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Traffic Assessment  
**Proposed**  
**Century Tire Property - Commercial Re-Development Project**

**INTRODUCTION**

Northland Enterprises, LLC is proposing re-development of the existing Century Tire property at 195 Kennebec Street in the City of Portland as a mixed-use commercial development. The existing Century Tire facility operated as a tire and automobile repair facility until its closure in March of 2014. The Century Tire parcel presently contains two buildings with a total building area of 16,510sf; building "A" with a total area of 12,000sf previously included approximately 4,530sf of warehouse space and 7,470sf of tire sales and service area; building "B" a 4,510sf building was previously used for tire sales and service in its entirety.

The proposed commercial re-development project retains the existing building walls and footprint areas to the extent practical, creating a total of 13,280 square feet of commercial retail space. The current proposal includes the following projected building uses: 1) 2,500sf Chipotle Restaurant; 2) 1,500sf hair salon; and 3) 9,280sf of undetermined retail space.

This document provides an estimate of peak hour trips generated by the previous Century Tire site, the proposed commercial re-development project and the "net" difference in trip generation of both site uses. The most recent roadway safety conditions are reviewed and summarized with identification of all high crash locations for the roadway system serving the project site area.

**SITE TRAFFIC**

**Site Trip Generation:** Trip generation for the proposed 13,280 square foot commercial development project was based upon trip tables presented in the eighth edition of the Institute of Transportation Engineers (ITE) "TRIP GENERATION" handbook. The following trip rates were used in that effort:

Existing Century Tire Business (16,510 square feet of building area: 11,980sf tire sales and service area and 4,530sf of warehouse space)

**Land-Use Code 150 – Warehousing (4,530sf)**

Street Peak Hour – AM Peak	= 0.30 trips/1,000sf
Street Peak Hour – PM Peak	= 0.32 trips/1,000sf
AM Peak Hour of Generator	= 0.42 trips/1,000sf
PM Peak Hour of Generator	= 0.45 trips/1,000sf
Saturday Peak Hour	= 0.13 trips/1,000sf

**Land-Use Code 848 – Tire Store (11,980sf)**

Street Peak Hour – AM Peak	= 2.89 trips/1,000sf
Street Peak Hour – PM Peak	= 4.15 trips/1,000sf
AM Peak Hour of Generator	= 3.45 trips/1,000sf
PM Peak Hour of Generator	= 3.26 trips/1,000sf
Saturday Peak Hour	= 5.05 trips/1,000sf

Proposed Commercial Development Project (13,280sf building area: 2,500sf Chipotle Restaurant w/o Drive-Through; 1,500sf hair salon; and 9,280sf presently undetermined retail space)

**Land-Use Code 814 – Specialty Retail Center (9,280sf)**

Street Peak Hour – AM Peak	= 0 trips
Street Peak Hour – PM Peak	= 2.71 trips/1,000sf
AM Peak Hour of Generator	= 6.84 trips/1,000sf
PM Peak Hour of Generator	= 5.02 trips/1,000sf
Saturday Peak Hour	= 5.02 trips/1,000sf <sup>0</sup>

**Land-Use Code 918 – Hair Salon (1,500sf)**

Street Peak Hour – AM Peak	= 1.21 trips/1,000sf
Street Peak Hour – PM Peak	= 1.45 trips/1,000sf
AM Peak Hour of Generator	= 1.21 trips/1,000sf
PM Peak Hour of Generator	= 1.93 trips/1,000sf
Saturday Peak Hour	= 5.08 trips/1,000sf

**Land-Use Code 932 – High-Turnover (Sit Down) Restaurant (2,500sf)**

Street Peak Hour – AM Peak	= 11.52 trips/1,000sf <sup>0</sup>
Street Peak Hour – PM Peak	= 11.15 trips/1,000sf
AM Peak Hour of Generator	= 13.53 trips/1,000sf
PM Peak Hour of Generator	= 18.49 trips/1,000sf
Saturday Peak Hour	= 14.09 trips/1,000sf

The following Table 1 provides a summary of peak hour trips generated by the existing property; the proposed re-development project, and the “delta” difference in trip generation for each “key” peak hour time period.

