National Highways Authority of India

(Ministry of Road, Transport & Highways)
Government of India

Consultancy Services for Preparation of Feasibility for six lanes of NH-4 –Kagal - Satara Section (length 133km) in the State of Maharashtra under NHDP Phase – V (Lot 2)

TRAFFIC VOLUME COUNT SURVEY AND ANALYSIS

AUGUST 2021

G-5 & 6, Sector – 10, Dwarka, New Delhi – 110 075

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Traffic Volume Count Surveys and Analysis

1.1 Traffic Surveys

Additional traffic surveys of seven day volume count were carried out using automatic volume count surveys at both existing toll plaza locations thrice with a time gap of minimum 6 months between the two consecutive traffic volume counts. The gaps were considered due to restricted traffic movement due to oning Covid-19 pendamic. The survey has been carried out round-the-clock for seven consecutive days. The survey stations have been located away from urban agglomerations and villages to minimize interference of local traffic.

The locations of each seven day Classified traffic survey and the commencement date of each count are presented in **Table 1.1** below.

Table 1.1: Classified Traffic Volume Count Locations and dates

Section ID	Classified Traffic Survey Points Location		Commencement of survey		
			1st Cycle	2nd Cycle	3rd Cycle
1	Km 634.375	Kini Toll plaza	22.06.2019 to 28.06.2019	06.01.2020 to 12.01.2020	09.10.2020 to 14.10.2020
2	km 694.400	Taswade toll plaza	22.06.2019 to 28.06.2019	06.01.2020 to 12.01.2020	09.10.2020 to 14.10.2020

The vehicle classification system as per IRC: SP- 19:2001 was followed. This study would help in realistic forecast of traffic volume for pavement design, to optimize the cost of improvement and realistic approach in assessing economic and financial viability. Classified manual traffic counts have been recorded in 15 minutes intervals, using on the standard format.

1.2 Passenger Car Unit

All these traffic surveys have been carried in accordance with the guidelines specified by IRC: 9-1972 and IRC: 102-1988. Adopted Equivalent Passenger Car Units for the study have been presented in **Table 1.2**.

Table 1.2: PCU Adopted

Vehicle Type	PCU Values
Car/Jeep/Van/3Wheeler	1.0
2Wheeler	0.5
Minibus	1.5
Bus/2 Axle Truck/3 Axle Truck	3.0
LCV/Tractor (without Trailer)	1.5
Articulated Truck/Tractor with Trailor	4.5
Cycles	0.5
Animal Cart	6

1.3 Traffic Volume and Composition

The daily traffic volume count has been carried considering the traffic intensity and merging and diverging traffic on the project corridor. A summary of traffic data of 3 surveys carried out in both toll plaza locations in terms of Average Daily Traffic (ADT) and Passenger Car Unit (PCU) has been presented in **Table 1.3**.

Table 1.3 summary of Classified Traffic Volume Count

Vehicle Category	Kini Toll plaza	Taswade Toll plaze
Car Jeep & Van Private	11123	13803
Minibus	243	417
Bus	1135	1582
LMV	1206	1238
LCV	2331	2422
2 Axle Truck	1296	1465
3 Axle Truck	1418	1411
MAV (4-6 Axles)	1829	2089
MAV (>6 Axles)	1	1
Auto	349	537
2 Wheeler	10828	6724
Tractor Without Trailer	107	143
Cycle	44	15
Others	1	4
Passenger vehicles	23678	23063
Freight vehicles	8082	8627
Total Fast moving vehicles	31760	31689
Total slow moving vehicles	152	162
Total vehicles	31912	31851
Total PCU (ADT)	41924	46218
Total PCU (AADT)	41924	46218

The traffic composition of all all 3 time surveys carried out vehicle wise of both toll plaza locations are summarised in **Figure 1.1a and 1.1b**.

