

Appendix

ConnDOT Traffic Counts

Status: OK

West Combined East Class Speed

TORR-252 - Combined - e/w

Route 4 - 25.68 mi West of Route 183

	27-Jul	28-Jul	29-Jul	30-Jul
	Tue	Wed	Thu	Fri
Town.....Torrington				
Station.....252				
Location..... 41.799975,-73.087585	12:00am	37	36	42
Posted Speed Limit.....40 MPH	01:00am	15	10	23
A.K.A.....252 2252	02:00am	13	12	16
2015-Principal Arterial - Other 3...2015-Urban	03:00am	19	19	18
HPMS Section ID.....	04:00am	65	72	58
Start Report.....27-Jul-2021 12:00PM	05:00am	172	173	174
End Report.....30-Jul-2021 09:00AM	06:00am	346	355	327
24-Hour Count..... 9026 * G4(0.95) = 8574.7	07:00am	479	516	471
Day 1.....+ 9407 * G4(0.95) = 17511.3	08:00am	569	543	576
Day 2.....+ 8582 * G4(0.95) = 25664.3	09:00am	503	477	x
UnRounded AADT.....25664.3 / 3 = 8554.8	10:00am	511	505	
OK 2021 Tue 27-Jul -this report-.....8600	11:00am	x	531	517
OK 2012 Mon 07-May9400	12:00pm	578	612	417
OK 2009 Thu 22-Jan10200	01:00pm	615	600	562
OK 2006 Thu 25-May11100	02:00pm	587	644	597
	03:00pm	765	753	725
	04:00pm	821	788	695
	05:00pm	795	819	706
	06:00pm	671	585	576
	07:00pm	254	507	401
	08:00pm	310	369	294
	09:00pm	219	249	202
	10:00pm	93	146	101
	11:00pm	58	75	71
Totals	5766	9407	8582	1705

Status: OK West Combined East Class Speed

TORR-252 - West

Route 4 - 25.68 mi West of Route 183

	27-Jul	28-Jul	29-Jul	30-Jul
	Tue	Wed	Thu	Fri
Town.....Torrington				
Station.....252				
Location..... 41.799975,-73.087585	12:00am	28	26	24
Posted Speed Limit.....40 MPH	01:00am	7	8	10
A.K.A.....252 2252	02:00am	4	6	11
2015-Principal Arterial - Other 3...2015-Urban	03:00am	9	6	7
HPMS Section ID.....	04:00am	26	28	24
Start Report.....27-Jul-2021 12:00PM	05:00am	65	77	67
End Report.....30-Jul-2021 09:00AM	06:00am	147	165	139
<i>UnRounded AADT..... 4905</i>	07:00am	255	276	257
24-Hour Count..... 4905 * G4(0.95) = 4659.8	08:00am	323	292	306
Day 1.....+ 5068 * G4(0.95) = 9474.3	09:00am	252	251	x
Day 2.....+ 4746 * G4(0.95) = 13983.0	10:00am	291	265	
UnRounded AADT.....13983.0 / 3 = 4661.0	11:00am	x	270	284
OK 2021 Tue 27-Jul -this report-.....8600	12:00pm	314	324	277
OK 2012 Mon 07-May9400	01:00pm	337	302	309
OK 2009 Thu 22-Jan10200	02:00pm	334	375	330
OK 2006 Thu 25-May11100	03:00pm	429	436	408
	04:00pm	472	443	442
	05:00pm	422	460	395
	06:00pm	377	309	312
	07:00pm	150	287	218
	08:00pm	181	191	161
	09:00pm	129	144	108
	10:00pm	50	79	57
	11:00pm	33	41	45
	Totals	3228	5068	4746
				845

Status: OK West Combined East Class Speed

TORR-252 - East

Route 4 - 25.68 mi West of Route 183

	27-Jul	28-Jul	29-Jul	30-Jul
	Tue	Wed	Thu	Fri
Town.....Torrington				
Station.....252				
Location..... 41.799975,-73.087585	12:00am	9	10	18
Posted Speed Limit.....40 MPH	01:00am	8	2	13
A.K.A.....252 2252	02:00am	9	6	5
2015-Principal Arterial - Other 3...2015-Urban	03:00am	10	13	11
HPMS Section ID.....	04:00am	39	44	34
Start Report.....27-Jul-2021 12:00PM	05:00am	107	96	107
End Report.....30-Jul-2021 09:00AM	06:00am	199	190	188
24-Hour Count..... 4121 * G4(0.95) = 3914.9	07:00am	224	240	214
Day 1.....+ 4339 * G4(0.95) = 8037.0	08:00am	246	251	270
Day 2.....+ 3836 * G4(0.95) = 11681.2	09:00am	251	226	x
UnRounded AADT.....11681.2 / 3 = 3893.7	10:00am	220	240	
OK 2021 Tue 27-Jul -this report-.....8600	11:00am	x	261	233
OK 2012 Mon 07-May9400	12:00pm	264	288	140
OK 2009 Thu 22-Jan10200	01:00pm	278	298	253
OK 2006 Thu 25-May11100	02:00pm	253	269	267
	03:00pm	336	317	317
	04:00pm	349	345	253
	05:00pm	373	359	311
	06:00pm	294	276	264
	07:00pm	104	220	183
	08:00pm	129	178	133
	09:00pm	90	105	94
	10:00pm	43	67	44
	11:00pm	25	34	26
Totals	2538	4339	3836	860

Manual Turning Movement Counts

Route 4 at Circle Drive

Existing C-Store

F.A. Hesketh & Associates, Inc.

6 Creamery Brook

Route 4 (New Harwinton Road)
at Circle Drive
Torrington, CT
Job No.21120

East Granby, CT 06026

PH: (860) 653-8000 Fax: (860) 844-8600

File Name : AM Count
Site Code : 12121212
Start Date : 7/27/2021
Page No : 1

Groups Printed- Unshifted

Start Time	Circle Drive From North			Route 4 From East				Commercial Drive From South				Route 4 From West				Int. Total
	Right	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Factor	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	2	3	5	0	49	0	49	0	0	0	0	0	44	1	45	99
07:15 AM	6	4	10	1	43	0	44	0	0	0	0	0	67	1	68	122
07:30 AM	8	1	9	2	79	0	81	0	0	0	0	0	64	2	66	156
07:45 AM	7	3	10	0	106	0	106	0	0	0	0	2	73	1	76	192
Total	23	11	34	3	277	0	280	0	0	0	0	2	248	5	255	569
08:00 AM	5	8	13	2	60	1	63	0	0	0	0	1	66	1	68	144
08:15 AM	8	4	12	2	80	1	83	3	0	0	3	0	44	1	45	143
08:30 AM	9	2	11	1	80	1	82	0	0	0	0	0	69	3	72	165
08:45 AM	6	0	6	0	70	0	70	0	0	0	0	1	53	1	55	131
Total	28	14	42	5	290	3	298	3	0	0	3	2	232	6	240	583
Grand Total	51	25	76	8	567	3	578	3	0	0	3	4	480	11	495	1152
Apprch %	67.1	32.9		1.4	98.1	0.5		100.0	0.0	0.0		0.8	97.0	2.2		
Total %	4.4	2.2	6.6	0.7	49.2	0.3	50.2	0.3	0.0	0.0	0.3	0.3	41.7	1.0	43.0	

Start Time	Circle Drive From North			Route 4 From East				Commercial Drive From South				Route 4 From West				Int. Total
	Right	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																
Intersection	07:45 AM															
Volume	29	17	46	5	326	3	334	3	0	0	3	3	252	6	261	644
Percent	63.0	37.0		1.5	97.6	0.9		100.0	0.0	0.0		1.1	96.6	2.3		
07:45	7	3	10	0	106	0	106	0	0	0	0	2	73	1	76	192
Peak Factor																0.839
High Int.	08:00 AM			07:45 AM				08:15 AM				07:45 AM				
Volume	5	8	13	0	106	0	106	3	0	0	3	2	73	1	76	
Peak Factor	0.885			0.788				0.250				0.859				
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																
By Approach	07:45 AM			07:45 AM				07:30 AM				07:15 AM				
Volume	29	17	46	5	326	3	334	3	0	0	3	3	270	5	278	
Percent	63.0	37.0		1.5	97.6	0.9		100.0	0.0	0.0		1.1	97.1	1.8		
High Int.	08:00 AM			07:45 AM				08:15 AM				07:45 AM				
Volume	5	8	13	0	106	0	106	3	0	0	3	2	73	1	76	
Peak Factor	0.885			0.788				0.250				0.914				

F.A. Hesketh & Associates, Inc.

6 Creamery Brook

Route 4 (New Harwinton Road)
at Circle Drive
Torrington, CT
Job No.20120

East Granby, CT 06026
PH: (860) 653-8000 Fax: (860) 844-8600

File Name : PM COUNT
Site Code : 34343434
Start Date : 7/27/2021
Page No : 1

Groups Printed- Unshifted

Start Time	Circle Drive From North				Route 4 From East				Commerical drive From South				Route 4 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	5	0	4	9	7	93	1	101	0	0	0	0	0	94	5	99	209
04:15 PM	5	0	4	9	8	93	1	102	0	0	1	1	0	88	4	92	204
04:30 PM	5	0	4	9	4	122	0	126	1	0	0	1	2	110	7	119	255
04:45 PM	9	0	3	12	4	111	0	115	0	0	1	1	2	95	4	101	229
Total	24	0	15	39	23	419	2	444	1	0	2	3	4	387	20	411	897
05:00 PM	3	0	1	4	3	89	1	93	0	0	1	1	0	119	7	126	224
05:15 PM	3	0	5	8	5	118	0	123	1	0	1	2	0	101	2	103	236
05:30 PM	10	0	8	18	4	98	0	102	0	0	0	0	0	81	9	90	210
05:45 PM	2	0	6	8	3	74	0	77	0	0	1	1	0	81	5	86	172
Total	18	0	20	38	15	379	1	395	1	0	3	4	0	382	23	405	842
Grand Total	42	0	35	77	38	798	3	839	2	0	5	7	4	769	43	816	1739
Apprch %	54.5	0.0	45.5		4.5	95.1	0.4		28.6	0.0	71.4		0.5	94.2	5.3		
Total %	2.4	0.0	2.0	4.4	2.2	45.9	0.2	48.2	0.1	0.0	0.3	0.4	0.2	44.2	2.5	46.9	

Start Time	Circle Drive From North				Route 4 From East				Commerical drive From South				Route 4 From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	20	0	13	33	16	440	1	457	2	0	3	5	4	425	20	449	944
Percent	60.6	0.0	39.4		3.5	96.3	0.2		40.0	0.0	60.0		0.9	94.7	4.5		
04:30																	
Volume	5	0	4	9	4	122	0	126	1	0	0	1	2	110	7	119	255
Peak Factor																	0.925
High Int.	04:45 PM				04:30 PM				05:15 PM				05:00 PM				
Volume	9	0	3	12	4	122	0	126	1	0	1	2	0	119	7	126	
Peak Factor	0.688				0.907				0.625				0.891				
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
By Approach	04:45 PM				04:30 PM				04:30 PM				04:30 PM				
Volume	25	0	17	42	16	440	1	457	2	0	3	5	4	425	20	449	
Percent	59.5	0.0	40.5		3.5	96.3	0.2		40.0	0.0	60.0		0.9	94.7	4.5		
High Int.	05:30 PM				04:30 PM				05:15 PM				05:00 PM				
Volume	10	0	8	18	4	122	0	126	1	0	1	2	0	119	7	126	
Peak Factor	0.583				0.907				0.625				0.891				

