

## SUMMARY MEMORANDUM

TO: Mr. Patrick J. Carroll  
Principal  
Carroll Associates  
217 Commercial Street, Suite 200  
Portland, ME 04101

DATE: August 30, 2016

RE: Trip Generation and Accident Analyses for Proposed New Offices and Apartments on Ocean Avenue in Portland

The purpose of this memorandum is to summarize trip generation analysis prepared for a proposed new building at the site of 23 Ocean Avenue in Portland, Maine. The site is currently occupied by 1,580 S.F. of office space. The proposed new building is expected to provide for a total of 2,389 S.F. of office space on the first floor and in the basement with four apartment units on the second floor. Additionally, in terms of safety, accident data was obtained and reviewed for the vicinity of the site.

### Existing Trip Generation

The number of trips generated by the existing offices was estimated using the most recent Institute of Transportation Engineers (ITE) "Trip Generation, 9<sup>th</sup> Edition," published in 2012. The trips were estimated using land use code (LUC) 710 – General Office Building on the basis of 1,580 S.F. The results are summarized below:

<u>Time Period</u>	<b>ITE Projected Trip Generation (one-way trip ends)</b>	
	<u>Existing Offices</u>	
Weekday	18	
AM Peak Hour – Adjacent Street	3	
Entering	3	
Exiting	0	
PM Peak Hour – Adjacent Street	2	
Entering	0	
Exiting	2	

As demonstrated above, the existing offices are currently generating 3 trips during the AM peak hour of the adjacent street and 2 trips during the PM peak hour of the adjacent street.

### **Proposed Trip Generation**

The number of trips to be generated by the proposed offices and apartments was estimated using LUCs 710 – General Office Building on the basis of 2,389 S.F. and 220 – Apartment on the basis of four (4) dwelling units. The results are summarized in the table below:

<u>Time Period</u>	<b>ITE Projected Trip Generation (one-way trip ends)</b>		
	<u>Offices</u>	<u>Apartments</u>	<u>Total</u>
Weekday	26	28	54
AM Peak Hour – Adjacent Street	4	2	6
Entering	4	0	4
Exiting	0	2	2
PM Peak Hour – Adjacent Street	4	3	7
Entering	1	2	3
Exiting	3	1	4

As shown above, the proposed offices and apartment units are expected to generate a total of 6 new one-way trips during the AM peak of the adjacent street and 7 new trips during the PM peak of the adjacent street. This results in the entire site generating 9 one-way trips during the AM peak hour period and 9 one-way trips during the PM peak hour period. This minimal level of new traffic would not be expected to have any significant impact off-site on traffic operations. Typically, a project will not have any measurable impact unless it generates in excess of 25 to 35 new lane hour trips. The proposed residential and office development will generate a maximum of four (4) new lane hour trips based upon the ITE analysis, which will have no impact off-site on traffic operations.

### **Safety Analysis**

#### **Accident Review**

The Maine Department of Transportation uses two criteria to determine high crash locations (HCLs). The first is the critical rate factor (CRF), which is a measure of the accident rate. A CRF greater than one indicates a location which has a higher than expected accident rate. The expected rate is calculated as a statewide average of similar facilities.

The second criterion, which must also be met, is based upon the number of accidents that occur at a particular location. Eight or more accidents must also occur over the three-year study period for the location to be considered a high crash location. Accident data was obtained from MaineDOT for both Ocean Avenue and Hersey Street within the vicinity of the proposed site for the most recent three-year period, 2013 - 2015. This data is summarized by location in the following table:

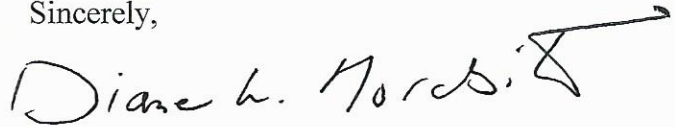
<u>Ocean Avenue Location Description</u>	<u># of Acc.</u>	<u>CRF</u>
Intersection of Forest Avenue	27	0.81
Between Forest and Hersey Street	2	1.17
Intersection of Hersey Street	2	0.62
Intersection of Codman Street	2	0.59
Between Chenery Street and Sawyer Street	1	0.30
Intersection of Sawyer Street	2	0.55

<u>Hersey Street Location Description</u>	<u># of Acc.</u>	<u>CRF</u>
Between Ocean Avenue and Clifton Street	2	0.45
Intersection of Clifton Street	2	0.98

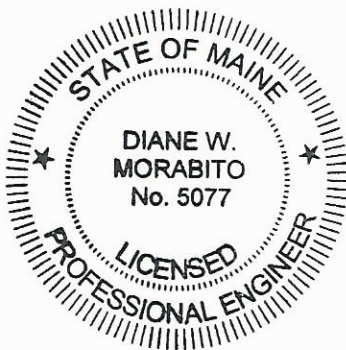
As seen above, there are no high crash locations, within the vicinity of the proposed development. Given the minimal trip generation and that there are no high crash locations, no additional accident review or evaluation should be necessary.