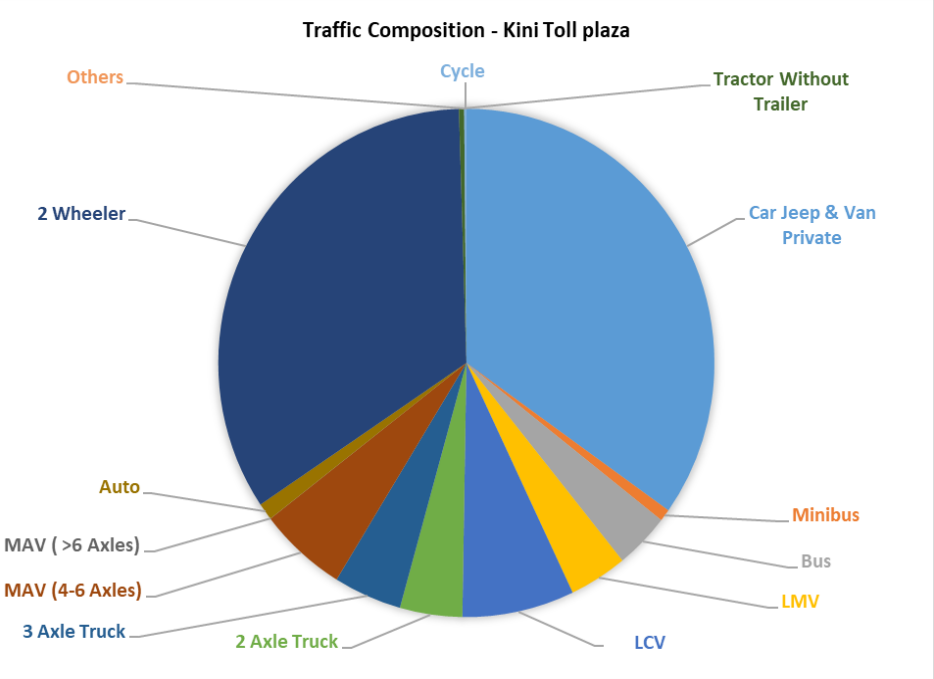

Figure 1.1a: Traffic Composition Vehicle Vise – Kini Toll Plaza

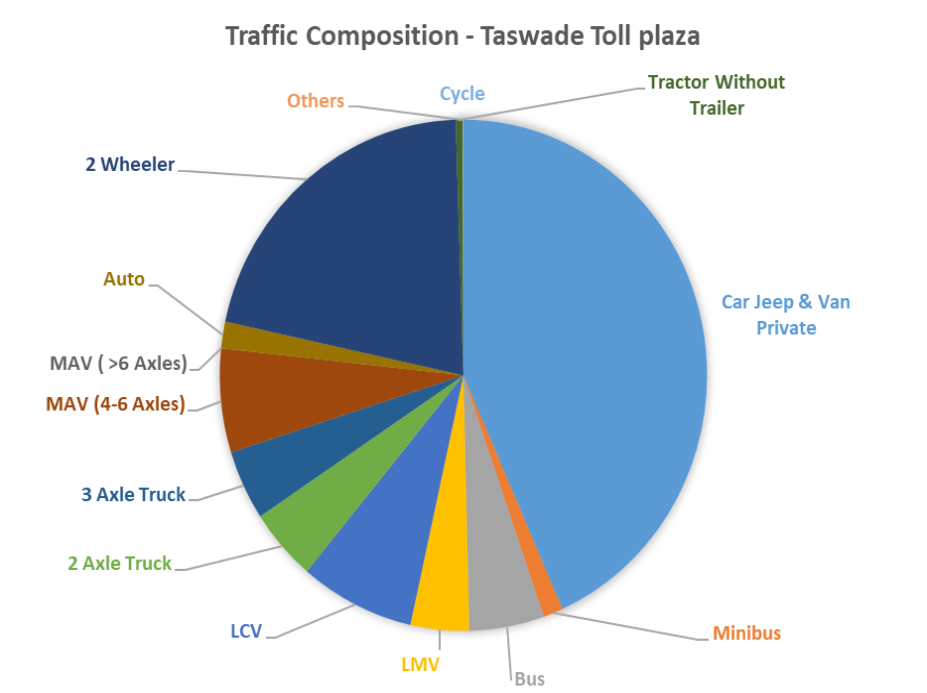

Figure 1.1b: Traffic Composition Vehicle Vise- Taswade Toll Plaza

1.4 Daily Variation of Traffic

The daily traffic varies with total traffic given in Fig 1.2a to 1.2f

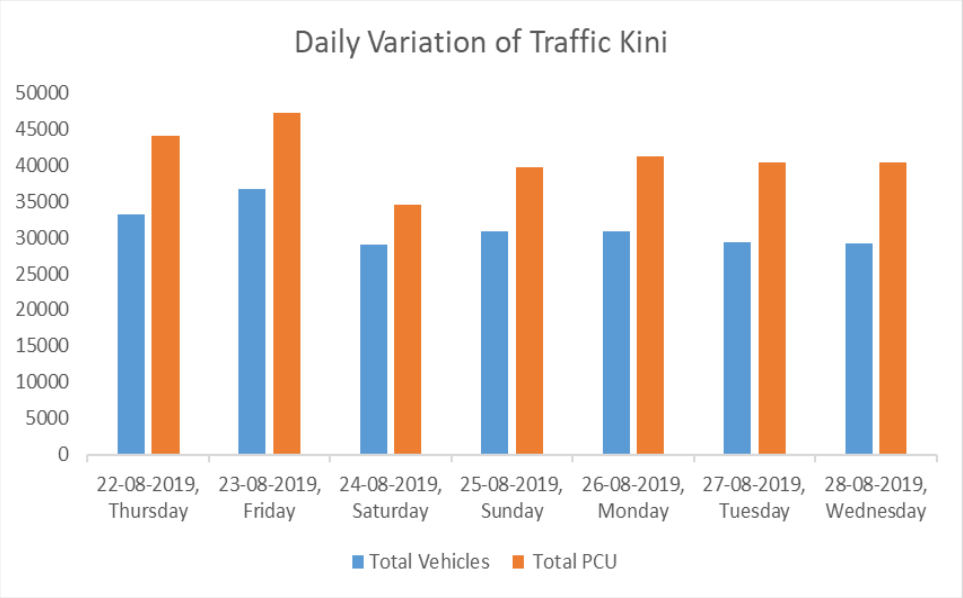

Figure 1.2a : Daily Variation of Traffic – Kini

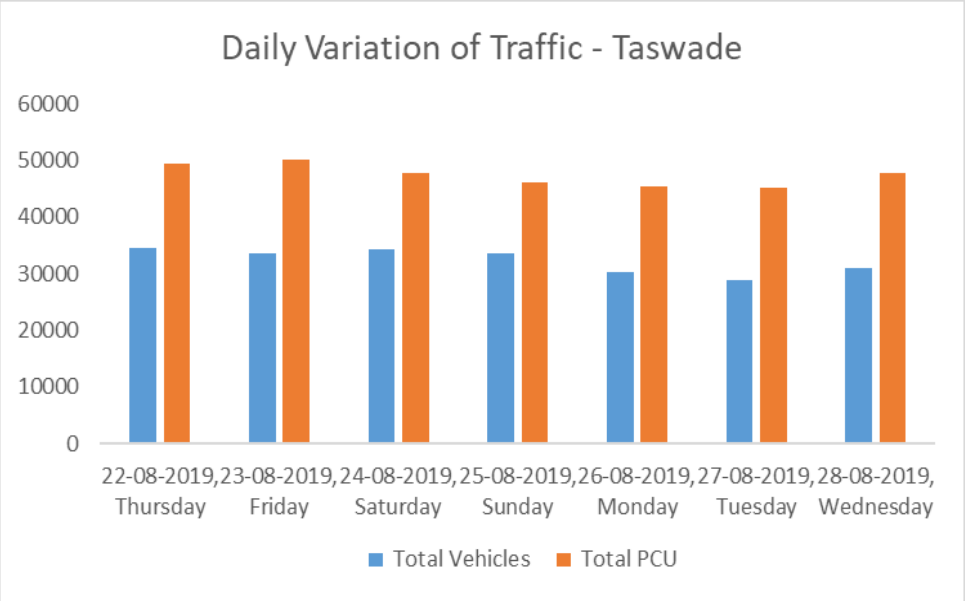

Figure 1.2b : Daily Variation of Traffic - Taswade

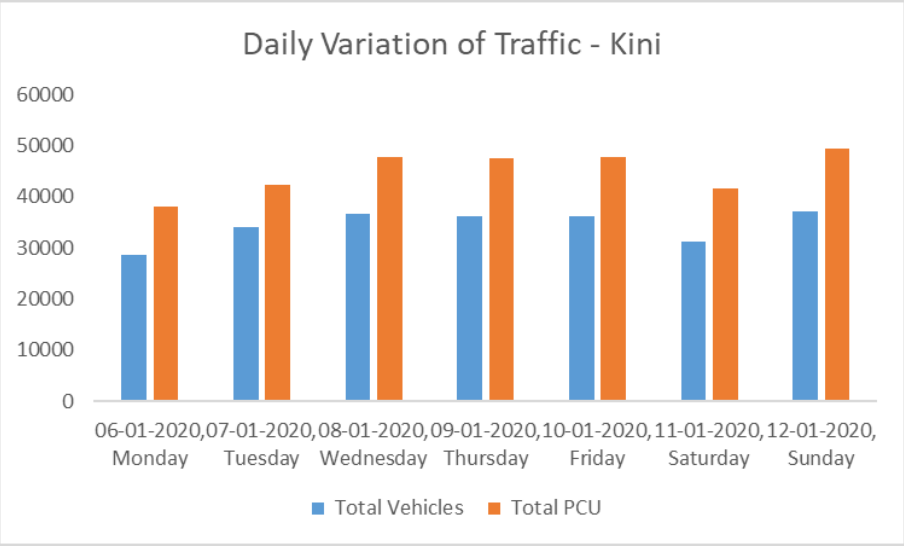

Figure 1.2c : Daily Variation of Traffic - Kini

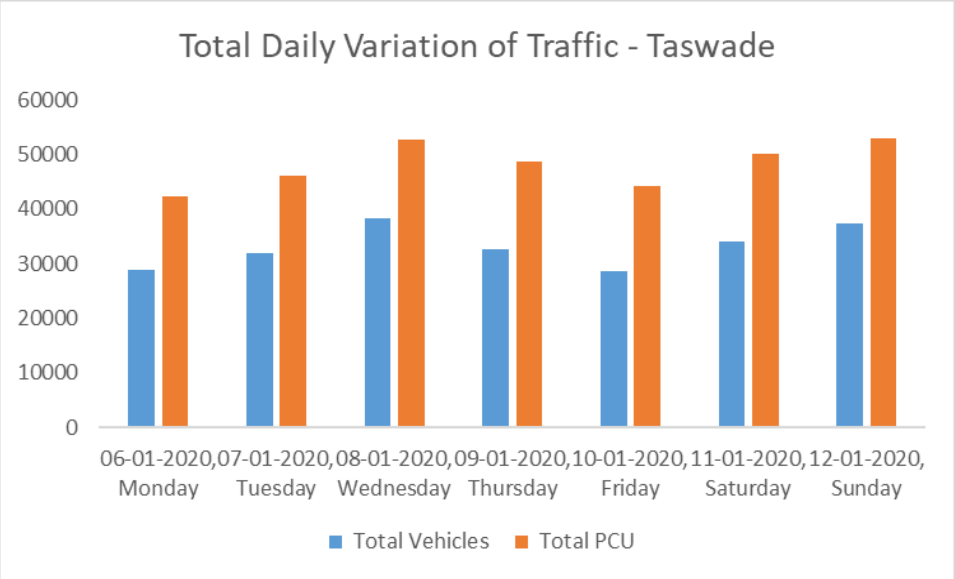

Figure 1.2d : Daily Variation of Traffic - Taswade

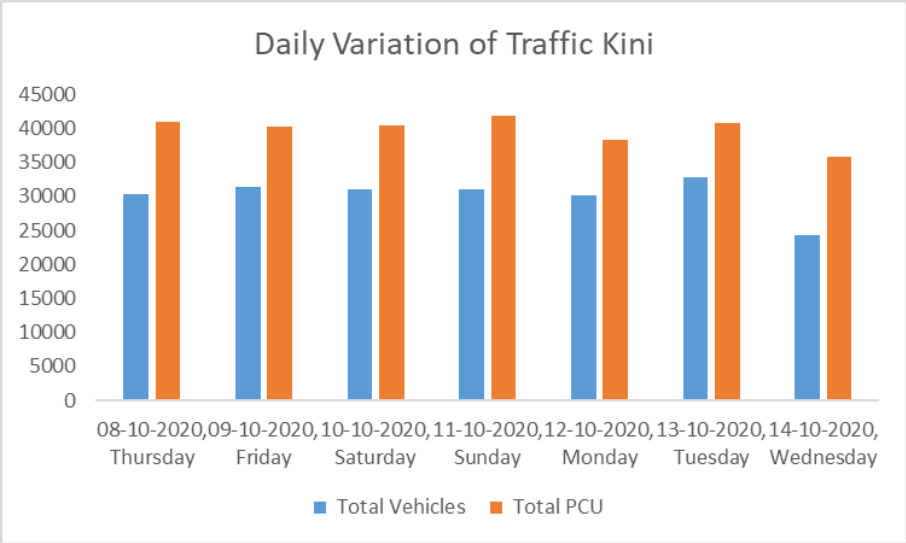

Figure 1.2e : Daily Variation of Traffic - Kini

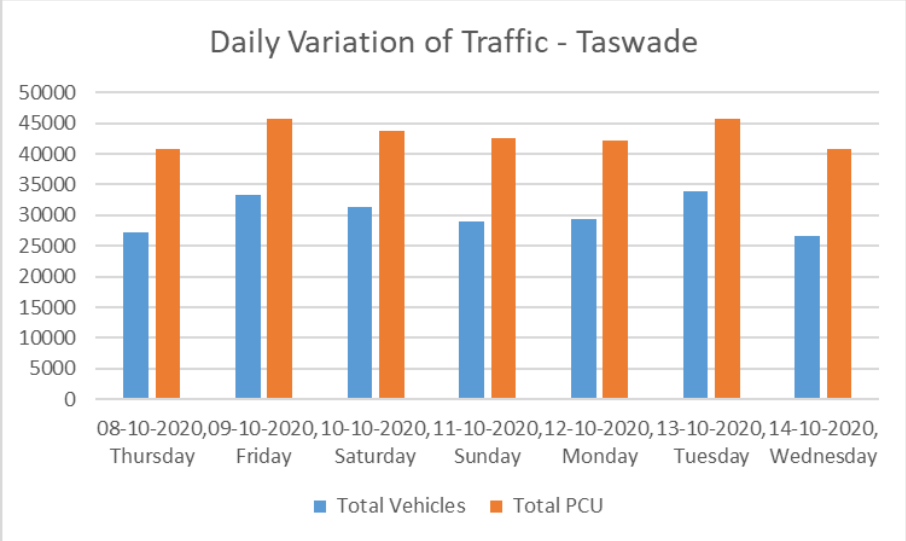

Figure 1.2f : Daily Variation of Traffic - Taswade

The seven days traffic volume counts conducted are given in **Table 1.4.**

Table 1.4: Seven Days Traffic Volume

Independent engineering services During Operation & Maintenance (O & M) Period for 4-laning of Kagal-Satara Section NH-48(old NH-4) from KM 592.240 to KM. 725.000in the State of Maharastra under NHDP Phase-1 on BOT Basis