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6 Creamery Brook

East Granby, CT 06026

PH: (860) 653-8000 Fax: (860) 844-8600

Route 4 (New Harwinton Rd)
at Circle Drive
Torrington, CT
Job No. 21120

File Name : SAT COUNT

Site Code : 00767676

Start Date : 7/24/2021

Page No : 1

Groups Printed- Unshifted

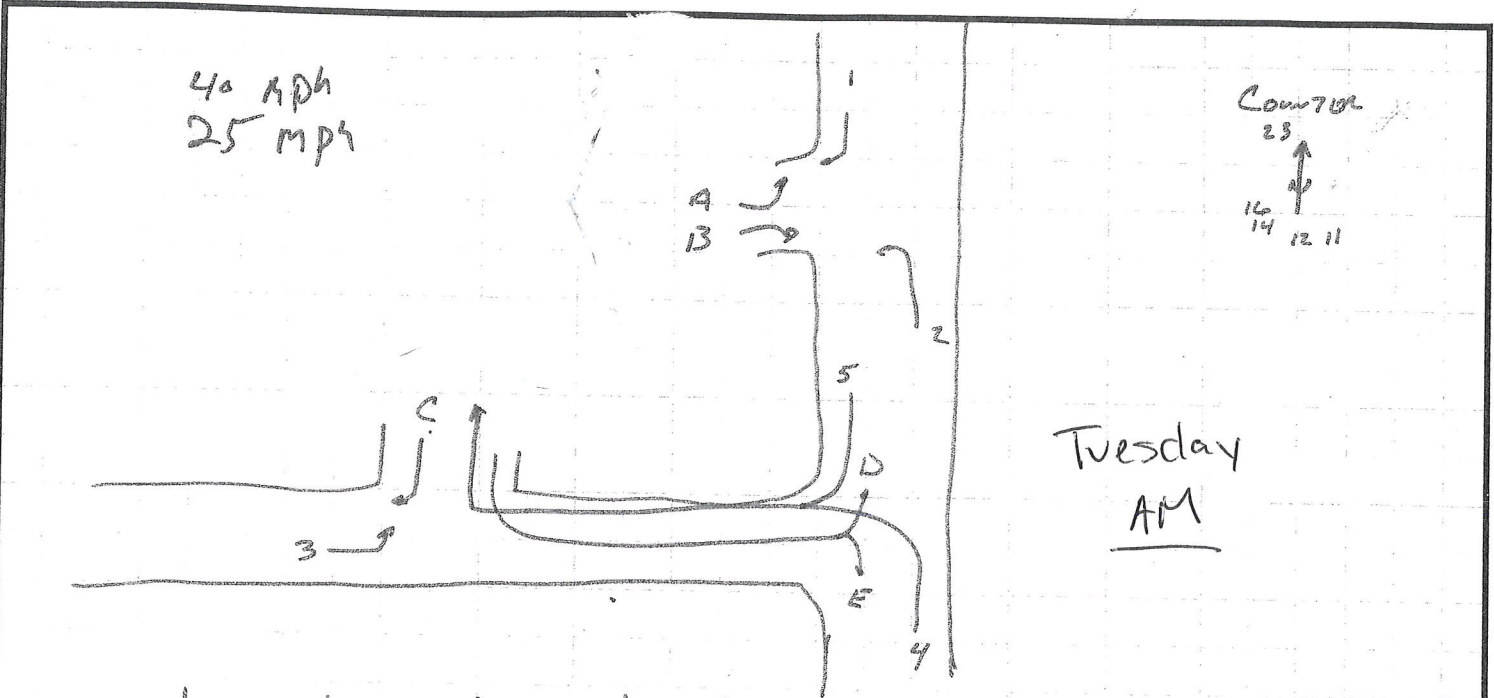
Start Time	Circle Drive From North			From South <i>EAST</i>			Route 4 From West			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Factor	1.0	1.0		1.0	1.0		1.0	1.0		
11:00 AM	12	2	14	4	92	96	92	8	100	210
11:15 AM	9	10	19	5	98	103	83	6	89	211
11:30 AM	7	2	9	8	108	116	98	2	100	225
11:45 AM	4	1	5	7	104	111	88	0	88	204
Total	32	15	47	24	402	426	361	16	377	850
12:00 PM	12	2	14	3	82	85	86	4	90	189
12:15 PM	5	4	9	4	80	84	93	8	101	194
12:30 PM	8	4	12	7	77	84	81	5	86	182
12:45 PM	10	8	18	4	110	114	79	4	83	215
Total	35	18	53	18	349	367	339	21	360	780
Grand Total	67	33	100	42	751	793	700	37	737	1630
Apprch %	67.0	33.0		5.3	94.7		95.0	5.0		
Total %	4.1	2.0	6.1	2.6	46.1	48.7	42.9	2.3	45.2	

Start Time	Circle Drive From North			From South			Route 4 From West			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour From 11:00 AM to 12:45 PM - Peak 1 of 1										
Intersection	11:00 AM									
Volume	32	15	47	24	402	426	361	16	377	850
Percent	68.1	31.9		5.6	94.4		95.8	4.2		
11:30 Volume	7	2	9	8	108	116	98	2	100	225
Peak Factor										0.944
High Int.	11:15 AM			11:30 AM			11:00 AM			
Volume	9	10	19	8	108	116	92	8	100	
Peak Factor			0.618			0.918			0.943	
Peak Hour From 11:00 AM to 12:45 PM - Peak 1 of 1										
By Approach	12:00 PM			11:00 AM			11:30 AM			
Volume	35	18	53	24	402	426	365	14	379	
Percent	66.0	34.0		5.6	94.4		96.3	3.7		
High Int.	12:45 PM			11:30 AM			12:15 PM			
Volume	10	8	18	8	108	116	93	8	101	
Peak Factor			0.736			0.918			0.938	



F.A. Hesketh & Associates, Inc.
 3 Creamery Brook
 East Granby, CT 06026

Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects



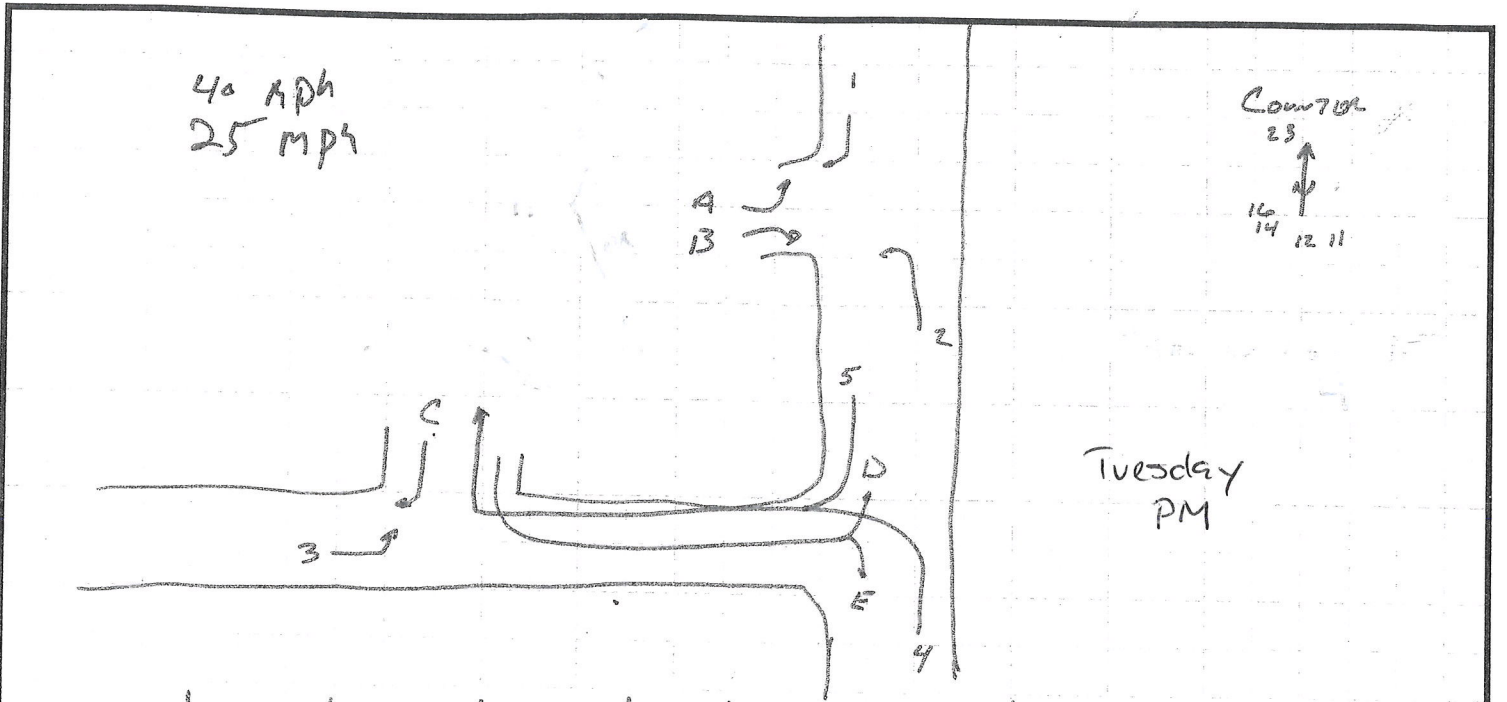
TIME	1	2	3	4	5	A	B	C	D	E	T
7:00											6/8
7:15											4/6
7:30											4/3
7:45											2/3
8:00											5/4
8:15											1/5
8:30											5/4
8:45											4/5
7-8:00	6	7	1	2	0	11	1	1	3	4	16/20
	13	2	0	0	0	2	1	0	3	12	15/20



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 East Granby, CT 06026

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JOB SAN'S TORUN HW
 SHEET NO. _____ OF _____
 CALCULATED BY _____ DATE _____
 CHECKED BY _____ DATE _____
 SCALE _____



TIME	1	2	3	4	5	A	B	C	D	E	T
4:00											6/7 ¹³
4:15											8/7 ¹⁵
4:30											9/8 ¹⁷
4:45											6/6 ¹²
5:00											6/3 ⁹
5:15											4/4 ⁸
5:30											10/9 ¹⁶
5:45											5/4 ⁹
	17	11	0	1	0	12	4	0	1	11	29/28
	14	10	1	0	0	7	3	0	3	7	25/20



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 East Granby, CT 06026

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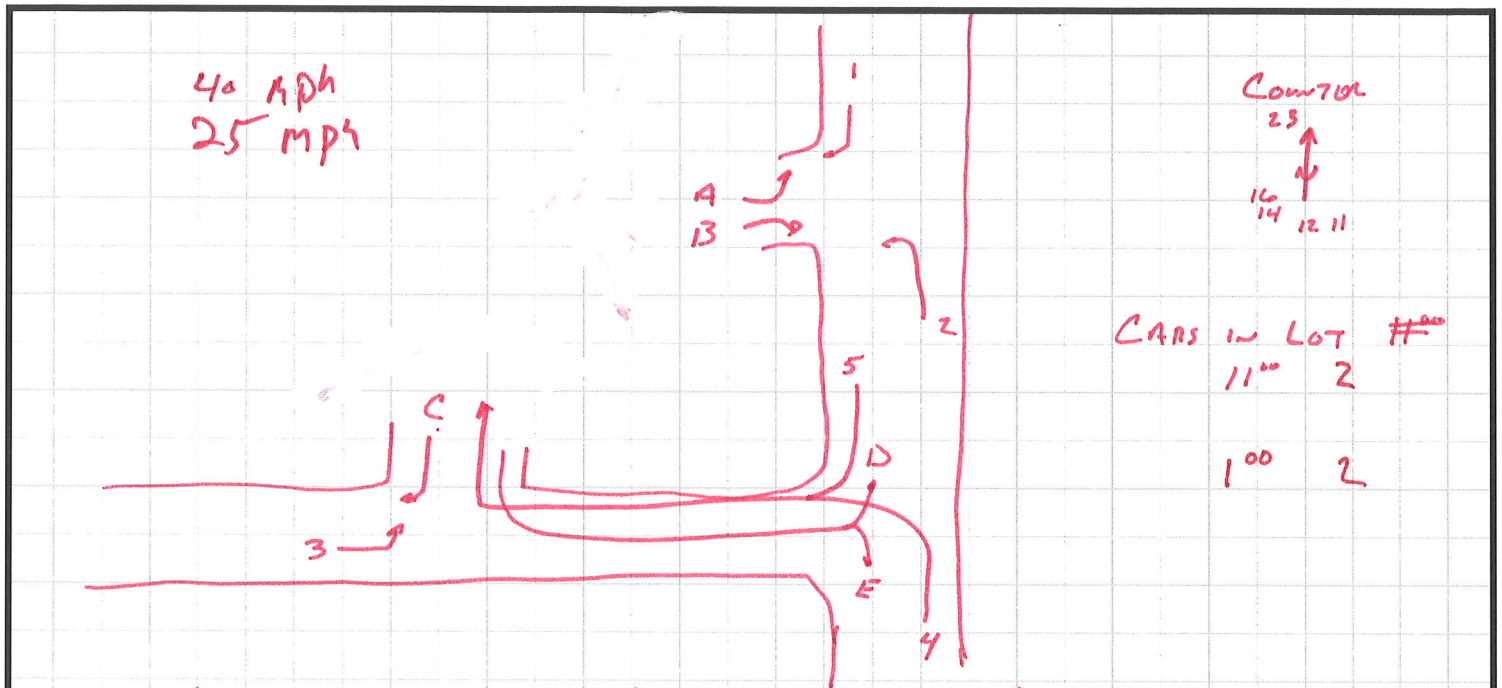
JOB SAM's Toran Tu

SHEET NO. 11⁰⁰ - 1⁰⁰ OF 767676

CALCULATED BY SATURDAY DATE 7/24/21

CHECKED BY _____ DATE S.F.H.

