

August 10, 2015

Mr. Thomas Errico, P.E.
 TY LIN
 12 Northbrook Drive
 Falmouth, ME 04105

Subject: York Street Mixed Use Development (Condos / Retail / Restaurant)
 Portland, Maine

Dear Tom,

Gorrill Palmer (GP) has been retained by Opechee Construction to complete a trip generation forecast for the redevelopment of the site located on the northerly corner of York Street and High Street. The development is proposed to include the following uses:

- 63 Condo Units – LUC 232
- 7,000 sf High Turnover (Sit Down) Restaurant – LUC 932
- 9,955 sf Specialty Retail – LUC 826

The MaineDOT allows “credit” to be given for any on-site use within the last 10 years. For this site, that would include the following:

- Gas Station / Convenience Store (4 fueling positions + 1,350 sf C-Store) – LUC 853
- 1,300 sf Restaurant – LUC 932
- 9,000 sf Office Space – LUC 710

Using the 9th Edition of the Institute of Transportation Engineers (ITE) publication Trip Generation results in the following trip generation estimates (calculations attached):

Trip Generation Summary

	AM Gen	AM Adj St	PM Gen	PM Adj St
Proposed				
Condos	33	35	30	31
Restaurant	93	76	129	69
Retail	68	50	50	37
Proposed Total	194	161	209	137
Credit (Subtracted from Proposed)				
Gas / C Store	63	61	82	73
Restaurant	17	14	24	13
Office	21	21	20	20
Credit Total	101	96	126	106
Net Total	93	65	83	31



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After review of this information, it is our opinion that the site will not generate a net increase in trip generation of more than 99 peak hour trip ends, and therefore does not require a MaineDOT Traffic Movement Permit. We understand this trip generation is not the same increase in trips that can be expected on the adjacent roadway network since the "credit" uses were not all operational at the time the recent turning movement counts were performed.

We respectfully request your review of this information and if you agree, your concurrence in writing that a TMP is not required.

If you have any questions please contact our office.

Sincerely,

Gorrill-Palmer

A handwritten signature in blue ink that reads "Randy Dunton".

Randy Dunton, P.E., PTOE
Senior Engineer

Copy: Nell Donaldson, City of Portland
Barry Stowe, Opechee Construction Corporation

RED/JN 3018/Thomas Errico Concurrence 8-10-15

Condo trip Generation

Source: ITE Trip Generation Manual 9th Edition
LUC 232 - High-Rise Residential Condominium/Townhouse

Assumptions:

- All rooms occupied
- 63 dwelling units

Weekday AM Peak Hour Adjacent Street Traffic

Average Rate: $0.34 \times 63 = 22$ } 34 ³⁵ trip ends
Equation: $0.29(63) + 28.86 = 47$ }

- 19% in - 7 trip ends
- 81% out - 27 ²⁸ trip ends

Weekday PM Peak Hour Adjacent Street Traffic

Average Rate: $0.38 \times 63 = 24$ } 31 trip ends
Equation: $0.34(63) + 15.47 = 37$ }

- 62% in - 19 trip ends
- 38% out - 12 trip ends

Weekday AM Peak Hour Generator

Average Rate: $0.34 \times 63 = 22$ } 33 trip ends
Equation: $0.30(63) + 25.33 = 44$ }

- 17% in - 6 trip ends
- 83% out - 27 trip ends

Weekday PM Peak Hour Generator

Average Rate: $0.38 \times 63 = 24$ } 29 ³⁰ trip ends
Equation: $\ln(T) = 0.84 \ln(63) + 0.07 = 35$ }

- 68% in - 20 ²¹ trip ends
- 32% out - 9 trip ends

JN: 3018
 Project Description: Mixed Use
 Project Location: Portland, Maine
 Date: August 10, 2015

Gorrill-Palmer Consulting Engineers, Inc.
 P.O. Box 1237
 15 Shaker Road
 Gray, Maine 04039