Average Daily Traffic

Location:	Kini toll plaza																			
Direction:	Kolhapur-Karad		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles		Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others						
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer								
22-08-2019, Thursday	5846	197	725	513	962	598	690	897	0	167	5119	31	26	0	12054	3660	15714	57	15771	20959
23-08-2019, Friday	7924	210	753	488	1189	677	668	879	0	186	5806	50	12	1	14879	3901	18780	63	18843	23935
24-08-2019, Saturday	5192	139	697	471	970	571	693	14	1	179	5358	21	22	0	11565	2720	14285	43	14328	16178
25-08-2019, Sunday	5057	165	668	479	1025	554	585	789	0	176	5653	24	17	0	11719	3432	15151	41	15192	19340
26-08-2019, Monday	4916	166	661	472	1178	645	683	833	0	210	5310	22	36	0	11263	3811	15074	58	15132	20036
27-08-2019, Tuesday	4562	76	612	510	1150	551	677	832	1	128	4661	27	12	0	10039	3721	13760	39	13799	18685
28-08-2019, Wednesday	5178	133	642	512	1417	648	748	832	0	173	4417	16	16	0	10543	4157	14700	32	14732	20287
ADT	5525	155	680	492	1127	606	678	725	0	174	5189	27	20	0	11723	3629	15352	48	15400	19917