SCALE _____



	1	2	3	4	5	A	B	C	D	E	T
11											9/9
11 ¹⁵											9/9
11 ²⁰											9/4
11 ⁴⁵											2/4
	15	9	2	2	1	7	3	2	5	8 9	29/26
12											11/11
12 ¹⁵											10/6
12 ³⁰											8/10
12 ⁴⁵											8/11
	18	13	4	2	0	14	3	5	3	13	37/38

ITE Trip Generation Worksheets



Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Data Plot and Equation

DATA STATISTICS

Land Use: Convenience Store (851) [Click for Description and Data Plots](#)

Independent Variable: 1000 Sq. Ft. GFA

Time Period: Weekday

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 8

Avg. 1000 Sq. Ft. GFA: 3

Average Rate: 762.28

Range of Rates: 325.78 - 1438.00

Standard Deviation: 333.89

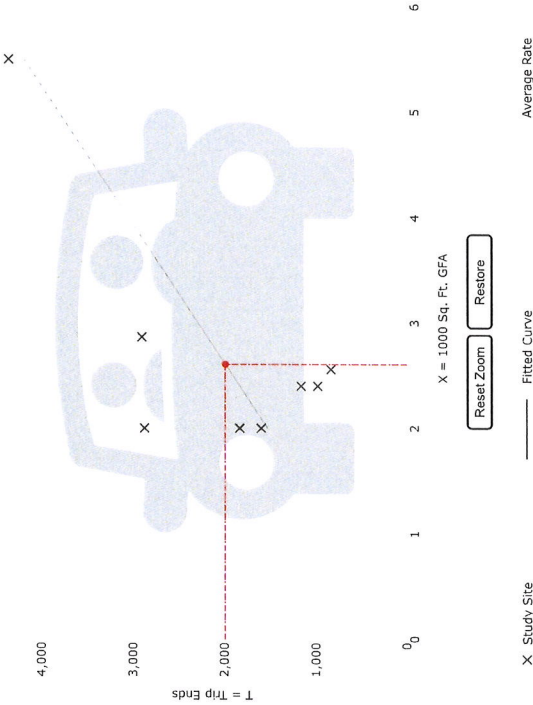
Fitted Curve Equation: $T = 761.44(X) + 2.27$

T^2 : 0.53

Directional Distribution: 50% entering, 50% exiting

Calculated Trip Ends: Average Rate: 1990 (Total), 995 (Entry), 995 (Exit)

Fitted Curve: 1980 (Total), 995 (Entry), 995 (Exit)



Use the mouse wheel to Zoom Out or Zoom In.
 Hover the mouse pointer on data points to view X and T values.

Query Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 851

LAND USE GROUP: (800-899) Retail

LAND USE: 851 - Convenience Store

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GFA

TIME PERIOD: Weekday

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 2.81

Add-ons to do more

Try OTISS Pro



Graph Look Up

ITripGen Web-based App

Graph Look Up

How to Use ITripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Data Plot and Equation

DATA STATISTICS

Land Use:
Convenience Store (851) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
39

Avg. 1000 Sq. Ft. GFA:
3

Average Rate:
82.54

Range of Rates:
12.97 - 139.91

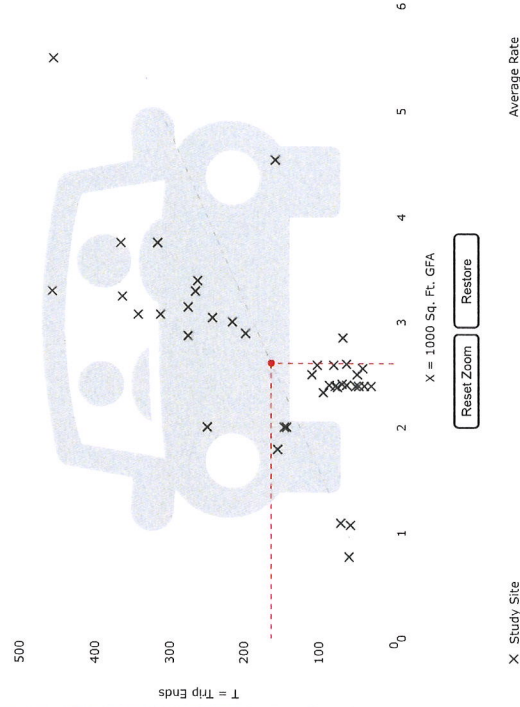
Standard Deviation:
35.04

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 165 (Total), 81 (Entry), 82 (Exit)



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Add-ons to do more

Try OTISS Pro

Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

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Support Documents

Add Users

Comments

Add-ons to do more

Try OTISS Pro

Data Plot and Equation

Land Use:
Convenience Store (851) [Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
39

Avg. 1000 Sq. Ft. GFA:
3

Average Rate:
49.11

Range of Rates:
15.80 - 95.16

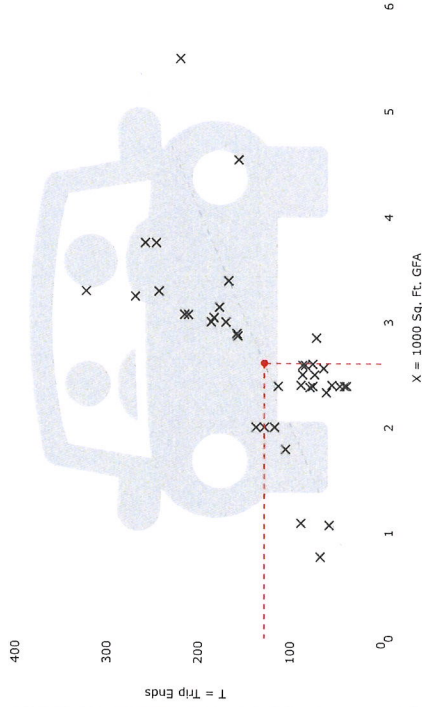
Standard Deviation:
20.84

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
51% entering, 49% exiting

Calculated Trip Ends:
Average Rate: 128 (Total), 65 (Entry), 63 (Exit)



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
851

LAND USE GROUP:
(800-899) Retail

LAND USE:
851 - Convenience Store

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2.61

Calculate

Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Copy Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 851

LAND USE GROUP: (800-899) Retail

LAND USE: 851 - Convenience Store

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GFA

TIME PERIOD: Saturday

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 2.61

Data Plot and Equation

Caution - Small Sample Size

Land Use: Convenience Store (851) [Click for Description and Data Plots](#)

Independent Variable: 1000 Sq. Ft. GFA

Time Period: Saturday

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 3

Avg. 1000 Sq. Ft. GFA: 2

Average Rate: 1084.17

Range of Rates: 732.50 - 1627.00

Standard Deviation: 476.91

Fitted Curve Equation: Not Given

R²:

Directional Distribution: 50% entering, 50% exiting

Calculated Trip Ends: Average Rate: 2630 (Total), 1415 (Entry), 1415 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Actions to do more

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Comments

Query Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 851

LAND USE GROUP: (800-699) Retail

LAND USE: 851 - Convenience Store

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

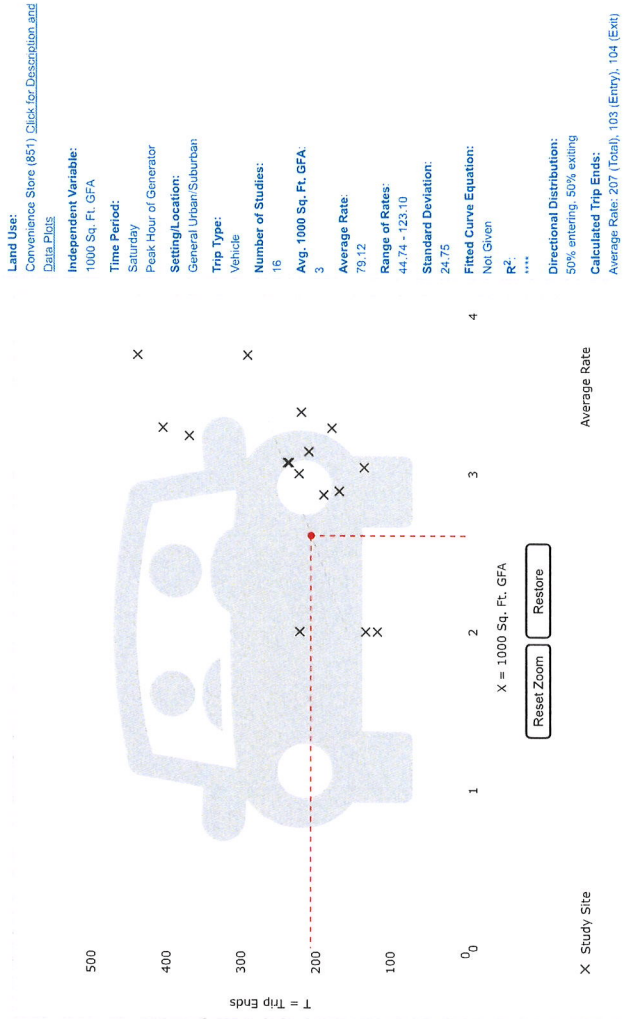
INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GFA

TIME PERIOD: Saturday, Peak Hour of Generator

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 2.61

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Add-ons to do more

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Data Plot and Equation

Land Use:
Convenience Store/Gas Station - GFA (2-4k) (945)
[Click for Description and Data Plots](#)

Independent Variable:
Vehicle Fueling Positions

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
48

Avg. Num. of Vehicle Fueling Positions:
8

Average Rate:
265.12

Range of Rates:
68.50 - 701.00

Standard Deviation:
142.37

Fitted Curve Equation:
 $T = 156.28(X) + 850.23$

R²:
0.52

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 1080 (Total), 530 (Entry), 530 (Exit)

Fitted Curve: 1453 (Total), 741 (Entry), 742 (Exit)

DATA STATISTICS

Land Use:
Convenience Store/Gas Station - GFA (2-4k) (945)
[Click for Description and Data Plots](#)

Independent Variable:
Vehicle Fueling Positions

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
48

Avg. Num. of Vehicle Fueling Positions:
8

Average Rate:
265.12

Range of Rates:
68.50 - 701.00

Standard Deviation:
142.37

Fitted Curve Equation:
 $T = 156.28(X) + 850.23$

R²:
0.52

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 1080 (Total), 530 (Entry), 530 (Exit)

Fitted Curve: 1453 (Total), 741 (Entry), 742 (Exit)

X = Number of Vehicle Fueling Positions

Reset Zoom Restore

_____ Fitted Curve

X Study Site _____ Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Query:

DATA SOURCE:

SEARCH BY LAND USE CODE:

LAND USE GROUP:

LAND USE:

LAND USE SUBCATEGORY:

SETTING/LOCATION:

INDEPENDENT VARIABLE (IV):

TIME PERIOD:

TRIP TYPE:

ENTER IV VALUE TO CALCULATE TRIPS:

Add-ons to do more
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Add Users

Comments

Data Plot and Equation

DATA STATISTICS

Land Use:
Convenience Store/Gas Station - GFA (2-4k) (945)
Click for Description and Data Plots

Independent Variable:
Vehicle Fueling Positions

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
76

Avg. Num. of Vehicle Fueling Positions:
8

Average Rate:
16.06

Range of Rates:
3.75 - 50.00

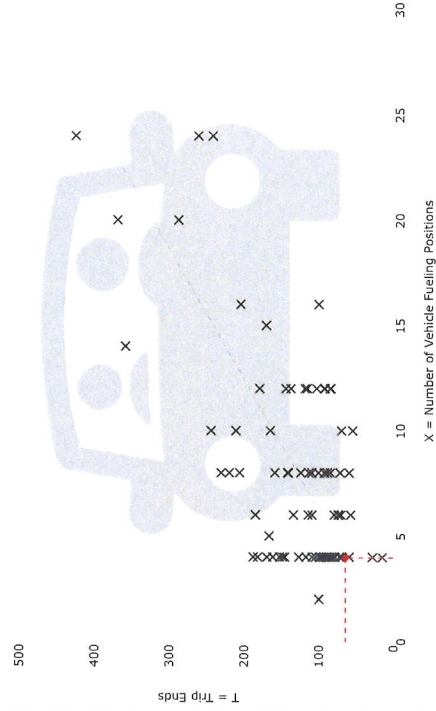
Standard Deviation:
8.79

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 64 (Total), 32 (Entry), 32 (Exit)



Reset Zoom Restore

Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
945

LAND USE GROUP:
(900-999) Services

LAND USE:
945 - Convenience Store/Gas Station

LAND USE SUBCATEGORY:
GFA (2-4k)

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Vehicle Fueling Positions

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
4 Calculate

Add-ons to do more

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Graph Look Up

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Comments

Data Plot and Equation

DATA STATISTICS

Land Use:
 Convenience Store/Gas Station - GFA (2-4k) (945)
 Click for Description and Data Plots

Independent Variable:
 Vehicle Fueling Positions

Time Period:
 Weekday
 Peak Hour of Adjacent Street Traffic
 One Hour Between 4 and 8 p.m.

