

Vertical Transportation System
Preliminary Traffic Analysis Results

Project : MALAD CHSL

Building Type : Mid End Residential Building
Ground + Podium 1 to 5 (Parking) + Amenity + Service Floor + Floor 9 to
Floor 35 (Residential Floor) + Service floor 2 + Floor 37 to 57 (Residential
floor)

Version : 260824 B

Reference:

Drawings & Information received from Client via mail dated 14th August 2026.

Assumptions:

1. Mid end residential building.
2. Population has been considered as per NBC 2026.
 - 2 BHK - 4 residents
 - 3 BHK - 5 residents
 - 4 BHK - 6 residentsSeparate service elevator.
3. Separate shuttle elevator.
4. Traffic analysis calculation is considering resident population on main passenger elevator.
5. Arrival rate – 5-7%

For Residential building, Quality & Quantity of service as recommended by NBC 2026

- **Quantity of Service (5-minute handling capacity)**

Mid end building: 6 to 8%

- **Quality of Service (Interval)**

Mid end building: ≤ 80 seconds

- **Quality of Service (Average waiting time)**

Mid end building: ≤ 45 seconds

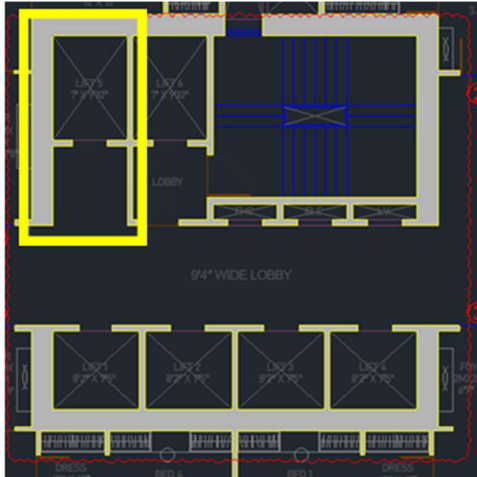
Traffic Analysis Results

With separate shuttle elevators

Tower	Type of elevator	Floor Served	Number of elevators in group	Available Hoist-way (mm) width x Depth	Car size (mm) width depth	Capacity (kg/ pax)	Speed (mps)	% Handling Capacity (population in 5 min)	Interval (sec)	Average waiting Time (Sec)
Mid-End Residential Building								Calculated using Up peak Analysis		Calculated using Conventional
								Target Handling Capacity = 6 to 8 %	Target Interval (sec) = below 80 sec	Target AWT = below 45 sec
Tower A 2 x 4 BHK + 2 x 3 BHK (Resident population 1020)	Passenger	Ground + Amenity Floor + Floor 9 to Floor 57	5 (5 car group)	2475 x 2250	1800 x 1400	1088 kg (16 pax)	4.0	6.8	55.4	48
	Service	Ground to Floor 57	1 (Simplex)	2125 x 3000	1200 x 2100	1360 kg (20 pax)	4.0			
Tower B 4 x 2 BHK (Resident population 744)	Passenger	Ground + Amenity Floor + Floor 9 to Floor 57	5 (5 car group)	2545 x 2250	1800 x 1400	1088 kg (16 pax)	4.0	6.8	57	40
	Service	Ground to Floor 57	1 (Simplex)	2500 x 2230	1300 x 2400	1360 kg (20 pax)	4.0			
Tower C 3 x 3 BHK + 1 x 4 BHK (Resident population 978)	Passenger	Ground + Amenity Floor + Floor 9 to Floor 57	5 (5 car group)	2695 x 2300	1800 x 1400	1088 kg (16 pax)	4.0	6.5	57	46
	Service	Ground to Floor 57	1 Simplex	2300 x 3000	1500 x 1750	1360 kg (20 pax)	4.0			

As per the table shown below, the handling capacity and interval targets are achieved with 5 elevators of 1088 kg capacity. Only in Tower A and Tower C, the achieved waiting time is slightly higher than the target waiting time of 45 sec.

