones.

We would also like to take this opportunity to acknowledge and appreciate the officials of Greater Chennai Corporation for their support during the on-ground execution of the work.

Photographic Evidence

Apart from the data captured on the inventory, the enumerators captured photographic evidence of the inventory. The photographic evidence as provided in the Annexure corroborated the data captured on the status of the inventories of Toilets.

Quality Check

Random quality checks were conducted on the data captured by the enumerators. This quality team worked independent of the field enumerator team. Apart from the quality control team of Akara, the GCC officials also visited the Toilets locations to ascertain the status of inventory.

CHAPTER IV - KEY FINDINGS AND INFERENCES

The findings & inferences based on the survey conducted by Akara will serve as a guide to structuring the RFP for in terms of -- planning, designing, operation and maintenance and management of new Public Convenience Facilities in Zones 5, 6, and 9 (Marina only).

A. *Survey findings of Zone 5 – Greater Chennai Corporation*

Akara's team of enumerators covered the entire Zone 5. The Zone 5 - Royapuram is a locality in the northern part of Chennai with fifteen ward divisions from ward number 49 to 63. The table below provides the details of areas in each ward such as Royapuram, Old Washermanpet, Sowcarpet, Chetpet, Egmore, and Parrys. This zone is mostly commercial and residential with a high public footfall and floating population.

There was a meeting organised by the GCC where the officials at the zone responsible for the Public Convenience were explained about this

Table 4: List of Areas by Wards in Zone 5

Ward Number	Ward Areas
49	Old Washermanpet, Royapuram, Tondiarpet
50	Royapuram
51	Old Washermanpet
52	Mint, Old Washermanpet, Royapuram
53	Basin Bridge, Kondithoppu, Old Washermanpet, Park Town
54	Kondithoppu, Sowcarpet
55	George Town
56	Broadway, George Town, Seven wells
57	Elephant Gate, Park Town, Sowcarpet
58	Central, Choolai, Periamet, Purasaiwakkam, Vepery
59	Anna Salai, Chepauk, Edapalayam, Triplicane
60	George Town, Parrys, VOC Nagar
61	Chetpet, Egmore, Pudupet
62	Chindadripet
63	Chepauk, Komaleshwaranpet, Pudupet, Royapettah

As shown in the map below, most of the places are along the coastal line of Chennai and it has got busiest commutable places like Chennai Central Station, Egmore Railway Station, Secretariat, Parrys Bus Terminal, Beach, Government General Hospital, Nehru Sports Stadium, and other important commercial locations.

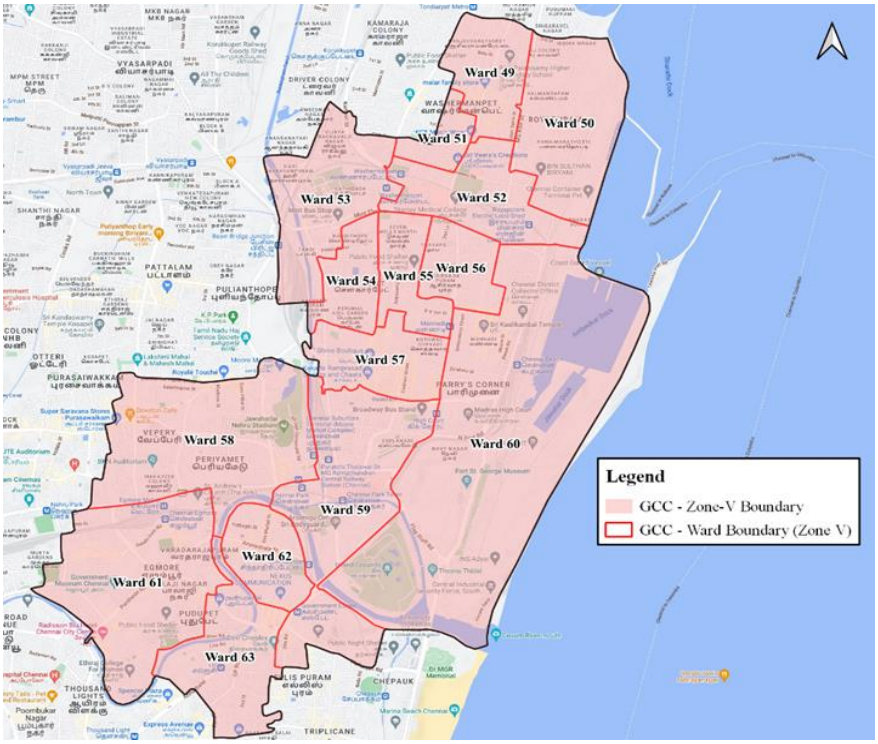

Figure 2: Ward Map of Zone 5

Asset Inventory

The survey team visited each toilet in the Zone 5 to check the status of the inventory, condition & quality of the Toilets in the Zone.

Toilet Presence

The survey was undertaken by the team taking the PCT, Standalone Urinal, Standalone Bathing, and Modular Toilet in Zone 5 locations for the categories of work i.e., Major Refurbishment, Minor Refurbishment and New Construction. The count for all these is presented in the table below.

Table 5: No of Toilet Locations in Zone 5

Type of Work	PCT	Stand-alone Urinals	Stand-alone Bathing	Modular Toilet	Grand Total
Refurbishment (Major) of Toilets	39	7	6	19	**71**
Refurbishment (Minor) of Toilets	103		1	1	**105**
New construction of Toilets*	28	19		4	**51**
Grand Total	**170**	**26**	**7**	**24**	**227**

* ***Proposed for New Construction in the existing locations and Ready built which are not put in use***

As evident from the table above, almost 2/3rd of the Toilets (103 out of 170) are minor refurbishment, whereas 28 PCTs are New Construction. Majority of the Standalone urinals are New Construction (19 out of 26). In terms of toilet presence in Zone V, there are 170 PCTs, 26 Standalone Urinals, 7 Bathing unit, 24 Modular Toilet amounting to a total of 227 toilets. The map view of Zone 5 provides the distribution of these toilets.

