

Trip Generation Comparison

TABLE 1
TRIP GENERATION RATE COMPARISON

Land Use	ITE Land	Rate	Daily		AM Peak Hou	ır		PM Peak Hou	ır
Land Ose	Use Code	Rate	Daily	In	Out	Total	In	Out	Total
Trip Generation, 9th Edition [a]									
Apartment	220	per dwelling unit	6.65	20%	80%	0.51	65%	35%	0.62
Shopping Center	820	per 1,000 sf	42.70	62%	38%	0.96	48%	52%	3.71
Supermarket	850	per 1,000 sf	102.24	62%	38%	3.40	51%	49%	9.48
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	496.12	51%	49%	45.42	52%	48%	32.65
Trip Generation, 10th Edition [b]									
Multi-Family Residential (Mid-Rise)	221	per dwelling unit	5.44	26%	74%	0.36	61%	39%	0.44
Shopping Center	820	per 1,000 sf	37.75	62%	38%	0.94	48%	52%	3.81
Supermarket	850	per 1,000 sf	106.78	60%	40%	3.82	51%	49%	9.24
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	470.95	51%	49%	40.19	52%	48%	32.67
Trip Generation, 11th Edition [c]									
Multi-Family Residential (Mid-Rise) - Not Close to Rail Transit [d]	221	per dwelling unit	4.54	23%	77%	0.37	61%	39%	0.39
Multi-Family Residential (Mid-Rise) - Close to Rail Transit [d]	221	per dwelling unit	4.75	56%	44%	0.32	43%	57%	0.29
Strip Retail Plaza (<40,000 sf)	822	per 1,000 sf	54.45	60%	40%	2.36	50%	50%	6.59
Supermarket	850	per 1,000 sf	93.84	59%	41%	2.86	50%	50%	8.95
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	467.48	51%	49%	44.61	52%	48%	33.03

Notes

[[]a] Source: Trip Generation, 9th Edition, Institute of Transportation Engineers, 2012.

[[]b] Source: Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

[[]c] Source: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

[[]d] Trip Generation, 11th Edition provides trip generation rates for multi-family residential based on the proximity to transit rail service. A site is considered "close to transit" if it is located within 0.50 miles walking distance of a transit rail station.

TABLE 2 APPROVED TRANSPORTATION IMPACT STUDY PROJECT TRIP GENERATION ESTIMATES ITE TRIP GENERATION, 9TH EDITION

Trip Generation Rates [a]												
Land Use	ITE Land	Rate	Daily	Α.	M Peak Ho	ur	PM Peak Hour					
	Use Code			In	Out	Total	ln	Out	Total			
Apartment	220	per dwelling unit	6.65	20%	80%	0.51	65%	35%	0.62			
Shopping Center	820	per 1,000 sf	42.70	62%	38%	0.96	48%	52%	3.71			
Supermarket	850	per 1,000 sf	102.24	62%	38%	3.40	51%	49%	9.48			
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	496.12	51%	49%	45.42	52%	48%	32.65			

