

TRANSPORTATION AND MOBILITY IN ISTANBUL

“SUMMARY INFORMATION”

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INTRODUCTION

At the present day, the first and foremost problem considered about İstanbul is transportation. Transportation in İstanbul is not able to meet the necessary of urban due to neglected investments for long years, wrong implementations and unplanned operations. Because of all activities are related to transportation in directly or indirectly that situation has effected İstanbul entirely.

Having a modern metropolitan vision of İstanbul is solely possible with planning the transportation system in accordance with sustainable and strategic transportation policies with the principles of flexibility, trip and sustainability and also sticking to plans concerned.

Project Center for Transportation Master Plan for İstanbul purposes to model of transportation demand and transportation trip in the wake of all social and economic activities occurring in İstanbul with a system approach in implying mathematically. This model shall be used effectively in testing and classisfing of alternatives considered for solution of existing transportation problems, and also in implementing of “traffic impact analyses” of big-scaled individual urban investments. It shall be also useful to fix of transportation demand and transportation trip decisions of land use that is planned for future, and to classify of the results of balmy intervention in accordance with the public transportation and roadway network. Furthermore, the center is inclined to produce the transportation model calibrated in sensivity shall be in international standarts and acceptable scientifically.

1997-dated revision studies of Transportation Master Plan for İstanbul is executed by the Department of Transport Planning in the purpose of meeting transportation demand of 2025.

That working is assumed to be implemented in three stages and titles, including;

1. Analytic Study for Existing Transportation System and Transportation Model Calibration
2. Preparing of Traffic Production Guidance- Study for fixing of Logistic Infrastructure and Planning
3. The study on Integrated Urban Transportation Master Plan for İstanbul.Metropolitan Area

2007 Transportation Master Plan is executed by the department of Transportation Planning so as to meet the demand of İstanbul in 2025. Household Travel Surveys belonging to Analytic Study for Existing Transportation System and Transportation Model Calibration ,as an integral part of the mentioned study ,was completed in 2007.

Second phase beginning on June 2007 and targetting to be carry out in June 2008 aims to fix of the Traffic Production Guidance and existing logistic infrastructure within the determination of traffic impacts owing to the existing land use usages. It also covers to solve of traffic congestion emerging along with the effect of burden flow in İstanbul metropolitan area with the existing roadway network.

Third phase includes formulation of short, medium and long- term plans and programmes so as to meet the demand of 2025 plan target year and also implementation studies of the projects selected through these ones. For three phases mentioned, it has ben decided to purchase international support and technology transfer and in this direction labor contract was concluded with JICA (Japon International Cooperation Agency) under the title of “integration urban master plan for İstanbul” on 6 December 2006.

The proceedings started actually on 25 August 2007 with arriving of the Japan specialist team to İstanbul after the completing the legal procedur in accordance with needed law and directives for international technical cooperation.

The study of “Integrated Urban Transportation master plan for İstanbul” is intended to be administreted by specialist staff of JICA and IMM. The study is going to continue about 17 months and is targeted to finish in November 2008.

1. SURVEY DATA ON TRANSPORTATION AND MOBILITY IN İSTANBUL

1.1 . General Data on Mobility

İstanbul has witnessed three different transportation master plans in 1985, 1987 and 1997. The following table displays the comparison between 1997 and 2007. If alternating data being in last 10 years would be compared, study for transportation Master plan in 1997 was applied in 154.733 hectared-area, whereas 2007 plan was applied in 539.000 hectared- area of ,İstanbul including urban and rural settlements, 32 counties (internal and external of 3030 and - the entirety of 5216).

The population of study area was 9.057.747 in 1997 whereas the population reached to 12.007.000 by a increase of %25 in 2025. The number of household interviewed for survey was 11.795 for 1995 plan, and the validity number for 1997 plan was 90.000.

Whereas the private car registered in traffic was 889. 342 in 1997, the number of private car registered was 1.522.521 with a 42 % increase and that number reached to 1.676.415 in 2007.

Whilst the number of trip by motorized vehicles in daily was 9.057.747 in 1997 , it reached to 10.602.258 with a 15 % increase in 2007. The average trip distance by motorized vehicles was calculated 41 minutes in 1997 and 45,8 minutes in 2007 with a 10 % increase.

The most of trips are done for the purpose of home based work (HBW) . Whilst the trip number for the purpose of work was 4.981.761 in 1997, the number concerned is 5.623.964 in 2007 with a 11,42 % increase. According to Transportation Master Plan in 1997 , 40 % of the trips by private car and are 60 % of the trips by public transportation are done. Besides, trip rates done by private car are defined as 29 % and than trip rates by public transportation are stated as 71 % out of the findings in 2007. In other words, where the share of the private transportation decreases to 38 % , the share of the public transportation has increased by 15 % in last 10 years.

Consequently, it may be seen obviously that an increasing has emerged in the average trip time with 10 % rate and in the number of trip with 14,57 % rate and in the public transport

share with 15 % rate. It would be a crucial conclusion that investments on transportation enforced in this direction are higher than the growth rate of urban.

Table 1.1 . Comparison of Transport Master Plans in 1997 and in 2007

Working	1997	2007	<u>Increase- Decrease</u>
Study Field (Ha)	154.733	539.000	71%
The population of study field	9.057.747	12.007.000	25%
Employment	2.532.211	3.957.336	36%
The number of private car registered in traffic	889.342	1.522.521	42%
The number of trip by motorized vehicles	9.057.747	10.602.258	15%
Average Trip Distance (Minutes) (by motorized vehicle)	41	45,8	10%
Home based work (HBW)	43	48,26	11%
Home based school (HBS)	37,4	41,52	10%
Home based other (HBO)	42	44,64	6%
Non-home based (NHB)	34	40,73	17%
Trip purpose (by motorized vehicle)			
Home based work (HBW)	4.981.761	5.623.964	11,42%
Home based school (HBS)	1.313.373	1.550.353	15,29%
Home based other (HBO)	1.657.568	2.579.805	35,75%
Non-home based (NHB)	1.105.045	848.137	-30,29%
Total	9.057.747	10.602.258	14,57%
Modal Split (%)			
Private transport	40	29	-38%
Public Transport	60	71	15%

- Total population : 12.007.000**
- The number of trip per diem:20.924.133***
- Total vehicle number: 2.489.887*
- Total car number: 1.676.415*
- Total car number: 1.522.521**
- The number of vehicle crossing from bridges: ~ 400.000
- The number of vehicle crossing from Asia to Europe: 53.414
- The number of vehicle crossing from Europe to Asia: 43.214
- The number of vehicle passing transit: 37.615
- The number of car in daily traffic: 0,8 – 1 milllion*
- The number of vehicle in daily traffic: 1,3 – 1,6 million*

- Average trip time: 29,7 mins
 - Average trip time by vehicle: 45,8 mins
 - The number of car per 1000 persons: 125 car**
 - Daily trip between two continents(sides):1,1 million***
 - The number of household gone: 90.000
 - The number of household interviewed: 72.280
 - The number of person interviewed: 263.768
 - Sampling Rate: 2,2
 - Answering Rate: %80
- (*2007 data, **2005 data, ***2006 data)

1.2 Trip Rates

Whilst the gross trip rate is calculated as 1,74, net trip rate is calculated as 2,82 after the Household Surveys. Total trips accomplished by that purpose shall be divided to total population including sub-6 age so as to derive the gross trip.

When the trip rate is examined, it would be observed that 62 % of all people are active.

1.3 Trip Rates by Trip Modes

According to conducted surveys, 50,7 % of trips was accomplished by motorized vehicles with 0,88 rate and 49.3 % of trips was evaluated as a pedestrian journey with 0,86 rate.

1.4 Trip Rates by Socio-economic Framework

Conducted surveys points out that 40,9 % of trips have been accomplished by women, rate concerned for men is 59,1 %. In this context, trip rate for women trips is 1,36 whereas the trip rate for men is 1,95. Trip rate distribution by age groups is presented in Table 1.2. and Figure 1.1. In this context, trips are peaked among 10-14 ages with the greatest trip rate such as 2,42.