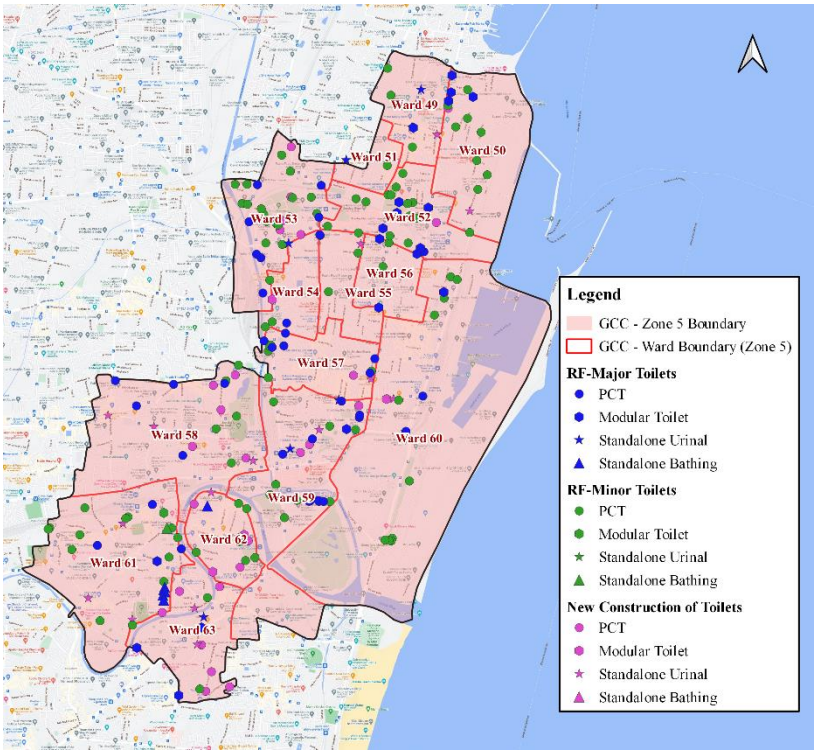

Figure 3: Geo Visualization of Toilet Locations of Zone 5

The survey team visited every toilet and counted the number of Toilets seats available. The toilet seats were classified as PCTs -- Men, Women, Urinal and Bathing space inside each toilet. Further, men and women seats are classified based on the closet type i.e., Indian, and Western type, their numbers are measured and given as Total (Men + Women) for each type of work and overall count. The No. of Urinal seats present inside the PCT count were taken separately and it was exclusively only for men. Bathing spaces inside the PCT were counted individually. Similarly for the no. of seats for each standalone urinal, no. of bathing space inside each bathing unit and no. of seats inside each Modular Toilets are taken. All the counts are given table below.

Table 6: Classification of Toilet Counters in Zone 5

Type of Work	*PCT*									*Standalone*			*Grand Total (PCT + Standalone)*
	Men		*Total Men*	*Women*		*Total Women*	*Total (Men + Women)*	*Urinal*	*Bathing*	*Urinal*	*Bathing*	*Modular Toilet*	
	Indian	*Western*		*Indian*	*Western*								
Refurbishment (Major)	144	5	149	99	5	104	**253**	21	45	32	7	38	**396**
Refurbishment (Minor)	562	41	603	535	33	568	**1171**	45	177	-	3	2	**1398**
New Construction	131	7	138	137	5	142	**280**	10	31	36		8	**365**
Grand Total	837	53	890	771	43	814	**1704**	76	253	**68**	**10**	**48**	**2159**

There were 1704 seats for both Men and Women together which has an almost equitable gender distribution – 52% for men & 48% for women, with 76 Urinals, 253 Bathing spaces in the PCTs. In terms of Standalone facilities, there are 68 Urinals, 10 Bathing spaces, and 48 Modular Toilets in the Zone.

Toilet Ward Presence

Based on the survey the ward wise distribution of the toilets is presented below.

Table 7: Presence of Toilet Locations by wards in Zone 5

Ward	PCT	Standalone Urinal	Standalone Bathing	Modular Toilet	Grand Total
49	3	4		1	**8**
50	10	1		4	**15**
51	1				**1**
52	17	1		5	**23**
53	**30**				**30**
54	7	1		1	**9**
55	2	1			**3**
56	3	1		3	**7**
57	12	1			**13**
58	16	3			**19**
59	22	4		1	**27**
60	12	2		2	**16**
61	16	3	6	2	**27**
62	10	1	1	2	**14**
63	9	3		3	**15**
Grand Total	**170**	**26**	**7**	**24**	**227**

As evident from the table, ward 53 has maximum PCTs followed by ward 59. Together these two wards account for almost 1/3rd of the PCTs in Zone. Standalone urinals have a reasonable spread and presence across the wards in the Zone. Modular Toilets are also spread across the wards, however, some wards like 53 have high PCT but no Modular Toilet. Standalone bathing facility is concentrated in ward 61 (6 out of 7 facilities).

Toilet Category

As per the Assessment framework and based on the survey, the Toilets were classified into the following categories

Table 8: Distribution of Toilet by Categories by Wards in Zone 5

Ward	PCT					Standalone Urinal					Standalone Bathing		Modular Toilet				Grand Total
	P	*C*	*T*	*I*	*Total*	*P*	*C*	*T*	*I*	*Total*	*C*	*Total*	*P*	*C*	*T*	*Total*	
49			2	1	**3**			1	3	**4**					1	**1**	**8**
50	1		8	1	**10**			1		**1**					4	**4**	**15**
51				1	**1**												**1**
52	4	7	4	2	**17**			1		**1**			2		3	**5**	**23**
53	2	13	15		**30**												**30**
54		3	4		**7**			1		**1**					1	**1**	**9**
55		1		1	**2**	1				**1**							**3**
56		2	1		**3**			1		**1**				1	2	**3**	**7**
57		7	5		**12**			1		**1**							**13**
58	1	5	8	2	**16**			3		**3**							**19**
59		9	10	3	**22**			4		**4**					1	**1**	**27**
60		7	5		**12**			2		**2**				1	1	**2**	**16**

Ward	PCT					Standalone Urinal					Standalone Bathing		Modular Toilet				Grand Total
	P	C	T	I	Total	P	C	T	I	Total	C	Total	P	C	T	Total	
61	2	7	5	2	**16**			3		**3**	6	**6**			2	**2**	**27**
62	2	7	1		**10**		1			**1**	1	**1**		2		**2**	**14**
63		7	1	1	**9**		1	2		**3**					3	**3**	**15**
Grand Total	12	75	69	14	**170**	1	2	20	3	**26**	7	**7**	2	4	18	**24**	**227**
Type of Category: P - Public, C - Community, T - Transit, I - Institutional																	

