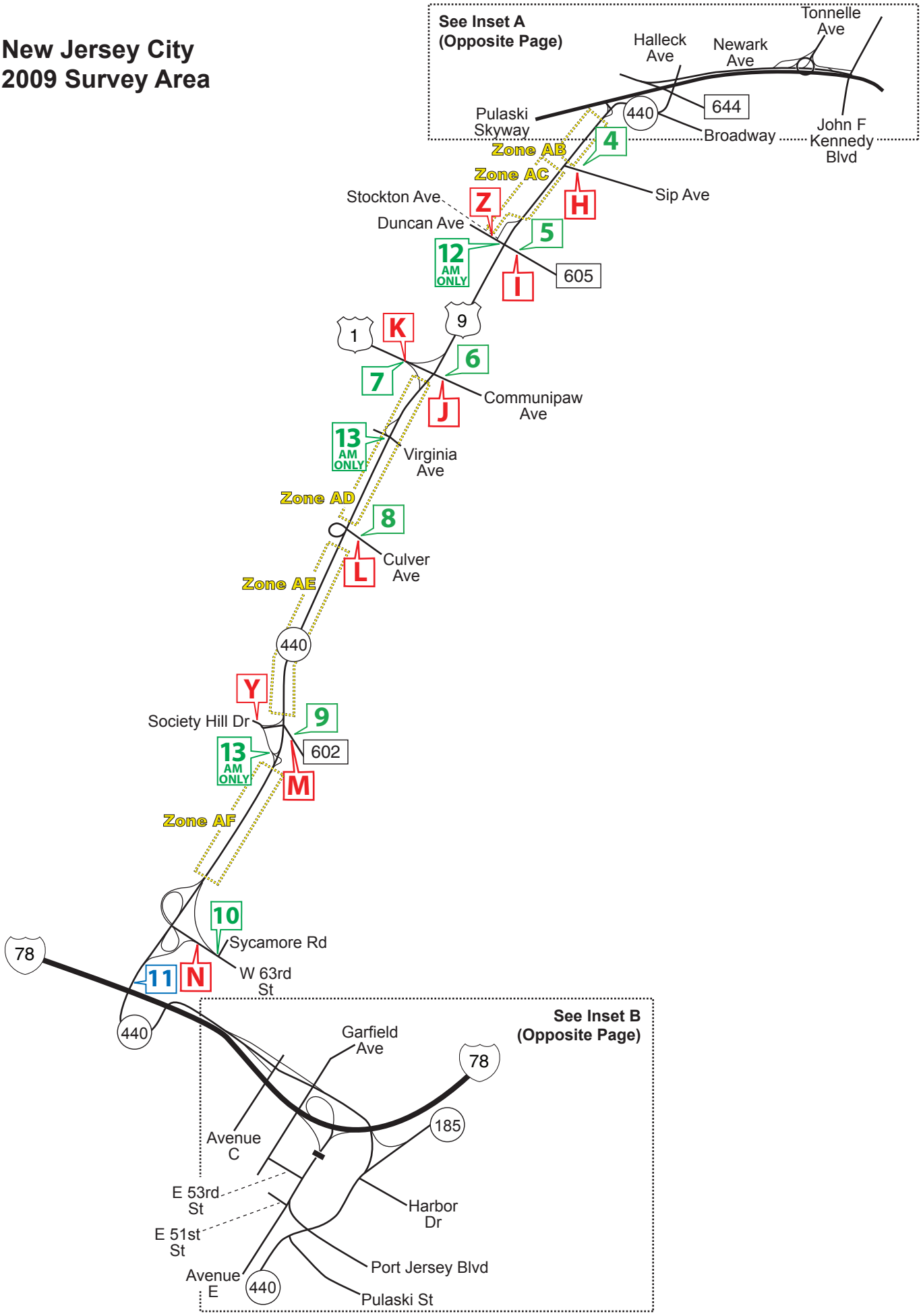
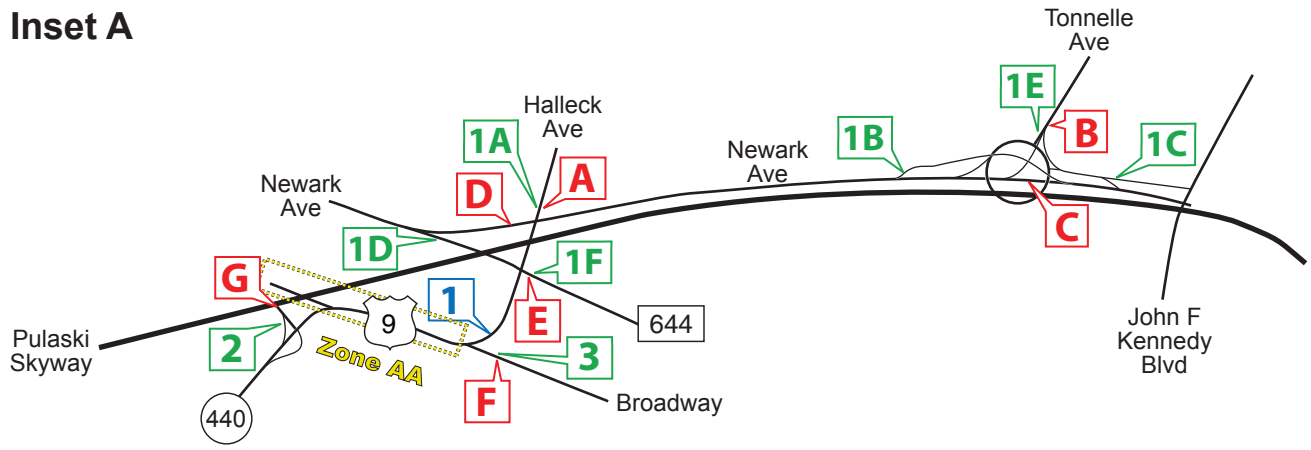
Appendix 3.6