Comments on existing layout:



- For Tower A it is recommend to have all elevators in a single lobby.
- If the marked elevator is shifted towards the main lobby, all 5 elevators can be grouped together.
- We recommend providing a service elevator with a hoist-way size of 2300 mm × 3000 mm to accommodate a 1632 kg (24-passenger) elevator with a wider door opening.
- A higher-capacity elevator is more suitable for the movement of furniture, interior materials, and other bulky items.

Appendix A

Draft Population assumption sheet														Residential Project				
Malad Wing A								Floor Levels (m)	Floor to Floor Height (m)	Reference: drawings received from Architect via mail dated 08th August 2026				Occupancy Pattern(Mid-end)				
Floors / Slabs	Floor Designation	Definition	Flat 1	Flat 2	Flat 3	Flat 4	Residents			Resident Service Staff	Service Floating Staff	Total residents	Residents Per Flat	Resident Service Staff(per Flat)	Floating Service Staff(per Flat)			
													3 BHK	5	0	2		
												4 BHK	6	1	3			
1	Ground	Double Height Lobby					0.0	4.2					Residents	1020				
2	Floor 1						4.20	4.2					Resident Service Staff	90				
3	Floor 2 / Podium 1	Parking	Parking				8.40	3.6					Service Staff-Floating	385				
4	Floor 3/ Podium 2	Parking	Parking				12.00	3.6					Total Population	1495				
5	Floor 4 / Podium 3	Parking	Parking				15.60	3.6										
6	Floor 5 / Podium 4	Parking	Parking				19.20	3.6										
7	Floor 6 / Podium 5	Parking	Parking				22.80	3.6										
8	Floor 7	Amenity Floor	NA				26.40	4.2										
9	Floor 8	Service Floor 1	NA				30.60	3.0										
10	Floor 9	Residential Floor 1	4	3	3	4	33.60	3.5	22	2	10	34						
11	Floor 10	Residential Floor 2	4	3	3	4	37.10	3.5	22	2	10	34						
12	Floor 11	Residential Floor 3	4	3	3	4	40.60	3.5	22	2	10	34						
13	Floor 12	Residential Floor 4	4	3	3	4	44.10	3.5	22	2	10	34						
14	Floor 13	Residential Floor 5	4	3	3	4	47.60	3.5	22	2	10	34						
15	Floor 14	Residential Floor 6	4	3	3	4	51.10	3.5	22	2	10	34						
16	Floor 15	Residential Floor 7	4	3	3	0	54.60	3.5	16	1	7	24						
17	Floor 16	Residential Floor 8	4	3	3	4	58.10	3.5	22	2	10	34						
18	Floor 17	Residential Floor 9	4	3	3	4	61.60	3.5	22	2	10	34						
19	Floor 18	Residential Floor 10	4	3	3	4	65.10	3.5	22	2	10	34						
20	Floor 19	Residential Floor 11	4	3	3	4	68.60	3.5	22	2	10	34						
21	Floor 20	Residential Floor 12	4	3	3	4	72.10	3.5	22	2	10	34						
22	Floor 21	Residential Floor 13	4	3	3	4	75.60	3.5	22	2	10	34						
23	Floor 22	Residential Floor 14	4	3	3	0	79.10	3.5	16	1	7	24						
24	Floor 23	Residential Floor 15	4	3	3	4	82.60	3.5	22	2	10	34						
