



May 10, 2019

Mr. Peter Rocchi
 Code Enforcement Officer
 Town of Southport
 1139 Pennsylvania Avenue
 Elmira, NY 14904

RE: Cleary Convenience Store
 Traffic Generation Summary
 FE Project # 2013-014

Dear Pete:

As per your request, Fagan Engineers has performed a trip generation analysis to estimate the total number of vehicle trips associated with the above referenced development in Southport, New York. The purpose of this analysis was to provide additional information for the SEQR review process.

The weekday morning and evening peak hours were utilized for this analysis. Trip generation is estimated with the use of the Institute of Transportation Engineers (ITE) manual titled *Trip Generation, 8th Edition*. The ITE manual provides fitted curve equations that correlate trip generation to gross floor area, number of units or other variables.

Developed Trip Generation

The proposed project is the redevelopment of the former Dixie BBQ site to provide the following:

Convenience Store w/ Gasoline Pumps: 4,000 sf
 Fast Food Restaurant: 2,200 sf

The following table is a summary of the trip generation estimates:

ITE Trip Generation for Southport Convenience Project				
FE Project # 2018.081				
Category	AM Peak Hour	PM Peak Hour	Saturday Peak Hour	Sunday Peak Hour
Convenience Store with Gasoline Pumps (LUC 853)	169	198	N/A	N/A
Fast Food Restaurant with Drive-Thru (LUC 934)	102	103	110	110
TOTAL	271	301	110	110

The estimated trip generation was analyzed utilizing square footage for a separate convenience store and restaurant without any reduction based on the combine use. The proposed use relies on existing traffic on the adjacent roadway network. Pass-by Trips are defined as vehicles that are currently travel along the existing roadway network that are drawn to the project. These are not new traffic to the system. This subset of trip generation applies to commercial/retail developments. ITE estimates the pass-by traffic rates for convenience stores (w/ gas) at 48%-87% and fast food restaurants at 25%-71%. For the purposes of this analysis, an average rate of 70% was utilized:

Category	AM Passby	AM Primary	PM Passby	PM Primary
Convenience Store with Gasoline Pumps (LUC 853)	118	51	139	59
Fast Food Restaurant with Drive-Thru (LUC 934)	71	31	72	31
TOTAL	190	81	211	90


As demonstrated in the above table, the majority of the project trips are pass-by which do not increase traffic to the area. The proposed uses are the highest pass-by trip category as demonstrated in the attached tables, which means the uses will have the least potential for generating new trips to the area. The total number of new trips generated by the proposed project is 81 vph and 90 vph during the AM and PM Peak Hours, respectively. These trips would be evenly split into entering/exiting and also between the driveways, reducing the traffic impacts at the access points to approximately 20 vph per direction at each drive.

In summary, the proposed Site Plan is projected to have a slight increase in traffic generation based on the usage but a lesser impact than other allowable uses for the site due to the pass-by traffic credit. If you have any questions or comments, please feel free to contact me.

Sincerely,

Sincerely,

FAGAN ENGINEERS & LAND SURVEYORS, P.C.