Setting/Location:
 General Urban/Suburban

Trip Type:
 Vehicle

Number of Studies:
 93

Avg. Num. of Vehicle Fueling Positions:
 8

Average Rate:
 18.42

Range of Rates:
 5.75 - 57.80

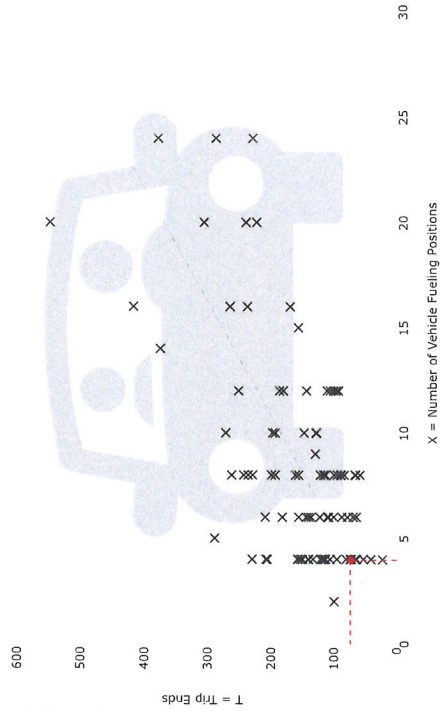
Standard Deviation:
 10.16

Fitted Curve Equation:
 Not Given

R²:

Directional Distribution:
 50% entering, 50% exiting

Calculated Trip Ends:
 Average Rate: 74 (Total), 37 (Entry), 37 (Exit)



Reset Zoom Restore

X Study Site

Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
 Hover the mouse pointer on data points to view X and T values.

Query Filter

DATA SOURCE:
 Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
 945

LAND USE GROUP:
 (900-999) Services

LAND USE:
 945 - Convenience Store/Gas Station

LAND USE SUBCATEGORY:
 GFA (2-4k)

SETTING/LOCATION:
 General Urban/Suburban

INDEPENDENT VARIABLE (IV):
 Vehicle Fueling Positions

TIME PERIOD:
 Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
 Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
 4 Calculate

Add-ons to do more

Try OTISS P/P



Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

App Users

Comments

Data Plot and Equation

Land Use: Convenience Store/Gas Station - VFP (2-8) (945)
 Click for Description and Data Plots

Independent Variable: 1000 Sq. Ft. GFA

Time Period: Weekday

Setting/Location: General Urban/Suburban

Trip Type: Vehicle

Number of Studies: 34

Avg. 1000 Sq. Ft. GFA: 3

Average Rate: 624.20

Range of Rates: 115.13 - 1167.27

Standard Deviation: 283.35

Fitted Curve Equation: Not Given

R²: ...

Directional Distribution: 50% entering, 50% exiting

Calculated Trip Ends: Average Rate: 1629 (Total), 814 (Entry), 815 (Exit)

X Study Site

Reset Zoom Restore

X = 1000 Sq. Ft. GFA

Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
 Hover the mouse pointer on data points to view X and T values.

Admins to do more

Try OTISS Pro



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Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Data Plot and Equation

DATA STATISTICS

Land Use:
Convenience Store/Gas Station - VFP (2-8) (945)
[Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
57

Avg. 1000 Sq. Ft. GFA:
3

Average Rate:
40.59

Range of Rates:
6.30 - 104.76

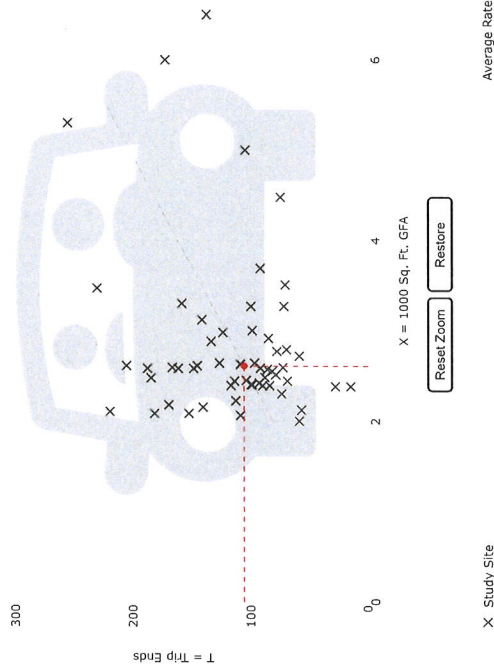
Standard Deviation:
19.18

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 106 (Total), 53 (Entry), 53 (Exit)



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Query Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
945

LAND USE GROUP:
(900-999) Services

LAND USE:
945 - Convenience Store/Gas Station

LAND USE SUBCATEGORY:
VFP (2-8)

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2.61

Add-ons to do more

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Graph Look Up

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Add Users

Comments

Data Plot and Equation

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
945

LAND USE GROUP:
(900-999) Services

LAND USE:
945 - Convenience Store/Gas Station

LAND USE SUBCATEGORY:
VFP (2-8)

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GFA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
2.61

DATA STATISTICS

Land Use:
Convenience Store/Gas Station - VFP (2-8) (945)
[Click for Description and Data Plots](#)

Independent Variable:
1000 Sq. Ft. GFA

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
67

Avg. 1000 Sq. Ft. GFA:
3

Average Rate:
48.48

Range of Rates:
9.66 - 115.71

Standard Deviation:
22.59

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 127 (Total), 63 (Entry), 64 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Add-ons to do more

Try OTISS Pro

Table 5.18
Pass-By Trips and Diverted Linked Trips
Weekday, A.M. Peak Period
Land Use 853—Convenience Market with Gasoline Pumps

SIZE (1,000 SQ. FEET GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PRIMARY TRIP (%)	NON-PASS- BY TRIP (%)	DIVERTED LINKED TRIP (%)	PASS-BY TRIP (%)	ADJ. STREET PEAK HOUR VOLUME	SOURCE
2.8	Louisville area, KY	1993	n/a	7-9 A.M.	11	-	35	54	1,240	Barton-Aschman Assoc.
2.4	Louisville area, KY	1993	n/a	7-9 A.M.	17	-	35	48	1,210	Barton-Aschman Assoc.
4.2	Louisville area, KY	1993	47	7-9 A.M.	19	-	19	62	1,705	Barton-Aschman Assoc.
2.6	Crestwood, KY	1993	n/a	7-9 A.M.	15	-	13	72	940	Barton-Aschman Assoc.
3.7	Louisville area, KY	1993	49	7-9 A.M.	16	-	18	66	990	Barton-Aschman Assoc.
3.0	New Albany, IN	1993	62	7-9 A.M.	10	-	16	74	790	Barton-Aschman Assoc.
2.3	Louisville, KY	1993	58	7-9 A.M.	5	-	31	64	1,255	Barton-Aschman Assoc.
2.2	New Albany, IN	1993	79	7-9 A.M.	6	-	38	56	635	Barton-Aschman Assoc.
3.6	Louisville area, KY	1993	49	7-9 A.M.	4	-	29	67	1,985	Barton-Aschman Assoc.

Average Pass-By Trip Percentage: 63

Table 5.17
Pass-By Trips and Diverted Linked Trips
Weekday, P.M. Peak Period
Land Use 851 — Convenience Market (Open 24 Hours)

SIZE (1,000 SQ. FEET GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PRIMARY TRIP (%)	NON-PASS- BY TRIP (%)	DIVERTED LINKED TRIP (%)	PASS-BY TRIP (%)	ADJ. STREET PEAK HOUR VOLUME	SOURCE
3	Overland Park, KS	Aug. 1987	68	4:30-5:30 P.M.	53	-	13	34	n/a	n/a
3	Overland Park, KS	Jul. 1987	68	4:30-5:30 P.M.	50	-	22	28	n/a	n/a
~1.9	Billings, MT	1987	461	4-6 P.M.	13	-	25	62	n/a	ITE Montana Section Tech Comm
<50.0	Chicago suburbs, IL	1987	72	3-6 P.M.	-	72	-	28	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	54	3-6 P.M.	-	22	-	78	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	34	3-6 P.M.	-	31	-	69	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	100	3-6 P.M.	-	37	-	63	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	43	3-6 P.M.	-	57	-	43	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	135	3-6 P.M.	-	61	-	39	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	74	3-6 P.M.	-	47	-	53	n/a	Kenig, O'Hara, Humes, Flock
<50.0	Chicago suburbs, IL	1987	80	3-6 P.M.	-	36	-	64	n/a	Kenig, O'Hara, Humes, Flock
2.6	Seminole Co., FL	July 1989	82	4-6 P.M.	20	-	7	73	n/a	Tipton Associates, Inc.
2.6	Seminole Co., FL	July 1989	98	4-6 P.M.	15	-	4	81	n/a	Tipton Associates, Inc.
2.6	Seminole Co., FL	July 1989	115	4-6 P.M.	16	-	15	69	n/a	Tipton Associates, Inc.
2.6	Volusia Co., FL	July 1989	98	4-6 P.M.	15	-	11	74	n/a	Tipton Associates, Inc.
2.4	Volusia Co., FL	July 1989	38	4-6 P.M.	24	-	2	74	n/a	Tipton Associates, Inc.
2.6	Volusia Co., FL	July 1989	82	4-6 P.M.	8	-	5	87	n/a	Tipton Associates, Inc.
2.6	Seminole Co., FL	July 1989	98	2-4 P.M.	28	-	8	64	n/a	Tipton Associates, Inc.
2.4	Volusia Co., FL	July 1989	38	2-4 P.M.	21	-	11	68	n/a	Tipton Associates, Inc.