Location:	Kini toll plaza																			
Direction:	Karad-Kolhapur		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles		Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others						
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer								
22-08-2019, Thursday	6499	168	741	564	1112	668	753	1021	0	197	5637	23	37	0	13242	4118	17360	60	17420	23132
23-08-2019, Friday	6838	136	721	517	1233	617	851	954	0	189	5692	13	23	0	13576	4172	17748	36	17784	23335
24-08-2019, Saturday	4775	166	707	482	832	396	575	782	0	188	5642	26	24	0	11478	3067	14545	50	14595	18367
25-08-2019, Sunday	5096	107	676	477	1121	448	824	878	0	192	5842	26	24	0	11913	3748	15661	50	15711	20374
26-08-2019, Monday	5009	129	658	522	1104	586	754	1051	1	190	5680	18	45	0	11666	4018	15684	63	15747	21188
27-08-2019, Tuesday	4854	157	671	592	1261	666	790	1094	0	168	5149	18	43	0	10999	4403	15402	61	15463	21668
28-08-2019, Wednesday	5258	169	629	535	1151	683	741	829	1	179	4293	12	21	0	10528	3940	14468	33	14501	20021
ADT	5476	147	686	527	1116	581	755	944	0	186	5419	19	31	0	11915	3924	15838	50	15889	21155

Time Interval	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer								
22-08-2019, Thursday	12345	365	1466	1077	2074	1266	1443	1918	0	364	10756	54	63	0	25296	7778	33074	117	33191	44091
23-08-2019, Friday	14762	346	1474	1005	2422	1294	1519	1833	0	375	11498	63	35	1	28455	8073	36528	99	36627	47269
24-08-2019, Saturday	9967	305	1404	953	1802	967	1268	796	1	367	11000	47	46	0	23043	5787	28830	93	28923	34545
25-08-2019, Sunday	10153	272	1344	956	2146	1002	1409	1667	0	368	11495	50	41	0	23632	7180	30812	91	30903	39714
26-08-2019, Monday	9925	295	1319	994	2282	1231	1437	1884	1	400	10990	40	81	0	22929	7829	30758	121	30879	41224
27-08-2019, Tuesday	9416	233	1283	1102	2411	1217	1467	1926	1	296	9810	45	55	0	21038	8124	29162	100	29262	40353
28-08-2019, Wednesday	10436	302	1271	1047	2568	1331	1489	1661	1	352	8710	28	37	0	21071	8097	29168	65	29233	40308
ADT	11001	303	1366	1019	2244	1187	1433	1669	1	360	10608	47	51	0	23638	7553	31190	98	31288	41072

Independent engineering services During Operation & Maintenance (O & M) Period for 4-laning of Kagal-Satara Section NH-48(old NH-4) from KM 592.240 to KM. 725.000in the State of Maharastra under NHDP Phase-1 on BOT Basis

Average Daily Traffic

Location:	Taswade toll plaza																				
Direction:	Karad-Satara			Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5							
Time Interval	Motor load vehicle												Non-Motor load vehicles								
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU	
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer									
22-08-2019, Thursday	8845	231	999	582	1116	709	782	838	1	228	2083	32	1	0	12386	4028	16414	33	16447	24011	
23-08-2019, Friday	8488	263	995	537	1196	801	744	994	0	256	2091	70	0	0	12093	4272	16365	70	16435	24713	
24-08-2019, Saturday	9617	209	979	570	1138	852	689	865	1	289	2431	34	1	0	13525	4115	17640	35	17675	25221	
25-08-2019, Sunday	8224	178	664	522	1120	625	584	835	0	223	2505	28	2	0	11794	3686	15480	30	15510	21588	
26-08-2019, Monday	6100	231	911	557	1237	664	740	939	0	205	2481	27	4	0	9928	4137	14065	31	14096	21518	
27-08-2019, Tuesday	5055	214	902	663	1435	738	758	1067	1	219	2095	40	1	0	8485	4662	13147	41	13188	21519	
28-08-2019, Wednesday	6172	165	988	585	1409	917	796	1050	0	220	1607	29	4	0	9152	4757	13909	33	13942	23015	
ADT	7500	213	920	574	1236	758	728	941	0	234	2185	37	2	0	11052	4237	15289	39	15328	23083	

Location:	Taswade toll plaza																				
Direction:	Satara-Karad			Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5							
Time Interval	Motor load vehicle												Non-Motor load vehicles								
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU	
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer									
22-08-2019, Thursday	8178	223	1024	587	1217	685	775	1080	0	221	4083	18	9	0	13729	4344	18073	27	18100	25531	
23-08-2019, Friday	7827	221	995	526	1297	861	808	1047	0	240	3417	18	3	0	12700	4539	17239	21	17260	25311	
24-08-2019, Saturday	8036	218	957	583	806	411	528	991	0	270	3842	20	2	0	13323	3319	16642	22	16664	22525	
25-08-2019, Sunday	8338	150	833	579	1100	679	845	931	0	241	4237	34	9	0	13799	4134	17933	43	17976	24468	
26-08-2019, Monday	6138	219	983	582	1267	783	818	1055	1	217	4201	26	8	0	11758	4506	16264	34	16298	23814	
27-08-2019, Tuesday	5824	206	836	833	1302	721	782	1229	0	252	3707	24	10	0	10825	4867	15692	34	15726	23613	
28-08-2019, Wednesday	8630	238	958	570	1245	673	722	1038	2	247	2794	23	12	0	12867	4250	17117	35	17152	24848	
ADT	7567	211	941	609	1176	688	754	1053	0	241	3754	23	8	0	12714	4280	16994	31	17025	24301	

Location:	Taswade toll plaza																				
SCF	0			Both Directions																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5							
Time Interval	Motor load vehicle												Non-Motor load vehicles								
	Car Jeep & Van Private	Minibus	bus	Commercial vehicles						Auto (Passenger)	Tractor		Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU	
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)		2 Wheelers	Without Trailer									
22-08-2019, Thursday	17023	454	2023	1169	2333	1394	1557	1918	1	449	6166	50	10	0	26115	8372	34487	60	34547	49542	
23-08-2019, Friday	16315	484	1990	1063	2493	1662	1552	2041	0	496	5508	88	3	0	24793	8811	33604	91	33695	50024	
24-08-2019, Saturday	17653	427	1936	1153	1944	1263	1217	1856	1	559	6273	54	3	0	26848	7434	34282	57	34339	47745	
25-08-2019, Sunday	16562	328	1497	1101	2220	1304	1429	1766	0	464	6742	62	11	0	25593	7820	33413	73	33486	46056	
26-08-2019, Monday	12238	450	1894	1139	2504	1447	1558	1994	1	422	6682	53	12	0	21686	8643	30329	65	30394	45331	
27-08-2019, Tuesday	10879	420	1738	1496	2737	1459	1540	2296	1	471	5802	64	11	0	19310	9529	28839	75	28914	45132	
28-08-2019, Wednesday	14802	403	1946	1155	2654	1590	1518	2088	2	467	4401	52	16	0	22019	9007	31026	68	31094	47863	
ADT	15067	424	1861	1182	2412	1446	1482	1994	1	475	5939	60	9	0	23766	8517	32283	70	32353	47385	