James B. Gensel, P.E., CPESC
President

**Pass-by Trips
Weekday PM Peak Hour**

Summarized from *ITE Trip Generation Handbook*, 3rd Edition

Land Use Code	Land Use Description	ITE Pass-by Rates			Number of Studies	Size of Sites (1,000 Sq. Ft.)	Years data collected
		Low	High	Average			
813	Free-Standing Discount Superstore	13%	40%	27%	19	102,000-226,000	1996-2010
815	Free-Standing Discount Store	1%	39%	17%	22	66,000-133,000	1994
820	Shopping Center	8%	74%	34%	100	9,000-1,200,000	1980-1995
850	Supermarket	19%	57%	36%	12	<25,000 - 70,000	1987, 1993
851	Convenience Market (24-hr)	28%	78%	51%	11	1,900-3,000	1987
853	Convenience Market with Gas	48%	87%	66%	17	2,200-3,600	1989, 1993
854	Discount Supermarket	7%	38%	21%	14	50,000-94,000	1998-2010
857	Discount Club	29%	50%	37%	5	137,000-149,000	2009-2010
862	Home Improvement Superstore	25%	54%	42%	4	91,000-142,000	1992-2010
880	Pharmacy/Drugstore w/o Drive-thru	30%	65%	53%	6	8,600-13,200	1992-1995
881	Pharmacy/Drugstore w/ Drive-thru	41%	58%	49%	3	9,600-15,500	1995
912	Drive-in Bank	15%	64%	35%	21	2,700 - 16,000	1988-2007
931	Quality Restaurant	26%	62%	44%	4	6,500 - 12,000	1992-1995
932	High-Turnover (sit-down) Restaurant	23%	63%	43%	12	2,900 - 11,500	1992-1996
934	Fast-food restaurant w/ drive-thru	25%	71%	50%	18+	1,300-4300	1987-1996
944	Gas/service station	20%	62%	42%	9	300-2300	1987-1992
945	Gas/service station w/ conv. market	46%	72%	56%	9	400-2100	1992-1993

Convenience Market with Gasoline Pumps (853)

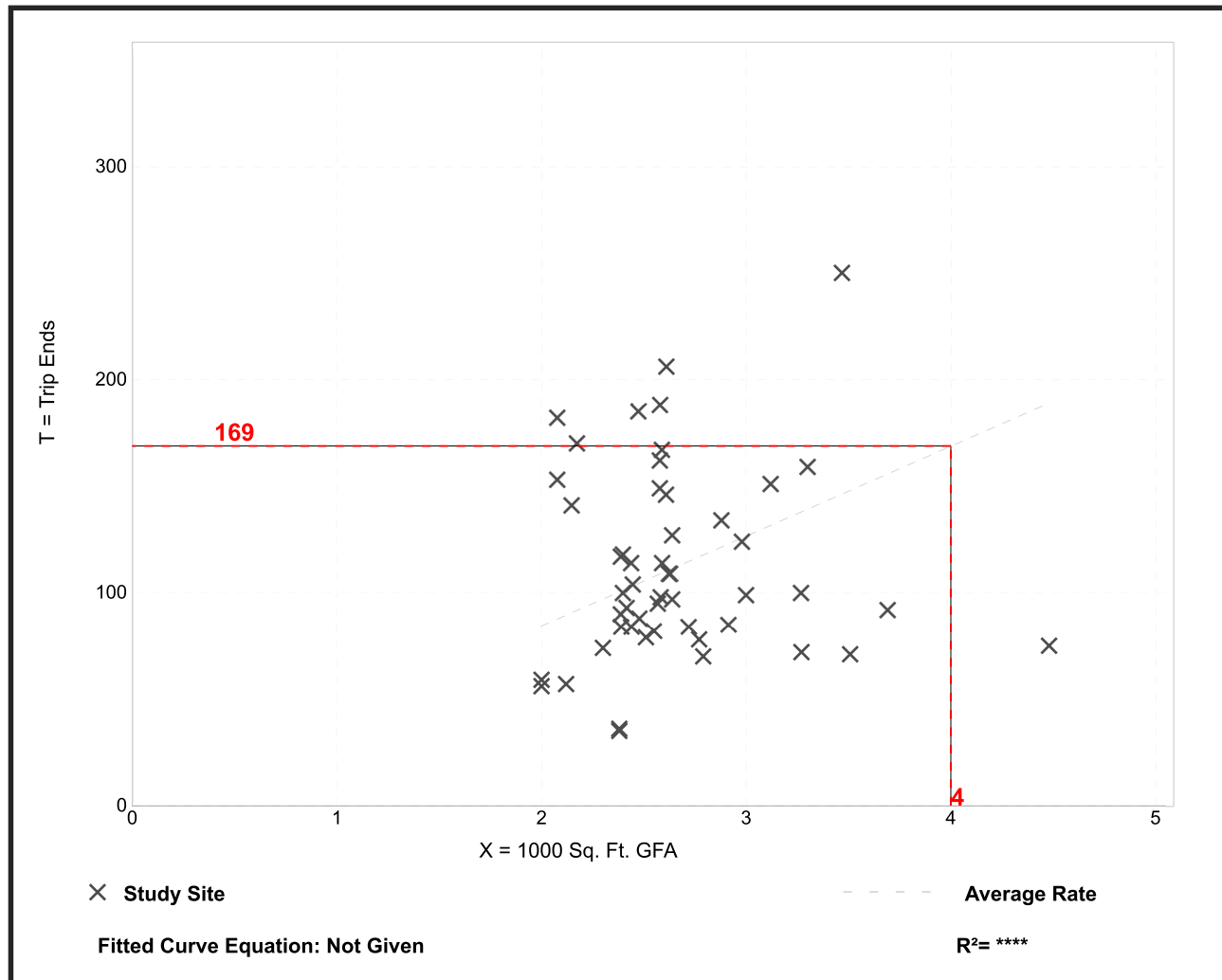
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 51
 Avg. 1000 Sq. Ft. GFA: 3
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
42.19	14.71 - 87.50	17.84