Table 1

**Comparative Summary Of  
Peak Hour Trip Generation  
Century Tire Property**

<u>Existing Condition/Proposed Condition</u>	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>	<u>AM Peak Hour of Generator</u>	<u>PM Peak Hour of Generator</u>	<u>Saturday peak Hour</u>
<b>1. Existing Century Tire Site</b>					
4,530sf warehouse space	1	1	2	2	1
11,980sf tire and service area	35	50	41	39	60
<b>Sub Total (Existing)</b>	<b>36</b>	<b>51</b>	<b>43</b>	<b>41</b>	<b>61</b>
<b>2. Proposed Commercial Development Project</b>					
9,280sf retail space	0	25	63	47	47 <sup>(1)</sup>
1,500sf Hair Salon	2	2	2	3	8
2,500sf Chipotle Restaurant	29 <sup>(2)</sup>	28	34	46	35
<b>Sub Total (Proposed)</b>	<b>31</b>	<b>55</b>	<b>99</b>	<b>96</b>	<b>90</b>
<b>Proposed Trip Total Minus Existing Trip Total</b>	<b>-5</b>	<b>4</b>	<b>56</b>	<b>55</b>	<b>29</b>

Notes:

<sup>(1)</sup> Saturday trip generation rate estimated applying same rate as ITE Trip Rate for Weekday PM Peak Hour of Generator.

<sup>(2)</sup> Chipotle Restaurants typically don't open until 11:00AM; the estimate of trip generation for the AM Peak Hour was based solely on the ITE trip rate information and did not account for hours of operations utilized by Chipotle Restaurants.

As the presentation in Table 1 illustrates, the proposed commercial re-development project very minimally increases the volume of peak hour traffic emanating from the Century Tire property. During both critical commuter peak hours (AM and PM peak hour) the “net” change (refer to trip values in Table 1 highlighted in red) in traffic (existing Century Tire business versus proposed Commercial Re-Development project) is a decrease of 5 vehicle trips in the AM peak hour and an increase of 4 trips in the PM peak hour. Minor increases in trip generation can be expected during other peak hour time periods, specifically, in the AM and PM peak hours of the generator and on a typical Saturday.

**ROADWAY SAFETY:** The Maine Department of Transportation’s (MaineDOT) Accident Records Section provided the latest three-year (2011 through 2013) crash data for the section of Marginal Way between the Forest Avenue and Preble Street/Elm Street and the section of Kennebec Street from Forest Avenue to Hanover Street. Their report is summarized as follows and attached as an appendix to the report:

## 2011 -2013 Traffic Accident Summary

<u>Location</u>	<u>Total Crashes</u>	<u>Critical Rate Factor</u>
1. Forest Ave./Marginal Way/Kennebec St./State St.	59	1.61
2. Marginal Way @ Hanover St.	5	1.10
3. Marginal Way/Elm St./Preble St.	16	0.53
4. Kennebec Street, Forest Ave. to Hanover St.	0	0.00
5. Marginal Way btw. Forest Ave. and Hanover St.	4	0.65

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- **8 or more accidents**
- **A Critical Rate Factor greater than 1.00**

As the data presented in the table shows (location highlighted in yellow), the Forest Avenue/Marginal Way/Kennebec Street/State Street intersection meets MaineDOT's criteria for a high crash location. A total of 59 crashes with a Critical Rate Factor (CRF) of 1.61 were reported for the intersection. The City, as part of the on-going State Street/High Street Two-Way Travel Conversion Study, most recently completed a detailed investigation of traffic safety concerns at this major downtown signalized intersection. The City's Traffic Peer Review Consultant has advised that further review of the intersection isn't required for this project application.

