



Escola de Camins
Escola Tècnica Superior d'Enginyeria de Camins, Canals i Ports
UPC BARCELONATECH

ILLINOIS INSTITUTE
OF TECHNOLOGY



APPENDICES

Determination of Chicago Transit Authority park-and-ride price elasticities: spatial analysis and socioeconomic patterns.

Secció de Matemàtiques i Estadística
Departament d'Enginyeria Civil i Ambiental

TREBALL FINAL DE MÀSTER

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Appendices 1. CTA Park-and-Ride occupancy rates.

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
01/01/2015	240	8	11	5	12	11	15	23	135	7	4	182	25	18	696
01/02/2015	488	44	43	34	44	80	73	181	351	29	35	424	50	111	1,987
01/03/2015	808	54	67	30	58	110	87	307	308	50	68	524	49	181	2,701
01/04/2015	787	63	77	32	55	111	96	328	314	51	70	539	53	183	2,759
01/05/2015	676	56	56	29	44	106	82	263	288	41	45	451	63	134	2,334
01/06/2015	727	64	67	32	41	112	89	288	320	49	53	537	52	158	2,589
01/07/2015	743	64	51	26	58	122	98	311	307	45	66	470	54	161	2,576
01/08/2015	928	64	70	30	65	138	109	352	311	46	80	705	52	219	3,169
01/09/2015	994	66	76	32	61	131	122	344	286	49	79	714	56	257	3,267
01/10/2015	745	66	71	30	73	127	112	354	309	49	79	740	51	235	3,041
01/11/2015	950	77	77	35	67	142	116	356	312	47	83	733	54	241	3,290
01/12/2015	795	66	60	34	70	139	104	311	303	50	77	633	64	207	2,913
01/13/2015	402	49	47	33	28	71	52	160	322	34	33	392	50	102	1,775
01/14/2015	951	71	73	29	71	143	122	349	303	55	80	746	56	249	3,298
01/15/2015	988	69	75	36	79	135	124	350	305	55	87	753	53	232	3,341
01/16/2015	965	73	80	32	70	137	127	358	327	52	85	753	60	258	3,377
01/17/2015	801	68	67	35	70	124	111	343	304	49	75	691	57	210	3,005
01/18/2015	954	64	72	33	68	134	114	347	320	51	80	725	51	235	3,248
01/19/2015	969	73	73	30	80	125	115	350	303	56	81	747	56	244	3,302
01/20/2015	968	70	69	32	68	134	119	336	309	54	76	769	57	256	3,317
01/21/2015	962	67	80	31	69	137	117	352	329	54	75	720	63	258	3,314

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
01/22/2015	827	64	60	50	63	135	120	322	314	46	66	635	52	204	2,958
01/23/2015	554	21	37	15	34	34	36	157	241	22	45	334	41	121	1,692
01/24/2015	1,086	54	87	31	61	106	107	334	306	55	90	682	61	289	3,349
01/25/2015	1,134	66	99	32	65	119	129	330	296	57	91	705	58	305	3,486
01/26/2015	1,108	63	100	37	69	129	129	344	294	59	86	706	62	303	3,489
01/27/2015	899	53	77	29	62	127	122	334	285	63	78	660	63	249	3,101
01/28/2015	987	53	82	32	61	145	143	352	304	60	86	702	54	286	3,347
01/29/2015	1,069	62	86	30	62	137	142	345	290	57	80	727	55	294	3,436
01/30/2015	977	57	84	26	60	130	154	342	299	60	84	747	59	259	3,338
01/31/2015	880	58	82	39	62	132	123	299	305	51	62	682	59	237	3,071
02/01/2015	790	45	72	31	67	129	112	308	302	44	63	942	52	208	3,165
02/02/2015	610	41	58	27	37	86	60	205	307	40	39	555	50	153	2,268
02/03/2015	1,016	70	78	34	64	135	131	331	304	53	77	734	60	287	3,374
02/04/2015	1,020	57	87	32	65	140	125	330	317	53	78	741	60	259	3,364
02/05/2015	847	47	76	35	50	117	111	316	300	50	45	619	61	197	2,871
02/06/2015	821	41	74	29	58	129	122	328	290	52	65	657	57	214	2,937
02/07/2015	937	54	84	32	69	131	136	333	303	60	69	662	53	230	3,153
02/08/2015	1,001	56	72	29	70	124	140	360	302	58	68	708	59	261	3,308
02/09/2015	1,055	59	76	30	70	134	134	335	316	64	75	725	70	251	3,394
02/10/2015	1,115	53	106	33	68	136	155	340	317	64	71	675	61	272	3,466
02/11/2015	889	50	72	35	60	132	119	307	303	54	75	698	64	195	3,053
02/12/2015	869	58	69	27	58	127	116	306	293	56	69	638	60	225	2,971
02/13/2015	1,052	59	75	33	60	132	153	357	302	58	60	680	60	296	3,377
02/14/2015	972	66	78	34	69	132	133	339	300	61	71	704	65	256	3,280
02/15/2015	1,000	69	82	39	65	134	146	344	309	52	66	714	55	277	3,352
02/16/2015	859	59	62	31	58	125	129	334	321	49	58	605	54	213	2,957