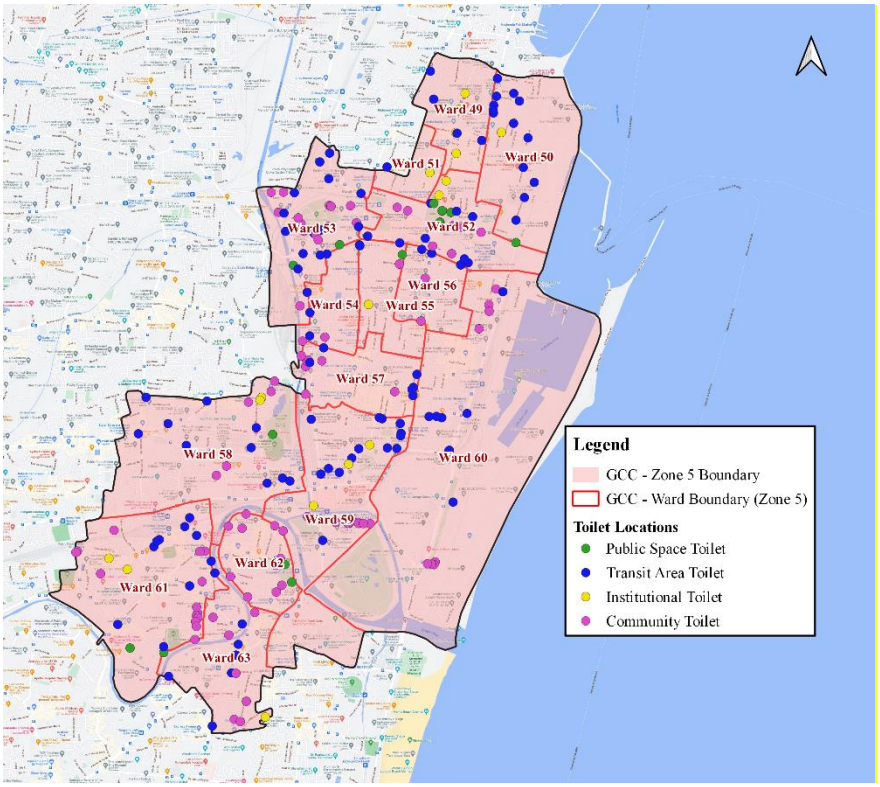

Figure 4: Geo Visualization of Toilet Locations by Categories by Wards in Zone 5

Toilet Condition & Quality

As per the Assessment framework and based on the field assessment of the condition of the Toilets, the toilets were classified by Quality as shown in the table below.

Table 9: Distribution of Toilet by Condition and Quality by Wards in Zone 5

Ward	Good	Bad		Demolished	Redevelopment*	Grand Total
	In- Use	In - Use	Defunct			
49	1	1	4		2	**8**
50	2	2	8		3	**15**
51	1					**1**
52	7	8	8			**23**
53	6	9	10	3	2	**30**
54	3	3		1	2	**9**
55	2				1	**3**
56	2		4		1	**7**
57	2	4	3		4	**13**
58	5	6	4	1	3	**19**

Ward	Good	Bad		Demolished	Redevelopment*	Grand Total
	In- Use	In - Use	Defunct			
59	12	9	4		2	**27**
60	6	3	3		4	**16**
61	5	13	5		4	**27**
62	3	6			5	**14**
63	1	5	7		2	**15**
Grand Total	58	69	60	5	35	**227**

Redevelopment – Toilets which are under construction, under renovation

As shown in the table above, almost 1/4th of the toilets are of good quality, and about 57% are of bad quality. Out of the bad quality – more than half of them are in use (69 out of 129) and balance are defunct (60 out of 129). About 18% of them are recorded as demolished & re development by field team.

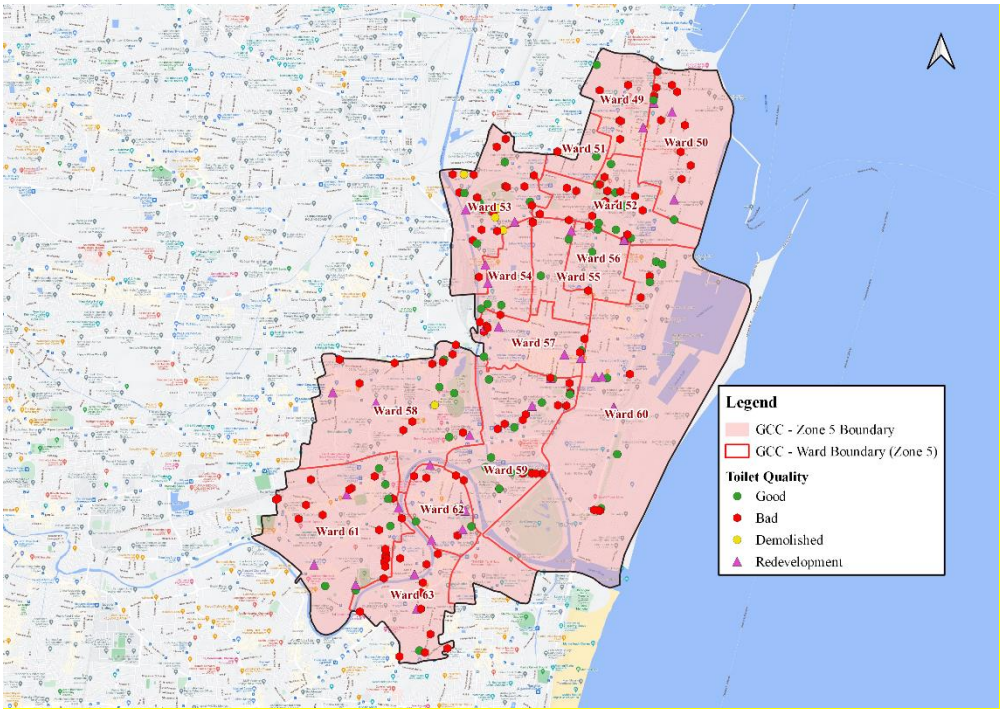

Figure 5: Geo Visualization of Toilet by Condition and Quality by Wards in Zone 5

Table 10: No of Bathing Counters in Toilets Locations in Zone 5

Type of Work	Available PCT Locations	Bathing	
		Locations	Rooms
Refurbishment (Major) of Toilets	39	20	45
Refurbishment (Minor) of Toilets	103	60	177
New construction of Toilets	28	13	31
Grand Total	**170**	**93**	**253**
	100%	**55%**	

As per the survey, it is evident 55% of the PCT's are having bathing facilities across wards in Zone V.

B. *Survey findings of Zone 6 – Greater Chennai Corporation*

The survey team visited each of the areas in Zone 6. The Zone 6 - Thiru Vi Ka Nagar consists of 15 wards (Wards 64-78) encompassing the areas of Perambur, Kolathur, Sembiyan, Villivakkam, Nungambakkam, Anna Nagar, Ayanavaram, Purasaiwakkam, Otteri, Pattalam, and Puliyanthope. Thiru Vi Ka Nagar is a highly developed residential area in Northern Chennai coming under the Kolathur constituency. The table below indicates the wards and areas falling under Zone 6.