25	Floor 24	Residential Floor 16	4	3	3	4	86.10	3.5	22	2	10	34						
26	Floor 25	Residential Floor 17	4	3	3	4	89.60	3.5	22	2	10	34						
27	Floor 26	Residential Floor 18	4	3	3	4	93.10	3.5	22	2	10	34						
28	Floor 27	Residential Floor 19	4	3	3	4	96.60	3.5	22	2	10	34						
29	Floor 28	Residential Floor 20	4	3	3	4	100.10	3.5	22	2	10	34						
30	Floor 29	Residential Floor 21	4	3	3	0	103.60	3.5	16	1	7	24						
31	Floor 30	Residential Floor 22	4	3	3	4	107.10	3.5	22	2	10	34						
32	Floor 31	Residential Floor 23	4	3	3	4	110.60	3.5	22	2	10	34						
33	Floor 32	Residential Floor 24	4	3	3	4	114.10	3.5	22	2	10	34						
34	Floor 33	Residential Floor 25	4	3	3	4	117.60	3.5	22	2	10	34						
35	Floor 34	Residential Floor 26	4	3	3	4	121.10	3.5	22	2	10	34						
36	Floor 35	Residential Floor 27	4	3	3	4	124.60	3.5	22	2	10	34						
37	Floor 36	Service Floor					128.10	3.0	0	0	0	0						
38	Floor 37	Residential Floor 28	4	3	3	0	131.10	3.5	16	1	7	24						
39	Floor 38	Residential Floor 29	4	3	3	4	134.60	3.5	22	2	10	34						
40	Floor 39	Residential Floor 30	4	3	3	4	138.10	3.5	22	2	10	34						
41	Floor 40	Residential Floor 31	4	3	3	4	141.60	3.5	22	2	10	34						
42	Floor 41	Residential Floor 32	4	3	3	4	145.10	3.5	22	2	10	34						
43	Floor 42	Residential Floor 33	4	3	3	4	148.60	3.5	22	2	10	34						
44	Floor 43	Residential Floor 34	4	3	3	4	152.10	3.5	22	2	10	34						
45	Floor 44	Residential Floor 35	4	3	3	0	155.60	3.5	16	1	7	24						
46	Floor 45	Residential Floor 36	4	3	3	4	159.10	3.5	22	2	10	34						
47	Floor 46	Residential Floor 37	4	3	3	4	162.60	3.5	22	2	10	34						
48	Floor 47	Residential Floor 38	4	3	3	4	166.10	3.5	22	2	10	34						
49	Floor 48	Residential Floor 39	4	3	3	4	169.60	3.5	22	2	10	34						
50	Floor 49	Residential Floor 40	4	3	3	4	173.10	3.5	22	2	10	34						
51	Floor 50	Residential Floor 41	4	3	3	4	176.60	3.5	22	2	0	24						
52	Floor 51	Residential Floor 42	4	3	3	0	180.10	3.5	16	1	0	17						
53	Floor 52	Residential Floor 43	4	3	3	4	183.60	3.5	22	2	0	24						
54	Floor 53	Residential Floor 44	4	3	3	4	187.10	3.5	22	2	0	24						
55	Floor 54	Residential Floor 45	4	3	3	4	190.60	3.5	22	2	0	24						
56	Floor 55	Residential Floor 46	4	3	3	4	194.10	3.5	22	2	0	24						
57	Floor 56	Residential Floor 47	4	3	3	4	197.60	3.5	22	2	0	24						
58	Floor 57	Residential Floor 48	4	3	3	4	201.10	3.5	22	2	0	24						
59	Terrace						Total	204.60					1020	90	385	1495		
								Residents	Resident Service Staff	Service Floating Staff	Total residents							
Assumptions																		
Floating Service Staff includes drivers,maids,milkmnen etc.																		

