Section 10: Traffic

10.0 Traffic

The proposed development will increase the capacity of the campus facility by 20 beds in a new assisted living, memory care facility. In conjunction with the additional beds, the facility will need to increase the staffing by approximately 8 employees during the peak shift.

Based on review of the City of Portland Technical Manual, it is apparent that this project does not require a Traffic Management Plan because it does not generate more than 25 passenger car equivalents (PCE). However, through correspondences with the City of Portland's Traffic Consultant, it is apparent that a formal traffic assessment will be required. The result of this study will provide the following items:

1. Determination and assignment of peak hour trips.
2. Review of vehicle sight distance(s).
3. Analysis of roadway safety conditions in the immediate area of the project.

Wright-Pierce has retained Traffic Solutions as a subconsultant to carry out the above-mentioned study. This study is included as an attachment to this section.

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December 8, 2017

Traffic Assessment

For Proposed

The Cedars
Long-Term Care Facility
Expansion Project

Portland, Maine

INTRODUCTION

The Cedars long-term care facility located at 620 Ocean Avenue in the City of Portland are proposing a modest expansion of the existing retirement facility. The planned project constructs a three-story building, a long-term care facility covering two floors and an assisted living memory care facility on the remaining floor. The long-term care portion of the project will provide private rooms for existing residents in the existing Hoffman Center, resulting in no "*net*" increase in long-term care residents. The proposed memory care floor provides an increase of 20 rooms and represents an expansion of both staff and residents.

Access to The Cedars retirement facility will continue through the existing driveway entrance on Ocean Avenue.

This document determines daily and peak hour trip generation of the proposed project for both peak weekday commuter time periods and for a typical Saturday peak hour and examines current roadway safety trends on Ocean Avenue in the general proximity of The Cedars facility.

EXISTING CONDITIONS

Existing Traffic: Manual traffic turning movement counts were gathered at the driveway entrance to The Cedars retirement facility and Ocean Avenue on Wednesday, November 29 and Saturday, December 2, 2017. All vehicular traffic entering the driveway intersection was recorded in 15-minute intervals between 7:00 to 9:00 AM and, again, between 3:00 and 6:00 PM on Wednesday and between 11:00 and 3:00 PM on Saturday. From a summary of the data, a peak hour of traffic was determined for each of the three study time periods. The morning peak hour falls between 7:30 and 8:30 AM; the weekday afternoon peak hour occurs between 4:30 and 5:30 PM and the Saturday peak hour is recorded for 11:30 AM to 12:30 PM. Copies of the peak hour traffic "*stick*" drawings are attached for reference. Table 1, as follows, presents the peak hour traffic volumes for The Cedars facility for each of the three peak time periods:

Table 1
Existing Peak Hour Traffic Flows
The Cedars Retirement Facility

Peak Hour Time Period	Entering Trips	Exiting Trips	Total Trips
Wednesday, 11/29 7:30 to 8:30 AM	26 trips	11 trips	37 trips
Wednesday, 11/29 4:30 to 5:30 PM	14 trips	44 trips	58 trips
Saturday 12/2 11:30 AM to 12:30 PM	31 trips	18 trips	49 trips

As presented in Table 1 above, The Cedars facility presently generates a total of 37 trips in the weekday morning peak hour, a total of 58 trips in the weekday evening peak hour and a total of 49 trips in the Saturday peak hour.

SITE TRAFFIC

Site Trip Generation: Daily and peak hour trip generation was determined for the proposed 20 bed memory care portion of the project based upon trip tables presented in the ninth edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

The following trip rate was used to calculate trip generation for the proposed project:

Land Use #620 – Nursing Home

AM Peak Hour	= 0.17 trips per bed
PM Peak Hour	= 0.22 trips per bed
Saturday Peak Hour	= 0.38 trips per bed

Accordingly, the proposed 20 new memory care beds can be expected to generate a total of 3 new trips in the morning peak hour, 4 trips in the afternoon peak hour and an increase of 8 trips on Saturday.