Table 11: List of Areas by Wards in Zone 6

Ward	Ward Areas
64	Kolathur
65	Kolathur
66	Peravallur
67	Peravallur
68	Sembian
69	Ayanavaram, Perambur
70	Jamalia, Mettupalayam, Otteri, Perambur, Puliyanthope
71	Ayanavaram, Jamalia, Otteri, Pattalam, Perambur
72	Puliyanthope
73	Jamalia, Otteri, Pattalam, Puliyanthope
74	Ayanavaram, Kilpauk, Nammalvarpet, Otteri
75	Kosapet, Otteri
76	Choolal, Kosapet, Otteri, Pattalam
77	Choolal, Puliyanthope
78	Choolal, Kosarpet, Perumalpet, Purasaiwakkam

It's highly populated and crowded during the weekends due to its proximity to commercial establishments like the Central Railway Station, Madhavaram Milk Colony, Perambur Railway stations and other such important places. As shown in the map below, the Zone consists of tourist alighting points, commercial regions, busy marketplaces and residential areas.

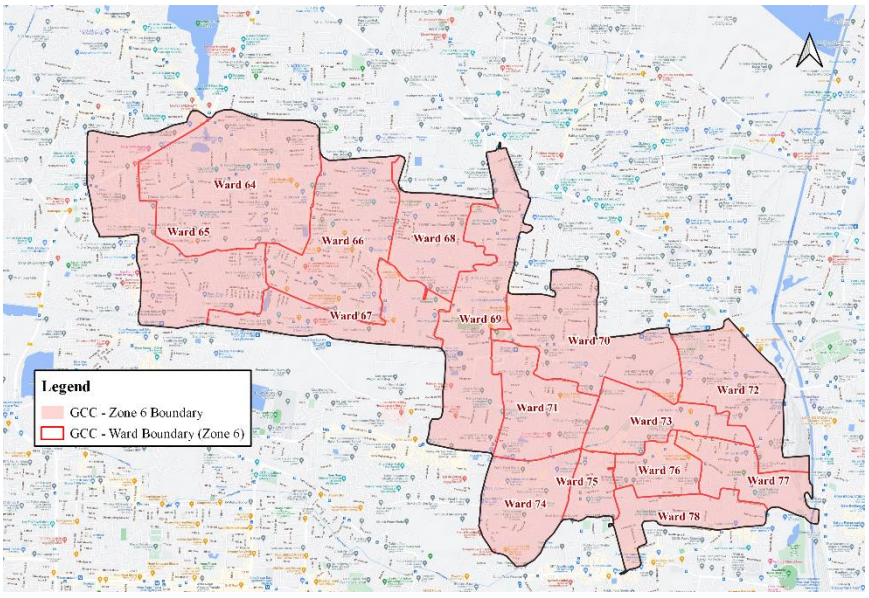

Figure 6: Ward Map of Zone 6

Asset Inventory

The survey team visited each toilet to check the status of the inventory and assess the condition & quality of the toilet in the Zone.

Toilet Presence

The survey team visited every toilet and classified it into PCT, Standalone Urinal, Standalone Bathing, and Modular Toilet in Zone 6 locations under different categories of work i.e., Major Refurbishment, Minor Refurbishment and New Construction. The table below provides the distribution of toilets in Zone 6.

Table 12: No of Toilet Locations in Zone 6

Type of Work	PCT	Standalone Urinal	Stand-alone Bathing	Modular Toilet	Grand Total
Refurbishment (Major) of Toilets	7	3	4	3	17
Refurbishment (Minor) of Toilets	71	8		2	81
New construction of Toilets	24	11		1	36
Grand Total	**102**	**22**	**4**	**6**	**134**

As recorded by the survey team, in Zone 6 - 75% of the toilets are PCTs, with 22 Standalone urinals, 4 Standalone bathing units and 6 Modular toilets. In terms of geographical presence and spread of toilets, the map below depicts the same for Zone 6.

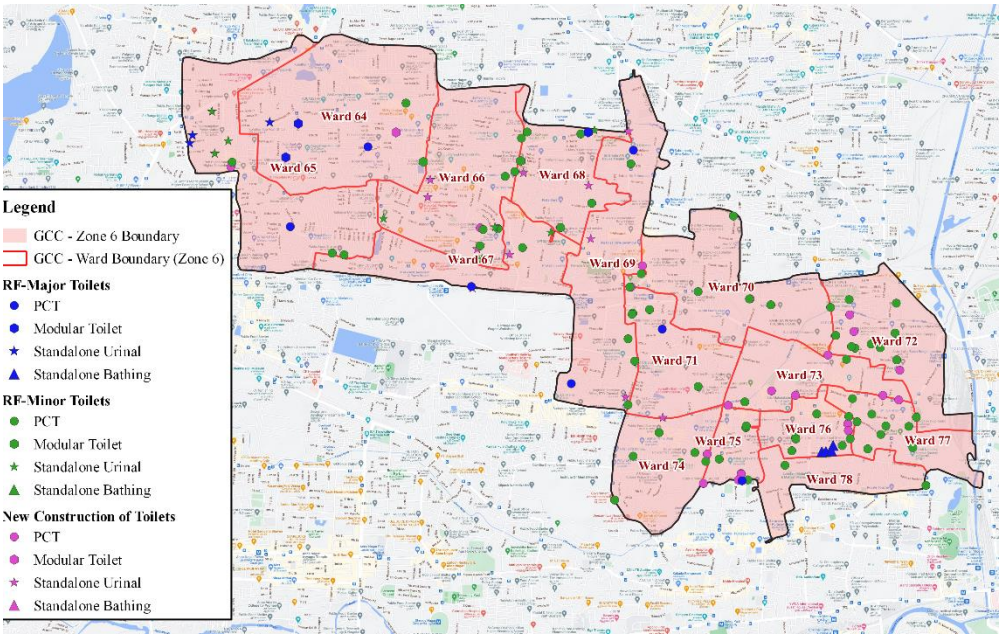

Figure 7: Geo Visualization of Toilet Locations of Zone 6

The survey team visited every toilet and counted the number of Toilets seats available. The toilet seats were classified as PCTs -- Men, Women, Urinal and Bathing space inside each toilet. Further, men and women seats are classified based on the closet type i.e., Indian, and Western type, their numbers are measured and given as Total (Men + Women) for each type of work

and overall count. The No. of Urinal seats present inside the PCT count were taken separately and it was exclusively only for men. Bathing spaces inside the PCT were counted individually. Similarly for the no. of seats for each standalone urinal, no. of bathing space inside each bathing unit and no. of seats inside each Modular Toilets are taken. All the counts are given table below.