Traffic Origin-Destination Survey

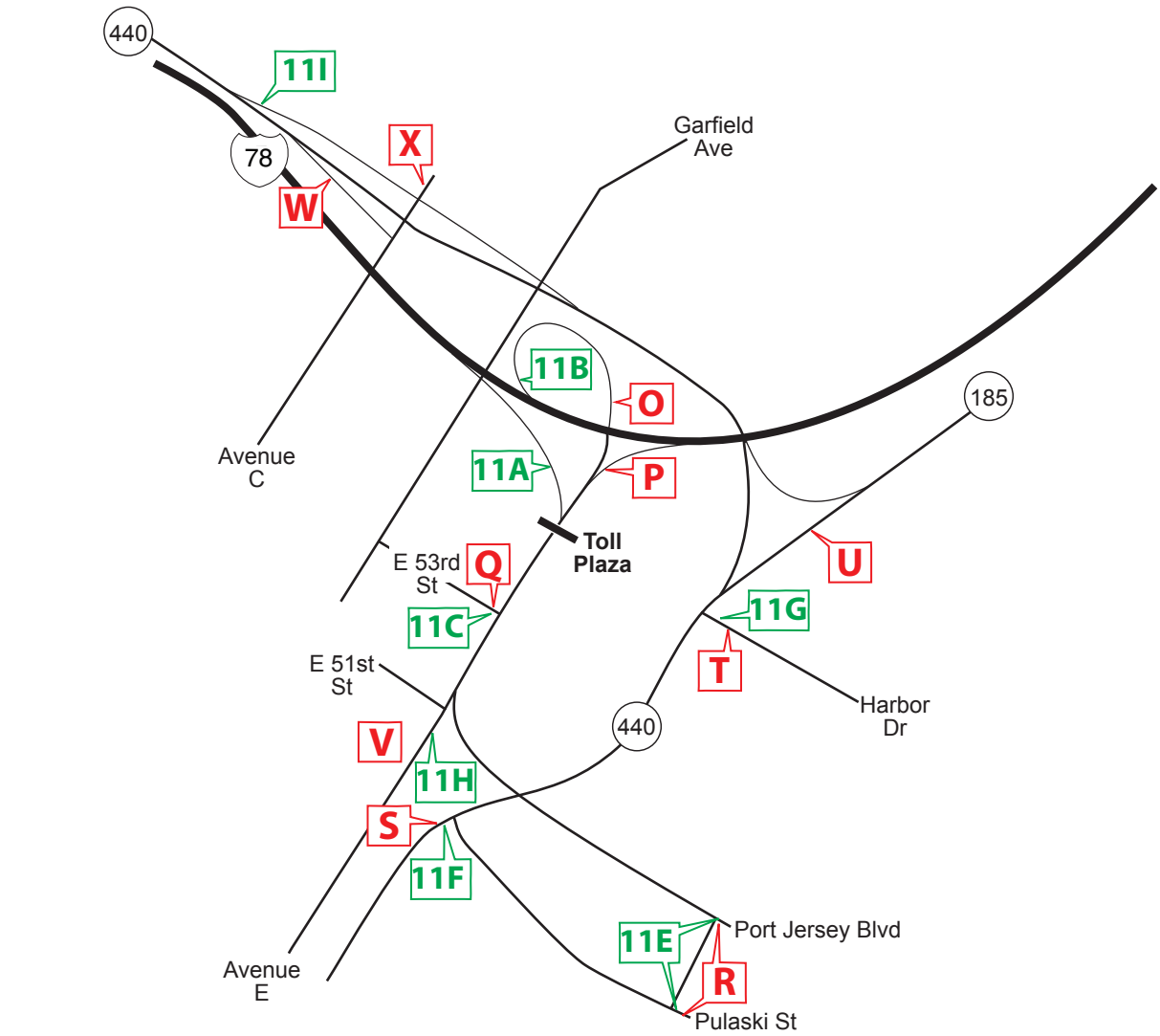
New Jersey City 2009 Survey Area



Inset A



Inset B



ORIGINS-DESTINATION DEFINITIONS

		Origin ID
MAJOR ORIGINS:	cordon line: enter SB from PATH underpass (backtrack to "feeder" origins SET 1)*	1
	enter from Halleck Ave / presumed to be from Skyway drop-ramp unless visible	2
	enter from WB Broadway to SB Truck 1&9 (Broadway to NB 1&9T not tracked)	3
	enter from WB Sip Ave	4
	enter from WB Duncan Ave	5
	enter from WB Communipaw Ave	6
	enter from EB Rte 1&9T from across Hack. River bridge	7
	enter from WB Culver Ave	8
	enter from WB Danforth Ave	9
	enter from W. 63rd Street	10
	cordon line: enter from NB Rte 440 from s. of W. 63rd St. (back-track to "feeder" origins SET 2)**	11
SPECIAL ORIGINS:	enter from EB Duncan Ave / industrial surrogate area -- AM and PM origins	12
	enter from Lowes shopping plaza / retail commercial surrogate area -- PM origins ONLY	13
	enter from Society Hill / residential surrogate area -- AM origins only	14
* SET 1: sub-origins to cordon line at north end (back-track from PATH underpass):		
	SB Charlotte Ave / local	1A
	WB Rte 139 from vic. Holland Tun.	1B
	From NB or SB JFK Blvd	1C
	Ramp from EB Rte 7	1D
	Tonnele Cir / other	1E
	WB Newark Ave from east	1F
** SET 2: sub-origins to cordon line at south end (back-track from W. 63rd St):		
	EB NJ Turnpike Ext. (from west)	11A
	WB NJ Turnpike Ext. (from east)	11B