Trip Generation Estimates												
Landling	ITE Land				AM Peak Ho	ur	F	PM Peak Ho	ur			
Land Use	Use Code	Size	Daily	In	Out	Total	In	Out	Total			
Existing Uses to be Removed												
Existing uses to be Removed												
Commercial	820	18,525 sf	791	11	7	18	33	36	69			
Less 15% Transit/Bike/Walk-In [b]			(119)	(2)	(1)	(3)	(5)	(5)	(10)			
Less 50% Pass-by [c]			(336)	(5)	(3)	(8)	(14)	(16)	(30)			
Subtotal - Commercial			336	4	3	7	14	15	29			
Supermarket	850	78,328 sf	8,008	165	101	266	379	364	743			
Less 15% Transit/Bike/Walk-In [b]			(1,201)	(25)	(15)	(40)	(57)	(54)	(111)			
Less 40% Pass-by [c]			(2,723)	(56)	(34)	(90)	(129)	(124)	(253)			
Subtotal - Supermarket	 		4,084	84	52	136	193	186	379			
Fast-Food Restaurant	934	3.943 sf	1.956	91	88	179	67	62	129			
Less 15% Transit/Bike/Walk-In [b]		0,0100.	(293)	(14)	(13)	(27)	(10)	(9)	(19)			
Less 50% Pass-by [c]			(832)	(39)	(37)	(76)	(29)	(26)	(55)			
Subtotal - Fast-Food Restaurant			831	38	38	76	28	27	55			
TOTAL - EXISTING USES TO BE	REMOVED		5,251	126	93	219	235	228	463			
Proposed Project												
Apartments	220	735 du	4,888	75	300	375	296	160	456			
Less 15% Transit/Bike/Walk-In [b]			(733)	(11)	(45)	(56)	(44)	(24)	(68)			
Less Internal Capture [d]			(187)	(1)	(3)	(4)	(25)	(5)	(30)			
Subtotal - Apartments			3,968	63	252	315	227	131	358			
Supermarket	850	59.100 sf	6.042	125	76	201	286	274	560			
Less 15% Transit/Bike/Walk-In [b]			(906)	(19)	(11)	(30)	(43)	(41)	(84)			
Less 40% Pass-by [c]			(2,054)	(42)	(26)	(68)	(97)	(93)	(190)			
Subtotal - Supermarket			3,082	64	39	103	146	140	286			
Shopping Center - Retail/Restaurant	820	36,720 sf	1,568	22	13	35	65	71	136			
Less 15% Transit/Bike/Walk-In [b]			(235)	(3)	(2)	(5)	(10)	(10)	(20)			
Less Internal Capture [d]			(193)	(2)	(1)	(3)	(6)	(16)	(22)			
Less 50% Pass-by [c]	1		(570)	(9)	(5)	(14)	(23)	(24)	(47)			
Subtotal - Shopping Center	1		570	8	5	13	26	21	47			
TOTAL - PROPOSED PROJ	ECT		7,620	135	296	431	399	292	691			
NET NEW PROJECT TRIF	PS		2,369	9	203	212	164	64	228			

Notes

Notes

du = Dwelling Unit

sf = Square Feet

[a] Source: Trip Generation, 9th Edition, Institute of Transportation Engineers, 2012.

[b] Based on Traffic Study Policies and Procedures (LADOT, August 2014), a 15% transit reduction was applied due to a Metro transit station stop being located less than 1/4 mile from the Project Site and to account for bike or walk-in trips.

[[]c] Pass-by trips are those traveling through the study area regardless of the existence of the Project and are based on Traffic Study Policies and Procedures (LADOT, August 2014).

[[]d] Mixed Use Internal Capture credit was developed based on the NCHRP 8-51 Internal Trip Capture Estimation Tool.

TABLE 3 REVISED PROJECT TRIP GENERATION ESTIMATES ITE TRIP GENERATION, 10TH EDITION

Trip Generation Rates [a]												
Land Use	ITE Land	Rate	Daily	Δ	M Peak Ho	ur	PM Peak Hour					
	Use Code			ln	Out	Total	ln	Out	Total			
Multi-Family Residential (Mid-Rise)	221	per dwelling unit	5.44	26%	74%	0.36	61%	39%	0.44			
Shopping Center	820	per 1,000 sf	37.75	62%	38%	0.94	48%	52%	3.81			
Supermarket	850	per 1,000 sf	106.78	60%	40%	3.82	51%	49%	9.24			
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	470.95	51%	49%	40.19	52%	48%	32.67			