Average Pass-By Trip Percentage: 61

SYNCHRO Capacity Analysis Worksheets
Background Traffic Conditions

HCM Unsignalized Intersection Capacity Analysis

Background Traffic Volumes

3: New Harwinton Rd *AT* *CIRCLE DRIVE*

AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	
Traffic Volume (veh/h)	6	252	326	5	17	29
Future Volume (Veh/h)	6	252	326	5	17	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.79	0.79	0.89	0.89
Hourly flow rate (vph)	7	293	413	6	19	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	419				723	416
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	419				723	416
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	95
cM capacity (veh/h)	1140				391	637

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	300	419	52
Volume Left	7	0	19
Volume Right	0	6	33
cSH	1140	1700	518
Volume to Capacity	0.01	0.25	0.10
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.3	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay		1.0	
Intersection Capacity Utilization		28.1%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
5: Route 4 & Site Dr 1

Background Traffic Volumes
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	7	262	330	6	11	1
Future Volume (Veh/h)	7	262	330	6	11	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.79	0.79	0.75	0.75
Hourly flow rate (vph)	8	305	418	8	15	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	426				743	422
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	426				743	422
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	100
cM capacity (veh/h)	1133				380	632
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	313	426	16			
Volume Left	8	0	15			
Volume Right	0	8	1			
cSH	1133	1700	390			
Volume to Capacity	0.01	0.25	0.04			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.3	0.0	14.6			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	14.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			29.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
7: Site Dr 2 & Circle Drive

Background Traffic Volumes
AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	1	9	2	1	39
Future Volume (Veh/h)	7	1	9	2	1	39
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	9	1	10	2	1	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	57	11			12	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	11			12	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	950	1070			1607	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	10	12	45			
Volume Left	9	0	1			
Volume Right	1	2	0			
cSH	961	1700	1607			
Volume to Capacity	0.01	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.2			
Lane LOS	A		A			
Approach Delay (s)	8.8	0.0	0.2			
Approach LOS	A					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Background Traffic Volumes

3: New Harwinton Rd *At Circle DR*

PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	425	443	16	13	20
Future Volume (Veh/h)	20	425	443	16	13	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.69	0.69
Hourly flow rate (vph)	22	478	487	18	19	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	505			1018	496	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	505			1018	496	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	98			93	95	
cM capacity (veh/h)	1060			257	574	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	500	505	48			
Volume Left	22	0	19			
Volume Right	0	18	29			
cSH	1060	1700	386			
Volume to Capacity	0.02	0.30	0.12			
Queue Length 95th (ft)	2	0	11			
Control Delay (s)	0.6	0.0	15.6			
Lane LOS	A		C			
Approach Delay (s)	0.6	0.0	15.6			
Approach LOS			C			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			48.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
5: Route 4 & Site Dr 1

Background Traffic Volumes
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↗		↙	
Traffic Volume (veh/h)	11	427	655	17	12	4
Future Volume (Veh/h)	11	427	655	17	12	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.75	0.75
Hourly flow rate (vph)	12	480	720	19	16	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	739				1234	730
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739				1234	730
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	867				192	423

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	492	739	21
Volume Left	12	0	16
Volume Right	0	19	5
cSH	867	1700	221
Volume to Capacity	0.01	0.43	0.09
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.4	0.0	23.0
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	23.0
Approach LOS			C

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		45.5%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 7: Site Dr 2 & Circle Drive

Background Traffic Volumes
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			4
Traffic Volume (veh/h)	12	0	35	1	0	21
Future Volume (Veh/h)	12	0	35	1	0	21
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.69	0.69	0.69	0.69
Hourly flow rate (vph)	16	0	51	1	0	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82	52			52	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82	52			52	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	921	1016			1554	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	16	52	30			
Volume Left	16	0	0			
Volume Right	0	1	0			
cSH	921	1700	1554			
Volume to Capacity	0.02	0.03	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: New Harwinton Rd

Background Traffic Volumes
 Saturday Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↗		↙	
Traffic Volume (veh/h)	16	361	402	24	15	32
Future Volume (Veh/h)	16	361	402	24	15	32
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.62	0.62
Hourly flow rate (vph)	17	384	437	26	24	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	463				868	450
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	463				868	450
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				92	91
cM capacity (veh/h)	1098				318	609

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	401	463	76
Volume Left	17	0	24
Volume Right	0	26	52
cSH	1098	1700	472
Volume to Capacity	0.02	0.27	0.16
Queue Length 95th (ft)	1	0	14
Control Delay (s)	0.5	0.0	14.1
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	14.1
Approach LOS			B

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		42.0%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
5: Route 4 & Site Dr 1

Background Traffic Volumes
Saturday Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	13	363	423	18	14	3
Future Volume (Veh/h)	13	363	423	18	14	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	14	386	460	20	19	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	480				884	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480				884	470
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	1082				312	594
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	400	480	23			
Volume Left	14	0	19			
Volume Right	0	20	4			
cSH	1082	1700	340			
Volume to Capacity	0.01	0.28	0.07			
Queue Length 95th (ft)	1	0	5			
Control Delay (s)	0.4	0.0	16.4			
Lane LOS	A		C			
Approach Delay (s)	0.4	0.0	16.4			
Approach LOS			C			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			39.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
7: Site Dr 2 & Circle Drive

Background Traffic Volumes
Saturday Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	5	38	2	4	31
Future Volume (Veh/h)	16	5	38	2	4	31
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.62	0.62	0.62	0.62
Hourly flow rate (vph)	21	7	61	3	6	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124	62			64	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	62			64	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	867	1002			1538	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	28	64	56
Volume Left	21	0	6
Volume Right	7	3	0
cSH	897	1700	1538
Volume to Capacity	0.03	0.04	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.1	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.1	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		15.0%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: New Harwinton Rd

Combined Traffic Volumes
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	275	325	5	55	38
Future Volume (Veh/h)	4	275	325	5	55	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.79	0.79	0.89	0.89
Hourly flow rate (vph)	5	320	411	6	62	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	417				744	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	417				744	414
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				84	93
cM capacity (veh/h)	1142				380	638
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	325	417	105			
Volume Left	5	0	62			
Volume Right	0	6	43			
cSH	1142	1700	456			
Volume to Capacity	0.00	0.25	0.23			
Queue Length 95th (ft)	0	0	22			
Control Delay (s)	0.2	0.0	15.2			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	15.2			
Approach LOS			C			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			29.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
5: Route 4 & Site Dr 1

Combined Traffic Volumes
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕			
Traffic Volume (veh/h)	33	262	330	20	0	0
Future Volume (Veh/h)	33	262	330	20	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.79	0.79	0.75	0.75
Hourly flow rate (vph)	38	305	418	25	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	443				812	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	443				812	430
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1117				337	625
Direction, Lane #	EB 1	WB 1				
Volume Total	343	443				
Volume Left	38	0				
Volume Right	0	25				
cSH	1117	1700				
Volume to Capacity	0.03	0.26				
Queue Length 95th (ft)	3	0				
Control Delay (s)	1.2	0.0				
Lane LOS	A					
Approach Delay (s)	1.2	0.0				
Approach LOS						
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			40.9%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 7: Site Dr 2 & Circle Drive

Combined Traffic Volumes
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑			↑
Traffic Volume (veh/h)	51	2	9	0	0	42
Future Volume (Veh/h)	51	2	9	0	0	42
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	68	3	10	0	0	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	57	10			10	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	10			10	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	950	1071			1610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	71	10	47			
Volume Left	68	0	0			
Volume Right	3	0	0			
cSH	955	1700	1700			
Volume to Capacity	0.07	0.01	0.03			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	9.1	0.0	0.0			
Lane LOS						
Approach Delay (s)	9.1	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			5.0			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: New Harwinton Rd

Combined Traffic Volumes
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	440	439	16	42	43
Future Volume (Veh/h)	19	440	439	16	42	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.69	0.69
Hourly flow rate (vph)	21	494	482	18	61	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500				1027	491
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500				1027	491
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				76	89
cM capacity (veh/h)	1064				255	578
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	515	500	123			
Volume Left	21	0	61			
Volume Right	0	18	62			
cSH	1064	1700	354			
Volume to Capacity	0.02	0.29	0.35			
Queue Length 95th (ft)	2	0	38			
Control Delay (s)	0.6	0.0	20.5			
Lane LOS	A		C			
Approach Delay (s)	0.6	0.0	20.5			
Approach LOS			C			
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization		50.2%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
5: Route 4 & Site Dr 1











Combined Traffic Volumes
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕			
Traffic Volume (veh/h)	26	456	455	37	0	0
Future Volume (Veh/h)	26	456	455	37	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.91	0.91	0.75	0.75
Hourly flow rate (vph)	29	512	500	41	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	541				1090	520
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	541				1090	520
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1028				231	556
Direction, Lane #	EB 1	WB 1				
Volume Total	541	541				
Volume Left	29	0				
Volume Right	0	41				
cSH	1028	1700				
Volume to Capacity	0.03	0.32				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.8	0.0				
Lane LOS	A					
Approach Delay (s)	0.8	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		48.6%	ICU Level of Service	A		
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
7: Site Dr 2 & Circle Drive

Combined Traffic Volumes
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 					
Traffic Volume (veh/h)	64	0	35	0	0	21
Future Volume (Veh/h)	64	0	35	0	0	21
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.69	0.69	0.69	0.69
Hourly flow rate (vph)	85	0	51	0	0	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	81	51			51	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81	51			51	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	921	1017			1555	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	85	51	30			
Volume Left	85	0	0			
Volume Right	0	0	0			
cSH	921	1700	1700			
Volume to Capacity	0.09	0.03	0.02			
Queue Length 95th (ft)	8	0	0			
Control Delay (s)	9.3	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.3	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			13.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: New Harwinton Rd

Combined Traffic Volumes
 Saturday Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	14	387	399	24	55	54
Future Volume (Veh/h)	14	387	399	24	55	54
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.62	0.62
Hourly flow rate (vph)	15	412	434	26	89	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	460				889	447
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	460				889	447
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				71	86
cM capacity (veh/h)	1101				309	612
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	427	460	176			
Volume Left	15	0	89			
Volume Right	0	26	87			
cSH	1101	1700	409			
Volume to Capacity	0.01	0.27	0.43			
Queue Length 95th (ft)	1	0	53			
Control Delay (s)	0.4	0.0	20.3			
Lane LOS	A		C			
Approach Delay (s)	0.4	0.0	20.3			
Approach LOS			C			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization		44.7%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 5: Route 4 & Site Dr 1

Combined Traffic Volumes
 Saturday Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↗			
Traffic Volume (veh/h)	46	396	423	35	0	0
Future Volume (Veh/h)	46	396	423	35	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.75	0.75
Hourly flow rate (vph)	49	421	460	38	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	498				998	479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498				998	479
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	100
cM capacity (veh/h)	1066				258	587

Direction, Lane #	EB 1	WB 1
Volume Total	470	498
Volume Left	49	0
Volume Right	0	38
cSH	1066	1700
Volume to Capacity	0.05	0.29
Queue Length 95th (ft)	4	0
Control Delay (s)	1.4	0.0
Lane LOS	A	
Approach Delay (s)	1.4	0.0
Approach LOS		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Site Dr 2 & Circle Drive

Combined Traffic Volumes
Saturday Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↑
Traffic Volume (veh/h)	71	11	38	0	0	38
Future Volume (Veh/h)	71	11	38	0	0	38
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.62	0.62	0.62	0.62
Hourly flow rate (vph)	95	15	61	0	0	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	122	61			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122	61			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	99			100	
cM capacity (veh/h)	873	1004			1542	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	110	61	61
Volume Left	95	0	0
Volume Right	15	0	0
cSH	889	1700	1700
Volume to Capacity	0.12	0.04	0.04
Queue Length 95th (ft)	11	0	0
Control Delay (s)	9.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.6	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		4.6	
Intersection Capacity Utilization		14.6%	ICU Level of Service A
Analysis Period (min)		15	

Gap Study Data

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

Route 4 (New Harwinton Rd)
at Circle Drive
Torrington, CT 06790
Job No. 21120

East Granby, CT 06026
Phone: (860) 653-8000

File Name : Route 4 AM
Site Code : 00000000
Start Date : 12/15/2021
Page No : 1

Directions Printed: WB

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
7:00:00 AM	75	10	12	5	4	3	5	2	3	1	2	3	0	2	0	7	59	8 - 9
7:15:00 AM	57	8	1	0	6	6	2	5	2	2	0	2	1	2	1	7	45	12 - 13
7:30:00 AM	94	15	9	4	7	7	1	0	3	2	1	3	3	1	1	5	62	8 - 9
7:45:00 AM	98	22	8	6	5	5	6	2	2	2	1	0	1	1	1	7	69	6 - 7
Total	324	55	30	15	22	21	14	9	10	7	4	8	5	6	3	26	235	8 - 9
8:00:00 AM	95	7	15	3	9	7	1	0	3	0	2	1	0	1	1	8	58	8 - 9
8:15:00 AM	72	9	6	8	5	0	4	4	1	1	1	0	0	1	0	10	50	8 - 9
8:30:00 AM	78	11	6	3	5	6	2	6	3	2	0	0	0	2	2	8	56	10 - 11
Grand Total	569	82	57	29	41	34	21	19	17	10	7	9	5	10	6	52	399	8 - 9
Total %		20.6	14.3	7.3	10.3	8.5	5.3	4.8	4.3	2.5	1.8	2.3	1.3	2.5	1.5	13.0		