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Convenience Market with Gasoline Pumps (853)

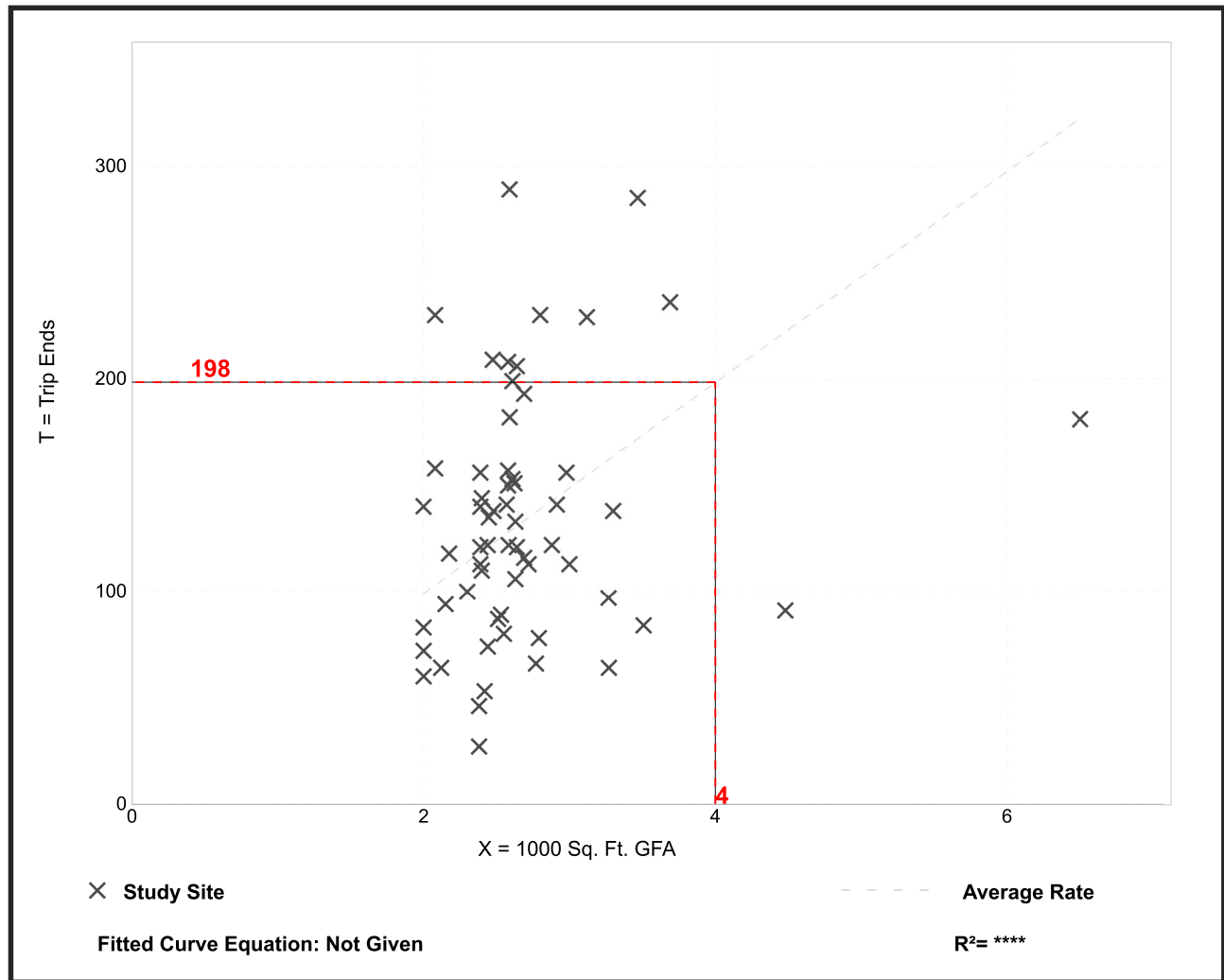
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 60
 Avg. 1000 Sq. Ft. GFA: 3
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
49.59	11.34 - 111.58	21.56