Draft Population assumption sheet										Residential Project								
Malad Wing B							Floor Levels (m)	Floor to Floor Height (m)	Reference: drawings received from Architect via mail dated 08th August 2026				Occupancy Pattern(Mid-end)					
Floors / Slabs	Floor Designation	Definition	Flat 1	Flat 2	Flat 3	Flat 4			Residents	Resident Service Staff	Service Floating Staff	Total residents	2 BHK	Residents Per Flat	Resident Service Staff(per Flat)	Floating Service Staff(per Flat)		
1	Ground	Double Height Lobby					0.0	4.2					Residents	744				
2	Floor 1						4.20	4.2					Resident Service Staff	0				
3	Floor 2 / Podium 1	Parking				Parking	8.40	3.6					Service Floating Staff	372				
4	Floor 3/ Podium 2	Parking				Parking	12.00	3.6					Total Population	1116				
5	Floor 4 / Podium 3	Parking				Parking	15.60	3.6										
6	Floor 5 / Podium 4	Parking				Parking	19.20	3.6										
7	Floor 6 / Podium 5	Parking				Parking	22.80	3.6										
8	Floor 7	Amenity Floor				NA	26.40	4.2										
9	Floor 8	Service Floor 1				NA	30.60	3.0										
10	Floor 9	Residential Floor 1	2	2	2	2	33.60	3.5	16	0	8	24						
11	Floor 10	Residential Floor 2	2	2	2	2	37.10	3.5	16	0	8	24						
12	Floor 11	Residential Floor 3	2	2	2	2	40.60	3.5	16	0	8	24						
13	Floor 12	Residential Floor 4	2	2	2	2	44.10	3.5	16	0	8	24						
14	Floor 13	Residential Floor 5	2	2	2	2	47.60	3.5	16	0	8	24						
15	Floor 14	Residential Floor 6	2	2	2	2	51.10	3.5	16	0	8	24						
16	Floor 15	Residential Floor 7	2	0	2	2	54.60	3.5	12	0	6	18						
17	Floor 16	Residential Floor 8	2	2	2	2	58.10	3.5	16	0	8	24						
18	Floor 17	Residential Floor 9	2	2	2	2	61.60	3.5	16	0	8	24						
19	Floor 18	Residential Floor 10	2	2	2	2	65.10	3.5	16	0	8	24						
20	Floor 19	Residential Floor 11	2	2	2	2	68.60	3.5	16	0	8	24						
21	Floor 20	Residential Floor 12	2	2	2	2	72.10	3.5	16	0	8	24						
22	Floor 21	Residential Floor 13	2	2	2	2	75.60	3.5	16	0	8	24						
23	Floor 22	Residential Floor 14	2	0	2	2	79.10	3.5	12	0	6	18						
24	Floor 23	Residential Floor 15	2	2	2	2	82.60	3.5	16	0	8	24						
25	Floor 24	Residential Floor 16	2	2	2	2	86.10	3.5	16	0	8	24						
26	Floor 25	Residential Floor 17	2	2	2	2	89.60	3.5	16	0	8	24						
27	Floor 26	Residential Floor 18	2	2	2	2	93.10	3.5	16	0	8	24						
28	Floor 27	Residential Floor 19	2	2	2	2	96.60	3.5	16	0	8	24						