		Trip Generation Est	imates						
Land Use	ITE Land	Size		-	M Peak Ho	ur	Р	M Peak Ho	ur
Land Use	Use Code	Size	Daily	In	Out	Total	ln	Out	Total
Existing Uses to be Removed									
Existing Uses to be Removed									
Commercial	820	18,525 sf	699	11	6	17	34	37	71
Less 15% Transit/Bike/Walk-In [b]			(105)	(2)	(1)	(3)	(5)	(6)	(11)
Less 50% Pass-by [c]			(297)	(4)	(3)	(7)	(14)	(16)	(30)
Subtotal - Commercial			297	5	2	7	15	15	30
Supermarket	850	78,328 sf	8,364	179	120	299	369	355	724
Less 15% Transit/Bike/Walk-In [b]			(1,255)	(27)	(18)	(45)	(56)	(53)	(109)
Less 40% Pass-by [c] Subtotal - Supermarket			(2,844) 4,265	(61) 91	(41) 61	(102) 152	(125) 188	(121) 181	(246) 369
Subtotal - Supermarket			4,265	91	61	152	100	101	369
Fast-Food Restaurant	934	3,943 sf	1,857	81	77	158	67	62	129
Less 15% Transit/Bike/Walk-In [b]	001	0,040 01	(279)	(12)	(12)	(24)	(10)	(9)	(19)
Less 50% Pass-by [c]			(789)	(34)	(33)	(67)	(29)	(26)	(55)
Subtotal - Fast-Food Restaurant			789	35	32	67	28	27	55
TOTAL - EXISTING USES TO BE F	REMOVED		5,351	131	95	226	231	223	454
Proposed Project									
Apartments	221	735 du	3,998	69	196	265	197	126	323
Less 15% Transit/Bike/Walk-In [b]			(600)	(10)	(30)	(40)	(29)	(19)	(48)
Less Internal Capture [d]			(153)	(1)	(2)	(3)	(17)	(4)	(21)
Subtotal - Apartments			3,245	58	164	222	151	103	254
				.=-					
Supermarket	850	69,000 sf	7,368	158	106	264	325	313	638
Less 15% Transit/Bike/Walk-In [b] Less 40% Pass-by [c]			(1,105) (2,505)	(24) (54)	(16) (36)	(40) (90)	(49) (111)	(47) (106)	(96) (217)
Subtotal - Supermarket			3,758	80	54	134	165	160	325
Subtotal - Supermarket			3,730	- 00		104	100	100	323
Shopping Center - Retail/Restaurant	820	26.000 sf	982	15	9	24	48	51	99
Less 15% Transit/Bike/Walk-In [b]		.,	(147)	(2)	(2)	(4)	(7)	(8)	(15)
Less Internal Capture [d]			(117)	(1)	(1)	(2)	(4)	(11)	(15)
Less 50% Pass-by [c]			(359)	(6)	(3)	(9)	(17)	(18)	(35)
Subtotal - Shopping Center			359	6	3	9	20	14	34
TOTAL - PROPOSED PROJI	ECT		7,362	144	221	365	336	277	613
NET NEW PROJECT TRIPS - REVISE	D PROJECT		2,011	13	126	139	105	54	159
NET NEW PROJECT TRIPS - APPROVED TRANSPORTA	TION IMPAC	T STUDY PROJECT	2,369	9	203	212	164	64	228
DIFFERENCE IN TRIPS (REVISED PROJECT - AP	PROVED TI	S PROJECT)	(358)	4	(77)	(73)	(59)	(10)	(69)

Notes du = Dwelling Unit

sf = Square Feet

sr = square Feet
[a] Source: Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.
[b] Based on Transportation Assessment Guidelines (LADOT, July 2019), a 15% transit reduction was applied due to a Metro transit station stop being located less than 1/4 mile from the Project Site and to account for bike or walk-in trips.
[c] Pass-by trips are those traveling through the study area regardless of the existence of the Project and are based on Transportation Assessment Guidelines.
[d] Mixed Use Internal Capture credit was developed based on the NCHRP 8-51 Internal Trip Capture Estimation Tool.

TABLE 4A REVISED PROJECT TRIP GENERATION ESTIMATES ITE TRIP GENERATION, 11TH EDITION

Trip Generation Rates [a]												
Land Use	ITE Land	Rate	Daily	Α	M Peak Ho	ur	PM Peak Hour					
	Use Code	Nate		In	Out	Total	In	Out	Total			
Multi-Family Residential (Mid-Rise) - Not Close to Rail Transit	221	per dwelling unit	4.54	23%	77%	0.37	61%	39%	0.39			
Strip Retail Plaza (<40,000 sf)	822	per 1,000 sf	54.45	60%	40%	2.36	50%	50%	6.59			
Supermarket	850	per 1,000 sf	93.84	59%	41%	2.86	50%	50%	8.95			
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	467.48	51%	49%	44.61	52%	48%	33.03			