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02/17/2015	981	63	84	33	59	131	134	339	332	55	77	709	57	257	3,311
02/18/2015	995	66	79	32	69	133	127	335	312	55	66	722	57	281	3,329
02/19/2015	968	73	84	26	68	129	119	334	326	57	63	722	65	248	3,282
02/20/2015	1,017	65	96	40	69	133	129	331	329	54	84	733	60	274	3,414
02/21/2015	898	60	82	33	67	131	116	329	330	58	69	840	62	246	3,321
02/22/2015	954	66	76	31	61	148	128	349	326	60	74	705	57	254	3,289
02/23/2015	972	66	75	36	64	142	132	349	300	62	83	787	75	267	3,410
02/24/2015	969	68	89	36	71	138	137	367	327	53	81	758	57	261	3,412
02/25/2015	951	73	80	34	74	143	132	350	312	48	77	804	63	280	3,421
02/26/2015	881	70	79	34	75	136	122	340	340	52	80	803	60	202	3,274
02/27/2015	918	65	95	27	61	126	138	346	300	60	65	515	56	231	3,003
02/28/2015	875	62	78	34	63	136	139	350	292	53	73	562	57	230	3,004
03/01/2015	928	72	85	36	71	142	134	346	301	51	87	622	51	239	3,165
03/02/2015	867	72	83	33	76	148	139	355	323	61	82	670	59	221	3,189
03/03/2015	777	72	69	34	62	140	136	336	321	62	66	649	71	201	2,996
03/04/2015	875	67	81	31	58	137	124	332	340	66	78	692	56	265	3,202
03/05/2015	919	67	81	33	59	140	130	348	302	58	66	700	64	259	3,226
03/06/2015	920	61	83	32	62	146	125	344	324	64	80	765	69	264	3,339
03/07/2015	1,011	61	98	31	74	144	122	357	330	52	63	701	59	241	3,344
03/08/2015	552	78	76	34	47	114	92	261	307	50	54	617	63	174	2,519
03/09/2015	700	78	67	32	61	139	123	316	323	47	70	668	56	231	2,911
03/10/2015	920	79	76	34	62	144	127	350	312	48	73	723	53	257	3,258
03/11/2015	1,009	72	80	34	58	143	137	347	336	56	71	750	55	263	3,411
03/12/2015	1,065	75	83	38	63	142	136	370	313	53	63	699	53	248	3,401
03/13/2015	852	71	78	33	69	132	117	316	358	50	73	691	59	224	3,123
03/14/2015	1,022	78	84	13	70	146	140	349	345	64	80	744	51	258	3,444