Table 1.2 Trip Rates by Age Groups

Age Range	Number of trip	Number of Person	Trip Ratio
5-9	1.731.364	842.729	2,05
10-14	2.867.443	1.183.489	2,42
15-19	2.242.014	1.164.996	1,92
20-24	1.883.243	1.197.840	1,57
25-29	2.350.590	1.370.340	1,72
30-34	2.164.683	1.201.292	1,8
35-39	1.799.768	1.028.791	1,75
40-44	1.691.539	1.000.781	1,69
45-49	1.267.495	800.516	1,58
50-54	1.056.835	703.367	1,5
55-59	692.615	488.456	1,42
60-64	456.275	342.536	1,33
65-69	315.468	256.433	1,23
70-74	226.543	198.933	1,14
75-79	116.402	122.151	0,95
80-84	43.361	65.982	0,66
85+	18.492	38.366	0,48
Total	20.924.133	12.006.999	1,74

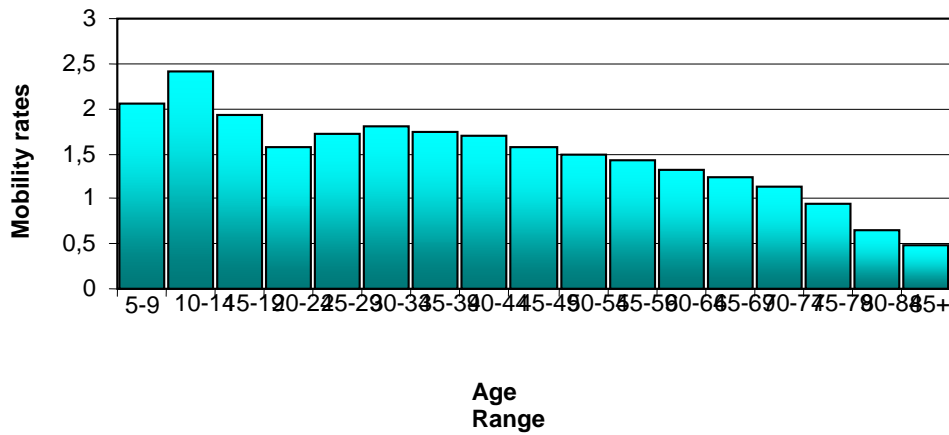


Figure 1.1 Trip Rates by Age Groups

In case of trip rates by educational mode is compared, it shall be seen apparently that persons graduated from master/Ph. D programmes have travelled at maximum degree. Besides, most of the trips have been accomplished by ones graduated from primary school.

Table 1.3 Trip Ratio by Educational Mode

Educational Mode	Number of trip	Number of person	Trip Rate
No degree	4.626.978	2.194.048	2,11
Primary school	6.398.780	4.301.937	1,49
Elementary education	1.581.413	847.289	1,87
Secondary school	2.149.084	1.272.606	1,69
Vocational school equal with secondary school	72.647	43.185	1,68
High school	3.655.860	2.104.650	1,74
Vocational school equal with high school	292.457	153.724	1,90
College	705.851	374.165	1,89
Faculty	1.279.853	640.659	2,00
Master/Ph.d	161.210	74.737	2,16
Total	20.924.133	12.006.999	1,74

Trip rates by income level is shown in Table 1.4. It implies that persons travel at maximum degree whose income range 2000–2250 YTL. Besides, most of trips have accomplished by people having income range 751–1000 YTL.

Table 1.4 Trip Rates by Income Level

Income Range(YTL)	Number of trips	Number of Persons	Trip Rate
250<	193.612	151.016	1,28
250-500	3.544.585	2.374.827	1,49
501-750	4.104.282	2.429.532	1,69
751-1000	5.519.123	3.047.598	1,81
1001-1250	1.325.330	683.991	1,94
1251-1500	2.505.854	1.305.217	1,92
1501-1750	410.259	214.351	1,91
1751-2000	1.440.412	773.780	1,86
2000-2250	155.836	77.153	2,02
2251-2500	512.696	278.545	1,84
2501-3500	589.937	328.790	1,79
3501-4999	246.799	137.649	1,79
5000-7499	269.649	144.940	1,86
7500-9999	41.662	24.515	1,70
10000>	64.098	37.105	1,73
Total	20.924.133	12.009.007	1,74

1.5 Alterations on Trip Data of inter-continents

Although the utmost trip rate in Asia is observed in Adalar county, minimum trips are accomplished by inhabitants living in Adalar as presented in Table 1.5. The inhabitants living in Ümraniye and Kadıköy counties has travelled at maximum level. In this context, the trip rates are equal to 1,67 and 1,93.

Table1.5 Trip Rates in Asian continent

Counties	number of trip	number of person	Trip rate
Adalar	30.940	14.762	2,1
Beykoz	418.853	244.180	1,72
Kadıköy	1.145.488	594.607	1,93
Kartal	781.968	467.628	1,67
Maltepe	667.477	364.061	1,83
Pendik	787.936	458.226	1,72
Sultanbeyli	491.106	286.491	1,71
Şile	127.122	84.104	1,51
Tuzla	248.334	144.515	1,72
Ümraniye	1.320.759	792.763	1,67
Üsküdar	1.043.918	544.493	1,92
Gebze	791.934	435.989	1,82
Total	7.855.835	4.431.819	1,77

Although the utmost trip rate for European continent is observed in Eminönü county, minimum trips are accomplished by inhabitants living in Eminönü as presented in Table 1.6. The inhabitants living in Gaziosmanpaşa and Bağcılar counties has travelled at maximum level. In this context, the trip rates are equal to 1,72 and 1,64.

Table1.6 Trip Rates in European continent

Counties	number of trip	number of person	Trip rate
Avcılar	400.776	218.418	1,83
Bağcılar	1.299.321	792.998	1,64

Bahçelievler	891.882	579.752	1,54
Bakırköy	311.316	156.926	1,98
Bayrampaşa	555.999	296.222	1,88
Beşiktaş	238.368	127.826	1,86
Beyoğlu	404.137	225.751	1,79
Büyükçekmece	809.722	479.663	1,69
Çatalca	200.938	123.312	1,63
Eminönü	84.536	41.794	2,02
Esenler	926.356	560.289	1,65
Eyüp	547.887	277.841	1,97
Fatih	639.666	355.316	1,8
Gaziosmanpaşa	1.670.605	972.678	1,72
Güngören	573.266	354.846	1,62
Kağıthane	610.637	354.611	1,72
Küçükçekmece	1.184.077	717.027	1,65
Sarıyer	473.550	251.749	1,88
Silivri	207.544	132.574	1,57
Şişli	477.026	249.163	1,91
Zeytinburnu	560.692	306.424	1,83
Total	13.068.298	7.575.180	1,73

As it is presented in Table 1.7., if trip rate by purposes is compared home based other trips (HBO) are in the front rank with a 0,65 rate. After than, it is followed by home based work (HBW) trips with 0,56 ; home based school (HBS) with 0,37 and non home based (NHB) with 0,16 in lastly.

Table 1.7. Trip rates by purposes

Trip Purposes	(%)	Number of Trip	Number of Person	Trip Rate
Home-Work	32,3	6.758.495	3.878.261	0,56
Home- School	21,4	4.477.765	2.569.498	0,37
Home- Other	37,2	7.783.778	4.466.604	0,65
Non Home based	9,1	1.904.096	1.092.637	0,16
Total	100	20.924.133	12.006.999	1,74

1.7. Time Periods of Trips

Analysis of the daily distribution of trips made via motorized vehicles is very important in determining the bottlenecks in the transportation infrastructure. In the 2006 O-D Household Survey, time of starting and ending trips were asked. Peak hours of motorized trips by trip purposes are between 07:00-09:00 and 17:00-20:00 hours. 26% of total trips started between

07:00-09:00 and 25% of them were started between 17:00-20:00 hours. 33% of total trips ended between 07:00-10:00 and 18% of them were ended between 18:00-20:00 hours. Most of these trips were constituted by HBW and HBS trips with respect to trip purposes. Table 1.8 presents trip starting times and Table 1.10 shows trip ending times by trip purposes. Peak values are indicated in bold. Figure shows daily distributions of motorized trips by their starting and ending times whereas **Hata! Başvuru kaynağı bulunamadı.** presents the cumulative curves of starting and ending trips by time of day. The difference between these to curves gives the time spent in daily traffic.

Table 1.8. Trip Distributions by starting times (%)

Starting Times	HBW (%)	HBS (%)	HBO (%)	NHB (%)	Total (%)
00:00-01:00	0,10	0,00	0,33	0,10	0,14
01:00-02:00	0,16	0,00	0,28	0,11	0,16
02:00-03:00	0,10	0,01	0,13	0,05	0,09
03:00-04:00	0,10	0,01	0,09	0,03	0,08
04:00-05:00	0,16	0,01	0,12	0,04	0,12
05:00-06:00	0,67	0,08	0,21	0,26	0,44
06:00-07:00	7,54	5,75	1,79	1,17	5,36
07:00-08:00	20,71	17,51	3,76	2,93	14,68
08:00-09:00	14,92	15,15	5,57	4,22	11,81
09:00-10:00	3,88	2,06	5,78	5,54	4,21
10:00-11:00	1,38	1,28	6,26	7,73	3,07
11:00-12:00	0,86	3,82	6,94	8,83	3,41
12:00-13:00	0,96	10,59	7,53	9,76	4,68
13:00-14:00	0,67	3,36	7,75	9,20	3,48
14:00-15:00	0,78	4,98	7,72	9,57	3,79
15:00-16:00	1,55	10,21	7,37	9,19	4,85
16:00-17:00	2,84	9,51	8,04	8,30	5,52
17:00-18:00	7,92	9,54	7,89	7,77	8,13
18:00-19:00	14,33	4,02	6,52	7,00	10,33
19:00-20:00	10,69	0,92	4,82	3,98	7,29
20:00-21:00	5,07	0,52	3,80	1,96	3,84
21:00-22:00	2,29	0,41	2,99	1,14	2,10
22:00-23:00	1,45	0,20	2,40	0,72	1,44
23:00-00:00	0,89	0,06	1,91	0,39	0,98
Total	100	100	100	100	100

The trip rates and trip distributions of motorized trips by purpose and by starting times are shown in table 1.9 . Trip rate of total trips make a peak between 07:00–09:00 and 15:00–19:00 hours.