Peak Hour From 7:00:00 AM to 8:30:00 AM - Peak 1 of 1

Peak Occurred: 7:30:00 AM
Volume 359
High Int. 7:45:00 AM
Volume 98
PHF 0.916

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

East Granby, CT 06026

Phone: (860) 653-8000

Route 4 (New Harwinton Rd)
at Circle Drive
Torrington, CT 06790
Job No. 21120

File Name : Route 4 AM

Site Code : 00000000

Start Date : 12/15/2021

Page No : 1

Directions Printed: EB

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
7:00:00 AM	70	9	10	3	3	3	3	5	2	2	2	1	3	2	0	6	54	10 - 11
7:15:00 AM	70	13	6	4	2	0	8	2	2	2	4	0	1	1	0	9	54	12 - 13
7:30:00 AM	72	10	11	5	4	4	2	1	2	4	2	0	0	2	0	8	55	8 - 9
7:45:00 AM	91	21	5	8	4	5	4	2	0	2	2	3	1	0	1	7	65	6 - 7
Total	303	53	32	20	13	12	17	10	6	10	10	4	5	5	1	30	228	8 - 9
8:00:00 AM	76	19	7	5	1	1	3	1	3	2	1	0	1	2	0	10	56	6 - 7
8:15:00 AM	58	5	6	7	5	2	1	3	0	0	0	0	2	1	0	13	45	8 - 9
8:30:00 AM	76	13	8	3	6	3	3	2	7	1	0	2	0	1	1	7	57	8 - 9
Grand Total	513	90	53	35	25	18	24	16	16	13	11	6	8	9	2	60	386	8 - 9
Total %		23.3	13.7	9.1	6.5	4.7	6.2	4.1	4.1	3.4	2.8	1.6	2.1	2.3	0.5	15.5		

Peak Hour From 7:00:00 AM to 8:30:00 AM - Peak 1 of 1

Peak Occurred: 7:15:00 AM
Volume 309
High Int. 7:45:00 AM
Volume 91
PHF 0.849

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

East Granby, CT 06026

Phone: (860) 653-8000

Route 4 (New Harwinton Rd)

at Circle Drive

Torrington, CT 06790

Job No. 21120

File Name : Route 4 AM

Site Code : 00000000

Start Date : 12/15/2021

Page No : 1

Directions Printed: Combined

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
7:00:00 AM	0	26	22	11	10	10	10	2	2	0	0	1	0	0	0	1	95	4 - 5
7:15:00 AM	0	21	11	7	6	6	7	3	2	3	2	3	1	1	1	3	77	6 - 7
7:30:00 AM	0	33	26	9	10	6	2	1	2	2	2	1	2	2	0	0	98	4 - 5
7:45:00 AM	0	45	9	13	6	8	5	1	1	2	1	0	1	2	0	2	96	4 - 5
Total	0	125	68	40	32	30	24	7	7	7	5	5	4	5	1	6	366	4 - 5
8:00:00 AM	0	24	22	9	9	7	4	4	1	2	3	2	0	1	0	1	89	4 - 5
8:15:00 AM	0	14	15	14	8	2	3	2	1	1	2	1	2	1	0	6	72	6 - 7
8:30:00 AM	0	30	14	8	9	7	5	3	6	2	2	2	0	0	0	1	89	6 - 7
Grand Total	0	193	119	71	58	46	36	16	15	12	12	10	6	7	1	14	616	4 - 5
Total %		31.3	19.3	11.5	9.4	7.5	5.8	2.6	2.4	1.9	1.9	1.6	1.0	1.1	0.2	2.3		

Peak Data Not Available

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

Route 4 (New Harwinton Rd)
at Circle Dr
Torrington, CT 06790
Job No. 21120

East Granby, CT 06026
Phone: (860) 653-8000

File Name : Route 4 PM
Site Code : 00111111
Start Date : 12/14/2021
Page No : 1

Directions Printed: WB

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
4:00:00 PM	114	17	12	9	2	4	7	2	3	3	2	3	3	4	0	0	71	6-7
4:15:00 PM	129	23	19	12	3	3	4	2	4	0	3	2	0	0	1	4	80	4-5
4:30:00 PM	135	26	8	15	5	1	4	3	0	2	0	2	2	0	1	5	74	6-7
4:45:00 PM	116	27	13	9	6	5	3	1	0	1	2	4	2	1	1	4	79	4-5
Total	494	93	52	45	16	13	18	8	7	6	7	11	7	5	3	13	304	6-7
5:00:00 PM	101	29	13	10	10	6	3	2	3	2	0	1	0	0	2	6	87	6-7
5:15:00 PM	105	21	12	8	8	4	4	4	2	4	3	1	1	3	0	2	77	6-7
5:30:00 PM	112	22	11	13	6	4	6	2	3	3	1	3	1	0	1	4	80	6-7
5:45:00 PM	107	20	17	7	5	4	5	2	3	5	1	3	0	1	1	4	78	6-7
Total	425	92	53	38	29	18	18	10	11	14	5	8	2	4	4	16	322	6-7
Grand Total	919	185	105	83	45	31	36	18	18	20	12	19	9	9	7	29	626	6-7
Total %		29.6	16.8	13.3	7.2	5.0	5.8	2.9	2.9	3.2	1.9	3.0	1.4	1.4	1.1	4.6		

Peak Hour From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1

Peak Occurred: 4:00:00 PM
Volume 494
High Int. 4:30:00 PM
Volume 135
PHF 0.915

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

East Granby, CT 06026

Phone: (860) 653-8000

Route 4 (New Harwinton Rd)

at Circle Dr

Torrington, CT 06790

Job No. 21120

File Name : Route 4 PM

Site Code : 00111111

Start Date : 12/14/2021

Page No : 1

Directions Printed: EB

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
4:00:00 PM	104	21	11	6	4	6	1	1	1	2	4	0	4	1	2	3	67	6 - 7
4:15:00 PM	86	8	9	6	4	5	3	7	2	3	1	0	2	1	1	4	56	10 - 11
4:30:00 PM	105	16	12	9	3	6	6	4	6	1	1	0	0	0	1	5	70	6 - 7
4:45:00 PM	136	25	16	15	11	6	5	4	3	1	0	1	0	1	1	2	91	6 - 7
Total	431	70	48	36	22	23	15	16	12	7	6	1	6	3	5	14	284	6 - 7
5:00:00 PM	126	27	18	5	9	4	6	3	3	1	2	1	1	0	0	4	84	4 - 5
5:15:00 PM	122	28	14	5	9	2	2	9	6	5	1	0	1	1	1	1	85	6 - 7
5:30:00 PM	82	7	8	5	9	4	3	5	2	7	2	1	2	1	1	4	61	10 - 11
5:45:00 PM	66	15	5	4	3	2	1	4	3	1	3	3	1	3	0	9	57	10 - 11
Total	396	77	45	19	30	12	12	21	14	14	8	5	5	5	2	18	287	8 - 9
Grand Total	827	147	93	55	52	35	27	37	26	21	14	6	11	8	7	32	571	6 - 7
Total %		25.7	16.3	9.6	9.1	6.1	4.7	6.5	4.6	3.7	2.5	1.1	1.9	1.4	1.2	5.6		

Peak Hour From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1

Peak Occurred: 4:30:00 PM

Volume 489

High Int. 4:45:00 PM

Volume 136

PHF 0.899

F.A. Hesketh & Associates, Inc.

3 Creamery Brook

East Granby, CT 06026

Phone: (860) 653-8000

Route 4 (New Harwinton Rd)

at Circle Dr

Torrington, CT 06790

Job No. 21120

File Name : Route 4 PM

Site Code : 00111111

Start Date : 12/14/2021

Page No : 1

Directions Printed: Combined

Start Time	Volume	2 - 3	4 - 5	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15	16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27	28 - 29	>29	Int. Total	Average
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
4:00:00 PM	0	39	18	6	9	6	4	3	3	2	0	1	0	1	0	0	92	4 - 5
4:15:00 PM	0	39	26	13	7	6	2	0	1	1	1	0	1	0	2	0	99	4 - 5
4:30:00 PM	0	48	20	13	6	2	5	6	1	2	0	0	0	0	0	0	103	4 - 5
4:45:00 PM	0	46	20	17	5	3	4	3	2	0	0	0	1	0	0	1	102	4 - 5
Total	0	172	84	49	27	17	15	12	7	5	1	1	2	1	2	1	396	4 - 5
5:00:00 PM	0	51	29	14	11	4	2	4	1	1	1	0	0	0	0	0	118	4 - 5
5:15:00 PM	0	45	22	19	11	6	1	5	1	1	0	0	0	0	0	0	111	4 - 5
5:30:00 PM	0	37	19	17	8	6	4	4	0	6	0	1	0	0	0	0	102	4 - 5
5:45:00 PM	0	35	15	11	14	3	4	4	3	2	3	2	0	1	0	0	97	4 - 5
Total	0	168	85	61	44	19	11	17	5	10	4	3	0	1	0	0	428	4 - 5
Grand Total	0	340	169	110	71	36	26	29	12	15	5	4	2	2	2	1	824	4 - 5
Total %		41.3	20.5	13.3	8.6	4.4	3.2	3.5	1.5	1.8	0.6	0.5	0.2	0.2	0.2	0.1		

Peak Data Not Available

Stop Sign Delay Study Data

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive AM
 Site Code : 00000000
 Start Date : 12/15/2021
 Page No : 1

Route 4 (New Harwinton Rd)
 at Circle Dr
 Torrington, CT 06790
 Job No. 21120

L n.	No.	Joined Queue	Released From Queue	Delay
1	1	7:02:01 AM	7:02:13 AM	12
1	2	7:03:23 AM	7:03:28 AM	5
1	3	7:06:13 AM	7:06:21 AM	8
1	4	7:09:26 AM	7:09:33 AM	7
1	5	7:10:35 AM	7:10:40 AM	5
1	6	7:11:21 AM	7:11:36 AM	15
1	7	7:12:20 AM	7:12:25 AM	5
1	8	7:13:23 AM	7:13:32 AM	9
1	9	7:13:55 AM	7:13:57 AM	2
7:00:00 AM - 7:15:00 AM				Lane 1
Total Vehicle Count:				9
Delayed Vehicle Count:				9
Through Vehicle Count:				0
Average Stopped Time:				7.56
Maximum Stopped Time:				15
Min. Secs. for Delay:				0
Average Queue:				0.09
Queue Density:				1.00
Maximum Queue:				1

L n.	No.	Joined Queue	Released From Queue	Delay
1	10	7:20:32 AM	7:20:35 AM	3
1	11	7:21:23 AM	7:21:29 AM	6
1	12	7:23:44 AM	7:23:48 AM	4
1	13	7:24:14 AM	7:24:23 AM	9
1	14	7:24:17 AM	7:24:36 AM	19
1	15	7:24:25 AM	7:24:42 AM	17
1	16	7:25:06 AM	7:25:10 AM	4
1	17	7:25:23 AM	7:25:31 AM	8
1	18	7:26:15 AM	7:26:19 AM	4
1	19	7:27:16 AM	7:27:27 AM	11
1	20	7:28:18 AM	7:28:26 AM	8
1	21	7:29:00 AM	7:29:09 AM	9
1	22	7:29:20 AM	7:29:38 AM	18
1	23	7:29:31 AM	7:29:43 AM	12
1	24	7:29:33 AM	7:29:51 AM	18
7:15:00 AM - 7:30:00 AM				Lane 1
Total Vehicle Count:				15
Delayed Vehicle Count:				15
Through Vehicle Count:				0
Average Stopped Time:				10.00
Maximum Stopped Time:				19
Min. Secs. for Delay:				0
Average Queue:				0.27
Queue Density:				1.30
Maximum Queue:				3

L n.	No.	Joined Queue	Released From Queue	Delay
1	25	7:33:29 AM	7:33:31 AM	2
1	26	7:33:53 AM	7:33:56 AM	3
1	27	7:38:31 AM	7:38:35 AM	4
1	28	7:39:02 AM	7:39:21 AM	19
1	29	7:39:09 AM	7:39:50 AM	41
1	30	7:39:36 AM	7:39:55 AM	19
1	31	7:40:23 AM	7:40:54 AM	31
1	32	7:42:20 AM	7:42:24 AM	4
1	33	7:44:10 AM	7:44:24 AM	14