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Average Daily Traffic

Location:	Kini toll plaza																			
Direction:	Karad-Kolhapur		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	4006	180	684	447	886	484	826	818	0	176	5091	101	20	1	10137	3461	13598	122	13720	18603
07-01-2020, Tuesday	4008	137	713	905	1153	585	805	807	3	185	6117	133	16	0	11160	4258	15418	149	15567	20253
08-01-2020, Wednesday	9070	220	638	936	1183	804	741	1028	3	205	5784	116	34	0	15917	4695	20612	150	20762	26587
09-01-2020, Thursday	9054	212	648	967	1191	608	728	1137	0	198	5376	117	10	1	15488	4631	20119	128	20247	26265
10-01-2020, Friday	6548	167	694	963	1028	638	775	1342	0	208	6428	94	17	0	14045	4746	18791	111	18902	25235
11-01-2020, Saturday	6272	189	720	467	1017	495	689	876	0	183	4408	108	17	0	11772	3544	15316	125	15441	20760
12-01-2020, Sunday	6891	220	724	800	1027	608	679	1088	0	182	5034	117	19	1	13051	4202	17253	137	17390	23379
ADT	6550	189	689	784	1069	603	749	1014	1	191	5463	112	19	0	13081	4220	17301	132	17433	23012
ADT PCU	6550	284	2066	784	1604	1809	2247	4562	4	191	2731	168	10	2						

Location:	Kini toll plaza																			
Direction:	Kolhapur-Karad		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	5232	158	706	513	989	492	615	800	1	173	5206	88	22	1	11475	3410	14885	111	14996	19433
07-01-2020, Tuesday	5332	169	712	550	1137	624	642	824	0	179	8309	112	17	1	14701	3777	18478	130	18608	21998
08-01-2020, Wednesday	4801	164	672	531	1244	615	679	1024	1	157	5880	111	18	0	11674	4094	15768	129	15897	21227
09-01-2020, Thursday	4808	214	691	489	1238	679	679	987	1	170	5786	133	8	2	11669	4073	15742	143	15885	21344
10-01-2020, Friday	5810	174	734	562	1111	638	657	1038	0	166	6330	102	15	2	13214	4006	17220	119	17339	22558
11-01-2020, Saturday	5200	263	716	544	1009	611	709	888	4	187	5440	98	19	3	11806	3765	15571	120	15691	20851
12-01-2020, Sunday	8800	201	823	516	1129	738	738	1048	1	175	5408	101	11	0	15407	4170	19577	112	19689	25965
ADT	5712	192	722	529	1122	628	674	944	1	172	6051	106	16	1	12849	3899	16749	123	16872	21911
ADT PCU	5712	288	2166	529	1684	1884	2022	4249	5	172	3026	160	8	6						

Location:	Kini toll plaza																			
Direction:	Both																			
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	9238	338	1390	960	1875	976	1441	1618	1	349	10297	189	42	2	21612	6871	28483	233	28716	38035
07-01-2020, Tuesday	9340	306	1425	1455	2290	1209	1447	1631	3	364	14426	245	33	1	25861	8035	33896	279	34175	42251
08-01-2020, Wednesday	13871	384	1310	1467	2427	1419	1420	2052	4	362	11664	227	52	0	27591	8789	36380	279	36659	47814
09-01-2020, Thursday	13862	426	1339	1456	2429	1287	1407	2124	1	368	11162	250	18	3	27157	8704	35861	271	36132	47609
10-01-2020, Friday	12358	341	1428	1525	2139	1276	1432	2380	0	374	12758	196	32	2	27259	8752	36011	230	36241	47793
11-01-2020, Saturday	11472	452	1436	1011	2026	1106	1398	1764	4	370	9848	206	36	3	23578	7309	30887	245	31132	41611
12-01-2020, Sunday	15691	421	1547	1316	2156	1346	1417	2136	1	357	10442	218	30	1	28458	8372	36830	249	37079	49344
ADT	12262	381	1411	1313	2192	1231	1423	1958	2	363	11514	219	35	2	25931	8119	34050	255	34305	44922
ADT PCU	12262	572	4232	1313	3288	3694	4269	8810	9	363	5757	328	17	8						

Independent engineering services During Operation & Maintenance (O & M) Period for 4-laning of Kagal-Satara Section NH-48(old NH-4) from KM 592.240 to KM. 725.000in the State of Maharastra under NHDP Phase-1 on BOT Basis

Average Daily Traffic

Location:	Taswade toll plaza																			
Direction:	Satara-Karad		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	5356	195	990	659	1005	554	563	963	0	266	3497	142	6	2	10304	3744	14048	150	14198	20709
07-01-2020, Tuesday	5782	256	965	607	1289	704	620	1135	6	308	4211	145	7	6	11522	4361	15883	158	16041	23370
08-01-2020, Wednesday	7084	290	1032	857	1270	798	785	1183	0	505	6752	163	5	3	15663	4893	20556	171	20727	27591
09-01-2020, Thursday	6674	221	960	767	1270	718	809	1285	0	356	4988	264	7	2	13199	4849	18048	273	18321	26180
10-01-2020, Friday	5796	208	756	441	998	612	742	1144	0	126	3236	80	3	1	10122	3937	14059	84	14143	21394
11-01-2020, Saturday	8133	273	1028	628	1285	823	785	1127	0	295	4228	172	8	7	13957	4648	18605	187	18792	26780
12-01-2020, Sunday	6925	191	913	572	1103	701	695	1116	0	280	4584	173	6	3	12893	4187	17080	182	17262	24235
ADT	6536	233	949	647	1174	701	714	1136	1	305	4499	163	6	3	12523	4374	16897	172	17069	24323
ADT PCU	6536	350	2847	647	1761	2104	2142	5113	4	305	2250	244	3	15						

Location:	Taswade toll plaza																			
Direction:	Karad-Satara		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	6548	206	950	674	995	528	655	966	1	349	2612	163	2	2	10665	3819	14484	167	14651	21684
07-01-2020, Tuesday	6653	182	937	674	1172	612	636	1003	0	334	3516	130	6	4	11622	4097	15719	140	15859	22735
08-01-2020, Wednesday	6174	289	1110	618	1342	716	696	1167	1	477	4795	173	1	2	12845	4540	17385	176	17561	25204
09-01-2020, Thursday	5637	119	963	681	1448	566	706	1207	1	265	2651	159	2	1	9635	4609	14244	162	14406	22644
10-01-2020, Friday	5461	334	1040	617	1207	740	791	1072	0	299	2885	143	2	1	10019	4427	14446	146	14592	22888
11-01-2020, Saturday	6991	174	953	666	1180	597	675	1169	3	293	2422	138	2	3	10833	4290	15123	143	15266	23363
12-01-2020, Sunday	10369	338	1165	520	1431	850	792	1048	3	392	2954	153	5	4	15218	4644	19862	162	20024	28812
ADT	6833	235	1017	636	1254	658	707	1090	1	344	3119	151	3	2	11548	4347	15895	157	16051	23904
ADT PCU	6833	352	3051	636	1880	1975	2122	4906	6	344	1560	227	1	11						