29	Floor 28	Residential Floor 20	2	2	2	2	100.10	3.5	16	0	8	24						
30	Floor 29	Residential Floor 21	2	0	2	2	103.60	3.5	12	0	6	18						
31	Floor 30	Residential Floor 22	2	2	2	2	107.10	3.5	16	0	8	24						
32	Floor 31	Residential Floor 23	2	2	2	2	110.60	3.5	16	0	8	24						
33	Floor 32	Residential Floor 24	2	2	2	2	114.10	3.5	16	0	8	24						
34	Floor 33	Residential Floor 25	2	2	2	2	117.60	3.5	16	0	8	24						
35	Floor 34	Residential Floor 26	2	2	2	2	121.10	3.5	16	0	8	24						
36	Floor 35	Residential Floor 27	2	2	2	2	124.60	3.5	16	0	8	24						
37	Floor 36	Service Floor					128.10	3.0	0	0	0	0						
38	Floor 37	Residential Floor 28	2	0	2	2	131.10	3.5	12	0	6	18						
39	Floor 38	Residential Floor 29	2	2	2	2	134.60	3.5	16	0	8	24						
40	Floor 39	Residential Floor 30	2	2	2	2	138.10	3.5	16	0	8	24						
41	Floor 40	Residential Floor 31	2	2	2	2	141.60	3.5	16	0	8	24						
42	Floor 41	Residential Floor 32	2	2	2	2	145.10	3.5	16	0	8	24						
43	Floor 42	Residential Floor 33	2	2	2	2	148.60	3.5	16	0	8	24						
44	Floor 43	Residential Floor 34	2	2	2	2	152.10	3.5	16	0	8	24						
45	Floor 44	Residential Floor 35	2	0	2	2	155.60	3.5	12	0	6	18						
46	Floor 45	Residential Floor 36	2	2	2	2	159.10	3.5	16	0	8	24						
47	Floor 46	Residential Floor 37	2	2	2	2	162.60	3.5	16	0	8	24						
48	Floor 47	Residential Floor 38	2	2	2	2	166.10	3.5	16	0	8	24						
49	Floor 48	Residential Floor 39	2	2	2	2	169.60	3.5	16	0	8	24						
50	Floor 49	Residential Floor 40	2	2	2	2	173.10	3.5	16	0	8	24						
51	Floor 50	Residential Floor 41	2	2	2	2	176.60	3.5	16	0	8	24						
52	Floor 51	Residential Floor 42	2	0	2	2	180.10	3.5	12	0	6	18						
53	Floor 52	Residential Floor 43	2	2	2	2	183.60	3.5	16	0	8	24						
54	Floor 53	Residential Floor 44	2	2	2	2	187.10	3.5	16	0	8	24						
55	Floor 54	Residential Floor 45	2	2	2	2	190.60	3.5	16	0	8	24						
56	Floor 55	Residential Floor 46	2	2	2	2	194.10	3.5	16	0	8	24						
57	Floor 56	Residential Floor 47	2	2	2	2	197.60	3.5	16	0	8	24						
58	Floor 57	Residential Floor 48	2	2	2	2	201.10	3.5	16	0	8	24						
59		Terrace					Total	204.60										
									744	0	372	1116						
									Residents	Resident Service Staff	Service Floating Staff	Total residents						
Assumptions																		
Floating Service Staff includes drivers,maids,milkmnen etc.																		