**High Turnover (Sit Down) Restaurant
 Land Use Code (LUC) 932**

Gross Floor Area (ft²): 7,000

Time Period	ITE Trip Rate (Average Rate)	# of Sources	Trip Ends	Directional Split		Directional Distribution		R ²
				IN	OUT	IN	OUT	
Weekday	T = 127.15 (X)	14	890	50%	50%	445	445	N/A
AM Peak Adjacent Street	T = 10.81 (X)	24	76	50%	50%	38	38	N/A
PM Peak Adjacent Street	T = 9.85 (X)	60	69	60%	40%	41	28	N/A
AM Peak of Generator	T = 13.33 (X)	25	93	50%	50%	47	46	N/A
PM Peak of Generator	T = 18.49 (X)	31	129	55%	45%	71	58	N/A
Saturday	T = 158.37 (X)	2	1109	50%	50%	555	554	N/A
Saturday Peak Hour of Gen.	T = 14.07 (X)	8	98	65%	35%	64	34	N/A

Trip Generation

Source: ITE Trip Generation Manual
9th Edition LUC 826

Assumptions: All Rooms Occupied
63 Dwelling Units

- AM Peak Hr. Generator

$$6.84 \times \frac{9,955}{1,000} = 68 \text{ Trip Ends}$$

- PM Peak Hr. Generator

$$5.02 \times \frac{9,955}{1,000} = 50 \text{ Trip Ends}$$

- PM Peak Hr. Adj. St. Traffic

$$2.71 \times \frac{9,955}{1,000} = 27 \text{ TE}$$

$$2.40 \left(\frac{9,955}{1,000} \right) + 21.48 = 46 \text{ TE}$$

} Avg = 37

- AM Peak Hr. Adj. St. Traffic

$$\frac{37}{50} = \frac{x}{68} \rightarrow x = 50 \text{ Trip Ends}$$

↑
 PM

JN:
 Project Description:
 Project Location:
 Date:

3018
 Condos / Retail
 Portland, Maine
 7/21/2015

Gorrill-Palmer Consulting Engineers, Inc.
 P.O. Box 1237
 15 Shaker Road
 Gray, Maine 04039

Convenience Market with Gasoline Pumps
 Land Use Code (LUC) 853

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Vehicle Fueling Positions:

Time Period	ITE Trip Rate (Average Rate)	# of Sources	Trip Ends	Directional Split * IN OUT	Directional Distribution IN OUT	R ²
Weekday	T = 542.60 (X)	10	2170	50% 50%	1085 1085	N/A
AM Peak Hour of Adjacent Street Traffic	T = 16.57 (X)	28	66	50% 50%	33 33	N/A
PM Peak Hour of Adjacent Street Traffic	T = 19.07 (X)	54	76	50% 50%	38 38	N/A
AM Peak Hour of Generator	T = 17.03 (X)	26	68	50% 50%	34 34	N/A
PM Peak Hour of Generator	T = 19.98 (X)	46	80	50% 50%	40 40	N/A
Saturday	T = 204.47 (X)	3	818	50% 50%	409 409	N/A
Sat Peak Hr Gen	T = 10.00 (X)	2	40	50% 50%	20 20	N/A
Sunday	T = 166.88 (X)	3	668	50% 50%	334 334	N/A

* Percentages rounded to nearest 5%

Gross Floor Area (ft²): 1,350

Time Period	ITE Trip Rate (Average Rate)	# of Sources	Trip Ends	Directional Split * IN OUT	Directional Distribution IN OUT	R ²
Weekday	T = 845.60 (X)	10	1142	50% 50%	571 571	N/A
AM Peak Hour of Adjacent Street Traffic	T = 40.92 (X)	53	55	50% 50%	28 27	N/A
PM Peak Hour of Adjacent Street Traffic	T = 50.92 (X)	78	69	50% 50%	35 34	N/A
AM Peak Hour of Generator	T = 42.86 (X)	34	58	50% 50%	29 29	N/A
PM Peak Hour of Generator	T = 62.57 (X)	46	84	50% 50%	42 42	N/A
Saturday	T = 1448.33 (X)	3	1955	50% 50%	978 977	N/A
Sat Peak Hr Gen	T = 45.94 (X)	3	62	50% 50%	31 31	N/A
Sunday	T = 1182.08 (X)	3	1596	50% 50%	798 798	N/A