As always, please do not hesitate to contact me if you or the City of Portland have any questions or concerns regarding this trip generation or accident analysis.

Sincerely,



Diane W. Morabito, P.E. PTOE  
President



# Crash Summary Report

## Report Selections and Input Parameters

### REPORT SELECTIONS

Crash Summary I       Section Detail       Crash Summary II       1320 Public       1320 Private       1320 Summary

### REPORT DESCRIPTION

Ocean Ave Hersey St area in Portland

### REPORT PARAMETERS

Year 2013, Start Month 1 through Year 2015 End Month: 12

Route: <b>0009X</b>	Start Node: <b>16853</b>	Start Offset: <b>0</b>	<input type="checkbox"/> Exclude First Node
	End Node: <b>13467</b>	End Offset: <b>0</b>	<input type="checkbox"/> Exclude Last Node
Route: <b>0560361</b>	Start Node: <b>12807</b>	Start Offset: <b>0</b>	<input checked="" type="checkbox"/> Exclude First Node
	End Node: <b>12725</b>	End Offset: <b>0</b>	<input type="checkbox"/> Exclude Last Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

### Crash Summary I

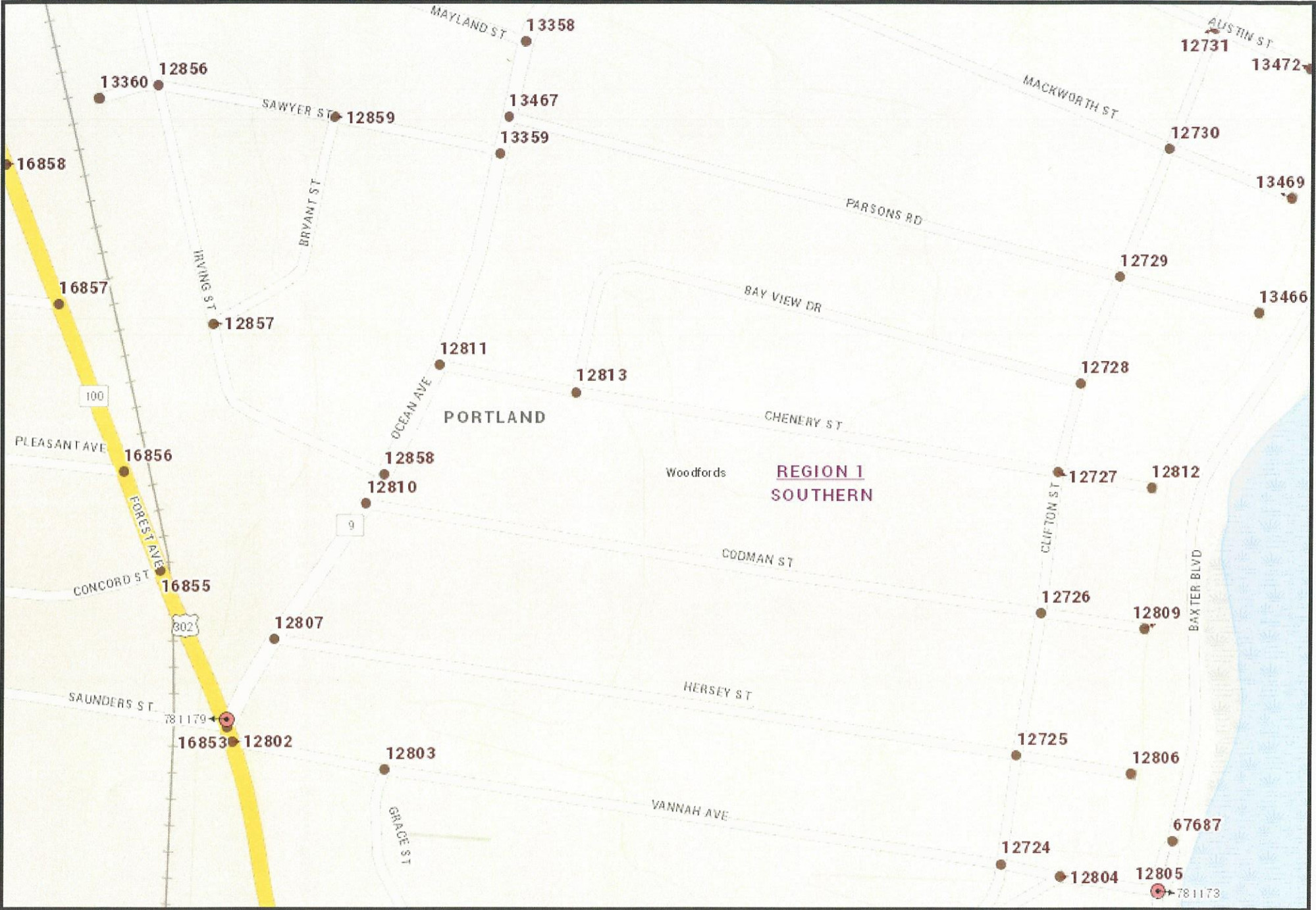
Nodes																		
Node	Route - MP	Node Description		U/R	Total Crashes	Injury Crashes					Percent Annual M	Crash Rate	Critical Rate	CRF				
						K	A	B	C	PD	Injury	Ent-Veh						
P16853	0009X - 63.08	Int of FOREST AV	OCEAN AV SAUNDER ST	9	27	0	0	2	6	19	29.6	10.864	0.83	1.02	0.00	0.81		
	12807	0009X - 63.12	Int of HERSEY ST, OCEAN AV	2	2	0	0	0	0	2	0.0	2.775	0.24	0.39	0.00	0.62		
													Statewide Crash Rate:	0.67				
P12810	0009X - 63.18	Int of CODMAN ST	OCEAN AV	2	2	0	0	0	0	2	0.0	2.896	0.23	0.39	0.00	0.59		
													Statewide Crash Rate:	0.13				
A12858	0009X - 63.19	Int of IRVING ST	OCEAN AV	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00			
													Statewide Crash Rate:	0.13				
	12811	0009X - 63.24	Int of CHENERY ST, OCEAN AV	2	0	0	0	0	0	0	0.0	3.019	0.00	0.38	0.00			
													Statewide Crash Rate:	0.13				
P13359	0009X - 63.32	Int of OCEAN AV	SAWYER ST	2	2	0	0	0	1	1	50.0	3.143	0.21	0.38	0.00	0.55		
													Statewide Crash Rate:	0.13				
A13467	0009X - 63.34	Int of OCEAN AV	PARSONS RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00			
													Statewide Crash Rate:	0.13				
	12725	0560361 - 0.29	0503138 POR,CLIFTON,HERSEY ST.	2	2	0	0	0	0	2	0.0	1.376	0.48	0.49	0.00	0.98		
													Statewide Crash Rate:	0.14				
<b>Study Years: 3.00</b>				<b>NODE TOTALS:</b>				35	0	0	2	7	26	25.7	24.073	0.48	0.55	0.88