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03/15/2015	1,013	84	87	15	68	142	147	361	329	66	82	778	63	268	3,503
03/16/2015	1,011	75	93	15	76	144	153	356	352	59	74	807	59	268	3,542
03/17/2015	1,092	81	86	14	77	156	142	350	353	56	78	770	59	267	3,581
03/18/2015	925	77	88	15	66	124	112	349	353	62	69	762	61	247	3,310
03/19/2015	963	75	88	15	63	139	125	341	304	51	60	713	51	246	3,234
03/20/2015	981	74	86	27	69	142	128	350	311	50	77	741	58	240	3,334
03/21/2015	976	70	83	26	67	138	136	341	332	57	77	777	58	245	3,383
03/22/2015	1,025	75	87	42	64	148	135	346	334	62	75	860	60	251	3,564
03/23/2015	874	70	81	32	70	145	155	325	322	60	75	956	59	206	3,430
03/24/2015	929	85	82	33	65	149	130	347	337	67	89	747	56	268	3,384
03/25/2015	1,017	80	79	37	68	144	132	351	319	70	80	792	59	310	3,538
03/26/2015	951	78	85	33	65	151	155	351	365	63	80	798	47	271	3,493
03/27/2015	1,073	78	78	50	79	147	142	357	365	64	89	828	70	286	3,706
03/28/2015	981	78	81	42	69	144	125	355	387	56	79	915	62	267	3,641
03/31/2015	962	71	68	37	73	137	123	369	350	59	82	709	58	250	3,348
04/01/2015	1,009	75	79	31	69	138	146	366	344	53	79	769	66	219	3,443
04/02/2015	845	66	77	35	63	141	129	313	311	54	71	626	63	198	2,992
04/03/2015	929	84	84	37	66	126	126	310	332	57	63	675	49	241	3,179
04/04/2015	908	78	92	34	61	139	131	345	339	48	76	682	53	252	3,238
04/05/2015	968	71	87	33	62	141	140	356	343	55	64	761	62	235	3,378
04/06/2015	1,014	79	96	33	68	145	146	345	338	59	79	1,003	63	269	3,737
04/07/2015	922	88	86	35	71	141	125	336	344	59	66	1,251	59	211	3,794
04/08/2015	907	75	94	30	69	132	137	334	328	63	69	720	58	248	3,264
04/09/2015	924	79	97	30	69	132	121	345	316	66	78	666	60	265	3,248
04/10/2015	945	77	97	29	61	118	149	345	314	55	73	694	53	256	3,266
04/11/2015	995	77	97	32	69	124	143	361	367	62	67	796	65	262	3,517

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04/12/2015	786	75	75	43	79	122	143	325	353	47	61	631	76	221	3,037
04/13/2015	246	10	16	21	17	23	19	58	231	16	8	320	40	57	1,082
04/14/2015	952	73	69	31	73	105	154	332	331	55	67	642	54	222	3,160
04/15/2015	980	84	88	33	66	99	154	355	359	61	66	749	58	220	3,372
04/16/2015	963	89	101	42	66	117	152	363	333	50	73	756	62	239	3,406
04/17/2015	936	85	71	36	74	120	153	343	356	63	80	705	61	244	3,327
04/18/2015	862	77	85	30	65	117	136	343	316	53	66	631	56	225	3,062
04/19/2015	917	84	80	34	66	119	144	361	308	60	70	671	56	221	3,191
04/20/2015	966	75	101	33	68	118	150	331	357	58	71	715	61	271	3,375
04/21/2015	973	87	99	37	68	120	153	348	356	70	71	762	62	250	3,456
04/22/2015	851	73	72	37	73	113	139	334	342	49	71	678	68	204	3,104
04/23/2015	930	82	84	35	65	122	149	359	326	59	84	641	57	243	3,236
04/24/2015	969	73	80	38	70	118	164	373	347	59	84	708	63	247	3,393
04/25/2015	923	78	85	30	65	107	178	382	325	49	84	778	68	245	3,397
04/26/2015	960	87	85	40	65	111	165	351	347	66	92	755	64	262	3,450
04/27/2015	994	84	87	39	68	113	143	353	431	59	76	994	70	268	3,779
04/28/2015	1,016	91	86	27	76	119	153	354	363	67	72	769	66	237	3,496
04/29/2015	994	82	87	33	81	114	158	379	371	67	70	777	68	255	3,536
04/30/2015	944	74	79	32	64	119	154	370	339	60	64	711	69	236	3,315
05/01/2015	1,533	111	88	36	61	135	200	385	382	71	97	894	83	426	4,502
05/02/2015	929	80	84	39	68	113	152	338	413	62	77	785	76	235	3,451
05/03/2015	915	91	92	29	69	114	129	342	330	62	65	636	55	218	3,147
05/04/2015	1,017	101	88	37	55	123	155	359	341	67	89	780	69	265	3,546
05/05/2015	995	84	83	31	75	121	171	362	391	59	76	767	69	265	3,549
05/06/2015	1,042	88	89	30	59	132	174	351	337	58	85	711	62	274	3,492
05/07/2015	865	82	82	34	69	117	144	338	330	55	75	699	78	222	3,190