Location:	Taswade toll plaza																			
Direction:	Both		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
06-01-2020, Monday	11904	401	1940	1333	2000	1082	1218	1929	1	615	6109	305	8	4	20969	7563	28532	317	28849	42393
07-01-2020, Tuesday	12435	438	1902	1281	2461	1316	1256	2138	6	642	7727	275	13	10	23144	8458	31602	298	31900	46104
08-01-2020, Wednesday	13258	579	2142	1475	2612	1514	1481	2350	1	982	11547	336	6	5	28508	9433	37941	347	38288	52795
09-01-2020, Thursday	12311	340	1923	1448	2718	1284	1515	2492	1	621	7639	423	9	3	22834	9458	32292	435	32727	48824
10-01-2020, Friday	11257	542	1796	1058	2205	1352	1533	2216	0	425	6121	223	5	2	20141	8364	28505	230	28735	44282
11-01-2020, Saturday	15124	447	1981	1294	2465	1420	1460	2296	3	588	6650	310	10	10	24790	8938	33728	330	34058	50143
12-01-2020, Sunday	17294	529	2078	1092	2534	1551	1487	2164	3	672	7538	326	11	7	28111	8831	36942	344	37286	53047
ADT	13369	468	1966	1283	2428	1360	1421	2226	2	649	7619	314	9	6	24071	8721	32792	329	33120	48227
ADT PCU	13369	702	5898	1283	3642	4080	4264	10019	10	649	3809	471	4	26						

Independent engineering services During Operation & Maintenance (O & M) Period for 4-laning of Kagal-Satara Section NH-48(old NH-4) from KM 592.240 to KM. 725.000in the State of Maharastra under NHDP Phase-1 on BOT Basis

Average Daily Traffic

Location:	kini toll plaza																			
Direction:	karad-Kolhapur		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	4425	25	277	711	1301	777	613	1064	0	158	5113	40	28	0	9998	4466	14464	68	14532	19703
09-10-2020, Friday	5104	26	316	682	1138	780	599	1004	0	154	6220	29	32	1	11820	4203	16023	62	16085	20463
10-10-2020, Saturday	5789	22	336	634	1388	631	575	1006	0	163	4864	27	28	0	11174	4234	15408	55	15463	20341
11-10-2020, Sunday	6012	30	318	634	1567	627	741	959	1	182	3863	18	19	1	10405	4529	14934	38	14972	20574
12-10-2020, Monday	4808	18	322	577	1123	906	445	940	0	175	5428	29	36	0	10751	3991	14742	65	14807	19296
13-10-2020, Tuesday	4784	25	306	641	1209	770	520	978	0	167	5087	28	28	2	10369	4118	14487	58	14545	19241
14-10-2020, Wednesday	4544	17	319	605	1245	622	616	986	0	139	2807	19	6	0	7826	4074	11900	25	11925	17724
ADT	5067	23	313	641	1282	730	587	991	0	163	4769	27	25	1	10335	4231	14565	53	14618	19620
ADT PCU	5067	35	940	641	1922	2191	1761	4460	1	163	2384	41	13	3						19620

Location:	kini toll plaza																			
Direction:	Kolhapur-karad		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	4664	25	290	638	1436	880	871	1011	4	176	5653	44	31	0	10808	4840	15648	75	15723	21268
09-10-2020, Friday	4542	27	302	674	1387	686	891	830	1	146	5736	36	26	2	10753	4469	15222	64	15286	19804
10-10-2020, Saturday	5642	28	310	656	1141	671	845	820	0	150	5189	37	26	1	11319	4133	15452	64	15516	20037
11-10-2020, Sunday	6534	22	337	651	1488	648	832	883	1	159	4489	22	13	1	11541	4503	16044	36	16080	21327
12-10-2020, Monday	4660	22	317	602	981	642	834	806	3	158	6232	14	21	0	11389	3868	15257	35	15292	19092
13-10-2020, Tuesday	4660	16	337	696	1187	824	820	847	1	163	8721	26	27	2	13897	4375	18272	55	18327	21505
14-10-2020, Wednesday	4570	16	317	607	1323	824	584	878	0	165	3133	18	6	0	8201	4216	12417	24	12441	18073
ADT	5039	22	316	646	1278	739	811	868	1	160	5593	28	21	1	11130	4343	15473	50	15524	20158
ADT PCU	5039	33	947	646	1916	2218	2433	3905	6	160	2797	42	11	4						

Location:	kini toll plaza																			
Direction:	Kolhapur-karad		Day: 7 days																	
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	9089	50	567	1349	2737	1657	1484	2075	4	334	10766	84	59	0	20806	9306	30112	143	30255	40971
09-10-2020, Friday	9646	53	618	1356	2525	1466	1490	1834	1	300	11956	65	58	3	22573	8672	31245	126	31371	40267
10-10-2020, Saturday	11431	50	646	1290	2529	1302	1420	1826	0	313	10053	64	54	1	22493	8367	30860	119	30979	40378
11-10-2020, Sunday	12546	52	655	1285	3055	1275	1573	1842	2	341	8352	40	32	2	21946	9032	30978	74	31052	41901
12-10-2020, Monday	9468	40	639	1179	2104	1548	1279	1746	3	333	11660	43	57	0	22140	7859	29999	100	30099	38388
13-10-2020, Tuesday	9444	41	643	1337	2396	1594	1340	1825	1	330	13808	54	55	4	24266	8493	32759	113	32872	40745
14-10-2020, Wednesday	9114	33	636	1212	2568	1446	1200	1864	0	304	5940	37	12	0	16027	8290	24317	49	24366	35797
ADT	10105	46	629	1287	2559	1470	1398	1859	2	322	10362	55	47	1	21464	8574	30039	103	30142	39778
AADT	10105	46	629	1287	2559	1470	1398	1859	2	322	10362	55	47	1	21464	8574	30039	103	30142	39778