Table 1.9 Trip Distributions by Starting Times (Trip)

Starting Times	HBW	HBS	HBO	NHB	Total	Trip Rate
00:00-01:00	6.758	0	25.686	1.904	34.349	0
01:00-02:00	10.814	0	21.795	2.095	34.703	0
02:00-03:00	6.758	448	10.119	952	18.277	0
03:00-04:00	6.758	448	7.005	571	14.783	0
04:00-05:00	10.814	448	9.341	762	21.364	0
05:00-06:00	45.282	3.582	16.346	4.951	70.161	0,01
06:00-07:00	509.591	257.471	139.330	22.278	928.670	0,08
07:00-08:00	1.399.684	784.057	292.670	55.790	2.532.201	0,21
08:00-09:00	1.008.367	678.381	433.556	80.353	2.200.658	0,18
09:00-10:00	262.230	92.242	449.902	105.487	909.861	0,08
10:00-11:00	93.267	57.315	487.265	147.187	785.034	0,07
11:00-12:00	58.123	171.051	540.194	168.132	937.500	0,08
12:00-13:00	64.882	474.195	586.118	185.840	1.311.035	0,11
13:00-14:00	45.282	150.453	603.243	175.177	974.154	0,08
14:00-15:00	52.716	222.993	600.908	182.222	1.058.839	0,09
15:00-16:00	104.757	457.180	573.664	174.986	1.310.587	0,11
16:00-17:00	191.941	425.835	625.816	158.040	1.401.632	0,12
17:00-18:00	535.273	427.179	614.140	147.948	1.724.540	0,14
18:00-19:00	968.492	180.006	507.502	133.287	1.789.288	0,15
19:00-20:00	722.483	41.195	375.178	75.783	1.214.640	0,1
20:00-21:00	342.656	23.284	295.784	37.320	699.044	0,06
21:00-22:00	154.770	18.359	232.735	21.707	427.570	0,04
22:00-23:00	97.998	8.956	186.811	13.709	307.474	0,03
23:00-00:00	60.151	2.687	148.670	7.426	218.933	0,02
Total	6.758.495	4.477.765	7.783.778	1.904.096	20.924.133	1,74

Table 1.10 Trip Distributions by ending times (%)

Ending Times	HBW (%)	HBS (%)	HBO (%)	NHB (%)	Total (%)
00:00-01:00	0,44	0,02	0,77	0,17	0,44
01:00-02:00	0,28	0,00	0,45	0,14	0,27
02:00-03:00	0,13	0,02	0,20	0,06	0,12
03:00-04:00	0,10	0,01	0,13	0,06	0,09
04:00-05:00	0,12	0,00	0,11	0,04	0,09
05:00-06:00	0,30	0,01	0,13	0,10	0,20
06:00-07:00	1,82	0,67	0,65	0,47	1,26
07:00-08:00	11,15	11,47	2,15	1,75	8,25
08:00-09:00	22,92	20,79	4,69	3,70	16,62
09:00-10:00	9,43	6,13	5,78	4,62	7,67
10:00-11:00	2,50	1,73	5,95	6,48	3,55
11:00-12:00	1,10	1,57	6,57	8,03	3,06

12:00-13:00	1,02	9,22	7,45	9,26	4,45
13:00-14:00	0,71	5,93	7,68	9,62	3,89
14:00-15:00	0,69	3,00	7,67	9,08	3,40
15:00-16:00	1,08	7,52	6,86	9,58	4,12
16:00-17:00	1,93	9,94	7,62	8,83	5,04
17:00-18:00	4,11	9,21	7,78	7,83	6,05
18:00-19:00	9,59	7,71	7,18	7,75	8,58
19:00-20:00	13,21	2,83	6,22	5,89	9,40
20:00-21:00	9,40	1,07	5,08	3,22	6,64
21:00-22:00	4,46	0,51	3,64	1,86	3,47
22:00-23:00	2,17	0,41	2,75	0,77	1,95
23:00-00:00	1,33	0,22	2,49	0,71	1,40
Total	100	100	100	100	100

The trip rates and trip distributions of motorized trips by purpose and by ending time are shown in table 1.11 . Trip rate of total trips make a peak between 07:00–10:00 and 16:00–20:00 hours.

Table 1.11 Trip distributions by starting times (Trip)

Ending Times	HBW	HBS	HBO	NHB	Total	Trip Rate
00:00-01:00	29.737	896	59.935	3.237	93.805	0,01
01:00-02:00	18.924	0	35.027	2.666	56.617	0
02:00-03:00	8.786	896	15.568	1.142	26.392	0
03:00-04:00	6.758	448	10.119	1.142	18.468	0
04:00-05:00	8.110	0	8.562	762	17.434	0
05:00-06:00	20.275	448	10.119	1.904	32.746	0
06:00-07:00	123.005	30.001	50.595	8.949	212.549	0,02
07:00-08:00	753.572	513.600	167.351	33.322	1.467.845	0,12
08:00-09:00	1.549.047	930.927	365.059	70.452	2.915.485	0,24
09:00-10:00	637.326	274.487	449.902	87.969	1.449.685	0,12
10:00-11:00	168.962	77.465	463.135	123.385	832.948	0,07
11:00-12:00	74.343	70.301	511.394	152.899	808.937	0,07
12:00-13:00	68.937	412.850	579.891	176.319	1.237.997	0,1
13:00-14:00	47.985	265.531	597.794	183.174	1.094.485	0,09
14:00-15:00	46.634	134.333	597.016	172.892	950.874	0,08
15:00-16:00	72.992	336.728	533.967	182.412	1.126.099	0,09
16:00-17:00	130.439	445.090	593.124	168.132	1.336.784	0,11
17:00-18:00	277.774	412.402	605.578	149.091	1.444.845	0,12
18:00-19:00	648.140	345.236	558.875	147.567	1.699.818	0,14
19:00-20:00	892.797	126.721	484.151	112.151	1.615.820	0,13
20:00-21:00	635.299	47.912	395.416	61.312	1.139.938	0,09
21:00-22:00	301.429	22.837	283.330	35.416	643.011	0,05
22:00-23:00	146.659	18.359	214.054	14.662	393.734	0,03
23:00-00:00	89.888	9.851	193.816	13.519	307.074	0,03
Total	6.758.495	4.477.765	7.783.778	1.904.096	20.924.133	1,74