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

### Crash Summary I

Sections																		
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	Injury Crashes				Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF		
								A	B	C	PD							
12807	16853	3120647	0 - 0.04	0009X - 63.08	0.04	2	2	0	0	0	1	1	50.0	0.00096	692.48	591.54	1.17	
Int of HERSEY ST, OCEAN AV				ST RTE 9										Statewide Crash Rate: 159.43				
12807	12810	3131540	0 - 0.06	0009X - 63.12	0.06	2	0	0	0	0	0	0	0.0	0.00160	0.00	525.13	0.00	
Int of HERSEY ST, OCEAN AV				ST RTE 9										Statewide Crash Rate: 159.43				
12810	12858	3131541	0 - 0.01	0009X - 63.18	0.01	2	0	0	0	0	0	0	0.0	0.00027	0.00	685.44	0.00	
Int of CODMAN ST OCEAN AV				ST RTE 9										Statewide Crash Rate: 159.43				
12811	12858	3117883	0 - 0.05	0009X - 63.19	0.05	2	0	0	0	0	0	0	0.0	0.00140	0.00	542.64	0.00	
Int of CHENERY ST, OCEAN AV				ST RTE 9										Statewide Crash Rate: 159.43				
12811	13359	3129251	0 - 0.08	0009X - 63.24	0.08	2	1	0	0	0	1	0	100.0	0.00232	143.39	477.22	0.00	
Int of CHENERY ST, OCEAN AV				ST RTE 9										Statewide Crash Rate: 159.43		0.30		
13359	13467	3106255	0 - 0.02	0009X - 63.32	0.02	2	0	0	0	0	0	0	0.0	0.00059	0.00	649.91	0.00	
Int of OCEAN AV SAWYER ST				ST RTE 9										Statewide Crash Rate: 159.43				
12725	12807	187219	0 - 0.29	0560361 - 0	0.29	2	2	0	0	0	0	2	0.0	0.00140	474.62	1043.35	0.00	
0503138 POR,CLIFTON,HERSEY ST.				RD INV 05 60361										Statewide Crash Rate: 384.19		0.45		
<b>Study Years: 3.00</b>					<b>Section Totals:</b>		0.55	5	0	0	0	2	3	40.0	0.00855	195.00	402.30	0.48
					<b>Grand Totals:</b>		0.55	40	0	0	2	9	29	27.5	0.00855	1560.02	555.36	2.81

# DEFAULT TITLE FROM MAP DOCUMENT



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.09  
 Miles  
 1 inch = 0.07 miles