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Average Daily Traffic

Location:	Taswade toll plaza																			
Direction:	Satara-Karad			Day: 7 days																
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	5442	182	410	687	1287	677	691	1164	0	243	3784	30	31	2	10061	4506	14567	63	14630	21109
09-10-2020, Friday	8333	172	486	700	1171	693	636	1093	0	255	4489	34	14	4	13735	4293	18028	52	18080	23987
10-10-2020, Saturday	7312	244	466	634	1192	850	611	1051	0	251	4061	32	11	5	12334	4338	16672	48	16720	22968
11-10-2020, Sunday	6672	132	413	532	1220	706	682	1108	0	203	2838	31	10	2	10258	4248	14506	43	14549	21304
12-10-2020, Monday	5448	100	479	666	1084	897	592	982	0	243	4227	34	26	2	10497	4221	14718	62	14780	20643
13-10-2020, Tuesday	9678	262	461	557	1208	797	612	972	0	236	4454	20	6	3	15091	4146	19237	29	19266	24934
14-10-2020, Wednesday	6381	222	483	570	1184	734	628	945	1	238	2267	26	7	2	9591	4062	13653	35	13688	20275
ADT	7038	188	457	621	1192	765	636	1045	0	238	3731	30	15	3	11652	4259	15912	47	15959	22174
ADT PCU	7038	282	1371	621	1788	2295	1908	4703	1	238	1866	44	8	13						

Location:	Taswade toll plaza																			
Direction:	Karad-Satara			Day: 7 days																
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	4054	184	418	644	1346	770	661	1167	1	261	3014	36	11	3	7931	4589	12520	50	12570	19637
09-10-2020, Friday	6446	209	438	672	1316	807	670	996	2	247	3362	34	23	3	10702	4463	15165	60	15225	21646
10-10-2020, Saturday	6189	190	438	620	1047	845	691	926	0	242	3325	30	4	2	10384	4129	14513	36	14549	20714
11-10-2020, Sunday	6276	209	467	638	1489	736	672	1008	1	251	2609	25	27	2	9812	4544	14356	54	14410	21242
12-10-2020, Monday	6164	109	536	613	1008	906	727	1044	1	264	3266	21	6	6	10339	4299	14638	33	14671	21621
13-10-2020, Tuesday	6006	136	492	568	1202	895	536	981	3	231	3484	20	7	2	10349	4185	14534	29	14563	20794
14-10-2020, Wednesday	6408	164	441	642	1236	809	891	896	0	236	1121	13	2	1	8370	4474	12844	16	12860	20427
ADT	5935	175	464	629	1232	881	666	1003	1	240	2828	26	11	3	9642	4412	14054	40	14094	20937
ADT PCU	5935	263	1392	629	1848	2643	1998	4514	5	240	1414	39	6	14						

Location:	Taswade toll plaza																			
Direction:	Both			Day: 7 days																
PCU	1	1.5	3	1	1.5	3	3	4.5	4.5	1	0.5	1.5	0.5	4.5						
Time Interval	Motor load vehicle												Non-Motor load vehicles							
	Car Jeep & Van Private	Minibus	Bus	Commercial vehicles						Auto (Passenger)	3 Wheelers	Tractor	Cycle	Others	Passenger vehicles	Freight vehicles	Total Fast moving vehicles	Total slow moving vehicles	Total vehicles	Total PCU
				LMV	LCV	2 Axles	3 Axles	MAV (4 to 6 Axles)	MAV (>6 Axles)			Without Trailer								
08-10-2020, Thursday	9496	366	828	1331	2633	1447	1352	2331	1	504	6798	66	42	5	17992	9095	27087	113	27200	40746
09-10-2020, Friday	14779	381	924	1372	2487	1500	1306	2089	2	502	7851	68	37	7	24437	8756	33193	112	33305	45632
10-10-2020, Saturday	13501	434	904	1254	2239	1695	1302	1977	0	493	7386	62	15	7	22718	8467	31185	84	31269	43682
11-10-2020, Sunday	12948	341	880	1170	2709	1442	1354	2116	1	454	5447	56	37	4	20070	8792	28862	97	28959	42546
12-10-2020, Monday	11612	209	1015	1279	2092	1803	1319	2026	1	507	7493	55	32	8	20836	8520	29356	95	29451	42263
13-10-2020, Tuesday	15684	398	953	1125	2410	1692	1148	1953	3	467	7938	40	13	5	25440	8331	33771	58	33829	45727
14-10-2020, Wednesday	12789	386	924	1212	2420	1543	1519	1841	1	474	3388	39	9	3	17961	8536	26497	51	26548	40702
ADT	12973	359	918	1249	2427	1589	1329	2048	1	486	6614	55	26	6	21351	8642	29993	87	30080	43042
ADT PCU	12973	359	918	1249	2427	1589	1329	2048	1	486	6614	55	26	6						

1.5 Traffic Projection

The traffic volume are projected to determine the traffic capacity dueing the design period of 30years. In the bsence of lack of data collected for projection, it is consider as @5% growth annually on the AADT traffic. As there was no details available/collected for the computation of AADT, the same ADT is consider as AADT. Accordingly, the projections are given in **Table 1.5 & 1.6.**

Table 1.5: Projercted traffic (Kini Toll Plaza)

Year	Car	Mini Bus	Bus	Commercial Vehicles						Auto	3ws	Tractor with out trailor	Cycle	Others	PCU
				LMV	LCV	2 Axle	3 Axle	MAV1	MAV2						
2020	11,123	243	1,135	1,206	2,331	1,296	1,418	1,829	1	349	10,828	107	44	1	41,922
2021	11,679	255	1,192	1,266	2,448	1,361	1,489	1,920	1	366	11,369	112	46	1	44,018
2022	12,263	268	1,251	1,330	2,570	1,429	1,563	2,016	1	385	11,938	118	49	1	46,219
2023	12,876	281	1,314	1,396	2,698	1,500	1,642	2,117	1	404	12,535	124	51	1	48,530
2024	13,520	295	1,380	1,466	2,833	1,575	1,724	2,223	1	424	13,162	130	53	1	50,956
2025	14,196	310	1,449	1,539	2,975	1,654	1,810	2,334	1	445	13,820	137	56	1	53,504
2026	14,906	326	1,521	1,616	3,124	1,737	1,900	2,451	1	468	14,511	143	59	1	56,179
2027	15,651	342	1,597	1,697	3,280	1,824	1,995	2,574	1	491	15,236	151	62	1	58,988
2028	16,434	359	1,677	1,782	3,444	1,915	2,095	2,702	1	516	15,998	158	65	1	61,938
2029	17,255	377	1,761	1,871	3,616	2,011	2,200	2,837	2	541	16,798	166	68	2	65,035
2030	18,118	396	1,849	1,964	3,797	2,111	2,310	2,979	2	568	17,638	174	72	2	68,287
2031	19,024	416	1,941	2,063	3,987	2,217	2,425	3,128	2	597	18,520	183	75	2	71,701
2032	19,975	436	2,038	2,166	4,186	2,327	2,547	3,285	2	627	19,446	192	79	2	75,286
2033	20,974	458	2,140	2,274	4,395	2,444	2,674	3,449	2	658	20,418	202	83	2	79,050
2034	22,023	481	2,247	2,388	4,615	2,566	2,808	3,621	2	691	21,439	212	87	2	83,003
2035	23,124	505	2,360	2,507	4,846	2,694	2,948	3,802	2	726	22,511	222	91	2	87,153
2036	24,280	530	2,478	2,633	5,088	2,829	3,095	3,992	2	762	23,636	234	96	2	91,510
2037	25,494	557	2,601	2,764	5,343	2,970	3,250	4,192	2	800	24,818	245	101	2	96,086
2038	26,769	585	2,732	2,902	5,610	3,119	3,413	4,402	2	840	26,059	258	106	2	1,00,890
2039	28,107	614	2,868	3,048	5,890	3,275	3,583	4,622	3	882	27,362	270	111	3	1,05,935
2040	29,513	645	3,011	3,200	6,185	3,439	3,762	4,853	3	926	28,730	284	117	3	1,11,232
2041	30,988	677	3,162	3,360	6,494	3,611	3,950	5,096	3	972	30,166	298	123	3	1,16,793
2042	32,538	711	3,320	3,528	6,819	3,791	4,148	5,350	3	1,021	31,675	313	129	3	1,22,633
2043	34,165	746	3,486	3,704	7,160	3,981	4,355	5,618	3	1,072	33,258	329	135	3	1,28,764
2044	35,873	784	3,660	3,889	7,518	4,180	4,573	5,899	3	1,126	34,921	345	142	3	1,35,203
2045	37,666	823	3,844	4,084	7,894	4,389	4,802	6,194	3	1,182	36,667	362	149	3	1,41,963
2046	39,550	864	4,036	4,288	8,288	4,608	5,042	6,503	4	1,241	38,501	380	156	4	1,49,061
2047	41,527	907	4,237	4,503	8,703	4,839	5,294	6,828	4	1,303	40,426	399	164	4	1,56,514
2048	43,604	953	4,449	4,728	9,138	5,080	5,559	7,170	4	1,368	42,447	419	172	4	1,64,340
2049	45,784	1,000	4,672	4,964	9,595	5,335	5,837	7,528	4	1,437	44,570	440	181	4	1,72,557
2050	48,073	1,050	4,905	5,212	#####	5,601	6,129	7,905	4	1,508	46,798	462	190	4	1,81,184