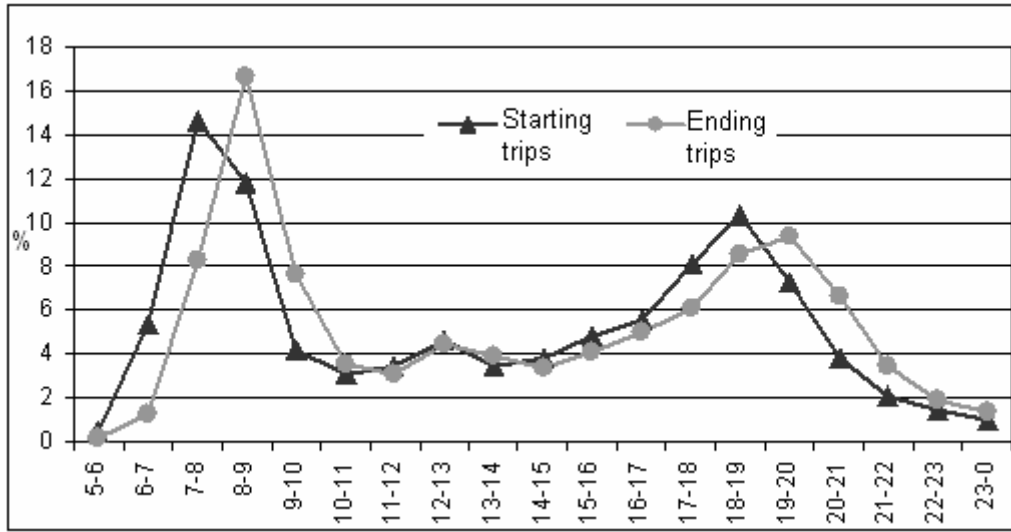


Figure 1.2. Starting and Ending Times of All Trips by time of Day

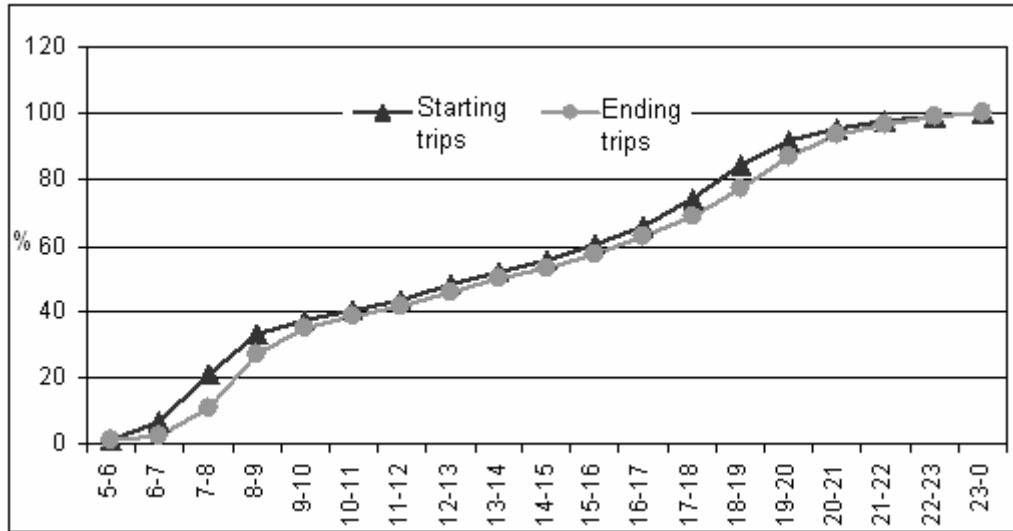


Figure 1.3 Cumulative Curves of All Starting and Ending Trips by Time of Day

2. ACCESSIBILITY

2.1 Alterations on the trip distances by trip modes

Average trip distance for all purposes and trip modes through İstanbul is 7,22 km and average trip time is 29,7 minutes. Whereas average trip distance in motorized (vehicle) trips is 11,24 km; trip distance in pedestrian journey is 3,61 km. Average trip time in motorized trips is 45,8 minutes and then in pedestrian journeys is 15, 1 minutes.

2.2. Alterations on the trip distances by socio-economic framework

In case of the distribution of trip distances by gender is considered, average trip time and distance increases for men according to women.

Tablo 2.1 Alterations on trip distances by gender

Gender	Average Trip Distance (km)	Standart Deviation	Average Trip Time (mns)	Standart Deviation
MALE	M	9,37	32,30	29,94
FEMALE	5,97	7,35	26,42	26,71

In case of average trip times and distances by gender are considered, the maximal degree falls on between 40-50 ages.

Table 2.2. Alterations on trip distances by age

Age	Average Distance (Km)	Mesafe_Std	Average Time (Mins)	Sure_Std
5-9	3,8	4,41	15,7	14,23
10-14	4,0	4,86	16,4	15,76
15-19	6,7	7,87	31,6	26,82
20-24	8,8	9,62	37,6	31,93
25-29	8,8	9,53	35,8	30,86
30-34	8,5	9,30	33,9	30,36
35-39	8,5	9,39	33,9	30,75
40-44	8,9	9,94	34,6	31,13
45-49	8,8	9,67	34,9	31,93
50-54	8,1	9,22	32,9	31,54
55-59	8,1	9,69	31,5	31,06
60-64	7,5	8,94	29,8	31,06
65-69	6,7	8,50	26,5	28,37
70-74	6,8	8,74	24,6	27,87
75-79	6,1	8,22	25,5	27,85
80-84	6,0	8,00	25,2	28,19
85-89	4,4	5,49	21,9	21,95
90-94	3,3	2,62	14,7	12,14
95-99	10,8	8,39	53,2	50,61

If trip distances by educational level are analysed, persons graduated from faculty, college and vocational college (high school) travel in the longest time and the utmost distance.

Table 2.3 Alterations on trip distances by educational level

Education	Aver. Distance (Km)	Mesafe_Std	Average Time(Mins)	Sure_Std
No degree	4,1	5,15	16,9	16,99
Faculty	10,9	10,15	41,6	32,65
Primary school	7,2	8,78	29,3	29,06
Elementary education	6,3	7,54	30,1	25,72
High school	9,4	9,74	38,6	32,19
Vocational college (high school)	9,6	10,23	37,3	31,52
Secondary school	7,9	9,10	33,3	29,58
Vocational college (secondary school)	7,6	9,14	34,9	28,10
College	10,6	10,35	41,2	32,22

If trip distances by income level is examined, it will be seen that the trip rates by motorized vehicles increases the result of increasing of the income level. It is also observed, in pedestrian journeys, in the case of income level increases, however, trip distance decreases. Table 2. 4. displays a inverse proportion with average trip times and income level .

Table 2.4 Alterations on trip distances by income level

Motorized- Pedestrian	Income	Distance (Km)	M_Std	Time(Mns)	S_Std
Motorized	Low 0-160	10,59	9,74	45,92	32,69
	Medium160-275	10,41	9,55	45,59	32,37
	High 275-10000	10,92	9,87	45,39	32,73
Pedestrian	Low 0-160	3,49	3,67	14,70	13,73
	Medium160-275	3,37	4,00	14,17	13,91
	High 275-10000	3,28	3,73	14,42	14,70

2.3 Alterations on the trip distances between continents

Trip distances and trip times between Asian and European continents are higher than trips accomplished in the borders of the continent since pedestrian journeys are added to calculations. Trip time in Asian continent is 26 minutes and that value in Europe continent is 28 minutes. Average trip time for continent transition is 80 minutes. Trip distances in the continent is, on average, between 6 and 7 minutes and the distance for continent transition is almost 26 km.

Table 2.5 Alterations on trip distances between continents

Initial	Arrival	Average Trip Distance (km)	Standart Deviation	Average Trip Time (dk)	Standart Deviation
ASIA	ASYA	6,61	6,76	26,27	24,56
ASIA	EUROPE	25,61	14,05	79,53	37,56
AVRUPA	ASIA	25,79	14,28	79,91	37,90
EUROPE	EUROPE	6,34	7,64	28,33	27,17

2.4 Alterations on distances by trip purposes

The distribution of trip distances and trip times by purpose is presented in Table 2.6. In this context, average trip distance and trip time is peaked in home based work (HBW) trips.

Table 2.6 Alterations on distances by trip purposes

Purpose	Average Trip Distance(km)	Standart Deviation	Average Trip Time(mins)	Standart Deviation
HBW	9,69	9,84	39,29	31,18
HBS	4,86	6,16	21,57	21,60
HBO	6,14	7,86	25,41	28,04
NHB	8,93	10,18	32,46	29,22

3. TRIP DISTRIBUTION

3.1 Trip distributions by modes of inter-counties and intra-counties

The pedestrian journeys are completed in the county borders with 88 % rate. The lowest trip mode in the county is service trips with 38 % rate.

Table 3.1 Trip distributions by modes of inter-counties and intra-counties

Trip Modes	The rate of intra-counties (%)	The rate of inter-counties (%)
Pedestrian	87,74	12,26
Car	40,00	60,00
Public transport	39,24	60,76
Service	37,58	62,42
Total	63,80	36,20

3.2 Trip Distributions By Modes inter-Districts and intra-Districts

In approximately 70 percent of pedestrian journeys are completed in the district. However, the trip rate of intra-district by vehicle trips decreases to 8% s.

Table 3.2 Trip distributions by modes of inter-districts and intra-districts

Trip modes	The rate of intra-district (%)	The rate of inter-districts (%)
Pedestrian	69,96	30,04
Car	8,83	91,17
Public transport	8,28	91,72
Service	9,04	90,96
Total	39,73	60,27

3.3 Trip Distributions By Mode of inter-continent

The pedestrian journeys are tramped in Asian continent with 37 % rate whilst that rate is 63 percent in European continent. The trip rate of vehicle trips in Asian side is 30 percent; and that rate in Europe is nearly 60 percent. The trip rate of transition from Asia to Europe is 4 % and the rate from Europe to Asia is 2 percent.

Table 3.3 Trip distributions by modes of inter-continents

Trip Modes	The Rate in Asian side (%)	The rate in European side (%)	The rate from Asia to Europe (%)	The rate from Europe to Asia (%)
Car	0,31	0,59	0,06	0,04
Public Transport	0,30	0,60	0,07	0,03
Service	0,27	0,60	0,10	0,02
Total	0,33	0,61	0,04	0,02

3.4 Trip Distribution By Purpose in Hourly

The percentage distribution of pedestrian journeys by starting time is shown in Table 3.4 and Figure 3.1. below. In this context, pedestrian journeys are mostly accomplished between 07:00–09:00, 12:00–13:00 and 17:00–18:00 hours. In percentages of purposes, home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 09:00 hours whilst peak hours of home based school trips (HBS) are between 12:00 and 13:00. In addition, home based other (HBO) and home based school (HBS) trips are peaked between 17:00 and 18:00 hours.