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Fast-Food Restaurant with Drive-Through Window (934)

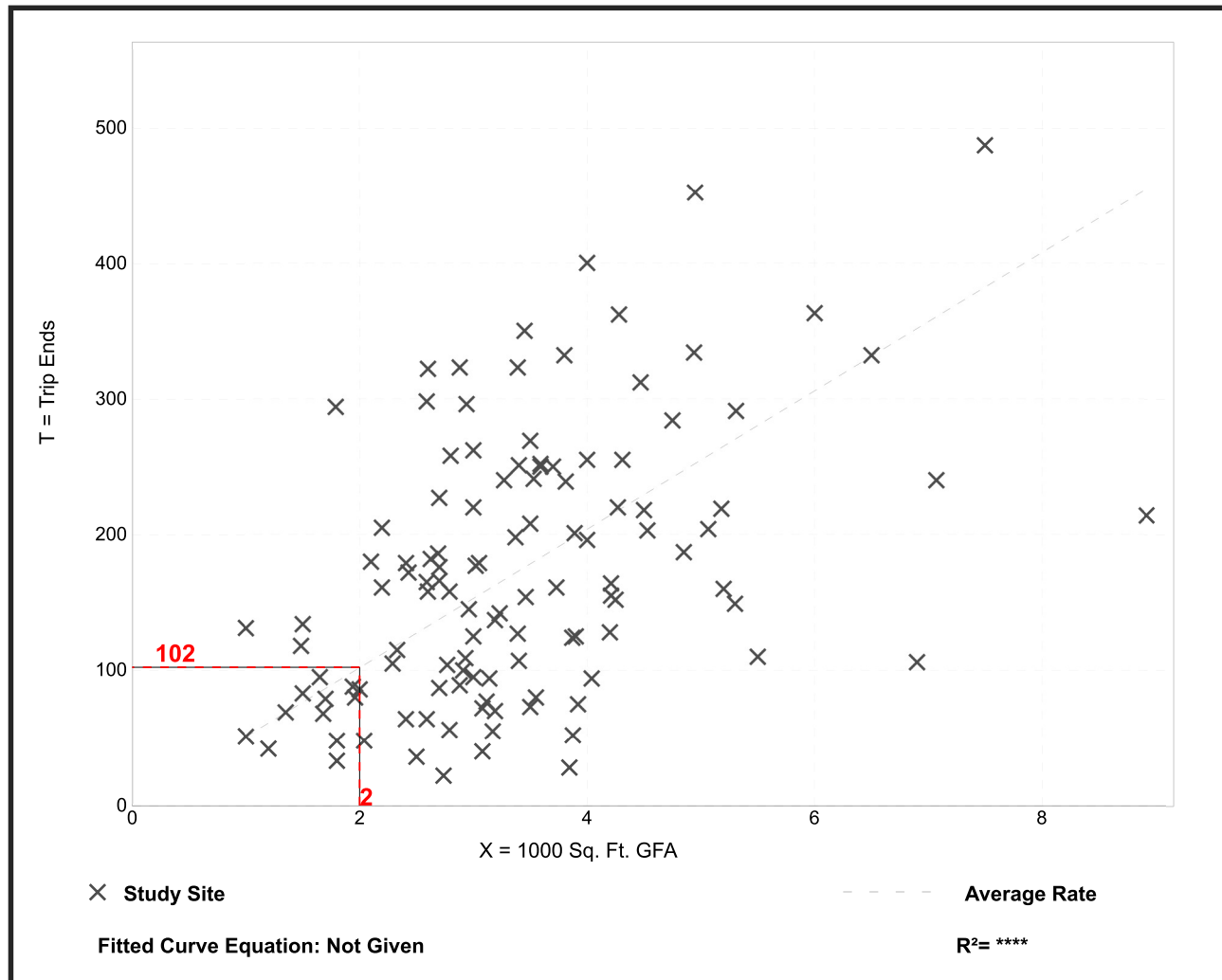
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 117
 Avg. 1000 Sq. Ft. GFA: 3
 Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.97	7.28 - 164.25	26.22