	Local Bayonne streets via 53rd St (by Int. 14A toll plaza entrance)	11C
	SW-bound NJ Rte 185 from direction of Linden Ave	11D
	Pulaski St & Port Jersey Blvd from east / differentiate local vs. terminal traffic (may need ground camera set)	11E
	NB NJ Rte 440 (from south)	11F
	WB Harbor Drive from east	11G
	Local Bayonne streets via Ave E (by Int. 14A toll plaza entrance)	11H
	Ave C in Bayonne vic. 14A / from north or south side	11I
DESTINATIONS:		
	NB on Wallis Ave (beyond NJ 7)	A
	NB on Tonnele Ave (beyond the circle)	B
	EB on NJ 139 (beyond the circle) or SB	C
	WB on NJ 7	D
	EB on Newark Ave	E
	EB on Broadway	F
	exit to Halleck Ave / presumed to bound for Skyway	G
	EB on Sip Ave	H
	EB on Duncan Ave	I
	EB on Communipaw Ave	J
	WB on Rte 1&9T across Hack. River bridge	K
	EB on Culver Ave	L
	SEB on Danforth Ave	M
	EB on 63rd St	N
	WB on NJ Turnpike Ext.	O
	EB on NJ Turnpike Ext.	P
	WB 53rd St	Q
	EB Pulaski St & Port Jersey Blvd towards terminal	R
	SB on NJ 440	S
	EB on Harbor Dr	T
	NB on NJ 185	U
	SB on Avenue E (beyond 53rd St)	V
	NB or SB on Avenue C from EB NJ 440	W
	NB or SB on Avenue C from WB NJ 440	X
	Society Hill	Y
	WB on Duncan Ave	Z
	Local exits between Broadway and Halleck Ave	AA
	Local exits between Halleck Ave and Sip Ave	AB
	Local exits between Sip Ave and Duncan Ave	AC
	Local exits between Communipaw Ave and Culver Ave	AD
	Local exits between Culver Ave and Danforth Ave	AE
	Local exits between Danforth Ave and 63rd St	AF