Table 3.4 Distributions of pedestrian journeys by starting times

Starting times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,11	0,00	0,08	0,03	0,05
01:00-02:00	0,19	0,00	0,05	0,03	0,06
02:00-03:00	0,08	0,00	0,04	0,00	0,03
03:00-04:00	0,07	0,00	0,01	0,00	0,02
04:00-05:00	0,15	0,00	0,03	0,02	0,04
05:00-06:00	0,46	0,02	0,16	0,08	0,17
06:00-07:00	2,99	1,60	0,85	0,48	1,55
07:00-08:00	13,20	17,70	1,80	1,58	10,04
08:00-09:00	22,98	10,40	2,76	1,84	9,71
09:00-10:00	5,82	0,82	3,23	2,69	2,84
10:00-11:00	2,04	0,22	4,61	3,96	2,43
11:00-12:00	1,24	1,33	6,30	6,52	3,42
12:00-13:00	2,34	35,07	12,24	19,09	18,95
13:00-14:00	1,43	3,11	9,98	14,18	5,82
14:00-15:00	1,09	3,79	10,64	11,67	6,17
15:00-16:00	1,44	4,82	9,06	10,55	5,98
16:00-17:00	1,97	2,57	9,71	7,95	5,40
17:00-18:00	5,34	14,80	10,62	8,08	11,00
18:00-19:00	9,62	3,45	5,93	4,03	5,70
19:00-20:00	13,89	0,19	4,21	3,45	4,67
20:00-21:00	6,53	0,05	3,17	1,97	2,65
21:00-22:00	3,46	0,03	2,02	0,87	1,53
22:00-23:00	1,97	0,02	1,50	0,69	1,01

23:00-00:00	1,58	0,01	1,02	0,24	0,73
Total	100,00	100,00	100,00	100,00	100,00

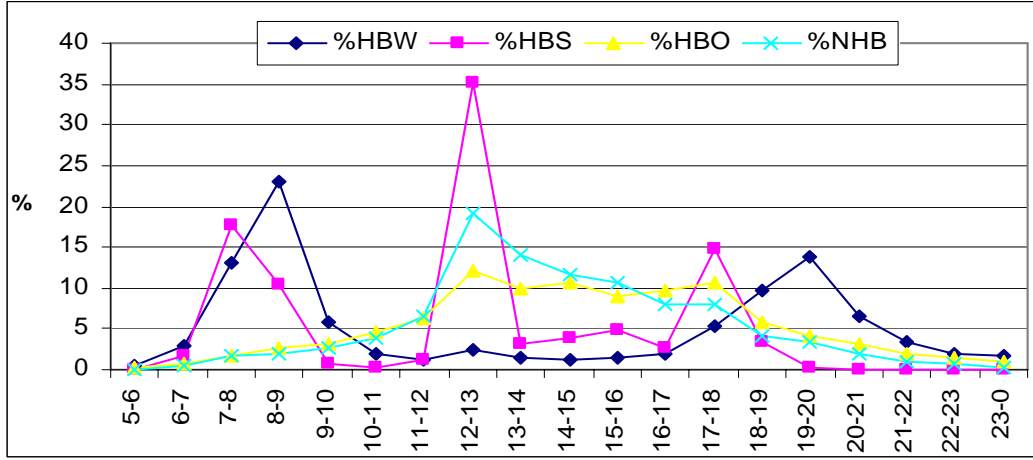


Figure 3.1 Percentage distributions of pedestrian journeys by starting times

The percentage distribution of pedestrian journeys by ending time is shown in Table 3.5 and Figure 3.2. below. In this context, service trips are mostly accomplished between 07:00–09:00, 12:00–13:00 and 17:00–18:00. In pedestrian mode, home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 09:00 hours whilst peak hours of home based school trips (HBS) are between 12:00 and 13:00. In addition, home based other (HBO) and home based school (HBS) trips are peaked between 17:00 and 18:00 hours.

Table 3.5 . Percentage distributions of pedestrian journey by ending times

Ending times	%HBW	%HBS	%HBO	%NHB	Total
00:00-01:00	0,83	0,01	0,24	0,06	0,27
01:00-02:00	0,18	0,01	0,06	0,03	0,07
02:00-03:00	0,12	0,00	0,04	0,03	0,04
03:00-04:00	0,08	0,00	0,01	0,00	0,02
04:00-05:00	0,13	0,00	0,03	0,02	0,04
05:00-06:00	0,36	0,01	0,13	0,05	0,13
06:00-07:00	2,29	0,63	0,69	0,32	0,98
07:00-08:00	9,15	17,30	1,69	1,38	9,01
08:00-09:00	25,55	10,76	2,49	1,66	10,28
09:00-10:00	7,31	1,61	3,27	2,47	3,46

10:00-11:00	2,16	0,22	4,42	3,58	2,36
11:00-12:00	1,21	0,65	5,82	5,58	2,94
12:00-13:00	2,30	32,23	11,71	17,23	17,60
13:00-14:00	1,40	6,31	10,18	15,21	7,12
14:00-15:00	1,15	2,95	10,38	11,77	5,77
15:00-16:00	1,31	5,51	9,04	10,91	6,20
16:00-17:00	1,83	2,53	9,62	8,58	5,35
17:00-18:00	4,70	12,57	10,84	8,50	10,13
18:00-19:00	8,69	6,19	6,65	4,48	6,82
19:00-20:00	14,07	0,38	4,50	3,91	4,92
20:00-21:00	7,47	0,06	3,36	2,24	2,94
21:00-22:00	3,92	0,04	2,11	0,95	1,67
22:00-23:00	2,10	0,02	1,60	0,71	1,08
23:00-00:00	1,68	0,01	1,13	0,33	0,80
Total	100,00	100,00	100,00	100,00	100,00

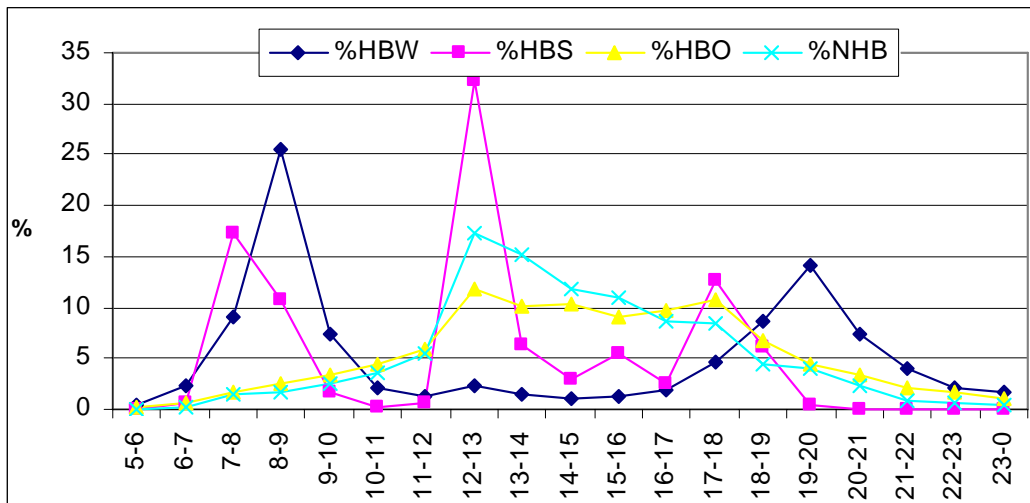


Figure 3.2 Percentage distributions of pedestrian journey by ending times

Table 3.6 and Figure 3.3 presents the percentage distributions of car trips by starting time. It implies that car trips are distributed throughout in a large time period between 07.00 and 21:00 hours. In this context, car trips mostly started for the purpose of home and school between 07:00–09:00 and 18:00–20:00 hours.

Table 3.6 Percentage distributions of car trips by starting times

Starting times	%HBW	%HBS	%HBO	%NHB	Total
00:00-01:00	0,31	0,02	1,12	0,20	0,75
01:00-02:00	0,30	0,02	0,75	0,14	0,51
02:00-03:00	0,20	0,07	0,34	0,03	0,23

03:00-04:00	0,17	0,07	0,20	0,06	0,15
04:00-05:00	0,23	0,00	0,20	0,04	0,14
05:00-06:00	0,54	0,02	0,21	0,07	0,15
06:00-07:00	3,50	2,22	1,22	0,54	1,15
07:00-08:00	12,26	19,22	2,85	1,98	4,36
08:00-09:00	20,24	24,12	4,65	3,63	6,45
09:00-10:00	9,28	5,06	5,22	5,46	5,27
10:00-11:00	2,81	2,17	5,43	8,09	5,79
11:00-12:00	1,38	1,52	5,71	9,26	6,21
12:00-13:00	1,23	9,42	6,26	9,71	7,52
13:00-14:00	0,82	2,69	6,51	9,37	6,87
14:00-15:00	0,85	2,77	6,79	9,12	6,98
15:00-16:00	1,23	5,27	5,92	9,45	6,79
16:00-17:00	2,05	7,87	6,93	8,39	7,42
17:00-18:00	5,57	8,61	7,30	7,48	7,49
18:00-19:00	10,92	4,72	6,98	6,49	6,61
19:00-20:00	11,35	2,15	6,32	4,68	5,44
20:00-21:00	7,82	0,90	6,13	2,70	4,66
21:00-22:00	3,94	0,52	4,86	1,60	3,53
22:00-23:00	1,83	0,48	4,13	0,85	2,87
23:00-00:00	1,18	0,09	3,96	0,65	2,67
Total	100,00	100,00	100,00	100,00	100,00