* Percentages rounded to nearest 5%

Average

Time Period	ITE Trip Rate (Average Rate)	# of Sources	Trip Ends	Directional Split * IN OUT	Directional Distribution IN OUT	R ²
Weekday	N/A	N/A	1856	50% 50%	828 828	N/A
AM Peak Hour of Adjacent Street Traffic	N/A	N/A	61	50% 50%	30 31	N/A
PM Peak Hour of Adjacent Street Traffic	N/A	N/A	73	50% 50%	36 37	N/A
AM Peak Hour of Generator	N/A	N/A	63	50% 50%	32 31	N/A
PM Peak Hour of Generator	N/A	N/A	82	50% 50%	41 41	N/A
Saturday	N/A	N/A	1387	50% 50%	693 694	N/A
Sat Peak Hr Gen	N/A	N/A	51	50% 50%	26 25	N/A
Sunday	N/A	N/A	1132	50% 50%	566 566	N/A

* Percentages rounded to nearest 5%

JN: 3018
 Project Description: Condos / Retail
 Project Location: Portland, Maine
 Date: July 21, 2015

Gorrill-Palmer Consulting Engineers, Inc.
 P.O. Box 1237
 15 Shaker Road
 Gray, Maine 04039

**High Turnover (Sit Down) Restaurant
 Land Use Code (LUC) 932**

Gross Floor Area (ft²): 1,300

Time Period	ITE Trip Rate (Average Rate)	# of Sources	Trip Ends	Directional Split		Directional Distribution		R ²
				IN	OUT	IN	OUT	
Weekday	T = 127.15 (X)	14	165	50%	50%	83	82	N/A
AM Peak Adjacent Street	T = 10.81 (X)	24	14	50%	50%	7	7	N/A
PM Peak Adjacent Street	T = 9.85 (X)	60	13	60%	40%	8	5	N/A
AM Peak of Generator	T = 13.33 (X)	25	17	50%	50%	9	8	N/A
PM Peak of Generator	T = 18.49 (X)	31	24	55%	45%	13	11	N/A
Saturday	T = 158.37 (X)	2	206	50%	50%	103	103	N/A
Saturday Peak Hour of Gen.	T = 14.07 (X)	8	18	65%	35%	12	6	N/A

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**General Office Building
 Land Use Code (LUC) 710**

Square Feet 9,000

Trip Ends Based on Fitted Curve Equation

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R ²
				IN	OUT	IN	OUT	
Weekday	$\ln(T) = 0.76 \ln(X) + 3.68$	211	79	50%	50%	106	105	0.80
AM Peak Hour	$\ln(T) = 0.80 \ln(X) + 1.57$	28	218	90%	10%	25	3	0.83
PM Peak Hour	$T = 1.12(X) + 78.45$	89	236	15%	85%	13	76	0.82
Saturday	$T = 2.03(X) + 31.75$	50	18	50%	50%	25	25	0.66
Peak Hour of Generator			11	55%	45%	#VALUE!	#VALUE!	0.59

* Percentages rounded to nearest 5%

Trip Ends Based on Average Rate

Time Period	ITE Trip Rate	Trip Ends	Number of Studies	Directional Split *		Directional Distribution		R ²
				IN	OUT	IN	OUT	
Weekday	$T = 11.03(X)$	99	79	50%	50%	50	49	---
AM Peak Hour	$T = 1.56(X)$	14	218	90%	10%	13	1	---
PM Peak Hour	$T = 1.49(X)$	13	236	15%	85%	2	11	---
Saturday	$T = 2.46(X)$	22	18	50%	50%	11	11	---
Saturday Peak Hour of Gen.	$T = 0.43(X)$	4	11	50%	50%	2	2	---

* Percentages rounded to nearest 5%

PM Peak Hour: $T = 1.49/1.56$ (AM Peak) 27 15% 85% 4 23 0.82