MORNING ORIGIN-DESTINATION COUNTS – CARS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	Actual Samples
	DESTINATIONS																																
1						1	3	11	5	25	15	20	11	13	0	0	0	0	15	0	2	0	5	0	4	6	7	2	1	9	8	0	163
2								50	6	5	5	2	0	0	0	0	0	0	0	0	0	0	2	0	0	5	0	2	0	0	1	0	78
3							3	2	0	3	4	0	0	1	0	0	0	0	3	0	0	0	0	0	1	4	32	0	0	2	0	0	55
4*	2	2	0	6	0	4	30		0	16	44	2	8	2	0	0	0	0	20	0	2	0	6	0	2	18	4	0	2	8	6	0	92
5*	0	4	0	12	4	4	8	16		4	136	9	0	9	0	0	0	0	22	0	4	0	9	0	0	42	0	0	0	13	13	0	62
6*	0	7	2	27	0	0	0	2	11		650	23	0	3	0	0	0	0	14	0	3	0	0	0	0	2	0	0	2	66	17	0	68
7*	30	30	10	0	15	45	10	86	131	557		134	50	33	8	0	0	42	109	0	50	0	33	0	33	45	5	0	0	84	59	0	157
8*	0	0	0	4	0	0	0	0	0	0	55		5	3	3	0	0	0	14	0	3	0	8	0	5	4	0	0	4	13	70	0	60
9*	0	14	7	0	0	0	0	21	0	4	74	0		2	0	0	0	0	11	0	0	0	2	0	4	0	4	0	0	7	53	2	62
10	1	3	2	4	1	3	0	5	1	2	24	5	6		0	0	0	0	1	0	1	0	0	0	4	1	0	0	0	9	12	4	89
11	2	5	0	12	1	4	3	5	4	2	30	2	12	3											3	3	0	0	0	7	17	1	116
12*	2	10	2	6	2	2	2	16	116	2	11	6	2	6	0	0	0	0	6	0	0	0	0	0	0		0	0	2	2	2	0	45
13*	0	0	0	0	0	0	0	0	1	1	1	2	2	5	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	4	7	0	29
14*	0	2	0	0	0	2	0	4	0	6	11	2	36	12	0	2	0	0	10	0	2	0	3	0		0	0	0	0	0	4	0	49

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

MORNING ORIGIN-DESTINATION COUNTS – TRACTOR-TRAILERS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	
	DESTINATIONS																																
1						0	1	0	1	2	42	2	1	0	0	0	0	1	9	0	2	0	0	0	0	2	4	2	3	1	2	0	75
2								0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
3							0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7
4*	0	0	0	0	0	0	0		0	0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	5
5*	0	0	0	0	0	1	0	0		0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6*	0	3	0	3	0	0	0	0	0		20	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	4
7*	0	12	3	2	0	0	2	2	1	21		2	3	0	0	0	0	15	15	2	3	0	0	0	0	5	1	1	0	3	4	0	121
8*	0	1	0	0	0	0	0	0	0	1	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9*	0	1	0	0	0	0	0	0	0	0	3	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
10	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	1	6	0	0	0	0	1	0	0	0	40	0	2	0											0	0	0	0	0	1	2	0	53
12*	0	3	0	0	0	0	1	1	1	0	13	0	0	0	0	0	0	1	0	0	0	0	0	0	0		0	0	0	0	1	0	25
13*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
14*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

MORNING ORIGIN-DESTINATION COUNTS – TRUCKS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	
	DESTINATIONS																																
1						0	0	0	0	1	16	1	2	3	0	0	0	0	6	1	0	0	2	0	1	4	3	1	0	4	5	0	50
7*	3	5	3	1	0	1	2	3	1	16		2	1	1	0	0	0	2	3	0	1	0	1	0	0	1	0	1	0	3	3	0	77
11	0	4	0	0	0	0	0	1	0	0	12	1	2	0											0	0	0	0	0	1	2	0	23