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Fast-Food Restaurant with Drive-Through Window (934)

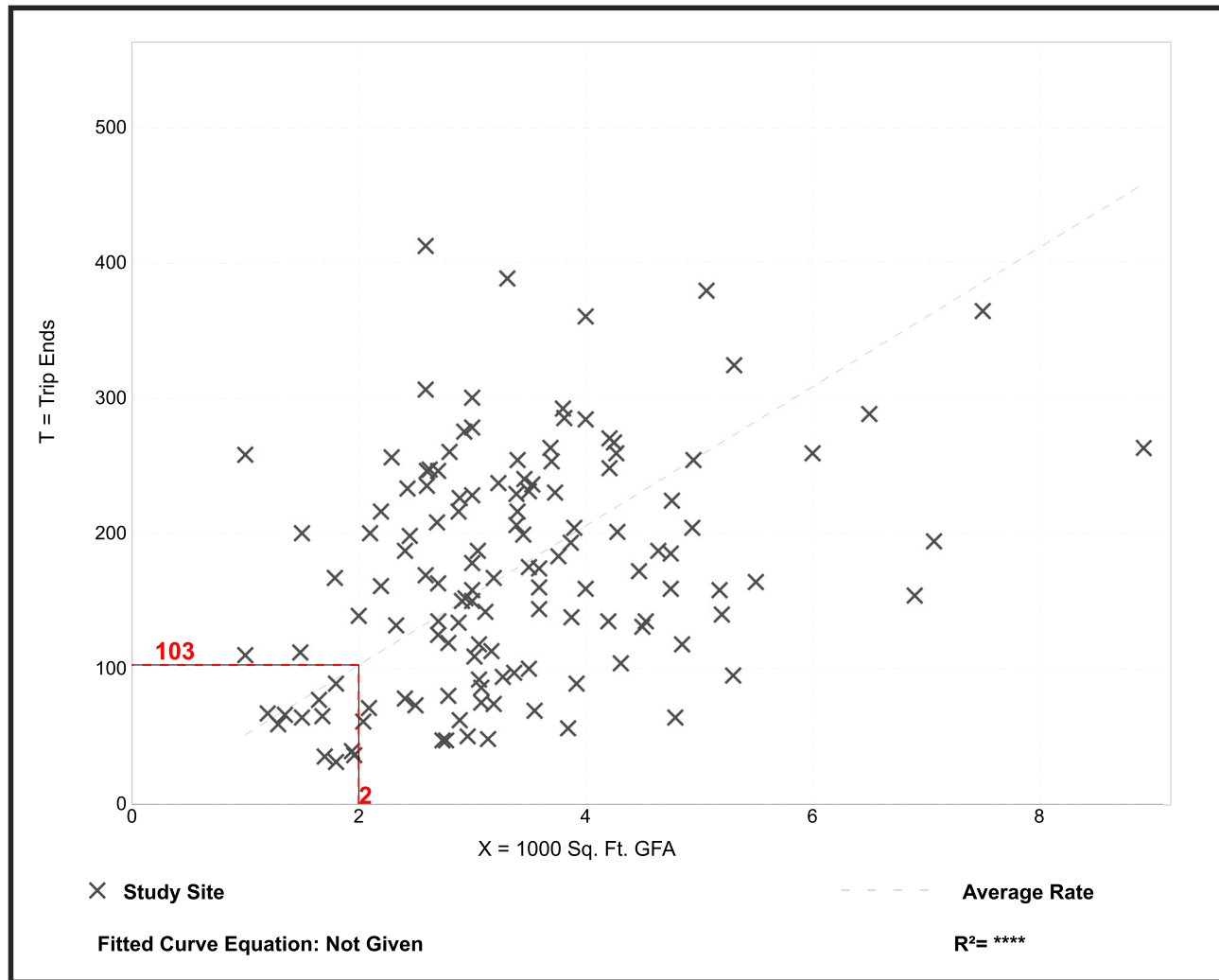
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 132
 Avg. 1000 Sq. Ft. GFA: 3
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
51.36	13.36 - 258.00	27.47