Table 13: Classification of Toilet Counters in Zone 6

Type of Work	*PCT*									*Standalone*			*Grand Total (PCT + Standalone)*
	Men		*Total Men*	*Women*		*Total Women*	*Total (Men + Women)*	*Urinal*	*Bathing*	*Urinal*	*Bathing*	*Modular Toilet*	
	Indian	*Western*		*Indian*	*Western*								
Refurbishment (Major)	12	2	14	14	2	16	**30**	0	5	3	4	4	**46**
Refurbishment (Minor)	272	12	284	267	14	281	**565**	7	76	9		4	**661**
New construction	112	5	117	95	8	103	**220**	0	38	22		1	**281**
Grand Total	396	19	415	376	24	400	**815**	**7**	**119**	**34**	**4**	**9**	**988**

As given the table above, there are 815 seats for both Men and Women together with almost equitable gender distribution of seats – 51% for Men and 49% for women with 7 Urinals, 119 Bathing spaces in PCTs. In terms of standalone facilities there are 34 Urinals, 4 Bathing spaces and 9 Modular Toilet in the Zone.

Toilet Ward Presence

Based on the survey the ward wise distribution of the toilets is presented below.

Table 14: Presence of Toilet Locations by Wards in Zone 6

Ward	PCT	Standalone Urinal	Standalone Bathing	Modular Toilet	Grand Total
64	5	5			10
65	2	1		4	7
66	1	1			2
67	2	4		2	8
68	10	5			15
69	5	2			7
70	10	3			13
71	6	1			7
72	13				13
73	8				8
74	7				7
75	8				8
76	13		4		17
77	9				9
78	3				3
Grand Total	**102**	**22**	**4**	**6**	**134**

As per the survey, 25% of the PCTs are in two wards – ward 73 and ward 76. Standalone urinals are not available in wards – 72 to & 78. Standalone bathing is only available in ward 76 and Modular Toilets are available in just two wards – ward 65 & 67.

Toilet Category

As per the Assessment framework and based on the survey, the Toilets were classified into the following categories.

Table 15: Distribution of Toilet by Categories by Wards in Zone 6

Ward	PCT					Standalone Urinal			Standalone Bathing		Modular Toilet			Grand Total
	P	*C*	*T*	*I*	*Total*	*P*	*T*	*Total*	*C*	*Total*	*P*	*T*	*Total*	
64	2	1		2	**5**	5		**5**						**10**
65			1	1	**2**	1		**1**			3	1	**4**	**7**
66			1		**1**		1	**1**						**2**
67	1	1			**2**	2	2	**4**				2	**2**	**8**
68	4	2	1	3	**10**	4	1	**5**						**15**
69	1	1	3		**5**		2	**2**						**7**
70	2	3	5		**10**		3	**3**						**13**
71	2	2	2		**6**		1	**1**						**7**
72	2	8	3		**13**									**13**
73		5	2	1	**8**									**8**
74	3	3	1		**7**									**7**
75	1	7			**8**									**8**
76	5	7	1		**13**				4	**4**				**17**
77	2	4	3		**9**									**9**
78		1	2		**3**									**3**
Grand Total	25	45	25	7	**102**	12	10	**22**	4	**4**	3	3	**6**	**134**
Type of Category: P - Public, C - Community, T - Transit, I - Institutional														

As per the table, almost 1/3rd of the Toilets are Community toilet facilities, and 30% being Public Toilets facilities. The transit facilities account for 28% of the toilet facilities in Zone 6.

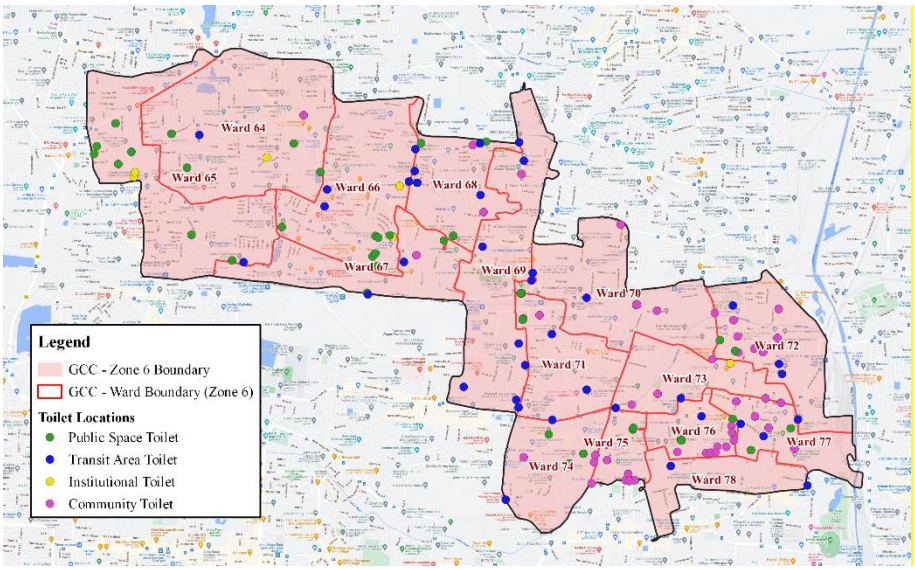

Figure 8: Geo Visualization of Toilet Locations by Categories by Wards in Zone 6

Toilet Condition & Quality

As per the Assessment framework and based on the field assessment of the condition of the Toilets, the toilets were classified by Quality as shown in the table below.

Table 16: Distribution of Toilet by Condition and Quality by Wards in Zone 6

Ward	Good	Bad		Demolished	Redevelopment*	Grand Total
	In- Use	In - Use	Defunct			
64	5	4	1			**10**
65	2	1	4			**7**
66	1				1	**2**
67	2		4		2	**8**
68	6	4	1		4	**15**
69	1	4			2	**7**
70		6	3	1	3	**13**
71		1	3	1	2	**7**
72	2	5	5	1		**13**
73		6	2			**8**
74	2	1	1	3		**7**
75	1	4	1	2		**8**
76	3	2	10	1	1	**17**
77		3	4	2		**9**
78		2	1			**3**
Grand Total	25	43	40	11	15	**134**

Redevelopment – Toilets which are under construction, under renovation

As per the table, less than 20% of the PCTs are in good condition. About 62% of the PCTs are in bad condition --- with about half of them (43 out of 83) being used and another half (40 out of 83) in defunct condition. The balance about 20% of the PCTs are in demolished or redevelopment condition in Zone 6.