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

MORNING ORIGIN 1 CORDON LINE – SUB-ORIGIN COUNTS

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
1A	11	12	7
1B	8	7	9
1C	5	0	11
1D	80	16	20
1E	48	38	0
1F	11	2	3

MORNING ORIGIN 11 CORDON LINE – SUB-ORIGIN COUNTS

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
11A	0	0	0
11B	0	0	0
11C	0	0	0
11D	18	13	1
11E	4	31	9
11F	48	9	10
11G	0	0	0
11H	0	0	0
11I	46	0	3

MORNING ORIGIN-DESTINATION PERCENTAGES – CARS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
	DESTINATIONS																															
1						1%	2%	7%	3%	15%	9%	12%	7%	8%	0%	0%	0%	0%	9%	0%	1%	0%	3%	0%	2%	4%	4%	1%	1%	6%	5%	0%
2								64%	8%	6%	6%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	6%	0%	3%	0%	0%	1%	0%
3							5%	4%	0%	5%	7%	0%	0%	2%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	2%	7%	58%	0%	0%	4%	0%	0%
4	1%	1%	0%	3%	0%	2%	16%		0%	8%	23%	1%	4%	1%	0%	0%	0%	0%	10%	0%	1%	0%	3%	0%	1%	9%	2%	0%	1%	4%	3%	0%
5	0%	1%	0%	4%	1%	1%	2%	5%		1%	42%	3%	0%	3%	0%	0%	0%	0%	7%	0%	1%	0%	3%	0%	0%	13%	0%	0%	0%	4%	4%	0%
6	0%	1%	0%	3%	0%	0%	0%	0%	1%		73%	3%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	2%	0%
7	2%	2%	1%	0%	1%	3%	1%	5%	8%	33%		8%	3%	2%	0%	0%	0%	2%	6%	0%	3%	0%	2%	0%	2%	3%	0%	0%	0%	5%	3%	0%
8	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	27%		3%	1%	1%	0%	0%	0%	7%	0%	1%	0%	4%	0%	3%	2%	0%	0%	2%	6%	35%	0%
9	0%	7%	3%	0%	0%	0%	0%	10%	0%	2%	35%	0%		1%	0%	0%	0%	0%	5%	0%	0%	0%	1%	0%	2%	0%	2%	0%	0%	3%	25%	1%
10	1%	3%	2%	4%	1%	3%	0%	6%	1%	2%	27%	6%	7%		0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	4%	1%	0%	0%	0%	10%	13%	4%
11	2%	4%	0%	10%	1%	3%	3%	4%	3%	2%	26%	2%	10%	3%											3%	3%	0%	0%	0%	6%	15%	1%
12	1%	5%	1%	3%	1%	1%	1%	8%	60%	1%	6%	3%	1%	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%		0%	0%	0%	1%	1%	1%	0%
13	0%	0%	0%	0%	0%	1%	0%	1%	2%	2%	2%	8%	8%	15%	0%	0%	0%	0%	8%	0%	0%	0%	8%	0%	0%	1%	0%	0%	0%	12%	23%	0%
14	0%	2%	0%	0%	0%	2%	0%	4%	0%	7%	11%	2%	38%	12%	0%	2%	0%	0%	10%	0%	2%	0%	3%	0%		0%	0%	0%	0%	0%	4%	0%

MORNING ORIGIN-DESTINATION PERCENTAGES – TRACTOR-TRAILERS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
	DESTINATIONS																															
1						0%	1%	0%	1%	3%	56%	3%	1%	0%	0%	0%	0%	1%	12%	0%	3%	0%	0%	0%	0%	3%	5%	3%	4%	1%	3%	0%
2							0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3							0%	14%	0%	0%	57%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	0%	0%	0%	0%	0%
4	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%
5	0%	0%	0%	0%	0%	50%	0%	0%		0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	0%	9%	0%	9%	0%	0%	0%	0%	0%		71%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%
7	0%	12%	3%	2%	0%	0%	2%	2%	1%	21%		2%	3%	0%	0%	0%	0%	15%	15%	2%	3%	0%	0%	0%	0%	5%	1%	1%	0%	3%	4%	0%
8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
9	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	83%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11	2%	11%	0%	0%	0%	0%	2%	0%	0%	0%	75%	0%	4%	0%											0%	0%	0%	0%	0%	2%	4%	0%
12	0%	14%	0%	0%	0%	0%	7%	3%	5%	0%	63%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	4%	0%
13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%