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive AM
 Site Code : 00000000
 Start Date : 12/15/2021
 Page No : 2

7:30:00 AM - 7:45:00 AM	Lane 1
Total Vehicle Count:	9
Delayed Vehicle Count:	9
Through Vehicle Count:	0
Average Stopped Time:	15.22
Maximum Stopped Time:	41
Min. Secs. for Delay:	0
Average Queue:	0.21
Queue Density:	1.24
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	34	7:45:19 AM	7:45:28 AM	9
1	35	7:46:11 AM	7:46:37 AM	26
1	36	7:46:18 AM	7:47:11 AM	53
1	37	7:47:49 AM	7:47:53 AM	4
1	38	7:51:00 AM	7:51:04 AM	4
1	39	7:52:17 AM	7:52:22 AM	5
1	40	7:53:13 AM	7:53:17 AM	4
1	41	7:53:41 AM	7:53:44 AM	3
1	42	7:54:43 AM	7:54:46 AM	3
1	43	7:55:38 AM	7:55:39 AM	1
1	44	7:56:04 AM	7:56:08 AM	4
1	45	7:56:37 AM	7:56:41 AM	4
1	46	7:56:56 AM	7:56:59 AM	3
1	47	7:57:00 AM	7:57:02 AM	2
1	48	7:59:28 AM	7:59:35 AM	7

7:45:00 AM - 8:00:00 AM	Lane 1
Total Vehicle Count:	15
Delayed Vehicle Count:	15
Through Vehicle Count:	0
Average Stopped Time:	8.80
Maximum Stopped Time:	53
Min. Secs. for Delay:	0
Average Queue:	0.15
Queue Density:	1.17
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	49	8:01:57 AM	8:01:58 AM	1
1	50	8:02:49 AM	8:02:58 AM	9
1	51	8:03:27 AM	8:03:32 AM	5
1	52	8:03:38 AM	8:03:52 AM	14
1	53	8:04:50 AM	8:05:09 AM	19
1	54	8:08:13 AM	8:08:25 AM	12
1	55	8:12:08 AM	8:12:10 AM	2
1	56	8:13:05 AM	8:13:13 AM	8
1	57	8:13:54 AM	8:14:12 AM	18
1	58	8:14:47 AM	8:14:53 AM	6
1	59	8:14:49 AM	8:14:58 AM	9

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive AM
 Site Code : 00000000
 Start Date : 12/15/2021
 Page No : 3

8:00:00 AM - 8:15:00 AM	Lane 1
Total Vehicle Count:	11
Delayed Vehicle Count:	11
Through Vehicle Count:	0
Average Stopped Time:	9.36
Maximum Stopped Time:	19
Min. Secs. for Delay:	0
Average Queue:	0.13
Queue Density:	1.04
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	60	8:15:14 AM	8:15:23 AM	9
1	61	8:15:52 AM	8:16:10 AM	18
1	62	8:16:46 AM	8:16:55 AM	9
1	63	8:17:56 AM	8:17:59 AM	3
1	64	8:18:38 AM	8:18:53 AM	15
1	65	8:21:06 AM	8:21:08 AM	2
1	66	8:22:07 AM	8:22:12 AM	5
1	67	8:22:19 AM	8:22:21 AM	2
1	68	8:22:33 AM	8:22:43 AM	10
1	69	8:23:49 AM	8:23:53 AM	4
1	70	8:24:29 AM	8:24:33 AM	4
1	71	8:25:27 AM	8:25:30 AM	3
1	72	8:27:09 AM	8:27:12 AM	3
1	73	8:28:32 AM	8:29:05 AM	33
1	74	8:29:52 AM	8:30:07 AM	15

8:15:00 AM - 8:30:00 AM	Lane 1
Total Vehicle Count:	15
Delayed Vehicle Count:	15
Through Vehicle Count:	0
Average Stopped Time:	9.00
Maximum Stopped Time:	33
Min. Secs. for Delay:	0
Average Queue:	0.15
Queue Density:	1.00
Maximum Queue:	1

L n.	No.	Joined Queue	Released From Queue	Delay
1	75	8:31:57 AM	8:32:03 AM	6
1	76	8:32:37 AM	8:32:43 AM	6
1	77	8:33:59 AM	8:34:03 AM	4
1	78	8:39:05 AM	8:39:11 AM	6
1	79	8:39:22 AM	8:39:59 AM	37
1	80	8:39:56 AM	8:40:01 AM	5
1	81	8:42:18 AM	8:42:22 AM	4

8:30:00 AM - 8:45:00 AM	Lane 1
Total Vehicle Count:	7
Delayed Vehicle Count:	7
Through Vehicle Count:	0
Average Stopped Time:	9.71
Maximum Stopped Time:	37
Min. Secs. for Delay:	0
Average Queue:	0.11
Queue Density:	1.05
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	82	8:45:08 AM	8:45:09 AM	1
1	83	8:46:02 AM	8:46:13 AM	11
1	84	8:47:16 AM	8:47:28 AM	12
1	85	8:48:29 AM	8:48:39 AM	10

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive AM
 Site Code : 00000000
 Start Date : 12/15/2021
 Page No : 4

L n.	No.	Joined Queue	Released From Queue	Delay
1	86	8:49:20 AM	8:49:30 AM	10
1	87	8:49:52 AM	8:50:14 AM	22
1	88	8:50:02 AM	8:50:17 AM	15
1	89	8:50:20 AM	8:50:32 AM	12
1	90	8:51:48 AM	8:51:58 AM	10
1	91	8:55:11 AM	8:55:18 AM	7
1	92	8:55:52 AM	8:55:57 AM	5
1	93	8:57:41 AM	8:57:57 AM	16
8:45:00 AM - 8:58:00 AM				Lane 1
Total Vehicle Count:				12
Delayed Vehicle Count:				12
Through Vehicle Count:				0
Average Stopped Time:				10.92
Maximum Stopped Time:				22
Min. Secs. for Delay:				0
Average Queue:				0.17
Queue Density:				1.10
Maximum Queue:				2
7:00:00 AM - 8:58:00 AM				Lane 1
Total Vehicle Count:				93
Delayed Vehicle Count:				93
Through Vehicle Count:				0
Average Stopped Time:				9.94
Maximum Stopped Time:				53
Min. Secs. for Delay:				0
Average Queue:				0.13
Queue Density:				1.12
Maximum Queue:				3

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive PM 1
 Site Code : 00011111
 Start Date : 12/14/2021
 Page No : 1

L n.	No.	Joined Queue	Released From Queue	Delay
1	35	4:31:46 PM	4:31:51 PM	5
1	36	4:32:05 PM	4:32:12 PM	7
1	37	4:34:49 PM	4:34:55 PM	6
1	38	4:35:07 PM	4:36:01 PM	54
1	39	4:36:05 PM	4:36:09 PM	4
1	40	4:40:02 PM	4:40:28 PM	26
1	41	4:42:16 PM	4:42:41 PM	25
1	42	4:42:44 PM	4:42:52 PM	8
1	43	4:43:25 PM	4:43:40 PM	15
1	44	4:43:58 PM	4:44:01 PM	3
4:30:00 PM - 4:45:00 PM				Lane 1
Total Vehicle Count:				10
Delayed Vehicle Count:				10
Through Vehicle Count:				0
Average Stopped Time:				15.30
Maximum Stopped Time:				54
Min. Secs. for Delay:				0
Average Queue:				0.21
Queue Density:				1.00
Maximum Queue:				1

L n.	No.	Joined Queue	Released From Queue	Delay
1	45	4:46:41 PM	4:46:51 PM	10
1	46	4:48:05 PM	4:48:15 PM	10
1	47	4:49:36 PM	4:50:09 PM	33
1	48	4:50:07 PM	4:50:22 PM	15
1	49	4:50:23 PM	4:50:25 PM	2
1	50	4:50:39 PM	4:50:46 PM	7
1	51	4:51:21 PM	4:51:33 PM	12
1	52	4:53:56 PM	4:54:02 PM	6
1	53	4:54:12 PM	4:54:21 PM	9
1	54	4:54:44 PM	4:54:56 PM	12
1	55	4:55:57 PM	4:56:19 PM	22
1	56	4:58:04 PM	4:58:14 PM	10
1	57	4:58:37 PM	4:58:41 PM	4
4:45:00 PM - 5:00:00 PM				Lane 1
Total Vehicle Count:				13
Delayed Vehicle Count:				13
Through Vehicle Count:				0
Average Stopped Time:				11.69
Maximum Stopped Time:				33
Min. Secs. for Delay:				0
Average Queue:				0.21
Queue Density:				1.01
Maximum Queue:				2

L n.	No.	Joined Queue	Released From Queue	Delay
1	58	5:00:09 PM	5:00:12 PM	3
1	59	5:00:50 PM	5:00:55 PM	5
1	60	5:03:12 PM	5:03:25 PM	13
1	61	5:03:42 PM	5:03:46 PM	4
1	62	5:04:23 PM	5:04:29 PM	6
1	63	5:06:27 PM	5:06:31 PM	4
1	64	5:06:34 PM	5:06:54 PM	20
1	65	5:07:08 PM	5:07:14 PM	6
1	66	5:09:25 PM	5:09:27 PM	2
1	67	5:09:31 PM	5:09:45 PM	14
1	68	5:10:12 PM	5:10:28 PM	16
1	69	5:11:02 PM	5:11:06 PM	4
1	70	5:11:40 PM	5:11:54 PM	14
1	71	5:13:53 PM	5:13:59 PM	6

F.A. Hesketh & Assoc., Inc.
 3 Creamery Brook
 East Granby, CT 06026
 PH (860) 653-8000

File Name : Circle Drive PM 1
 Site Code : 00011111
 Start Date : 12/14/2021
 Page No : 2

5:00:00 PM - 5:15:00 PM	Lane 1
Total Vehicle Count:	14
Delayed Vehicle Count:	14
Through Vehicle Count:	0
Average Stopped Time:	8.36
Maximum Stopped Time:	20
Min. Secs. for Delay:	0
Average Queue:	0.14
Queue Density:	1.00
Maximum Queue:	1

L n.	No.	Joined Queue	Released From Queue	Delay
1	72	5:21:08 PM	5:21:17 PM	9
1	73	5:25:22 PM	5:25:30 PM	8
1	74	5:26:28 PM	5:26:29 PM	1
1	75	5:28:27 PM	5:28:32 PM	5
1	76	5:29:07 PM	5:29:26 PM	19
1	77	5:29:11 PM	5:29:41 PM	30

5:15:00 PM - 5:30:00 PM	Lane 1
Total Vehicle Count:	6
Delayed Vehicle Count:	6
Through Vehicle Count:	0
Average Stopped Time:	12.00
Maximum Stopped Time:	30
Min. Secs. for Delay:	0
Average Queue:	0.14
Queue Density:	1.27
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	78	5:31:03 PM	5:31:09 PM	6
1	79	5:31:12 PM	5:31:21 PM	9
1	80	5:31:19 PM	5:31:34 PM	15
1	81	5:32:27 PM	5:32:30 PM	3
1	82	5:36:48 PM	5:36:50 PM	2
1	83	5:39:18 PM	5:39:25 PM	7
1	84	5:40:44 PM	5:41:09 PM	25
1	85	5:40:53 PM	5:41:16 PM	23
1	86	5:43:07 PM	5:43:13 PM	6
1	87	5:44:37 PM	5:44:41 PM	4

5:30:00 PM - 5:45:00 PM	Lane 1
Total Vehicle Count:	10
Delayed Vehicle Count:	10
Through Vehicle Count:	0
Average Stopped Time:	10.00
Maximum Stopped Time:	25
Min. Secs. for Delay:	0
Average Queue:	0.12
Queue Density:	1.22
Maximum Queue:	2

L n.	No.	Joined Queue	Released From Queue	Delay
1	88	5:47:38 PM	5:47:46 PM	8
1	89	5:49:20 PM	5:49:24 PM	4
1	90	5:53:57 PM	5:54:04 PM	7
1	91	5:56:19 PM	5:56:22 PM	3
1	92	5:57:37 PM	5:57:50 PM	13