	-	Trip Generation Estim	ates						
Land Use	ITE Land	Size	Daily	Α	M Peak Ho	ur	F	M Peak Ho	ur
Land Ose	Use Code	Size	Daily	ln	Out	Total	In	Out	Total
Existing Uses to be Removed									
Commercial	820	18,525 sf	1,009	26	18	44	61	61	122
Less 15% Transit/Bike/Walk-In [b]			(151)	(4)	(3)	(7)	(9)	(9)	(18)
Less 50% Pass-by [c]			(429)	(11)	(8)	(19)	(26)	(26)	(52)
Subtotal - Commercial			429	11	7	18	26	26	52
Supermarket	850	78,328 sf	7.350	132	92	224	351	350	701
Less 15% Transit/Bike/Walk-In [b]	030	70,520 31	(1,103)	(20)	(14)	(34)	(53)	(52)	(105)
Less 40% Pass-by [c]			(2,499)	(45)	(31)	(76)	(119)	(119)	(238)
Subtotal - Supermarket			3,748	67	47	114	179	179	358
Fast-Food Restaurant	934	3,943 sf	1,843	90	86	176	68	62	130
Less 15% Transit/Bike/Walk-In [b]			(276) (784)	(13)	(13)	(26)	(10)	(10) (26)	(20)
Less 50% Pass-by [c] Subtotal - Fast-Food Restaurant			783	(38) 39	(37) 36	(75) 75	(29) 29	26	(55) 55
Subtotal - Last-1 God Restaurant			700	- 00		- 10			- 00
TOTAL - EXISTING USES TO BE REM	IOVED		4,960	117	90	207	234	231	465
Draws and Draines									
Proposed Project									
Apartments	221	735 du	3,337	63	209	272	175	112	287
Less 15% Transit/Bike/Walk-In [b]			(501)	(9)	(32)	(41)	(26)	(17)	(43)
Less Internal Capture [d]			(128)	(1)	(2)	(3)	(15)	(4)	(19)
Subtotal - Apartments			2,708	53	175	228	134	91	225
O	850	00.000 - f	0.475	440	81	407	309	000	040
Supermarket Less 15% Transit/Bike/Walk-In [b]	850	69,000 sf	6,475 (971)	116 <i>(18</i>)	(12)	197 (30)	(47)	309 (46)	618 (93)
Less 13% Transidbike/Waik-III [6] Less 40% Pass-by [c]			(2,202)	(40)	(27)	(67)	(105)	(105)	(210)
Subtotal - Supermarket			3,302	58	42	100	157	158	315
•			,						
Shopping Center - Retail/Restaurant	820	26,000 sf	1,416	37	24	61	86	85	171
Less 15% Transit/Bike/Walk-In [b]			(212)	(5)	(4)	(9)	(13)	(13)	(26)
Less Internal Capture [d]			(169)	(3)	(2)	(5)	(7)	(19)	(26)
Less 50% Pass-by [c]			(518)	(14)	(10)	(24)	(30)	(30)	(60)
Subtotal - Shopping Center			517	15	8	23	36	23	59
TOTAL - PROPOSED PROJEC	Г		6,527	126	225	351	327	272	599
NET NEW PROJECT TRIPS - REVISED	PROJECT		1,567	9	135	144	93	41	134
NET NEW PROJECT TRIPS - APPROVED TRANSPORTATION	ON IMPACT	STUDY PROJECT	2,369	9	203	212	164	64	228
DIFFERENCE IN TRIPS (REVISED PROJECT - APPR	ROVED TIS F	PROJECT)	(802)	0	(68)	(68)	(71)	(23)	(94)

Notes
du = Dwelling Unit
sf = Square Feet

sf = Square Feet
[a] Source: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.
[b] Based on Transportation Assessment Guidelines (LADOT, July 2020), a 15% transit reduction was applied due to a Metro transit station stop being located less than 1/4 mile from the Project Site and to account for bike or walk-in trips.
[c] Pass-by trips are those traveling through the study area regardless of the existence of the Project and are based on Transportation Assessment Guidelines.
[d] Mixed Use Internal Capture credit was developed based on the NCHRP 8-51 Internal Trip Capture Estimation Tool.