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05/08/2015	898	87	98	31	67	109	134	336	313	64	83	670	49	224	3,163
05/09/2015	901	92	83	33	67	131	159	330	326	54	81	669	57	230	3,213
05/10/2015	900	87	77	37	63	113	152	364	349	54	81	691	59	223	3,250
05/11/2015	802	85	76	37	62	123	131	339	340	50	70	713	70	222	3,120
05/12/2015	582	35	41	41	42	49	60	141	416	36	21	926	73	175	2,638
05/13/2015	891	83	84	32	76	101	133	322	358	57	67	684	57	217	3,162
05/14/2015	1,037	83	94	32	62	117	146	360	317	62	77	738	52	272	3,449
05/15/2015	1,023	98	87	39	80	112	147	399	430	63	87	846	69	273	3,753
05/16/2015	1,088	108	99	53	115	140	195	436	445	63	89	908	69	291	4,099
05/17/2015	1,038	88	84	42	80	129	163	390	441	67	83	969	88	326	3,988
05/18/2015	1,027	78	83	32	68	117	150	352	340	64	81	649	58	216	3,315
05/19/2015	919	85	92	37	66	128	154	348	324	57	77	661	60	236	3,244
05/20/2015	948	87	89	32	68	125	151	359	339	61	73	708	49	232	3,321
05/21/2015	906	96	92	34	67	120	140	338	322	69	69	707	68	234	3,262
05/22/2015	895	87	77	35	63	111	150	342	375	59	83	837	43	215	3,372
05/23/2015	848	90	91	28	66	117	130	352	337	64	79	616	62	228	3,108
05/24/2015	913	88	87	37	67	112	154	352	350	66	77	720	72	253	3,348
05/25/2015	909	89	89	26	66	120	142	371	354	61	93	752	28	242	3,342
05/26/2015	951	92	96	36	71	120	166	364	378	65	86	745	67	285	3,522
05/27/2015	929	87	81	54	72	109	156	356	385	67	72	849	61	219	3,497
05/28/2015	845	88	88	32	62	107	146	373	376	70	70	687	12	215	3,171
05/29/2015	947	95	86	31	70	130	134	343	368	70	80	718	30	258	3,360
05/30/2015	1,114	79	91	38	73	118	163	376	383	72	82	959	28	259	3,835
05/31/2015	973	85	87	38	69	123	141	371	371	63	79	960	35	239	3,634
06/01/2015	1,011	83	76	47	80	113	145	395	385	65	87	1,085	39	274	3,885
06/02/2015	797	85	76	32	63	110	146	326	318	51	81	653	66	207	3,011