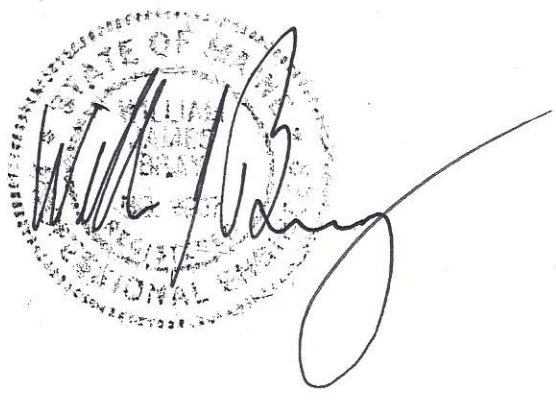
### SUMMARY

1. The proposed commercial re-development project, based upon the present development scheme, can be expected to generate less than 100 vehicle trips during all "key" peak hour travel periods. The previous Century Tire auto tire and service business, which closed in March of 2014, was estimated to have trip generation values of 36 trips during a typical AM peak hour and 51 trips in the evening street peak hour and trip generation estimates of 43, 41 and 61 trips, respectively, for the AM peak hour of the Generator, PM peak hour of the Generator, and on a Saturday peak hour time period. The "net" change in site generated traffic is very minimal for both peak commuter time periods and a reduction of nearly 50% results during the other noted peak hour time periods.

2. MaineDOT's Traffic Safety Bureau's latest three-year safety report (2011 through 2013) for the identified portions of Marginal Way and Kennebec Street shows that all roadway segments and intersections, with the exception of the Forest Avenue/Marginal Way/Kennebec Street/State Street intersection, experience fewer traffic crashes than the threshold criteria for identification of a high crash location. The noted traffic intersection, based upon the most recent three-year data, meets both of MaineDOT's criteria for identification of a high crash location. A total of 59 vehicle crashes were reported at the intersection during the study time period and the Critical Rate Factor, which compares operations at the intersection with a statewide average for similar locations, exceeds 1.00 at 1.61. The City is currently studying traffic safety and operations of this intersection as part of the on-going State Street/High Street Two-Way Traffic Conversion Study. The City has advised that further study of the intersection is not required as a part of this development application.

3. The proposed commercial re-development project, as presently envisioned, is expected to generate far less than 100 "net" vehicle trips during all peak hour time periods. As a result, a Maine Department of

Transportation Traffic Movement Permit is not required. Trip generation estimates should be prepared for all potential project tenants as leasable space within the development is filled to ensure that MaineDOT's Traffic Movement Permit requirements will not be exceeded. If the threshold criteria of 100 peak hour trips are projected to be exceeded during any peak hour time period a formal application must be filled with the City requesting issuance of a Traffic Movement Permit.

The image shows a circular official seal of the State of Maine. The seal contains the text "OFFICE OF THE ATTORNEY GENERAL" and "STATE OF MAINE" around the perimeter. In the center, there is a smaller emblem. Overlaid on the seal is a handwritten signature in black ink, which appears to be "William D. Foy". A long, thin horizontal line extends from the end of the signature to the right.

# Maine DOT Map



Map Scale 1:2612

Map Generated on Monday, February 09, 2015 02:40:18 PM

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. Road names used on this map may not match official road names.

# 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

Marginal Way Forest Ave to Preble St in Portland

### REPORT PARAMETERS

Year 2011, Start Month 1 through Year 2013 End Month: 12

Route: 0560477	Start Node: 16836 End Node: 18523	Start Offset: 0 End Offset: 0	<input type="checkbox"/> Exclude First Node <input type="checkbox"/> Exclude Last Node
Route: 3201880	Start Node: 60346 End Node: 16836	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
Route: 3200507	Start Node: 65129 End Node: 60347	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node

# Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Annual M Injury Ent-Veh	Crash Rate	Critical Rate	CRF
P16836	0560477 - 0	Int of FOREST AV KENNEBEC ST MARGINAL WY STATE	9	59	0	1	2	11	45	23.7	12.543	1.57	0.98	1.61
												Statewide Crash Rate: 0.65		
A60346	0560477 - 0.03	Non Int MARGINAL WY	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate: 0.14		
18999	0560477 - 0.16	Int of HANOVER ST MARGINAL WY	2	5	0	0	0	3	2	60.0	4.018	0.41	0.38	1.10
												Statewide Crash Rate: 0.14		
18523	0560477 - 0.18	Int of ELM ST, MARGINAL WY, PREBLE ST, PREBLE ST EX	9	16	0	0	1	5	9	40.0	9.719	0.55	1.02	0.00
												Statewide Crash Rate: 0.65		
A65129	3201880 - 0.01	Int of CUT MARGINAL WY	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate: 0.14		

Study Years: 3.00

NODE TOTALS:

80	0	1	3	19	56	28.8	26.280	1.01	0.79	1.29
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# Crash Summary I