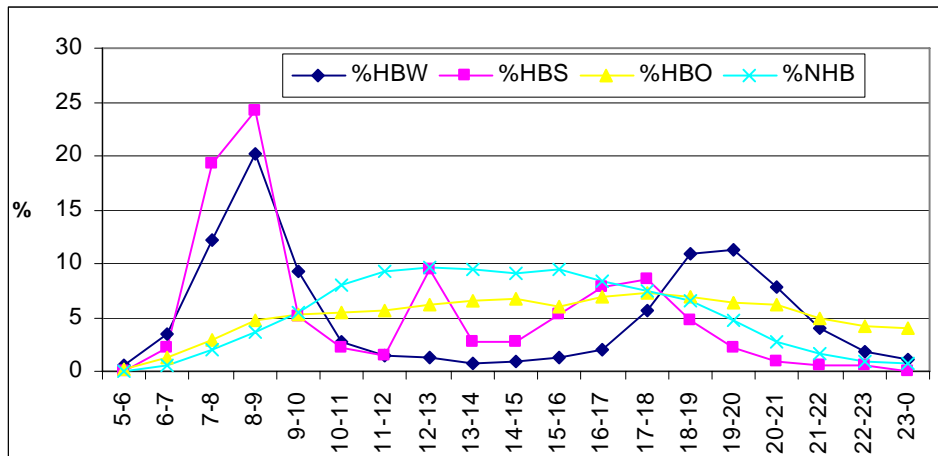


Figure 3.3 Percentage distributions of car trips by starting times

The percentage distribution of car trips by ending time is shown in Table 3.7 and Figure 3.4. below. In this context, the car trips are distributed throughout in a large time period between 07.00 and 21:00 hours. In this context, car trips are mostly ended between 07:00–10:00 and 18:00–21:00 for work intention.

Table 3.7 Percentage Distributions of car trips by ending times

Starting times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,49	0,03	1,56	0,27	1,06
01:00-02:00	0,34	0,03	0,89	0,19	0,61
02:00-03:00	0,21	0,07	0,41	0,04	0,27
03:00-04:00	0,17	0,07	0,21	0,07	0,16
04:00-05:00	0,22	0,00	0,21	0,05	0,15
05:00-06:00	0,43	0,00	0,21	0,04	0,14
06:00-07:00	2,18	1,02	0,78	0,38	0,70
07:00-08:00	9,04	17,07	2,31	1,43	3,64
08:00-09:00	21,17	24,84	4,23	3,32	6,17
09:00-10:00	11,84	6,95	5,32	4,83	5,37
10:00-11:00	3,44	2,35	5,36	7,42	5,59
11:00-12:00	1,55	1,33	5,74	8,98	6,13
12:00-13:00	1,26	8,86	6,27	9,81	7,48
13:00-14:00	0,85	3,48	6,43	9,32	6,88
14:00-15:00	0,86	2,21	6,78	8,84	6,84
15:00-16:00	1,07	5,01	5,75	9,39	6,63
16:00-17:00	1,76	7,73	6,73	8,73	7,36
17:00-18:00	4,31	7,87	7,06	7,66	7,30
18:00-19:00	9,16	5,59	7,09	7,03	6,91
19:00-20:00	11,85	3,00	6,60	5,31	5,88
20:00-21:00	9,45	1,12	6,66	3,26	5,17
21:00-22:00	4,85	0,61	5,02	1,97	3,75
22:00-23:00	2,16	0,58	4,22	0,82	2,93
23:00-00:00	1,33	0,17	4,17	0,83	2,86
Total	100,00	100,00	100,00	100,00	100,00

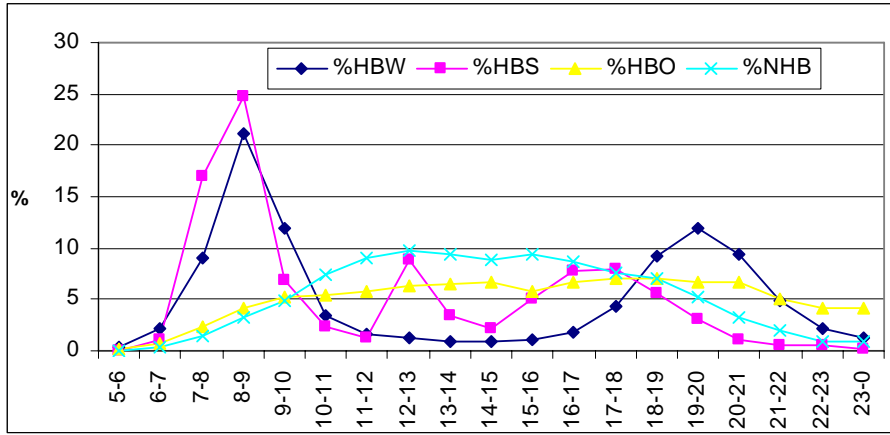


Figure 3.4 Percentage distributions of car trips by ending times

The percentage distribution of service trips by starting time is shown in Table 3.8 and Figure 3.5. below. In this context, service trips are mostly accomplished between 07:00–09:00, 12:00–13:00 and 17:00–19:00. Home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 09:00 hours whilst peak hours of home based school trips (HBS) are between 12:00 and 13:00. In addition, home based work (HBW) and home based school (HBS) trips are peaked between 17:00 and 18:00 hours.

Table 3.8 Percentage distributions of service trips by starting times

Starting times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,14	0,00	0,53	0,00	0,05
01:00-02:00	0,20	0,00	0,15	0,09	0,02
02:00-03:00	0,10	0,00	0,23	0,00	0,02
03:00-04:00	0,14	0,00	0,08	0,00	0,01
04:00-05:00	0,18	0,02	0,30	0,00	0,04
05:00-06:00	0,61	0,10	0,45	0,81	0,19
06:00-07:00	9,48	5,90	5,71	2,89	5,64
07:00-08:00	27,37	14,15	7,66	7,59	12,98
08:00-09:00	10,58	17,14	7,28	7,77	15,41
09:00-10:00	1,01	0,83	3,75	5,33	1,48
10:00-11:00	0,25	0,34	3,53	4,61	1,00
11:00-12:00	0,26	5,16	6,08	5,87	5,31
12:00-13:00	0,41	13,65	7,51	6,68	12,48
13:00-14:00	0,31	2,16	4,80	3,70	2,54
14:00-15:00	0,55	3,97	6,16	5,24	4,29
15:00-16:00	1,90	11,51	8,41	7,77	10,90
16:00-17:00	3,34	9,72	8,18	9,58	9,56
17:00-18:00	9,61	11,11	9,76	10,66	10,94
18:00-19:00	16,70	3,67	9,38	12,01	4,91
19:00-20:00	9,78	0,30	3,90	5,60	1,08
20:00-21:00	3,32	0,12	2,93	1,90	0,54
21:00-22:00	1,40	0,09	1,05	0,72	0,24
22:00-23:00	1,34	0,06	1,20	0,81	0,24
23:00-00:00	1,01	0,03	0,98	0,36	0,15
Total	100,00	100,00	100,00	100,00	100,00

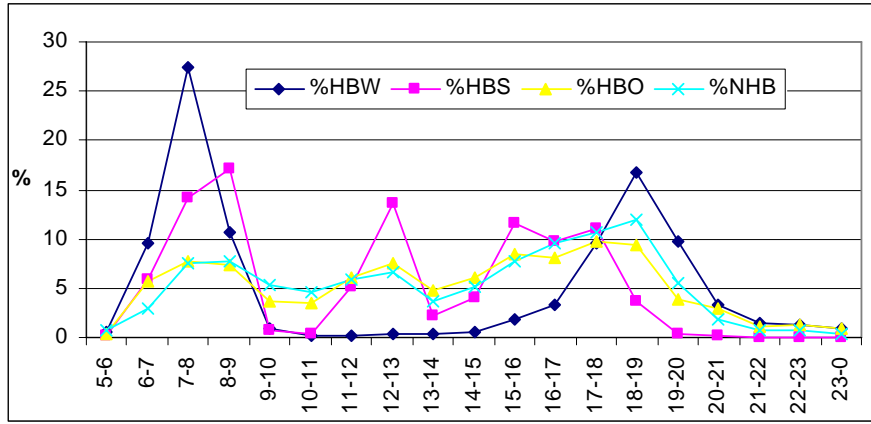


Figure 3.5 Percentage distributions of service trips by starting times

The percentage distribution of service trips by ending time is shown in Table 3.9 and Figure 3.6. below. In this context, service trips are mostly accomplished between 07:00–09:00, 12:00–13:00 and 16:00–19:00 hours. Home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 09:00 hours whilst peak hours of home based school trips (HBO) are between 12:00 and 13:00. In addition, home based work (HBW) and home based school (HBS) trips are peaked between 16:00 and 19:00 hours.