Draft Population assumption sheet													Residential Project			
Malad Wing C							Floor Levels (m)	Floor to Floor Height (m)	Reference: drawings received from Architect via mail dated 09th August 2020				Occupancy Pattern(Mid-end)			
Floors / Slabs	Floor Designation	Definition	Flat 1	Flat 2	Flat 3	Flat 4			Residents	Resident Service Staff	Service Floating Staff	Total residents	3 BHK	Residents Per Flat	Resident Service Staff(per Flat)	Floating Service Staff(per Flat)
1	Ground	Double Height Lobby					0.0	4.2					Residents	978		
2	Floor 1		4.20	4.2					Resident Service Staff	48						
3	Floor 2 / Podium 1	Parking					8.40	3.6					Service Staff- Floating	350		
4	Floor 3/ Podium 2	Parking					12.00	3.6					Total Population	1376		
5	Floor 4 / Podium 3	Parking					15.60	3.6								
6	Floor 5 / Podium 4	Parking					19.20	3.6								
7	Floor 6 / Podium 5	Parking					22.80	3.6								
8	Floor 7	Amenity Floor					26.40	4.2								
9	Floor 8	Service Floor 1					30.60	3.0								
10	Floor 9	Residential Floor 1	3	3	3	4	33.60	3.5	21	1	9	31				
11	Floor 10	Residential Floor 2	3	3	3	4	37.10	3.5	21	1	9	31				
12	Floor 11	Residential Floor 3	3	3	3	4	40.60	3.5	21	1	9	31				
13	Floor 12	Residential Floor 4	3	3	3	4	44.10	3.5	21	1	9	31				
14	Floor 13	Residential Floor 5	3	3	3	4	47.60	3.5	21	1	9	31				
15	Floor 14	Residential Floor 6	3	3	3	4	51.10	3.5	21	1	9	31				
16	Floor 15	Residential Floor 7	3	3	0	4	54.60	3.5	16	1	7	24				
17	Floor 16	Residential Floor 8	3	3	3	4	58.10	3.5	21	1	9	31				
18	Floor 17	Residential Floor 9	3	3	3	4	61.60	3.5	21	1	9	31				
19	Floor 18	Residential Floor 10	3	3	3	4	65.10	3.5	21	1	9	31				
20	Floor 19	Residential Floor 11	3	3	3	4	68.60	3.5	21	1	9	31				
21	Floor 20	Residential Floor 12	3	3	3	4	72.10	3.5	21	1	9	31				
22	Floor 21	Residential Floor 13	3	3	3	4	75.60	3.5	21	1	9	31				
23	Floor 22	Residential Floor 14	3	3	0	4	79.10	3.5	16	1	7	24				
24	Floor 23	Residential Floor 15	3	3	3	4	82.60	3.5	21	1	9	31				
25	Floor 24	Residential Floor 16	3	3	3	4	86.10	3.5	21	1	9	31				
26	Floor 25	Residential Floor 17	3	3	3	4	89.60	3.5	21	1	9	31				
27	Floor 26	Residential Floor 18	3	3	3	4	93.10	3.5	21	1	9	31				
28	Floor 27	Residential Floor 19	3	3	3	4	96.60	3.5	21	1	9	31				
29	Floor 28	Residential Floor 20	3	3	3	4	100.10	3.5	21	1	9	31				
30	Floor 29	Residential Floor 21	3	3	0	4	103.60	3.5	16	1	7	24				
31	Floor 30	Residential Floor 22	3	3	3	4	107.10	3.5	21	1	9	31				
32	Floor 31	Residential Floor 23	3	3	3	4	110.60	3.5	21	1	9	31				
33	Floor 32	Residential Floor 24	3	3	3	4	114.10	3.5	21	1	9	31				
34	Floor 33	Residential Floor 25	3	3	3	4	117.60	3.5	21	1	9	31				
35	Floor 34	Residential Floor 26	3	3	3	4	121.10	3.5	21	1	9	31				
36	Floor 35	Residential Floor 27	3	3	3	4	124.60	3.5	21	1	9	31				
37	Floor 36	Service Floor					128.10	3.0	0	0	0	0				
38	Floor 37	Residential Floor 28	3	3	0	4	131.10	3.5	16	1	7	24				
39	Floor 38	Residential Floor 29	3	3	3	4	134.60	3.5	21	1	9	31				
40	Floor 39	Residential Floor 30	3	3	3	4	138.10	3.5	21	1	9	31				
41	Floor 40	Residential Floor 31	3	3	3	4	141.60	3.5	21	1	9	31				
42	Floor 41	Residential Floor 32	3	3	3	4	145.10	3.5	21	1	9	31				
43	Floor 42	Residential Floor 33	3	3	3	4	148.60	3.5	21	1	9	31				
44	Floor 43	Residential Floor 34	3	3	3	4	152.10	3.5	21	1	9	31				
45	Floor 44	Residential Floor 35	3	3	0	4	155.60	3.5	16	1	7	24				
46	Floor 45	Residential Floor 36	3	3	3	4	159.10	3.5	21	1	9	31				
47	Floor 46	Residential Floor 37	3	3	3	4	162.60	3.5	21	1	9	31				
48	Floor 47	Residential Floor 38	3	3	3	4	166.10	3.5	21	1	9	31				
49	Floor 48	Residential Floor 39	3	3	3	4	169.60	3.5	21	1	9	31				
50	Floor 49	Residential Floor 40	3	3	3	4	173.10	3.5	21	1	9	31				
51	Floor 50	Residential Floor 41	3	3	3	4	176.60	3.5	21	1	0	22				
52	Floor 51	Residential Floor 42	3	3	0	4	180.10	3.5	16	1	0	17				
53	Floor 52	Residential Floor 43	3	3	3	4	183.60	3.5	21	1	0	22				
54	Floor 53	Residential Floor 44	3	3	3	4	187.10	3.5	21	1	0	22				
55	Floor 54	Residential Floor 45	3	3	3	4	190.60	3.5	21	1	0	22				
56	Floor 55	Residential Floor 46	3	3	3	4	194.10	3.5	21	1	0	22				
57	Floor 56	Residential Floor 47	3	3	3	4	197.60	3.5	21	1	0	22				
58	Floor 57	Residential Floor 48	3	3	3	4	201.10	3.5	21	1	0	22				
59	Terrace						Total	204.60								
									978	48	350	1376				
									Residents	Resident Service Staff	Service Floating Staff	Total residents				
Assumptions																
Floating Service Staff includes drivers,maids,milkmen etc.																

“This shall not constitute final design basis report for the project”

(Last Page)