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	Sections							Annual HMVM	Crash Rate	Critical Rate	CRF	
							K	A	B	C	PD	Injury Crashes	Percent Injury					
16836	60346	3115192	0 - 0.03	0560477 - 0 RD INV 05 60477	0.03	2	0	0	0	0	0	0	0	0	0.00016	0.00	746.02	0.00
		Int of FOREST AV, KENNEBEC ST, MARGINAL WY, STATE ST EXT														Statewide Crash Rate: 186.45		
60346	18999	3115193	0 - 0.13	0560477 - 0.03 RD INV 05 60477	0.13	2	4	0	0	1	3	25.0	0.00458	291.19	0.00458	450.16	0.00	
		Non Int MARGINAL WY														Statewide Crash Rate: 186.45		
18523	18999	3106676	0 - 0.02	0560477 - 0.16 RD INV 05 60477	0.02	2	0	0	0	0	0	0.0	0.00069	0.00	717.82	0.00		
		Int of ELM ST, MARGINAL WY, PREBLE ST, PREBLE ST EXT														Statewide Crash Rate: 186.45		
60346	65129	3123766	0 - 0.01	3201880 - 0 RD INV 3201880	0.01	2	0	0	0	0	0	0.0	0.00030	0.00	803.39	0.00		
		Non Int MARGINAL WY														Statewide Crash Rate: 186.45		
65129	16836	3139747	0 - 0.02	3201880 - 0.01 RD INV 3201880	0.02	2	0	0	0	0	0	0.0	0.00028	0.00	804.98	0.00		
		Int of CUT MARGINAL WY														Statewide Crash Rate: 186.45		
65129	60347	3116433	0 - 0.02	3200507 - 0 RD INV 3200507	0.02	2	0	0	0	0	0	0.0	0.00032	0.00	800.32	0.00		
		Int of CUT MARGINAL WY														Statewide Crash Rate: 186.45		
<b>Study Years:</b>		3.00			<b>Section Totals:</b>	0.23	4	0	0	1	3	25.0	0.00633	210.75	0.00633	415.43	0.51	
					<b>Grand Totals:</b>	0.23	84	0	1	3	20	28.6	0.00633	4425.80	0.00633	576.65	7.68	

# 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

Kennebec St from Hanover St to Forest Ave in Portland

### REPORT PARAMETERS

Year 2011, Start Month 1 through Year 2013 End Month: 12

Route: <b>0560414</b>	Start Node: <b>19008</b>	Start Offset: <b>0</b>	<input type="checkbox"/> Exclude First Node
	End Node: <b>16836</b>	End Offset: <b>0</b>	<input checked="" type="checkbox"/> Exclude Last Node
Route: <b>3201879</b>	Start Node: <b>65128</b>	Start Offset: <b>0</b>	<input checked="" type="checkbox"/> Exclude First Node
	End Node: <b>65127</b>	End Offset: <b>0</b>	<input checked="" type="checkbox"/> Exclude Last Node

# Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Annual M Injury Ent-Veh	Crash Rate	Critical Rate	CRF	
19008	0560414 - 0.33	0509428 POR,HANOVER,KENNEBEC ST.	2	0	0	0	0	0	0	0.0	0.0	0.00	0.51	0.00	
												Statewide Crash Rate: 0.14	0.14		
19007	0560414 - 0.38	0509427 POR,KENNEBEC,PARRIS ST.	2	0	0	0	0	0	0	0.0	0.0	0.00	0.58	0.00	
												Statewide Crash Rate: 0.14	0.14		
19006	0560414 - 0.41	Int of BRATTLE ST, KENNEBEC ST	2	0	0	0	0	0	0	0.0	0.0	0.00	0.60	0.00	
												Statewide Crash Rate: 0.14	0.14		
A65127	0560414 - 0.47	Int of KENNEBEC ST RD INV 3201879	2	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	
												Statewide Crash Rate: 0.14	0.14		
<b>Study Years: 3.00</b>															
<b>NODE TOTALS:</b>				0	0	0	0	0	0	0.0	0.0	0.00	0.44	0.00	

# Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
19007	19008	194700	0 - 0.05	0560414 - 0.33 RD INV 05 60414	0.05	2	0	0	0	0	0	0.0	0.00025	0.00	1435.73	0.00
0509427		POR, KENNEBEC, PARRIS ST.													Statewide Crash Rate: 346.75	
19006	19007	194698	0 - 0.03	0560414 - 0.38 RD INV 05 60414	0.03	2	0	0	0	0	0	0.0	0.00008	0.00	1324.29	0.00
		Int of BRATTLE ST, KENNEBEC ST													Statewide Crash Rate: 346.75	
65127	19006	2783082	0 - 0.06	0560414 - 0.41 RD INV 05 60414	0.06	2	0	0	0	0	0	0.0	0.00019	0.00	1480.97	0.00
		Int of KENNEBEC ST RD INV 3201879													Statewide Crash Rate: 346.75	
16836	65127	2783081	0 - 0.03	0560414 - 0.47 RD INV 05 60414	0.03	2	0	0	0	0	0	0.0	0.00006	0.00	1197.63	0.00
		Int of FOREST AV KENNEBEC ST MARGINAL WY STATE ST EXT													Statewide Crash Rate: 346.75	
65128	65127	3121551	0 - 0.02	3201879 - 0 RD INV 3201879	0.02	2	0	0	0	0	0	0.0	0.00002	0.00	-3649.88	0.00
		Int of FOREST AV RD INV 3201879													Statewide Crash Rate: 186.45	
<b>Study Years: 3.00</b>					<b>Section Totals:</b>	0.19	0	0	0	0	0	0.0	0.00059	0.00	1189.98	0.00
					<b>Grand Totals:</b>	0.19	0	0	0	0	0	0.0	0.00059	0.00	1447.39	0.00

**ATTACHMENT C**

**Parking Demand Estimate**

**PARKING DEMAND ESTIMATE FOR THE  
CENTURY TIRE PLAZA PROJECT**

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The ITE Parking Generation manual offers limited relevant guidance on parking demand at small, boutique style retail stores, with the majority of retail studies focused on larger stores (100,000 SF+/-), and large shopping centers and malls . The only use studied that is close to the size of the units proposed in this project is Land Use 851 – Convenience Market (Average Size of Study Sites = 2,300 SF GLA). The average peak parking demand for this use is 3.11 vehicles per 1,000 SF GLA). This would generate a peak parking demand of 34 spaces for the retail uses. We do not consider this to match the likely mixed retail use profile that will suit the project site and prefer the city ordinance parking rate that appears to more realistically reflect the parking demand associated with these uses. This requires 1 space per 200 SF of useable retail space above 2,000 SF and would generate a peak parking demand of 41 spaces for the retail uses (see table below).

The ITE Parking Generation manual does offer two potential categories that are relevant to the proposed restaurant use. Chipotle, the currently proposed tenant for the restaurant space is a high turnover, high density seating restaurant that exploits a niche market sector offering fast service and relatively high peak occupancy. The parking demand for this use could be considered under Land Use Code 932 – High Turnover (Sit Down) Restaurant (urban setting) and Land Use Code 933 – Fast-Food Restaurant without Drive-Through Window (setting not defined). These are considered small facilities and recommend peak parking demands of 5.55 spaces per 1,000 SF GLA, and 8.20 spaces per 1,000 SF GLA, respectively. The higher number appears more reflective of Chipotle’s use profile and generates a parking demand of 21 parking spaces for the use.

A summary of the site parking demand figures is given in the table below:

<b>Century Tire Plaza Redevelopment – Parking Demand Estimate</b>					
<b>Building</b>	<b>Use</b>	<b>GLS (SF)</b>	<b>Demand Criteria</b>	<b>Calculation Space (SF)</b>	<b>Space Req'd</b>
A	Retail	4,950	1 space per 200 SF useable retail space over 2,000 SF		
B	Retail	5,830	Useable space = GLA minus 5% (storage)		
<b>Total Area</b>		<b>10,780</b>	<b>Useable Space = 10,184</b>	<b>8,184</b>	<b>41</b>
<b>Building</b>	<b>Use</b>	<b>GLS (SF)</b>	<b>Demand Criteria</b>	<b>Calculation Space (SF)</b>	<b>Space Req'd</b>
B	Restaurant	2,500	8.2 spaces per 1,000 SF GLA	2,500	21
<b>TOTAL SITE GLA</b>		<b>13,280</b>	<b>SITE TOTAL PARKING DEMAND</b>		<b>62</b>



2-12-15