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

New York State Department of Transportation Roadway Traffic Count Hourly Report

STATION: 621025

ROUTE/ROAD: BROADWAY	FROM: PENNA AVE	TO: ELMIRA CTY LN	REGION-COUNTY: 6-CHEMUNG
FED DIR CODE: 1, 5	REF. MARKER:	FUNC. CLASS: 16 - U Minor Arterial	MUNI: Southport-Town-0791
ST DIR CODE: 7	END MILEPOST: 1.08	FACTOR GROUP: 40	BIN:
DOT ID: 168795	LANES BY DIR: 1 North 1 South	CC STN:	RR CROSSING:
BEGIN DATE: 11/18/2014	WEEK OF YEAR: 46	ADDL DATA: CLS SPD	HPMS SAMPLE: 3008296
NOTES 1: South	PLACEMENT: .06mi N of Haskell St	JURISDICTION: 02-County	1 WAY CODE:
NOTES 2:			COUNT TYPE: Vehicle
TAKEN BY: TTG-ZAP	PROCESSED BY: DOT-SJW	BATCH ID: DOT-SJWR6ww47	SPEED LIMIT: 30

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR
11/18, Tue												337	358	376	582	579	602	528	377	272	209	149	106	51	4526		
11/19, Wed	23	9	6	10	22	65	170	475	401	297	336	393	442	511	407	534	602	484	353	227	192	99	86	47	6191	602	16-17
11/20, Thu	14	7	11	12	22	65	191	501	439	311	421	418	433	422	517	527	578	590	361	265	189	149	89	48	6580	590	17-18
11/21, Fri	21	10	8	10	18	57	184	514	452	317	390														1981		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																											
	19	9	8	11	21	62	182	497	431	308	382	383	411	436	502	547	594	534	364	255	197	132	94	49	6426		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY				ESTIMATED AADT				
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
3	72	3	72	594	9.2	295	8.6	315	10.5	6764	3607	3157

FACTOR										
Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl	
11	0.95			1.00	1.00	1.00	1.00		1.00	

New York State Department of Transportation

STATION: 621025

NB Traffic Count Hourly Report

ROUTE/ROAD: BROADWAY	FROM: PENNA AVE	TO: ELMIRA CTY LN	REGION-COUNTY: 6-CHEMUNG
FED DIR CODE: 1	REF. MARKER:	FUNC. CLASS: 16 - U Minor Arterial	MUNI: Southport-Town-0791
ST DIR CODE: 7	END MILEPOST: 1.08	FACTOR GROUP: 40	BIN:
DOT ID: 168795	LANES BY DIR: 1 North	CC STN:	RR CROSSING:
BEGIN DATE: 11/18/2014	WEEK OF YEAR: 46	ADDL DATA: CLS SPD	HPMS SAMPLE: 3008296
NOTES 1: South	PLACEMENT: .06mi N of Haskell St	JURISDICTION: 02-County	1 WAY CODE:
NOTES 2:			COUNT TYPE: Vehicle
TAKEN BY: TTG-ZAP	PROCESSED BY: DOT-SJW	BATCH ID: DOT-SJWR6ww47	SPEED LIMIT: 30