MORNING ORIGIN-DESTINATION PERCENTAGES – TRUCKS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
	DESTINATIONS																															
1						0%	0%	0%	0%	2%	32%	2%	4%	6%	0%	0%	0%	0%	12%	2%	0%	0%	4%	0%	2%	8%	6%	2%	0%	8%	10%	0%
7*	6%	10%	6%	1%	0%	1%	5%	6%	1%	31%		3%	1%	3%	0%	0%	0%	4%	5%	0%	2%	0%	1%	0%	0%	1%	0%	1%	0%	6%	5%	0%
11	0%	17%	0%	0%	0%	0%	0%	4%	0%	0%	52%	4%	9%	0%											0%	0%	0%	0%	0%	4%	9%	0%

MORNING ORIGIN 1 CORDON LINE – SUB-ORIGIN PERCENTAGES

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
1A	7%	16%	14%
1B	5%	9%	18%
1C	3%	0%	22%
1D	49%	21%	40%
1E	29%	51%	0%
1F	7%	3%	6%

MORNING ORIGIN 11 CORDON LINE – SUB-ORIGIN PERCENTAGES

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
11A	0%	0%	0%
11B	0%	0%	0%
11C	0%	0%	0%
11D	16%	25%	4%
11E	3%	58%	39%
11F	41%	17%	43%
11G	0%	0%	0%
11H	0%	0%	0%
11I	40%	0%	13%

EVENING ORIGIN-DESTINATION COUNTS – CARS

ORIGINS	DESTINATIONS																																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	Actual Samples
1						0	16	13	8	23	8	3	9	7	0	0	0	0	2	0	0	0	5	0	1	2	10	6	0	9	4	0	126
2								60	7	9	5	1	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0	6	0	5	1	0	98
3							8	3	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	31	1	0	3	0	0	52
4*	0	0	0	26	5	5	94		14	43	57	0	0	28	0	0	0	14	71	0	0	0	14	0	0	14	0	0	14	14	28	0	48
5*	0	0	5	8	0	8	16	10		29	117	0	0	15	0	0	0	0	29	0	0	0	15	0	0	42	0	0	0	0	15	0	33
6*	0	20	0	20	0	2	2	0	7		650	6	0	0	0	0	0	0	6	0	0	0	0	0	6	2	0	0	0	63	46	0	44
7*	8	56	24	56	8	40	56	152	144	557		134	0	187	0	0	0	0	160	0	0	0	27	0	53	80	0	0	0	187	160	0	112
8*	0	0	0	3	0	3	0	6	0	0	31		0	24	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	37	71	0	42
9*	0	21	0	11	0	5	16	5	5	0	47	11		18	0	0	0	6	6	0	0	0	12	0	60	0	0	5	0	42	116	0	62
10	0	5	0	1	0	2	3	7	0	2	22	0	5		0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	6	18	3	78
11	0	9	0	5	0	2	3	5	1	5	35	4	11	5											2	2	0	0	1	15	26	5	136

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

EVENING ORIGIN-DESTINATION COUNTS – TRACTOR-TRAILERS

ORIGINS	DESTINATIONS																																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	Actual Samples
1						1	0	0	0	1	15	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4	6	3	1	0	1	0	34
2								0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4*	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	3
5*	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6*	0	2	0	2	0	0	0	0	0		4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7*	2	7	0	0	0	0	1	0	0	0		7	7	0	0	0	0	5	14	0	2	0	0	0	2	8	0	0	0	5	12	0	70
8*	0	0	0	0	0	0	0	0	0	0	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
9*	0	0	0	0	0	0	0	0	0	0	6	0		0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	11
10	0	0	0	0	0	0	0	0	0	0	2	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
11	2	2	0	0	0	0	0	0	0	0	26	0	0	0											0	0	0	0	0	1	6	0	37

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

EVENING ORIGIN-DESTINATION COUNTS – TRUCKS

ORIGINS	DESTINATIONS																																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	Actual Samples
1						1	1	0	1	3	14	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	2	1	5	0	0	0	33
7*	0	52	0	0	0	0	0	0	0	0		3	3	0	0	0	0	2	5	0	1	0	0	0	1	0	0	0	0	0	3	4	27
11	0	3	0	0	0	0	0	0	0	0	7	0	0	0											0	0	0	0	0	0	0	0	10

* To prevent data skewing, counts with an asterisk were balanced according to the volumes by movement (left, right or straight). Actual sample sizes are listed to the right of the table. For more information on this process, refer to Appendix A.