Table 1.6: Projercted traffic (Taswade Toll Plaza)

Year	Car	Mini Bus	Bus	Commercial Vehicles						Auto	3ws	Tractor with out trailor	Cycle	Others	PCU
				LMV	LCV	2 Axle	3 Axle	MAV1	MAV2						
2020	13,830	417	1,582	1,238	2,422	1,465	1,411	2,089	1	537	6,724	143	15	4	46,245
2021	14,522	438	1,661	1,300	2,543	1,538	1,482	2,193	1	564	7,060	150	16	4	48,557
2022	15,248	460	1,744	1,365	2,670	1,615	1,556	2,303	1	592	7,413	158	17	4	50,985
2023	16,010	483	1,831	1,433	2,804	1,696	1,633	2,418	1	622	7,784	166	17	5	53,534
2024	16,810	507	1,923	1,505	2,944	1,781	1,715	2,539	1	653	8,173	174	18	5	56,210
2025	17,651	532	2,019	1,580	3,091	1,870	1,801	2,666	1	685	8,582	183	19	5	59,021
2026	18,534	559	2,120	1,659	3,246	1,963	1,891	2,799	1	720	9,011	192	20	5	61,972
2027	19,460	587	2,226	1,742	3,408	2,061	1,985	2,939	1	756	9,461	201	21	6	65,071
2028	20,433	616	2,337	1,829	3,578	2,164	2,085	3,086	1	793	9,934	211	22	6	68,324
2029	21,455	647	2,454	1,921	3,757	2,273	2,189	3,241	2	833	10,431	222	23	6	71,740
2030	22,528	679	2,577	2,017	3,945	2,386	2,298	3,403	2	875	10,953	233	24	7	75,327
2031	23,654	713	2,706	2,117	4,142	2,506	2,413	3,573	2	918	11,500	245	26	7	79,094
2032	24,837	749	2,841	2,223	4,350	2,631	2,534	3,752	2	964	12,075	257	27	7	83,048
2033	26,079	786	2,983	2,334	4,567	2,762	2,661	3,939	2	1,013	12,679	270	28	8	87,201
2034	27,382	826	3,132	2,451	4,795	2,901	2,794	4,136	2	1,063	13,313	283	30	8	91,561
2035	28,752	867	3,289	2,574	5,035	3,046	2,933	4,343	2	1,116	13,979	297	31	8	96,139
2036	30,189	910	3,453	2,702	5,287	3,198	3,080	4,560	2	1,172	14,678	312	33	9	1,00,946
2037	31,699	956	3,626	2,838	5,551	3,358	3,234	4,788	2	1,231	15,412	328	34	9	1,05,993
2038	33,284	1,004	3,807	2,979	5,829	3,526	3,396	5,027	2	1,292	16,182	344	36	10	1,11,293
2039	34,948	1,054	3,998	3,128	6,120	3,702	3,566	5,279	3	1,357	16,991	361	38	10	1,16,858
2040	36,695	1,106	4,198	3,285	6,426	3,887	3,744	5,543	3	1,425	17,841	379	40	11	1,22,700
2041	38,530	1,162	4,407	3,449	6,748	4,081	3,931	5,820	3	1,496	18,733	398	42	11	1,28,835
2042	40,456	1,220	4,628	3,621	7,085	4,286	4,128	6,111	3	1,571	19,669	418	44	12	1,35,277
2043	42,479	1,281	4,859	3,803	7,439	4,500	4,334	6,416	3	1,649	20,653	439	46	12	1,42,041
2044	44,603	1,345	5,102	3,993	7,811	4,725	4,551	6,737	3	1,732	21,686	461	48	13	1,49,143
2045	46,833	1,412	5,357	4,192	8,202	4,961	4,778	7,074	3	1,818	22,770	484	51	14	1,56,600
2046	49,175	1,483	5,625	4,402	8,612	5,209	5,017	7,428	4	1,909	23,908	508	53	14	1,64,430
2047	51,634	1,557	5,906	4,622	9,042	5,470	5,268	7,799	4	2,005	25,104	534	56	15	1,72,652
2048	54,215	1,635	6,202	4,853	9,495	5,743	5,531	8,189	4	2,105	26,359	561	59	16	1,81,284
2049	56,926	1,716	6,512	5,096	9,969	6,030	5,808	8,599	4	2,210	27,677	589	62	16	1,90,349
2050	59,772	1,802	6,837	5,351	10,468	6,332	6,098	9,029	4	2,321	29,061	618	65	17	1,99,866

1.6 Capacity Analysis

The Capacity analysis for the project corridor carried out in order to assess the Level of Service (LOS) offered by road sections under prevailing roadway and traffic conditions. Capacity and Design Service Volumes (DSV) specified in IRC have adopted for determining the Level of Service offered by road sections during the design period.

Design Service volume

Lanes	Shoulder type	DSV (PCU/day)
4 lane	Earthern	35,000
	Paved	40,000
6 lanes	Paved	60,000

Thus, the project road justified for upgrading to 6lanes facility.