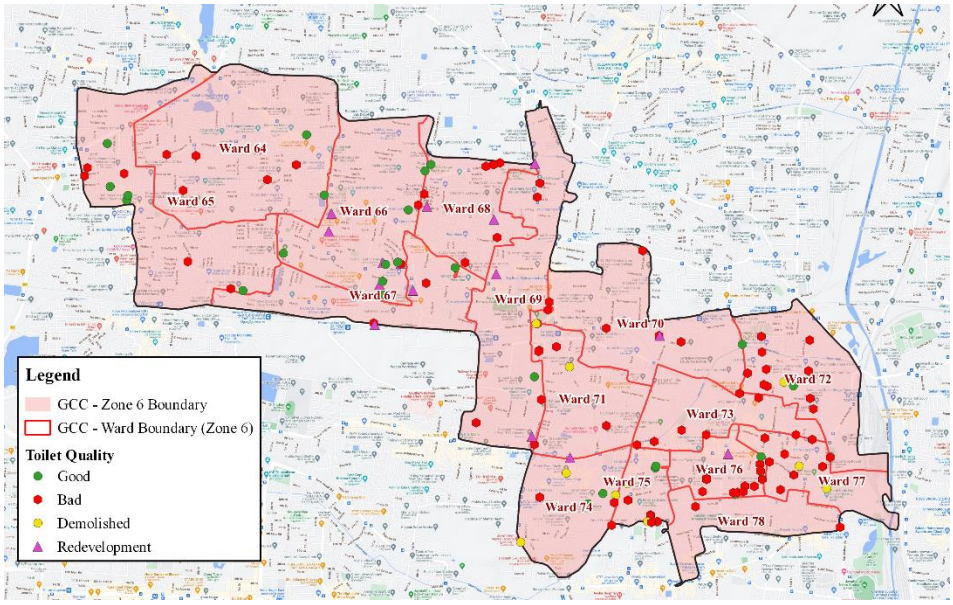

Figure 9: Geo Visualization of Toilet by Condition and Quality by Wards in Zone 6

Table 17: No of Bathing Counters in Toilets Locations in Zone 6

Type of Work	Available PCT Locations	Bathing	
		Locations	Rooms
Refurbishment (Major) of Toilets	7	2	5
Refurbishment (Minor) of Toilets	71	30	76
New construction of Toilets	24	14	38
Grand Total	**102**	**46**	**119**
	100%	**45%**	

As per the survey, it is evident 45% of the PCT's are having bathing facilities across wards in Zone 6.

C. *Survey findings of Zone 9 (Marina only) – Greater Chennai Corporation*

Zone 9 - Teynampet is one of the busiest commercial localities in the city of Chennai. Part of the city's central business district, it has Teynampet, Mylapore, West Mambalam, Alwarpet, Nandanam, T.Nagar, Nungabakkam and considered as costliest real estate and largest shopping district by revenue. . The Zone has 18 wards from ward number 109 to 126 and their ward areas are given in below table.

Table 18: List of Areas by Wards in Zone 9

Ward	Ward Areas
109	Choolaimedu, Chepauk
110	Chepauk, Nungambakkam, Chetpet, T Nagar
111	Gopalapuram, Nungambakkam, Royapettah, Teynampet, Thousand Lights
112	Choolaimedu, Kodambakkam
113	T Nagar, Chepauk, Nungambakkam, Teynampet
114	Chepauk, Royapettah, Triplicane
115	Royapettah, Triplicane
116	Chepauk, Triplicane
117	T Nagar, Teynampet
118	Gopalapuram, Royapettah, Teynampet
119	Mylapore, Royapettah, Triplicane
120	Royapettah, Triplicane
121	Icehouse, Mylapore, Royapettah
122	Alwarpet, Nandanam, RA Puram, T Nagar
123	Abiramapuram, Alwarpet, Mandavelipakkam, Mylapore, RA Puram, Teynampet, West Mambalam
124	Mylapore, RA Puram
125	Chepauk, Mylapore
126	Mandavelipakkam, Mylapore, RA Puram

This location is highly residential and suitable for gig economy. The area abounds with multi-national commercial establishments, important government offices, foreign consulates, educational institutions, shopping malls, sporting facilities, tourist spots, star hotels, restaurants, and cultural centers. The geographical spread of these is indicated in the map below.

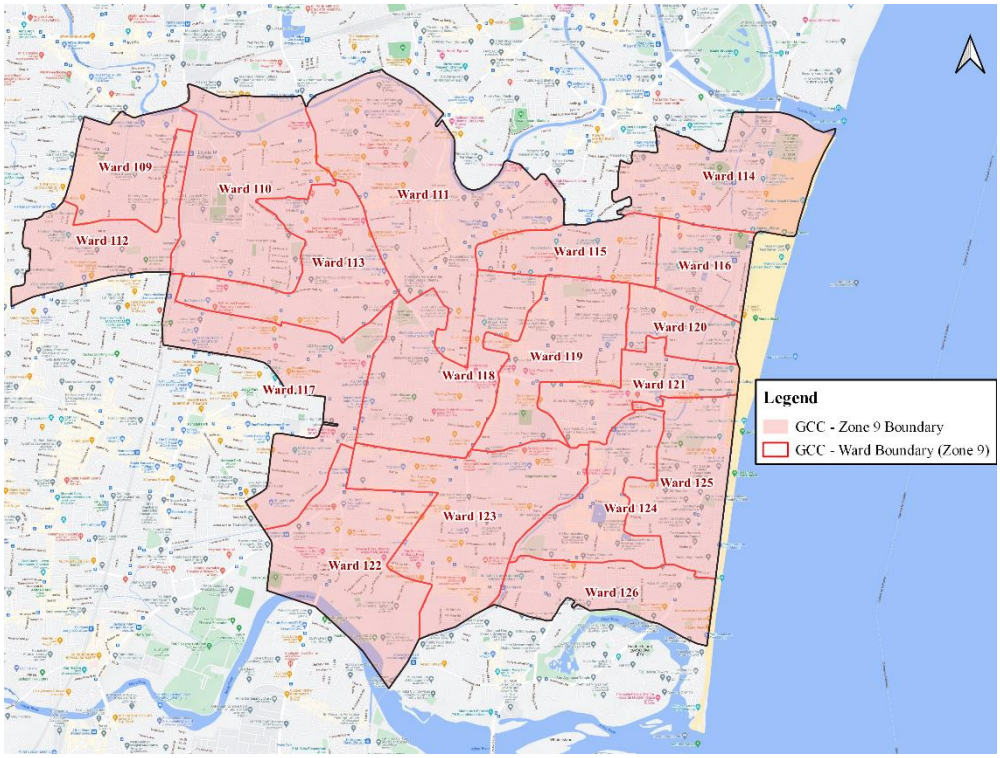

Figure 10: Ward Map of Zone 9

Asset Inventory

The survey team was given with 5 wards only from Zone 9. The Ward numbers assigned were 114,116,121,125 and 126. They visited each toilet to check the status of the inventory and assess the condition & quality of the toilet in the Zone.