Table 3.9 Percentage distributions of service trips by ending times

Ending times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,60	0,01	0,38	0,09	0,05
01:00-02:00	0,39	0,00	0,53	0,00	0,05
02:00-03:00	0,14	0,00	0,23	0,09	0,03
03:00-04:00	0,11	0,00	0,15	0,00	0,01
04:00-05:00	0,09	0,01	0,08	0,00	0,01
05:00-06:00	0,35	0,00	0,23	0,36	0,05
06:00-07:00	1,95	0,62	1,88	0,99	0,77
07:00-08:00	16,18	10,68	6,00	4,77	9,74
08:00-09:00	25,70	21,27	8,63	8,54	18,99
09:00-10:00	4,08	5,21	5,48	5,40	5,25
10:00-11:00	0,60	0,34	4,13	5,49	1,13
11:00-12:00	0,29	0,90	5,40	4,95	1,67
12:00-13:00	0,35	12,88	6,15	5,76	11,64
13:00-14:00	0,27	6,47	5,40	5,76	6,30
14:00-15:00	0,41	1,83	6,30	4,77	2,51
15:00-16:00	1,25	8,17	5,70	5,85	7,74

16:00-17:00	2,47	11,06	9,45	9,44	10,77
17:00-18:00	4,55	9,52	8,18	7,37	9,21
18:00-19:00	12,09	8,87	8,18	13,67	9,20
19:00-20:00	15,38	1,60	8,18	8,90	2,84
20:00-21:00	7,34	0,29	4,43	4,05	1,00
21:00-22:00	2,45	0,12	2,33	2,43	0,52
22:00-23:00	1,64	0,05	0,98	0,54	0,18
23:00-00:00	1,32	0,11	1,65	0,81	0,32
Total	100,00	100,00	100,00	100,00	100,00

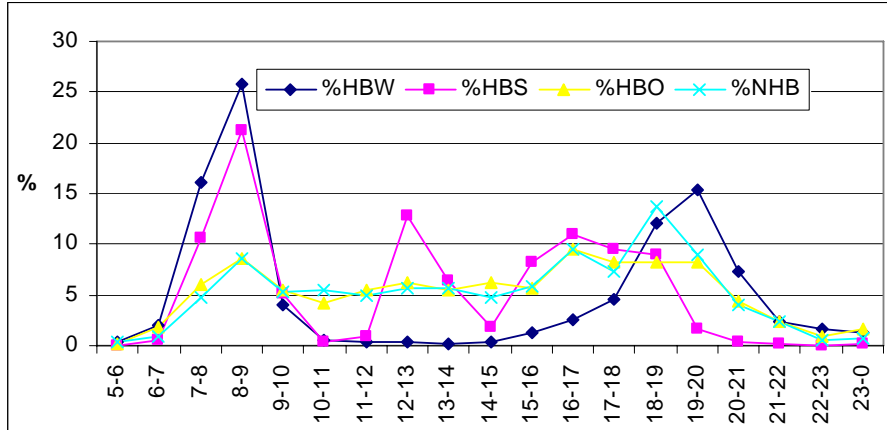


Figure 3.6 Percentage distributions of service trips by ending times

The percentage distribution of public transport trips by ending time is shown in Table 3.10 and Figure 3.7. below. In this context, the public transport trips are distributed throughout in a large time period between 07.00 and 20:00 hours. Besides, home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 09:00 hours whilst peak hours of home based other (HBO) and non-home based (NHB) trips are between 12:00 and 18:00. In addition, home based work (HBW) trips are peaked between 18:00 and 20:00 hours.

Table 3.10 Percentage distributions of public transport trips by starting times

Starting times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,04	0,00	0,05	0,02	0,03
01:00-02:00	0,04	0,01	0,03	0,09	0,03
02:00-03:00	0,04	0,01	0,02	0,00	0,01
03:00-04:00	0,03	0,01	0,03	0,00	0,02
04:00-05:00	0,07	0,01	0,02	0,02	0,01
05:00-06:00	0,78	0,09	0,17	0,35	0,17

06:00-07:00	9,00	6,63	1,74	1,35	3,13
07:00-08:00	20,14	19,49	4,08	2,10	8,35
08:00-09:00	14,15	11,06	5,83	3,14	7,04
09:00-10:00	3,78	3,41	6,47	4,50	5,35
10:00-11:00	1,58	2,24	7,20	6,36	5,65
11:00-12:00	0,98	3,10	7,73	8,57	6,47
12:00-13:00	1,07	7,04	8,38	11,26	8,32
13:00-14:00	0,78	4,80	8,51	10,40	7,64
14:00-15:00	0,83	6,27	8,29	11,28	8,05
15:00-16:00	1,37	9,81	8,13	9,21	8,75
16:00-17:00	2,90	9,92	8,75	8,64	9,08
17:00-18:00	7,66	8,12	8,00	8,10	8,04
18:00-19:00	14,38	4,38	6,17	7,88	5,84
19:00-20:00	10,87	1,45	3,98	3,76	3,22
20:00-21:00	5,26	0,96	2,54	1,55	1,96
21:00-22:00	2,25	0,83	1,89	0,84	1,45
22:00-23:00	1,35	0,30	1,33	0,40	0,92
23:00-00:00	0,65	0,08	0,68	0,18	0,45
Total	100,00	100,00	100,00	100,00	100,00

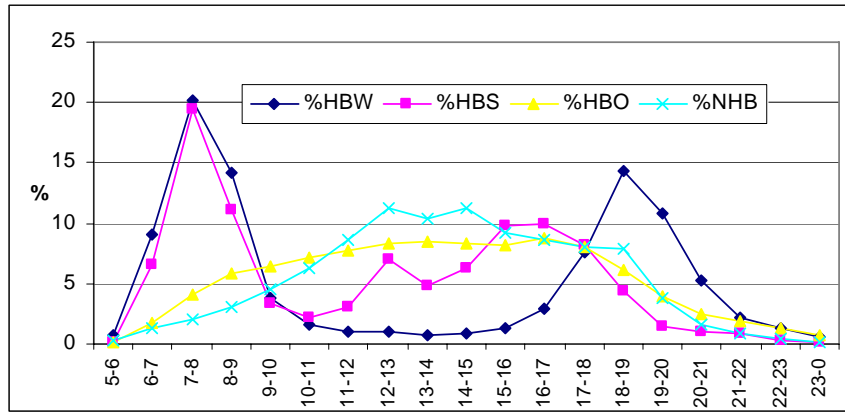


Figure 3.7 Percentage distributions of public transport trips by starting times

Percentage distribution of public transport trips by ending time is shown in Table 3.11 and Figure 3.8. below. In this context, the public transport trips are distributed throughout in a large time period between 07.00 and 21:00 hours. Besides, home based work (HBW) and home based school (HBS) trips make a peak between 07:00 and 10:00 hours whilst peak hours of home based other (HBO) and non-home based (NHB) trips are between 12:00 and 18:00. In addition, home based work (HBW) trips are peaked between 18:00 and 21:00 hours.

Table 3.11 Percentage distributions of public transport trips by ending times

Ending Times	%HBW	%HBS	%HBO	%NHB	%Total
00:00-01:00	0,27	0,03	0,26	0,02	0,17
01:00-02:00	0,17	0,00	0,12	0,07	0,08
02:00-03:00	0,04	0,01	0,04	0,04	0,03
03:00-04:00	0,03	0,00	0,03	0,00	0,02
04:00-05:00	0,05	0,00	0,02	0,00	0,01
05:00-06:00	0,13	0,01	0,03	0,04	0,03
06:00-07:00	1,27	0,56	0,39	0,40	0,44
07:00-08:00	8,78	9,59	1,68	1,28	3,95
08:00-09:00	22,25	18,53	4,68	2,69	8,49
09:00-10:00	12,06	8,14	6,05	3,44	6,36
10:00-11:00	3,44	3,67	6,61	4,96	5,56
11:00-12:00	1,42	2,69	7,44	6,97	5,99
12:00-13:00	1,24	5,30	8,34	9,07	7,54
13:00-14:00	0,84	5,53	8,57	11,19	7,99
14:00-15:00	0,75	4,32	8,23	10,81	7,39
15:00-16:00	0,89	6,93	7,61	11,36	7,85
16:00-17:00	1,52	9,09	8,05	8,91	8,46
17:00-18:00	3,39	9,13	8,31	8,54	8,58
18:00-19:00	7,80	7,33	7,33	7,72	7,37
19:00-20:00	12,77	4,45	6,02	6,46	5,61
20:00-21:00	11,14	2,27	4,10	3,46	3,49
21:00-22:00	5,90	1,09	2,94	1,61	2,24
22:00-23:00	2,57	0,89	1,80	0,59	1,39
23:00-00:00	1,28	0,42	1,37	0,38	0,98
Total	100,00	100,00	100,00	100,00	100,00