EVENING ORIGIN 1 CORDON LINE – SUB-ORIGIN COUNTS

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
1A	18	2	2
1B	6	5	8
1C	4	0	0
1D	50	10	10
1E	35	17	12
1F	13	0	1

EVENING ORIGIN 11 CORDON LINE – SUB-ORIGIN COUNTS

SUB-ORIGIN	Cars	Tractor Trailers	Trucks
11A	1	1	0
11B	0	0	0
11C	0	0	0
11D	14	7	1
11E	18	14	1
11F	59	13	7
11G	0	0	0
11H	0	0	0
11I	44	2	1

EVENING ORIGIN-DESTINATION PERCENTAGES – CARS

DESTINATIONS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1							13%	10%	6%	18%	6%	2%	7%	6%	0%	0%	0%	0%	2%	0%	0%	0%	4%	0%	1%	2%	8%	5%	0%	7%	3%	0%
2								61%	7%	9%	5%	1%	0%	2%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	6%	0%	5%	1%	0%
3							15%	6%	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	4%	60%	2%	0%	6%	0%	0%
4	0%	0%	0%	6%	1%	1%	21%		3%	10%	13%	0%	0%	6%	0%	0%	0%	3%	16%	0%	0%	0%	3%	0%	0%	3%	0%	0%	3%	3%	6%	0%
5	0%	0%	2%	3%	0%	3%	5%	3%		9%	38%	0%	0%	5%	0%	0%	0%	0%	9%	0%	0%	0%	5%	0%	0%	14%	0%	0%	0%	0%	5%	0%
6	0%	2%	0%	2%	0%	0%	0%	0%	1%		78%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	8%	6%	0%
7	0%	3%	1%	3%	0%	2%	3%	7%	7%	27%		6%	0%	9%	0%	0%	0%	0%	8%	0%	0%	0%	1%	0%	3%	4%	0%	0%	0%	9%	8%	0%
8	0%	0%	0%	1%	0%	1%	0%	3%	0%	0%	16%		0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	4%	0%	0%	0%	0%	19%	37%	0%
9	0%	5%	0%	3%	0%	1%	4%	1%	1%	0%	12%	3%		5%	0%	0%	0%	2%	2%	0%	0%	0%	3%	0%	16%	0%	0%	1%	0%	11%	30%	0%
10	0%	6%	0%	1%	0%	3%	4%	9%	0%	3%	28%	0%	6%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	3%	0%	0%	0%	8%	23%	4%
11	0%	7%	0%	4%	0%	1%	2%	4%	1%	4%	26%	3%	8%	4%											1%	1%	0%	0%	1%	11%	19%	4%

EVENING ORIGIN-DESTINATION PERCENTAGES – TRACTOR-TRAILERS

DESTINATIONS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1						3%	0%	0%	0%	3%	44%	0%	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	12%	18%	9%	3%	0%	3%	0%
2								0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3							0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%	33%	0%	0%
5	0%	0%	0%	0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%
6	0%	25%	0%	25%	0%	0%	0%	0%	0%		50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	3%	10%	0%	0%	0%	0%	1%	0%	0%	0%		0%	20%	0%	0%	0%	0%	13%	20%	0%	7%	0%	0%	0%	0%	11%	0%	0%	0%	7%	7%	0%
8	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%
9	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	55%	0%		0%	9%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	9%	0%
10	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%
11	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	70%	0%	0%	0%											0%	0%	0%	0%	0%	3%	16%	0%

EVENING ORIGIN-DESTINATION PERCENTAGES – TRUCKS

DESTINATIONS

ORIGINS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1						3%	3%	0%	3%	9%	42%	3%	3%	0%	0%	0%	0%	3%	3%	0%	0%	0%	0%	0%	0%	3%	6%	3%	15%	0%	0%	0%
7*	0%	72%	0%	0%	0%	0%	0%	0%	0%	0%		3%	3%	0%	0%	0%	0%	2%	7%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	3%	6%
11	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	70%	0%	0%	0%											0%	0%	0%	0%	0%	0%	0%	0%