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06/03/2015	861	91	85	32	71	119	140	346	365	60	81	708	71	209	3,239
06/04/2015	919	86	82	35	73	121	161	353	357	50	82	706	63	237	3,325
06/05/2015	887	95	95	37	61	130	131	365	366	62	85	785	62	211	3,372
06/06/2015	875	84	85	38	71	105	150	374	378	72	77	879	57	212	3,457
06/07/2015	782	77	89	29	67	120	135	333	324	58	69	646	62	197	2,988
06/08/2015	900	93	97	29	71	109	144	357	379	55	81	753	62	221	3,351
06/09/2015	882	77	97	29	61	124	144	356	365	65	96	775	66	229	3,366
06/10/2015	1,018	87	103	43	69	117	128	362	411	64	77	855	69	245	3,648
06/11/2015	838	72	86	32	69	109	138	316	350	53	76	778	70	196	3,183
06/12/2015	776	78	92	34	62	118	131	327	341	57	71	619	57	214	2,977
06/13/2015	888	90	93	35	59	115	116	339	351	64	75	685	64	230	3,204
06/14/2015	884	85	108	37	72	109	136	367	364	62	73	740	63	247	3,347
06/15/2015	890	90	87	32	67	125	165	359	373	63	87	1,014	63	231	3,646
06/16/2015	918	83	105	38	62	107	128	345	328	52	66	996	62	215	3,505
06/17/2015	964	82	93	33	64	132	150	335	311	64	70	737	54	292	3,381
06/18/2015	961	85	99	32	56	119	138	356	329	60	78	746	60	306	3,425
06/19/2015	973	75	84	29	61	124	145	354	328	59	78	784	57	278	3,429
06/20/2015	1,033	98	90	42	64	121	146	369	356	65	81	868	74	289	3,696
06/21/2015	808	76	86	38	66	125	144	336	327	58	77	722	57	216	3,136
06/22/2015	922	80	96	32	64	133	140	346	352	57	84	750	64	283	3,403
06/23/2015	968	88	69	32	53	119	144	358	341	64	72	757	56	314	3,435
06/24/2015	1,015	85	89	29	59	119	150	360	310	60	91	756	55	315	3,493
06/25/2015	1,019	92	83	47	69	118	139	356	386	65	84	824	77	282	3,641
06/26/2015	882	91	64	37	64	113	136	298	347	52	68	915	76	234	3,377
06/27/2015	282	8	14	16	16	16	20	61	222	15	6	427	44	40	1,187
06/28/2015	939	85	76	31	66	111	147	338	312	53	70	723	60	277	3,288

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
06/29/2015	985	84	89	32	64	120	146	347	331	50	83	812	63	330	3,536
06/30/2015	1,096	90	89	34	63	132	148	356	340	56	71	826	66	336	3,703
07/01/2015	1,074	171	77	42	69	119	145	359	414	72	75	963	87	241	3,908
07/02/2015	1,020	85	95	40	55	120	136	347	327	55	79	796	60	230	3,445
07/03/2015	1,482	94	84	41	71	125	154	364	385	64	83	977	69	294	4,287
07/04/2015	1,076	87	91	37	65	126	154	350	342	61	84	859	61	276	3,669
07/05/2015	1,155	87	92	40	67	142	149	351	320	55	73	814	64	251	3,660
07/06/2015	1,026	87	93	36	66	114	156	346	333	64	86	824	59	239	3,529
07/07/2015	1,006	85	86	40	65	126	156	365	395	61	79	874	69	245	3,652
07/08/2015	1,100	87	98	35	67	124	156	359	360	64	82	904	65	242	3,743
07/09/2015	1,121	93	91	37	66	130	139	362	376	59	84	863	55	229	3,705
07/10/2015	1,078	93	88	35	64	122	150	360	324	59	91	797	64	231	3,556
07/11/2015	1,209	76	81	45	67	121	144	354	323	73	87	850	68	201	3,699
07/12/2015	1,085	90	86	34	63	108	155	365	359	64	80	901	66	231	3,687
07/13/2015	1,130	85	88	30	71	121	166	344	311	65	83	872	60	236	3,662
07/14/2015	1,087	89	94	36	61	124	153	360	333	67	75	823	59	333	3,694
07/15/2015	1,104	90	92	37	74	126	150	352	347	62	81	812	62	303	3,692
07/16/2015	931	81	83	37	68	97	155	340	314	71	78	763	62	240	3,320
07/17/2015	1,000	88	97	33	72	124	148	342	317	62	78	737	60	278	3,436
07/18/2015	1,101	104	92	33	68	125	154	344	320	62	82	812	65	313	3,675
07/19/2015	1,112	84	97	41	73	114	156	349	344	73	79	826	59	338	3,745
07/20/2015	1,122	100	102	36	68	129	169	335	336	65	73	818	58	367	3,778
07/21/2015	873	77	75	38	71	118	150	338	324	64	68	722	65	256	3,239
07/22/2015	995	72	67	32	61	87	104	303	365	47	65	814	65	268	3,345
07/23/2015	1,295	89	96	34	71	108	164	355	354	73	80	882	62	388	4,051
07/24/2015	1,155	80	98	34	70	119	172	352	338	66	75	851	48	298	3,756