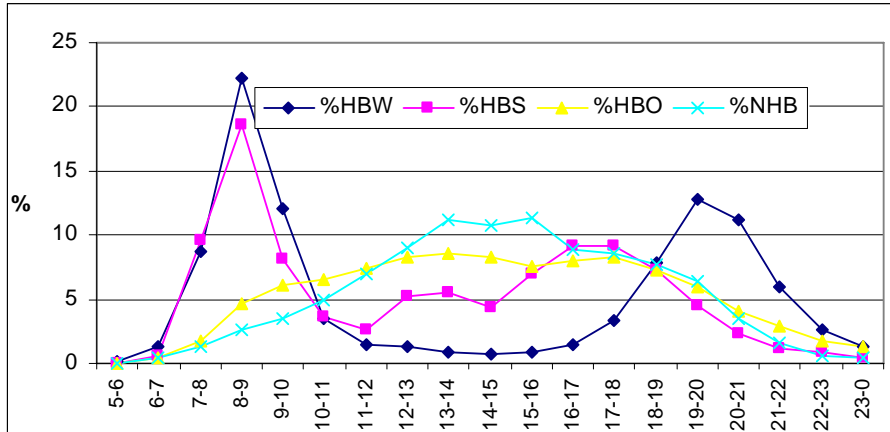


Figure 3.8 Percentage distributions of public transport trips by ending times

4. THE STUDY ON INTEGRATED URBAN TRANSPORTATION MASTER PLAN FOR İSTANBUL METROPOLITIAN AREA

Integrated Urban Transportation Master Plan in 3 phases covers to form the short, medium and long term plans and projects so as to meet the travel demand of 2025 plan target year and also includes the enforcement studies of the selected pilot project . Mentioned working is going in a cooperation with the experts of JICA and İstanbul Metropolitan Municipality and targeted to carry out in December 2008 with a 17-month working. In this context, the working schedule is shown in table 4. 1.

**Table 4.1 Tasks implemented by JICA within the context of Transportation Master Plan
for İstanbul**

Table 4.2 Working Schedule for Transportation Master Plan

Steps of Work		Explanation	Mode
1 st Phase of Work in Japan			
1.	Collection and Analysis of Relevant Data and Information	- Analyzing of collected data and information. -Evaluating the range of work done in IMM. -Collecting needed data and information	Completed
2.	Decisions over Basic Policy, Approach , Study Procedure and Schedule	- Analysis of data based on the findings from step 1 - The organization of work and personnel Decisions at this step cover the basic policy and approach to the study , specification of study items and contents, phases of work, study procedure and schedule.	Completed
3.	Preparation of Inception Report	Preparing the inception report based on the out of findings in the preceding steps.	Completed
4.	Preparatory Work for the Study	Making preparations for the Transportation Master Plan study.	Completed
5.	Preparation of Inquiry List	Preparing of an inquiry list to aid the earliest possible search of data and information which are lacking but vital for the execution of the study.	Completed
1 st Phase of Work in İstanbul			
6.	Presentation and Discussion on Inception Report	Presenting of the inception report to the Turkish side for discussion and consultation.	Completed
7.	Organizational Preparation and Arrangement	Organizational Preparatens: -the steering committee of the Turkish and Japanese official representatives to share and discuss the important aspects of the study - the arragement of stakeholder meetings for public consultation over social and enviromental issues involved in the study. -the appointment of counterpart personel that collaborates effectively with the study team.	Completed
8.	Baseline Study and Identification of Planning Issues	-Analyzing of land-use within the 1/100.000 scaled Environmental Plan. -Analysing of on-going or various other projects that concern the subway lines, LRT and tram lines	Completed

		are likely to change the situation radically. -Obtaining Earthquake Master Project prepared by JICA and IMM before.	
9.	Formulation of Socio-Economic Framework and Development Scenario	-Formulating the development scenario after repeated consultations with IMP/IMM. -Spending enough time on deliberating whether the northern development should be restricted, promoted or shaped with certain inducements and in either case how it is to be done.	Completed
10.	Review and Assesment of Demand Forecast (1)	-The review of the demand forecast system and the database in Turkey especially focuses on the socio-economic framework and zoning and the resultant socio-economic indices by zone. -Checking the assumptions used for future land use and the criteria applied to zoning (zone divisions or consolidations) and the distribution of socio-economic indices done therewith. -Displaying of OD trips, updated to 2004 by the present study team from the 1997 master plan trip data collected by household interviews.	Completed
11.	Analysis of the Framework of Transportation Issues	- Classifying of step 11 and step 8 to clarify the framework of issues to be faced in planning . - Listing of policy instruments to counter every urban problematic item. - Examining whether a given policy instrument is effective on a given problem, or more accurately speaking, how far it can be effective in solving or mitigating in the context of İstanbul.	Completed
12.	1st Workshop	The first workshop was organized to present the findings from steps 1 through 10.	Completed
13.	Stated Preferences Survey and Modal Split Model Building	-Conducting survey with the total sample of 1000 interviewees consists of private automobile users (200), taxi riders (100), passanger on bus and minibus (200), subway riders (200), LRT riders (100), trolley/tram riders(100) and funicular riders (100) for asking to voice their opinions (degree of satisfaction) on public transport modes.	Completed
14.	Review and Assesment of Demand Forecast (2)	- Step 14 covers from OD trip forecast through traffic assignment and analyze projects . - The study team is required to use the application TransCAD for demand forecast, but additionally uses JICA-STRADA application.	Progressing
15.	Preparation And Presentation of Progress	Preparing a progress report out of the findings from the preceeding steps and presenting for discussion with the representatives of the Government of Turkey.	To be transacted
16.	Evaluation and Prioritization of Projects	-The present study considers economic feasibility as the primary determinant. -Calculating of the feasible amount of total investment to be able (or total investment target) for the duraten of the short and the medium and long term.	To be transacted
17.	Proposal of Short- term improvement plan	The short- term improvement plan is formulated in accordance with the development scenario to tackle the “ clear and present” problems for urban transport in İstanbul. Specifiially, the plan will	To be transacted

		consist mostly of those projects that require relatively small capital outlay and shorter period of implementation. 1. Road Plan 2. Railway System Plan 3. Bus Rapid Transit 4. Traffic Management 5. Node Point Plan 6. TDM Plan	
18.	Listing of Candidate Pilot Projects	-Listing of candidate pilot projects based on the results of the analyses. -Carrying out projects would be related to the promotion of public transport and restriction of the vehicle use in this study.	Progressing
19.	First Seminar/Second Workshop	Holding of the second workshop meeting for short-term improvement plans through the public participation	To be transacted
20.	Preparation, Presentation and Discussion on Interim Project	Fixing for short, medium and long plans.	To be transacted
21.	Preparation, Presentation and Discussion on Interim Project	Presenting to and consulting with the Turkish side of the interim report.	To be transacted
22.	Implementation of High-Priority Pilot Project	Out of the proposed projects in the short-term plan, selecting of a pilot project for implementation and monitoring for a limited period of time. The important criteria: -Planning and pre-survey -Public Relations -Implementation -Evaluation/Monitoring	Progressing
2 nd phase in Japan			
23.	Preparation for 2 nd Phase in İstanbul	For the selected two priority projects, compiling of various information and analysis results for the discussion with the Turkish side.	To be transacted
2nd phase in İstanbul			To be transacted
24.	Preparation of Medium and Long - term Plan	The ultimate goal of the medium and long- term plan is the conversion of vehicular traffic on road to public transport such as bus and railway. -Improvement and grouping of public transport service -Strengthening of transportation network -Taking measures to discourage vehicle use (traffic management and transport demand management) -Adopting measure for anti-quake reinforcement and guarantee of accessibility in emergency on possible earthquakes.	To be transacted
25.	Development of Implementation Plan	-Evaluating of economic/financial feasibility. - Discussing and considering of social and environmental indicators, including; 1. Priority setting 2. Implementation body and mechanism 3. Budget plan 4. Evaluation Scheme 5. Evaluation (As a result of this task, two priority projects shall be chosen for the subsequent pre-feasibility study	To be transacted

		to be conducted in this study. The conclusion will be stated in the Interim Report after discussions with the Turkish side and JICA)	
26.	Implementation of Pre-Feasibility Study	-Review and adjustment of demand -Estimate of costs -Review and adjustment of project implementation -Economic/financial evaluation -Review of the social and environmental consideration -Review and adjust focusing on the optimum timing,implementing body and other conditions.	To be transacted
27.	Recommendation on Institutional and Financial Scheme	-Financing mechanism and fund resource (taxation, PPP,charge rate,etc) -Role and responsibility sharing between central and local government Promotion of public transport industry. - Other measures required as a member country of EU.	To be transacted
28.	Preparation and Discussion on Draft Final Report	Compiling of the all the study results in the Draft Final Report. And this report will be consulted and discussed with the Turkish side.	To be transacted
29.	2 nd seminar and 3 rd workshop	For the publicity and dissemination of the study results, the 2nd seminar will be held with an intention that the study will be used more widely and effectively. A wide range of participants including government officials, donors and other stakeholders will be invited.	To be transacted
3 rd Phase of Work in Japan			
30.	Preparation and Submission of Final Report	Preparing and submitting of a final report after receiving comments of the Draft Final Report from the Turkish side.	To be transacted