Toilet Presence

The survey team visited every toilet and classified it into PCT, Standalone Urinal, Standalone Bathing, and Modular Toilet in Zone 9 (Marina only) locations under different categories of work i.e., Major Refurbishment, Minor Refurbishment and New Construction. The table below provides the distribution of toilets in Zone 9 (Marina only).

Table 19: No of Toilet Locations in Zone 9 (Marina only)

Type of Work	PCT	Standalone Urinal	Stand-alone Bathing	Modular Toilet	Grand Total
Refurbishment (Major) of Toilets	-				0
Refurbishment (Minor) of Toilets	8				8
New construction of Toilets	3				3
Grand Total	**11**	**0**	**0**	**0**	**11**

As observed and recorded by the survey team, there are 11 PCTs, no Standalone Urinals, Bathing unit, Modular Toilet in the Zone. The geographical spread & distribution of the toilets in Zone 9 (Marina only) as shown in the map below.

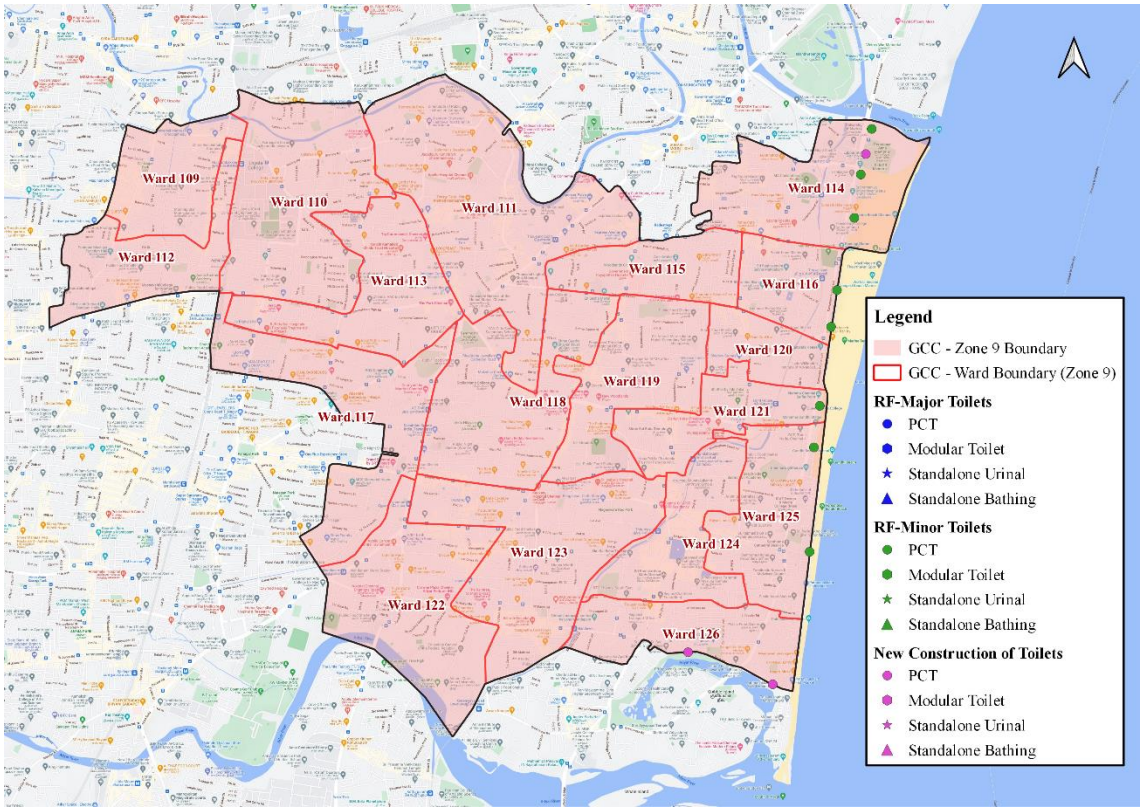

Figure 11: Geo Visualization of Toilet Locations of Zone 9 (Marina only)

The survey team visited every toilet and counted the number of seats available in each toilet. The number of seats were classified by PCTs are given as Men, Women, Urinal and no of Bathing space inside each toilet. Further men and women seats are classified based on the closet type i.e., Indian, and Western type, their numbers were counted and given as Total (Men + Women) for each type of work and overall count. The no. of Urinal seats present inside the PCT count were taken separately and it was exclusively only for men. Bathing spaces inside the PCT were counted individually. Similarly for the no. of seats for each standalone urinal, no. of bathing space inside each bathing unit and no. of seats inside each Modular Toilets are taken. All these counts are given in table for each type of work.

Table 20: Classification of Toilet Counters in Zone 9 (Marina only)

Type of Work	PCT									Standalone			Grand Total (PCT + Standalone)
	Men		Total Men	Women		Total Women	Total (Men + Women)	Urinal	Bathing	Urinal	Bathing	Modular Toilet	
	Indian	Western		Indian	Western								
Refurbishment (Major) of Toilets							**0**						**0**
Refurbishment (Minor) of Toilets	26	11	37	27	6	33	**70**	35	2				**107**
New construction of Toilets	8	0	8	8	0	8	**16**						**16**
Grand Total	34	11	45	35	6	41	**86**	**35**	**2**	**0**	**0**	**0**	**123**

There were 86 seats for both Men and Women together with almost an equitable gender distribution of the seats – 52% for men and 48% for women with 35 Urinals & 2 Bathing spaces in PCTs. There are no Standalone Urinals, Bathing spaces, Modular Toilet in Zone 9 (Marina only).

Toilet Ward Presence

Based on the survey the ward wise distribution of the toilets is presented below.

Table 21: Presence of Toilet Locations by Wards in Zone 9 (Marina only)

Ward	PCT	Standalone Urinal	Standalone Bathing	Modular Toilet	Grand Total
114	4				4
116	2				2
121	2				2
125	2				2
126	1				1
Grand Total	**11**	**0**	**0**	**0**	**11**

As evident from the table above, almost 1/3rd of the PCTs is in Ward 114, and three wards have 2 PCTs each. Ward 126 has only one PCT.