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
07/25/2015	1,130	92	93	36	78	124	165	352	344	65	78	930	62	290	3,839
07/26/2015	950	73	82	38	72	108	143	341	322	68	89	927	67	222	3,502
07/27/2015	1,004	76	99	35	64	136	172	345	299	58	81	785	59	281	3,494
07/28/2015	1,231	91	94	37	75	118	168	363	390	81	78	945	71	357	4,099
07/29/2015	1,214	83	95	40	70	112	160	360	392	81	83	882	68	350	3,990
07/30/2015	1,076	94	86	38	62	123	156	350	336	59	75	784	67	291	3,597
07/31/2015	881	81	72	34	70	105	134	346	329	57	7	724	61	225	3,126
08/01/2015	1,005	93	79	31	75	124	151	354	301	61	79	773	64	302	3,492
08/02/2015	1,110	93	95	31	67	108	171	339	302	51	76	778	60	327	3,608
08/03/2015	1,102	87	85	33	70	125	170	347	320	54	79	816	59	299	3,646
08/04/2015	1,104	91	84	37	61	116	153	335	326	59	74	809	65	320	3,634
08/05/2015	865	82	73	33	62	96	149	325	322	61	71	734	72	230	3,175
08/06/2015	1,048	92	89	35	67	116	162	351	318	52	81	731	61	276	3,479
08/07/2015	1,014	104	97	34	73	118	136	340	309	46	87	718	66	274	3,416
08/08/2015	1,067	102	93	37	67	129	150	345	328	63	85	801	53	283	3,603
08/09/2015	1,155	105	90	39	69	124	155	353	320	53	78	770	63	314	3,688
08/10/2015	895	93	85	38	76	109	149	368	335	57	73	704	67	227	3,276
08/11/2015	1,057	96	91	37	68	119	143	352	321	60	85	756	57	283	3,525
08/12/2015	1,179	100	82	37	80	115	166	340	319	52	71	786	60	291	3,678
08/13/2015	868	75	70	34	62	100	116	296	312	43	60	680	59	219	2,994
08/14/2015	1,117	98	82	35	74	120	159	342	359	63	76	737	58	296	3,616
08/15/2015	883	82	87	33	62	104	141	338	316	55	59	738	63	218	3,179
08/16/2015	1,047	82	96	36	65	116	169	347	306	56	70	745	55	288	3,478
08/17/2015	1,115	98	100	32	74	120	163	343	303	60	84	721	59	288	3,560
08/18/2015	1,094	89	96	36	77	122	148	363	309	66	71	743	61	296	3,571
08/19/2015	1,063	88	108	41	64	130	168	347	332	57	80	747	64	289	3,578