F.A. Hesketh & Assoc., Inc.
3 Creamery Brook
East Granby, CT 06026
PH (860) 653-8000

File Name : Circle Drive PM 1
Site Code : 00011111
Start Date : 12/14/2021
Page No : 3

5:45:00 PM - 5:58:00 PM	Lane 1
Total Vehicle Count:	5
Delayed Vehicle Count:	5
Through Vehicle Count:	0
Average Stopped Time:	7.00
Maximum Stopped Time:	13
Min. Secs. for Delay:	0
Average Queue:	0.06
Queue Density:	1.00
Maximum Queue:	1

4:30:00 PM - 5:58:00 PM	Lane 1
Total Vehicle Count:	58
Delayed Vehicle Count:	58
Through Vehicle Count:	0
Average Stopped Time:	10.84
Maximum Stopped Time:	54
Min. Secs. for Delay:	0
Average Queue:	0.12
Queue Density:	1.06
Maximum Queue:	2

ConnDOT Speed Data

2021 TORR-252 - Speed

12:00am	.	.	.	4	5	3	4	7	1	
01:00am	.	.	.	1	.	1	7	.	1	
02:00am	.	.	1	.	.	2	5	3	
03:00am	1	3	2	1	
04:00am	.	.	.	5	3	5	1	4	3	1	2	.	.	
05:00am	8	.	.	5	7	6	25	9	6	1	.	.	.	
06:00am	7	.	3	18	31	20	29	24	5	2	.	.	.	
07:00am	10	2	3	26	67	62	54	21	7	4	1	.	.	
08:00am	14	3	3	44	73	61	68	30	9	.	1	.	.	
09:00am	x	x	x	x	x	x	x	x	x	x	x	x	x	
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Totals	39	5	10	103	187	163	195	99	32	8	4	0	0	0
Percent	4.62	0.59	1.18	12.19	22.13	19.29	23.08	11.72	3.79	0.95	0.47	0.00	0.00	0.00

Status: OK

West

Combined

East

TORR-252 - East

Route 4 - 25.68 mi West of Route 183

Town.....	Station.....	Location.....	Posted Speed Limit.....	A.K.A.....	2015-Principal Arterial - Other	2015-Urban	HPMS Section ID.....	Start Report.....	End Report.....	All Vehicles Average Speed.....	Total Vehicles.....	Percentile Sampling Period.....	Vehicle Too Close.....	Vehicle Too Slow.....	Speed Lower Limit.....	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
										Hour	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76					
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2021 TORR-252 - Speed

12:00am	.	.	1	.	5	3	7	1	1	
01:00am	.	1	.	1	5	.	4	2	
02:00am	1	1	2	.	1	
03:00am	.	.	.	1	3	2	2	2	1	
04:00am	.	1	.	1	1	4	12	8	5	1	1	.	.	
05:00am	2	2	2	3	7	10	46	24	9	2	.	.	.	
06:00am	6	3	4	9	22	24	72	37	9	2	.	.	.	
07:00am	10	9	10	24	41	39	53	24	4	
08:00am	16	12	14	28	41	67	66	20	6	
09:00am	x	x	x	x	x	x	x	x	x	x	x	x	x	
10:00am														
11:00am														
12:00pm														
01:00pm														
02:00pm														
03:00pm														
04:00pm														
05:00pm														
06:00pm														
07:00pm														
08:00pm														
09:00pm														
10:00pm														
11:00pm														
Totals	34	28	31	67	126	150	264	118	36	5	1	0	0	0
Percent	3.95	3.26	3.60	7.79	14.65	17.44	30.70	13.72	4.19	0.58	0.12	0.00	0.00	0.00

ConnDOT Site Distance Criteria

Design Speed (V_{major}) (mph)	ISD (ft)		
	Passenger Cars	Single-Unit Trucks	Tractor/Semitrailers
20	225	280	340
25	280	350	425
30	335	420	510
35	390	490	595
40	445	560	680
45	500	630	765
50	555	700	850
55	610	770	930
60	665	840	1015
65	720	910	1100
70	775	980	1185

Notes:

1. These ISD values assume a left or right turn onto a 2-lane facility without a median.
2. These ISD values assume a minor road approach grade less than or equal to +3%.

**INTERSECTION SIGHT DISTANCES
(Two-Lane Highway or Street)**

Figure 11-2C

UCONN Crash Data

**Route 4 accidents
Milemarker 25.3 to 25.7
June 1, 2019 thru May 31, 2022**

CrashID	Date	Day of Week	Time	Crash Severity	No. Of Veh	Milemarker	Intersecting Roadway	Distance	Unit	Direction	First Harmful Event	Manner of Crash	Weather Condition	Light Condition	Road Surface
584262	8/22/2019	Thursday	7:31 AM	Prop Dam Only	2	25.5	CIRCLE DR				Motor Vehicle in Operation	Front to rear	Clear	Daylight	Dry
775013	12/17/2020	Thursday	5:41 PM	Prop Dam Only	1	25.44	MORNINGSIDE DR				Utility Pole/Light Support	Not Applicable	Clear	Dusk	Ice / Frost
870625	10/7/2021	Thursday	9:01 PM	Prop Dam Only	2	25.51	CIRCLE DRIVE	200	Feet	E	Motor Vehicle in Operation	Angle	Clear	Daylight	Dry
875989	11/24/2021	Wednesday	7:24 AM	Prop Dam Only	2	25.44	MORNINGSIDE DR				Motor Vehicle in Operation	Side Swipe Same Dir	Clear	Daylight	Dry



781 NEW HARWINTON RD

POLE

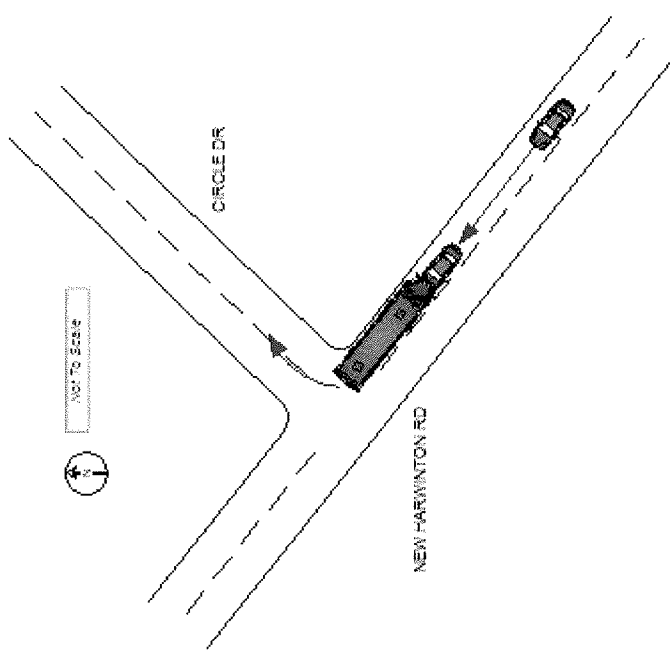
MAILBOX



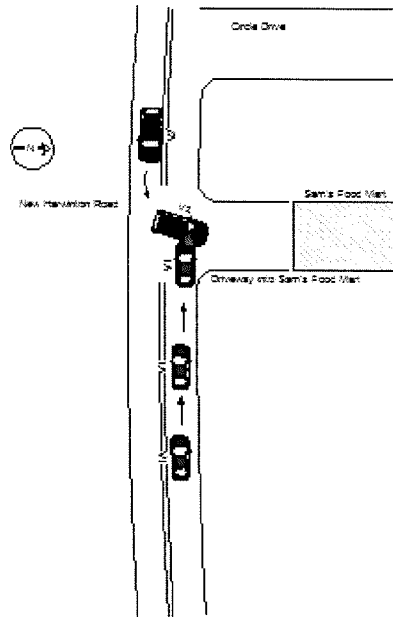
NEW HARWINTON RD

Not To Scale

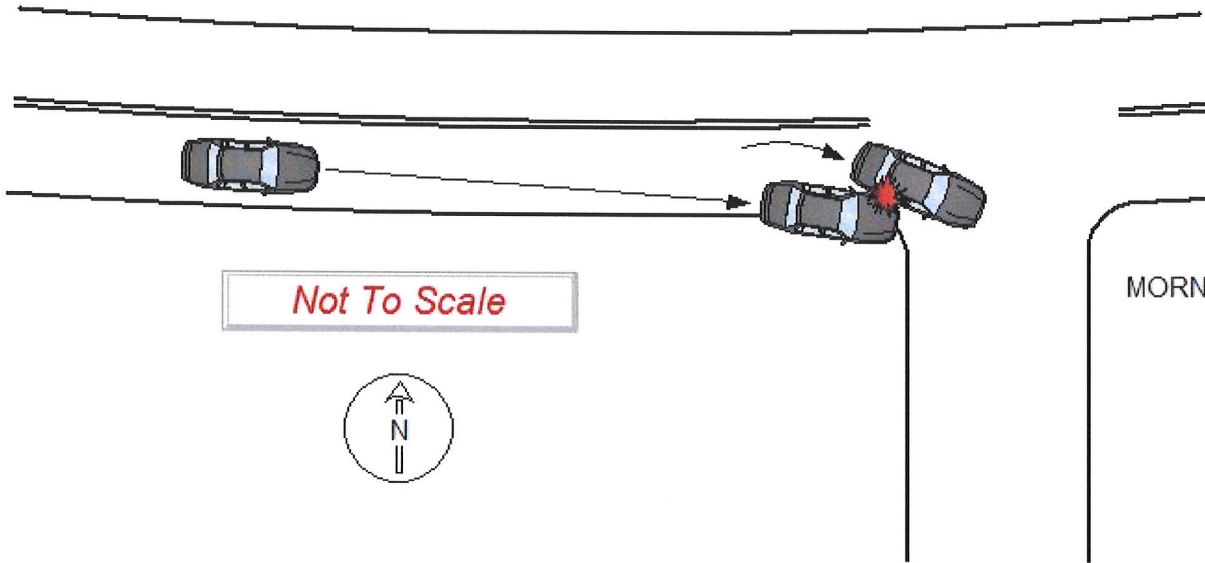
MORNINGSIDE DR



Not To Scale



NEW HARWINTON RD



Not To Scale

MORNINGSIDE DR



District IV Approval Letter

**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY OPERATION**

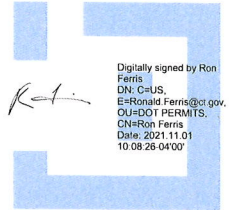
**TOWN: Torrington
Re: 861 New Harwinton Road (Rte. 4)
Sam's Mart**

Date: November 1, 2021

To: Jason Dismukes, P.E.

Email: jason@dismukesengineering.com

**From: Mr. Aron Steeves
Special Services Manager
359 South Main Street
Thomaston, CT 06787**



This office has reviewed the plans submitted *entitled*, "Modifications and Improvements to Sam's Mart 861 New Harwinton Road (CT RTE #4) Torrington, Connecticut June 21, 2021. Last Revised 10-11-21. Prepared by Jason Dismukes LLC Consulting Engineers and have no further comment.

THE PROPOSED PROJECT SHALL NOT START WITHIN THE DEPARTMENT OF TRANSPORTATION'S RIGHT OF WAY UNTIL AN ENCROACHMENT PERMIT HAS BEEN SECURED. TO OBTAIN AN ENCROACHMENT PERMIT, PLEASE COMPLETE THE FOLLOWING STEPS.

An encroachment permit will be issued upon receipt of the following:

1. A completed encroachment permit application (State form PMT-1 Rev 10/13)
2. A bond (State form CLA-5 Rev. 8/00) in the amount of fifteen thousand dollars (15,000.00) in the owners/contractors name.
3. A Certificate of Insurance requiring Bodily Injury Liability and Property Liability of \$1,000,000.00 each Accident or Occurrence and Aggregate of \$2,000,000.000.
4. A check or money order in the amount of \$100.00 made payable to the "Treasurer, State of Connecticut."

The referenced plan set will satisfy the Office of Maintenance for the encroachment permit for a period of two years from the date of this letter. Should a permit not be issued within the two year period additional review will be required.

Should you have any questions please contact Mr. Ronald Ferris of the Office of Permits at 203 591-3627.