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR	
11/18, Tue												172	182	211	304	292	278	252	182	138	109	88	59	27	2294			
11/19, Wed	7	2	3	5	12	37	113	290	256	163	191	201	239	271	217	287	292	250	152	109	96	45	43	25	3306	292	16-17	
11/20, Thu	7	3	7	7	12	38	136	287	255	165	231	237	259	236	253	260	266	283	186	135	79	85	56	20	3503	287	07-08	
11/21, Fri	8	4	5	6	9	37	116	309	279	191	212														1176			
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																												
	7	3	5	6	11	37	122	295	263	173	211	203	227	239	258	280	279	262	173	127	95	73	53	24	AWDT	3426		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY				ESTIMATED AADT				
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
3	72	3	72	594	9.2	295	8.6	315	10.5	6764	3607	3157

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
11	0.95			1.00	1.00	1.00	1.00		1.00

New York State Department of Transportation

STATION: 621025

SB Traffic Count Hourly Report

ROUTE/ROAD: BROADWAY	FROM: PENNA AVE	TO: ELMIRA CTY LN	REGION-COUNTY: 6-CHEMUNG
FED DIR CODE: 5	REF. MARKER:	FUNC. CLASS: 16 - U Minor Arterial	MUNI: Southport-Town-0791
ST DIR CODE: 7	END MILEPOST: 1.08	FACTOR GROUP: 40	BIN:
DOT ID: 168795	LANES BY DIR: 1 South	CC STN:	RR CROSSING:
BEGIN DATE: 11/18/2014	WEEK OF YEAR: 46	ADDL DATA: CLS SPD	HPMS SAMPLE: 3008296
NOTES 1: South	PLACEMENT: .06mi N of Haskell St	JURISDICTION: 02-County	1 WAY CODE:
NOTES 2:			COUNT TYPE: Vehicle
TAKEN BY: TTG-ZAP	PROCESSED BY: DOT-SJW	BATCH ID: DOT-SJWR6ww47	SPEED LIMIT: 30

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR	
11/18, Tue												165	176	165	278	287	324	276	195	134	100	61	47	24	2232			
11/19, Wed	16	7	3	5	10	28	57	185	145	134	145	192	203	240	190	247	310	234	201	118	96	54	43	22	2885	310	16-17	
11/20, Thu	7	4	4	5	10	27	55	214	184	146	190	181	174	186	264	267	312	307	175	130	110	64	33	28	3077	312	16-17	
11/21, Fri	13	6	3	4	9	20	68	205	173	126	178														805			
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																												
	12	6	3	5	10	25	60	201	167	135	171	179	184	197	244	267	315	272	190	127	102	60	41	25	AWDT	3000		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY				ESTIMATED AADT				
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
3	72	3	72	594	9.2	295	8.6	315	10.5	6764	3607	3157

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
11	0.95			1.00	1.00	1.00	1.00		1.00

New York State Department of Transportation Roadway Traffic Count Hourly Report

STATION: 628270

ROUTE/ROAD: BROADWAY	FROM: SR 328	TO: PENNA AVE	REGION-COUNTY: 6-CHEMUNG
FED DIR CODE: 1, 5	REF. MARKER:	FUNC. CLASS: 16 - U Minor Arterial	MUNI: Southport-Town-0791
ST DIR CODE: 1, 2	END MILEPOST: .05	FACTOR GROUP: 30	BIN:
DOT ID: 168795	LANES BY DIR: 3 North 2 South	CC STN:	RR CROSSING:
BEGIN DATE: 7/15/2013	WEEK OF YEAR: 28	ADDL DATA:	HPMS SAMPLE:
NOTES 1: .1 mile S of Pennsylvania	PLACEMENT: .1 mile S of Pennsylvania	JURISDICTION: 02-County	1 WAY CODE:
NOTES 2:			COUNT TYPE: Axle
TAKEN BY: TTG-DKS	PROCESSED BY: R06-ajg	BATCH ID: DOT-R06CWW29	SPEED LIMIT:

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY HIGH TOTAL COUNT	HIGH COUNT	HIGH HOUR
7/15, Mon																590	679	605	443	429	349	209	114	58	3476		
7/16, Tue	35	17	11	8	12	98	277	503	471	406	398	509	604	555	555	638	690	666	500	413	370	290	117	74	8217	690	16-17
7/17, Wed	32	26	10	10	23	89	283	532	466	414	486	564	617	558	543	596	649	655	499	468	351	236	144	69	8320	655	17-18
7/18, Thu	33	9	25	11	19	101	280	571	481	409	510	532	657	518											4156		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																											
	33	17	15	9	18	94	274	525	463	401	455	524	613	533	538	596	659	629	471	428	350	240	123	66	8075		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY						ESTIMATED AADT		
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
3	71	3	71	659	8.2	288	7.9	376	8.5	7679	3463	4216

FACTOR

Month	Seasonal	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Axl
7	1.05		1.00	1.00	1.00	1.00			0.98

New York State Department of Transportation

STATION: 628270

NB Traffic Count Hourly Report

ROUTE/ROAD: BROADWAY	FROM: SR 328	TO: PENNA AVE	REGION-COUNTY: 6-CHEMUNG
FED DIR CODE: 1	REF. MARKER:	FUNC. CLASS: 16 - U Minor Arterial	MUNI: Southport-Town-0791
ST DIR CODE: 1, 2	END MILEPOST: .05	FACTOR GROUP: 30	BIN:
DOT ID: 168795	LANES BY DIR: 3 North	CC STN:	RR CROSSING:
BEGIN DATE: 7/15/2013	WEEK OF YEAR: 28	ADDL DATA:	HPMS SAMPLE:
NOTES 1: .1 mile S of Pennsylvania	PLACEMENT: .1 mile S of Pennsylvania	JURISDICTION: 02-County	1 WAY CODE:
NOTES 2:			COUNT TYPE: Axle
TAKEN BY: TTG-DKS	PROCESSED BY: R06-ajg	BATCH ID: DOT-R06CWW29	SPEED LIMIT:

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY TOTAL	HIGH COUNT	HIGH HOUR		
7/15, Mon																269	279	285	213	160	166	96	45	20	1533				
7/16, Tue	11	9	5	2	4	31	101	242	220	197	205	237	304	264	252	269	315	279	267	162	148	118	49	12	3703	315	16-17		
7/17, Wed	14	14	4	4	10	30	96	262	208	200	238	274	258	218	269	261	272	313	208	198	132	100	58	25	3666	313	17-18		
7/18, Thu	17	5	18	4	7	38	96	285	232	191	255	261	320	255													1984		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																													
	14	9	9	3	7	32	96	258	216	192	228	252	288	241	255	261	283	286	225	170	146	103	50	19	AWDT	3641			

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY				ESTIMATED AADT				
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
3	71	3	71	659	8.2	288	7.9	376	8.5	7679	3463	4216

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7	1.05		1.00	1.00	1.00	1.00			0.98

New York State Department of Transportation

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SB Traffic Count Hourly Report

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NOTES 2:			COUNT TYPE: Axle
TAKEN BY: TTG-DKS	PROCESSED BY: R06-ajg	BATCH ID: DOT-R06CWW29	SPEED LIMIT:

DATE	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	DAILY HIGH	HIGH	HIGH
																								TOTAL	COUNT	HOUR	
7/15, Mon																321	400	320	230	269	183	113	69	38	1943		
7/16, Tue	24	8	6	6	8	67	176	261	251	209	193	272	300	291	303	369	375	387	233	251	222	172	68	62	4514	387	17-18
7/17, Wed	18	12	6	6	13	59	187	270	258	214	248	290	359	340	274	335	377	342	291	270	219	136	86	44	4654	377	16-17
7/18, Thu	16	4	7	7	12	63	184	286	249	218	255	271	337	263											2172		
AVERAGE WEEKDAY HOURS (Axle Factored, Mon 6 AM to Fri Noon)																											
	19	8	6	6	11	62	179	267	248	209	227	272	325	292	283	335	376	343	246	258	204	138	73	47	4433		

DAYS Counted	HOURS Counted	WEEKDAYS Counted	WEEKDAY Hours	AVERAGE WEEKDAY				ESTIMATED AADT				
				Roadway High Hour	% of day	North High Hour	% of day	South High Hour	% of day	Roadway	North	South
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