EVENING ORIGIN 1 CORDON LINE – SUB-ORIGIN PERCENTAGES

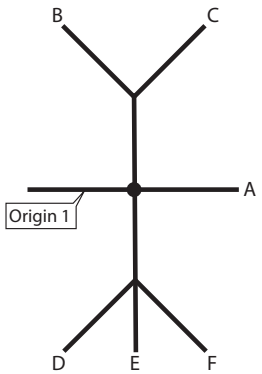
SUB-ORIGIN	Cars	Tractor Trailer	Trucks
1A	14%	6%	6%
1B	5%	15%	24%
1C	3%	0%	0%
1D	40%	29%	30%
1E	28%	50%	36%
1F	10%	0%	3%

EVENING ORIGIN 11 CORDON LINE – SUB-ORIGIN PERCENTAGES

SUB-ORIGIN	Cars	Tractor Trailer	Trucks
11A	1%	3%	0%
11B	0%	0%	0%
11C	0%	0%	0%
11D	10%	19%	10%
11E	13%	38%	10%
11F	43%	35%	70%
11G	0%	0%	0%
11H	0%	0%	0%
11I	32%	5%	10%

APPENDIX A: RECONCILING ORIGIN-DESTINATION PERCENTAGES WITH HOURLY FLOW RATES

As a part of Skycomp's origin-destination (O-D) methodology, a planned number of vehicles are traced from each lane of origin to a destination; because the flow rates of each lane will very, O-D percentages generated by vehicle tracking must be aligned to measured volumes for each movement. In the case of a cross road at a traffic signal, while often this is just one origin, Skycomp's methodology also involves tracing a fixed number of vehicles from each movement at the signal (left, right or straight); again, skewing could occur without adjusting for the actual flow rates of each lane. Accordingly, the following steps were taken:



The sample survey area to the left will be used to demonstrate the “reconciling” of the O-D tables based on the flow rates. Assume 10 left-turning vehicles and 10 right-turning vehicles were tracked from Origin 1. Tracking vehicles to destination A is achieved simply by counting the vehicles going straight, which is done later, as described below. Left-turning vehicles can travel to destinations B or C; right-turning vehicles can travel to D, E or F. After tracking the left and right-turning vehicles, the following O-D counts were found.

Table A: Origin-Destination Counts as Tracked

	A	B	C	D	E	F	Total
LEFT	N/A	8	2	N/A	N/A	N/A	10
RIGHT	N/A	N/A	N/A	2	4	4	10

For each turning movement, the number of vehicles traveling to each destination were divided by the total number of tracked vehicles to determine O-D percentages.

Table B: Origin-Destination Percentages as Tracked

	A	B	C	D	E	F
LEFT	N/A	80%	20%	N/A	N/A	N/A
RIGHT	N/A	N/A	N/A	20%	40%	40%

Flow rates are collected to for the three movements (left, right and straight) by counting each vehicle that crosses a cordon line during four separate five minute periods; these time periods are typically the middle five minutes of each quarter hour. These counts are summed and multiplied by 3 to produce an hourly flow rate. After the counts are collected, the flow rates are compiled into a table.

Table C: Hourly Flow Rates

	Hourly Flow Rate (vehicles per hour)
LEFT	40
RIGHT	20
STRAIGHT	100

Each Origin-Destination Percentage is then multiplied by its corresponding flow rate to create an adjusted origin-destination count. For example, the 80% (Dest B) and 20% (Dest C) for left-turing vehicles are multiplied by the 40 vehicle per hour flow rate to generate adjusted origin-destination counts of 32 and 8 respectively. For vehicles traveling straight, the flow rate count is transferred directly to the adjusted counts table.

Table D: Adjsuted Origin-Destination Counts

	A	B	C	D	E	F
LEFT	N/A	32	8	N/A	N/A	N/A
RIGHT	N/A	N/A	N/A	4	8	8
STRAIGHT	100	N/A	N/A	N/A	N/A	N/A

The results from the three directions are then combined to produce consolidated, adjusted origin-destination counts.

Table E: Adjusted Origin-Destination Counts (Consolidated)

	A	B	C	D	E	F	Total
ALL DIR.	100	32	8	4	8	8	160

From the table above, true-origin destination percentages can be derived.

Table F: Final Origin-Destination Percentages

	A	B	C	D	E	F	Total
ALL DIR.	62.5%	19%	6%	2.5%	5%	5%	100%