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
08/20/2015	887	76	89	35	73	103	163	334	323	60	73	756	66	210	3,248
08/21/2015	991	89	84	38	74	114	151	370	340	52	79	689	63	268	3,402
08/22/2015	1,023	93	82	46	77	114	150	375	355	59	77	715	71	254	3,491
08/23/2015	779	74	64	41	60	106	135	336	346	42	72	601	66	183	2,905
08/24/2015	152	15	12	19	17	8	19	41	161	7	4	155	19	32	661
08/25/2015	322	42	39	29	24	41	62	117	301	29	23	366	48	73	1,516
08/26/2015	929	87	83	40	68	130	164	335	332	50	81	658	65	248	3,270
08/27/2015	1,014	85	84	36	79	138	158	352	327	59	82	702	57	281	3,454
08/28/2015	1,111	95	92	40	78	128	167	363	341	59	89	681	58	271	3,573
08/29/2015	1,058	94	88	37	73	139	168	351	370	62	83	765	62	255	3,605
08/30/2015	955	79	64	40	76	131	140	344	365	62	70	829	70	253	3,478
08/31/2015	939	83	84	31	62	123	145	335	316	53	86	687	61	241	3,246
09/01/2015	946	95	88	33	70	134	156	341	341	43	83	705	65	242	3,342
09/02/2015	1,036	105	77	40	65	139	162	358	328	56	87	700	61	290	3,504
09/03/2015	1,038	98	79	36	68	145	154	347	347	63	83	712	69	269	3,508
09/04/2015	1,015	80	82	40	71	131	148	359	353	47	74	818	96	252	3,566
09/05/2015	897	84	73	37	69	119	141	355	336	52	85	568	60	216	3,092
09/06/2015	935	93	91	37	68	134	154	351	338	61	77	627	56	219	3,241
09/07/2015	980	88	91	35	71	133	140	348	329	54	85	654	76	236	3,320
09/08/2015	905	86	87	35	80	131	142	337	328	54	80	627	75	222	3,189
09/09/2015	830	63	62	32	62	107	121	266	335	50	79	570	58	162	2,797
09/10/2015	866	78	77	43	75	109	127	333	339	49	70	529	71	203	2,969
09/11/2015	850	77	69	35	68	112	125	331	359	50	74	629	71	187	3,037
09/12/2015	717	66	72	34	67	110	111	298	334	42	56	467	74	142	2,590
09/13/2015	300	47	44	28	33	58	62	138	306	31	29	322	48	74	1,520
09/14/2015	101	12	10	4	12	8	7	24	130	8	4	166	26	11	523

CPS Chicago Parking 2015	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball 73 spaces	Garfield 117 spaces	Rosemon 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces	Total
09/15/2015	600	70	68	34	56	98	98	280	325	45	67	366	57	133	2,297
09/16/2015	654	76	73	33	68	113	89	304	330	45	75	457	66	144	2,527
09/17/2015	695	72	72	35	57	112	92	312	341	49	48	563	67	136	2,651
09/18/2015	585	72	47	45	53	83	75	222	404	42	45	750	99	136	2,658

Table 1. Occupancy at CTA park-and-ride facilities during weekdays in 2015.

	Cumberland Garage 1633 spaces	54th & Cermak 175 spaces	Ashland & 63rd 235 spaces	Halsted & Archer 31 spaces	35th & Archer 68 spaces	48th & Kedzie 157 spaces	49th & Western 200 spaces	51st & Pulaski 390 spaces	Midway 299 spaces	Kimball & Lawrence 73 spaces	Garfield 117 spaces	Rosemont 798 spaces	Harlem & Higgins 53 spaces	Forest Park 650 spaces
Max	1,533	171	108	54	115	156	200	436	445	81	97	1,251	99	426
Average	933	77	81	34	65	121	136	334	332	56	73	726	60	241
Min	101	8	10	4	12	8	7	24	130	7	4	155	12	11
Capacity	1,633	175	235	31	68	157	200	390	299	73	117	789	52	659
Occupancy	0.94	0.98	0.46	1.74	1.69	0.99	1	1.12	1.49	1.11	0.83	1.59	1.9	0.65

Table 2. Park-and-ride rates for 2015.

Appendices 2. GTFS Files Park-and-Ride stations.