Toilet Category

As per the Assessment framework and based on the survey, the Toilets were classified into the following categories.

Table 22: Distribution of Toilet by Categories by Wards in Zone 9 (Marina only)

Ward	PCT		Grand Total
	P	T	
114	4		**4**
116	2		**2**
121	2		**2**
125		2	**2**
126	1		**1**
Grand Total	9	2	**11**
Type of Category: P - Public, T - Transit			

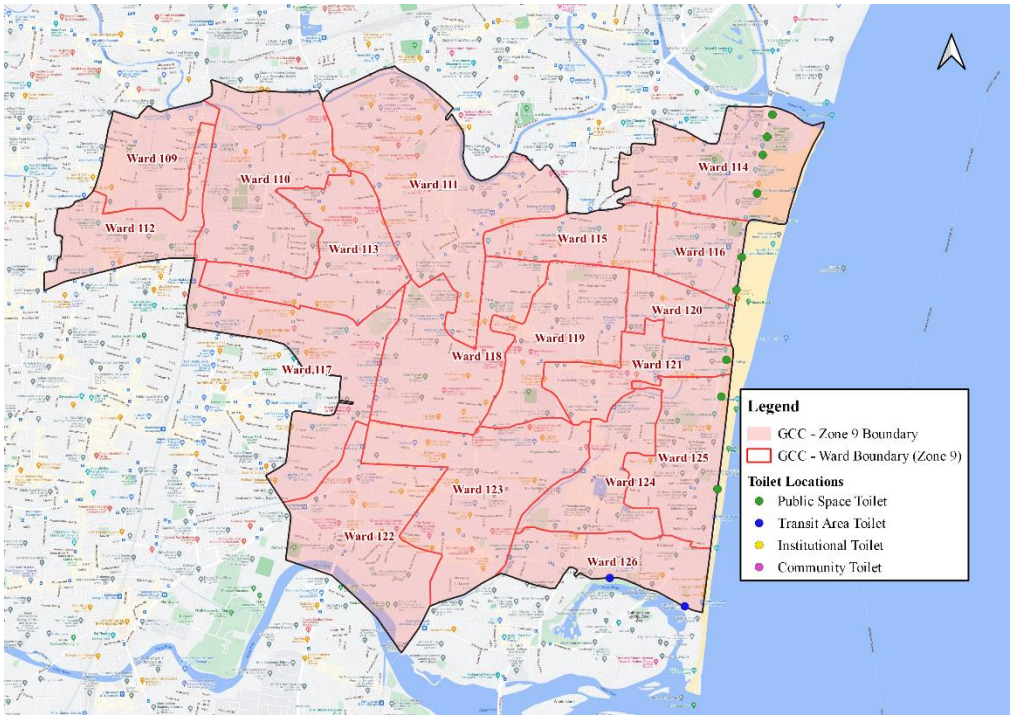

Figure 12: Geo Visualization of Toilet Locations by Categories by Wards in Zone 9 (Marina only)

Toilet Condition & Quality

As per the Assessment Framework and based on the field assessment of the condition of the toilets, the toilets were classified by Quality as shown in the table below.

Table 23: Distribution of Toilet by Condition and Quality by Wards in Zone 9 (Marina only)

Ward	Good	Bad		Redevelopment	Grand Total
	In-Use	In-Use	Defunct		
114	2		1	1	**4**
116	2				**2**
121	2				**2**
125		2			**2**
126			1		**1**
Grand Total	6	2	2	1	**11**

As recorded by the survey, 55% of the PCTs are in good condition. About 1/3rd are in bad condition – with half of them (2 out of 4) in use and other half (2 out of 4) defunct.

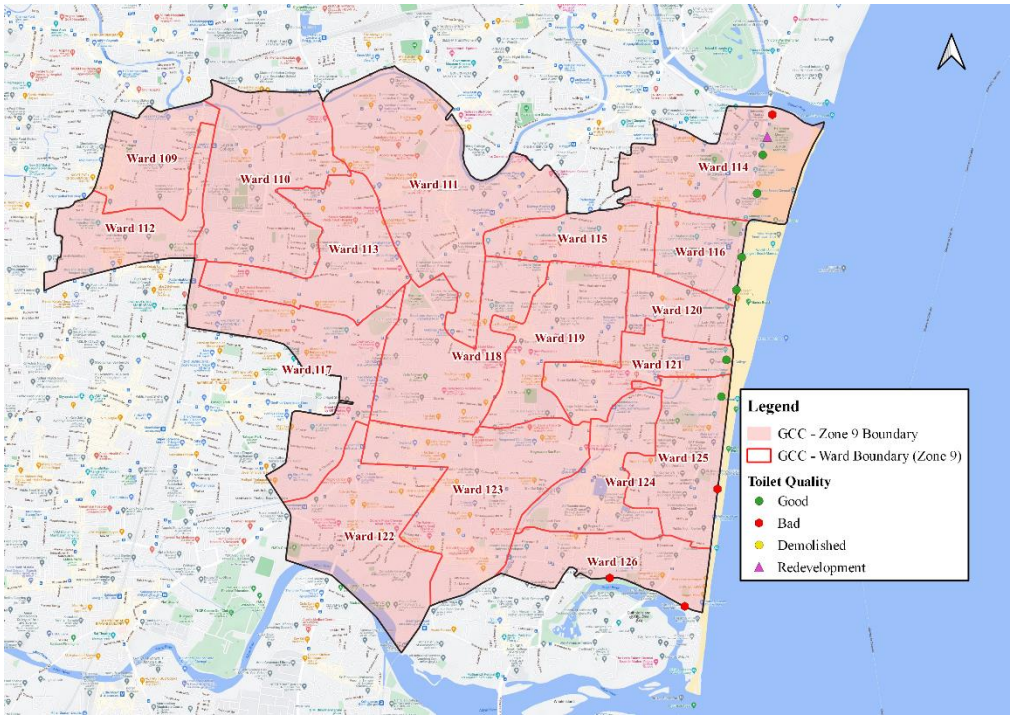

Figure 13: Geo Visualization of Toilet by Condition and Quality by Wards in Zone 9 (Marina only)

Table 24: No of Bathing Counters in Toilets Locations in Zone 9 (Marina only)

Type of Work	Available PCT Locations	Bathing	
		Locations	Rooms
Refurbishment (Major) of Toilets			
Refurbishment (Minor) of Toilets	8	1	2
New construction of Toilets	3		
Grand Total	**11**	**1**	**2**
	100%	**9%**	