TABLE 4B REVISED PROJECT TRIP GENERATION ESTIMATES ITE TRIP GENERATION, 11TH EDITION

Trip Generation Rates [a]												
Land Use	ITE Land	ITE Land Rate		Α	M Peak Ho	ur	PM Peak Hour					
	Use Code	Nate	Daily	In	Out	Total	In	Out	Total			
Multi-Family Residential (Mid-Rise) - Close to Rail Transit	221	per dwelling unit	4.75	56%	44%	0.32	43%	57%	0.29			
Strip Retail Plaza (<40,000 sf)	822	per 1,000 sf	54.45	60%	40%	2.36	50%	50%	6.59			
Supermarket	850	per 1,000 sf	93.84	59%	41%	2.86	50%	50%	8.95			
Fast-Food Restaurant with Drive-Through Window	934	per 1,000 sf	467.48	51%	49%	44.61	52%	48%	33.03			

	-	Trip Generation Estim	ates						
Lead Hea	ITE Land			Δ	M Peak Ho	ur	P	M Peak Ho	ır
Land Use	Use Code	Size	Daily	ln	Out	Total	In	Out	Total
Existing Uses to be Removed									
Commercial	820	18,525 sf	1,009	26	18	44	61	61	122
Less 15% Transit/Bike/Walk-In [b]			(151)	(4)	(3)	(7)	(9)	(9)	(18)
Less 50% Pass-by [c]			(429)	(11)	(8)	(19)	(26)	(26)	(52)
Subtotal - Commercial			429	11	7	18	26	26	52
	050	70.000 (7.050	400		204	054	050	704
Supermarket	850	78,328 sf	7,350 (1,103)	132 (20)	92 (14)	224 (34)	351 (53)	350 (52)	701 (105)
Less 15% Transit/Bike/Walk-In [b] Less 40% Pass-by [c]			(2,499)	(45)	(31)	(76)	(119)	(119)	(238)
Subtotal - Supermarket			3,748	67	47	114	179	179	358
- Carte Capernation			,	-					
Fast-Food Restaurant	934	3,943 sf	1,843	90	86	176	68	62	130
Less 15% Transit/Bike/Walk-In [b]			(276)	(13)	(13)	(26)	(10)	(10)	(20)
Less 50% Pass-by [c]			(784)	(38)	(37)	(75)	(29)	(26)	(55)
Subtotal - Fast-Food Restaurant			783	39	36	75	29	26	55
TOTAL - EXISTING USES TO BE REM	IOVED		4,960	117	90	207	234	231	465
Proposed Project									
Americante	004	705 4	0.404	400	400	005	00	404	040
Apartments Less Internal Capture [ব]	221	735 du	3,491 (157)	132 (3)	103 <i>(1)</i>	235 (4)	92 (9)	121 (5)	213 (14)
Subtotal - Apartments			3,334	129	102	231	83	116	199
oublotal - Apartments			0,004	120	102	201		110	100
Supermarket	850	69,000 sf	6,475	116	81	197	309	309	618
Less 15% Transit/Bike/Walk-In [b]			(971)	(18)	(12)	(30)	(47)	(46)	(93)
Less 40% Pass-by [c]			(2,202)	(40)	(27)	(67)	(105)	(105)	(210)
Subtotal - Supermarket			3,302	58	42	100	157	158	315
					l	.			
Shopping Center - Retail/Restaurant	820	26,000 sf	1,416	37	24	61	86	85	171
Less 15% Transit/Bike/Walk-In [চ] Less Internal Capture [d]			(212) (169)	(5)	(4) (2)	(9)	(13)	(13) (19)	(26) (26)
Less 50% Pass-by [c]			(518)	(3) (14)	(10)	(5) (24)	(7) (30)	(30)	(60)
Subtotal - Shopping Center	1		517	15	8	23	36	23	59
- Castotal Chopping Conto									
TOTAL - PROPOSED PROJECT	Г		7,153	202	152	354	276	297	573
NET NEW PROJECT TRIPS - REVISED I	PROJECT		2,193	85	62	147	42	66	108
NET NEW PROJECT TRIPS - APPROVED TRANSPORTATION	N IMPACT	STUDY PROJECT	2,369	9	203	212	164	64	228
DIFFERENCE IN TRIPS (REVISED PROJECT - APPR	OVED TIS F	PROJECT)	(176)	76	(141)	(65)	(122)	2	(120)

Notes du = Dwelling Unit sf = Square Feet

st = Square Feet
[a] Source: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.
[b] Based on Transportation Assessment Guidelines (LADOT, July 2020), a 15% transit reduction was applied due to a Metro transit station stop being located less than 1/4 mile from the Project Site and to account for bike or walk-in trips.
[c] Pass-by trips are those traveling through the study area regardless of the existence of the Project and are based on Transportation Assessment Guidelines.
[d] Mixed Use Internal Capture credit was developed based on the NCHRP 8-51 Internal Trip Capture Estimation Tool.