Code 2.1. Pricing scenario 0%

PNRName	Latitude	Longitude	PNRType	PNRCost	Address	Routes
Dempster - Skokie	42.038951	-87.751919	4	9.56		
Midway	41.78661	-87.737875	4	15.37		
Pulaski-Orange	41.799756	-87.724493	4	13.81		
Howard	42.019063	-87.672892	4	15.00		
Linden	42.073153	-87.69073	4	10.29		
Cumberland	41.984246	-87.838028	4	4.82		
Forest park	41.874257	-87.817318	4	11.15		
Rosemont	41.983507	-87.859388	4	3.76		
Harlem	41.9823452	-87.8097208	4	16.96		
54th/Cermak	41.852799	-87.7662557	4	11.27		
Kimball	41.9671997	-87.7146485	4	16.83		
Ashland/63rd	41.7782124	-87.6657559	4	10.89		
Garfield	41.795981	-87.6209277	4	11.65		
Kedzie	41.8056821	-87.7076249	4	12.37		
Western	41.8042538	-87.6877666	4	14.05		
35th/Archer	41.8294384	-87.6823304	4	15.87		
Halsted	41.8468716	-87.6503925	4	17.10		

Code 2.2. Pricing scenario 5%

PNRName	Latitude	Longitude	PNRType	PNRCost	Address	Routes
Dempster - Skokie	42.038951	-87.751919	4	9.66		
Midway	41.78661	-87.737875	4	15.71		
Pulaski-Orange	41.799756	-87.724493	4	14.10		
Howard	42.019063	-87.672892	4	15.24		
Linden	42.073153	-87.69073	4	10.39		
Cumberland	41.984246	-87.838028	4	5.06		
Forest park	41.874257	-87.817318	4	11.40		
Rosemont	41.983507	-87.859388	4	4.10		
Harlem	41.9823452	-87.8097208	4	17.30		
54th cermak	41.852799	-87.7662557	4	11.37		
Kimball	41.9671997	-87.7146485	4	17.17		
Ashland/63rd	41.7782124	-87.6657559	4	10.99		
Garfield	41.795981	-87.6209277	4	11.75		
Kedzie	41.8056821	-87.7076249	4	12.52		
Western	41.8042538	-87.6877666	4	14.30		
35th/Archer	41.8294384	-87.6823304	4	16.17		
Halsted	41.8468716	-87.6503925	4	17.44		

Code 2.3. Pricing scenario 10%

PNRName	Latitude	Longitude	PNRType	PNRCost	Address	Routes
Dempster - Skokie	42.038951	-87.751919	4	9.76		
Midway	41.78661	-87.737875	4	16.06		
Pulaski-Orange	41.799756	-87.724493	4	14.39		
Howard	42.019063	-87.672892	4	15.49		
Linden	42.073153	-87.69073	4	10.49		
Cumberland	41.984246	-87.838028	4	5.31		
Forest park	41.874257	-87.817318	4	11.64		
Rosemont	41.983507	-87.859388	4	4.44		
Harlem	41.9823452	-87.8097208	4	17.64		
54th cermak	41.852799	-87.7662557	4	11.47		
Kimball	41.9671997	-87.7146485	4	17.51		
Ashland/63rd	41.7782124	-87.6657559	4	11.08		
Garfield	41.795981	-87.6209277	4	11.84		
Kedzie	41.8056821	-87.7076249	4	12.66		
Western	41.8042538	-87.6877666	4	14.54		
35th/Archer	41.8294384	-87.6823304	4	16.46		
Halsted	41.8468716	-87.6503925	4	17.78		

Appendices 3. Kernel Density Estimation.

Code 3.1. KDE Matlab code

```
SixMPG = [  
-1.7636  
-1.5819  
-1.3147  
-1.2608  
-1.0932  
-1.0768  
-1.0409  
-0.8307  
-0.5863  
-0.5453  
-0.2073  
-0.1849  
-0.0814  
0.0000  
0.0000  
];  
pdSix = fitdist(SixMPG, 'Kernel', 'BandWidth', 0.22);  
x = -2.5:.05:0.5;  
ySix = pdf(pdSix, x);  
plot(x, ySix, 'k-', 'LineWidth', 2)  
  
% Plot each individual pdf and scale its appearance on the plot  
hold on  
for i=1:6  
    pd = makedist('Normal', 'mu', SixMPG(i), 'sigma', 4);  
    y = pdf(pd, x);  
    y = y/6;  
    plot(x, y, 'b:')  
end  
hold off
```