Site Trip Distribution: The Institute of Transportation Engineers handbook also provides the following directional distribution rates for a nursing home land-use:

AM Peak Hour	= 70% enter site and 30% exit site
PM Peak Hour	= 24% enter site and 76% exit site
Saturday Peak Hour	= 63% enter site and 37% exit site

Based upon the noted directional distribution patterns, 2 trips during the morning peak hour, 1 trip in the evening peak hour and 5 trips on Saturday will enter the site and the remaining trips (1 AM trip, 3 PM trips and 3 trips Saturday) will exit the site.

EXISTING SAFETY CONDITIONS

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2014 through 2016) crash data for the section of Ocean Avenue between Rainbow Mall Road and Morse Street, a distance of approximately 0.12 miles. Their report is presented as follows:

2014 -2016 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Ocean Avenue @ Providence Street	1	0.39
2. Ocean Avenue @ Rainbow Mall Road	3	1.40

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***

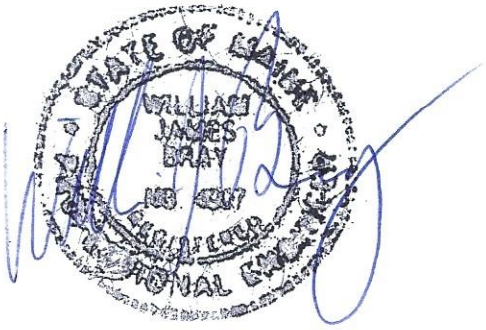
As the data presented in the table shows, the incidence of traffic crashes is extremely low, well below MaineDOT's threshold criteria for identification of a high crash location.

CONCLUSIONS

- The Cedars retirement facility presently generates very modest volumes of traffic during each of the critical weekly peak hour time periods. The existing facility generates a total of 37 trips during the morning peak hour, 58 trips in the afternoon peak hour and a total of 49 trips on Saturday.

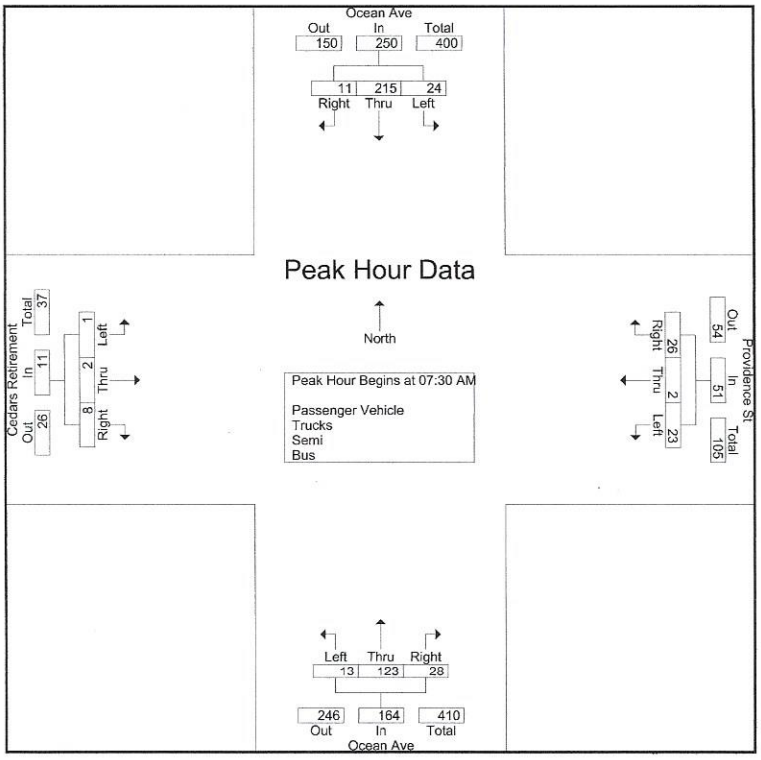
- The proposed building expansion project, which adds a total of 20 memory care beds to the overall facility, can be expected to generate less than 10 new vehicle trips in each of the "*key*" peak hour time periods (3 trips in the weekday AM peak hour; 4 trips in the evening peak hour and 8 trips on Saturday).

- The Maine Department of Transportation's most recent three-year (2014 to 2016) accident safety audit for the section of Ocean Avenue between Rainbow Mall Road and Morse Street would suggest that travel conditions within the noted road section are generally very safe. MaineDOT's report shows a total of 4 vehicle crashes were reported during the three-year study period.



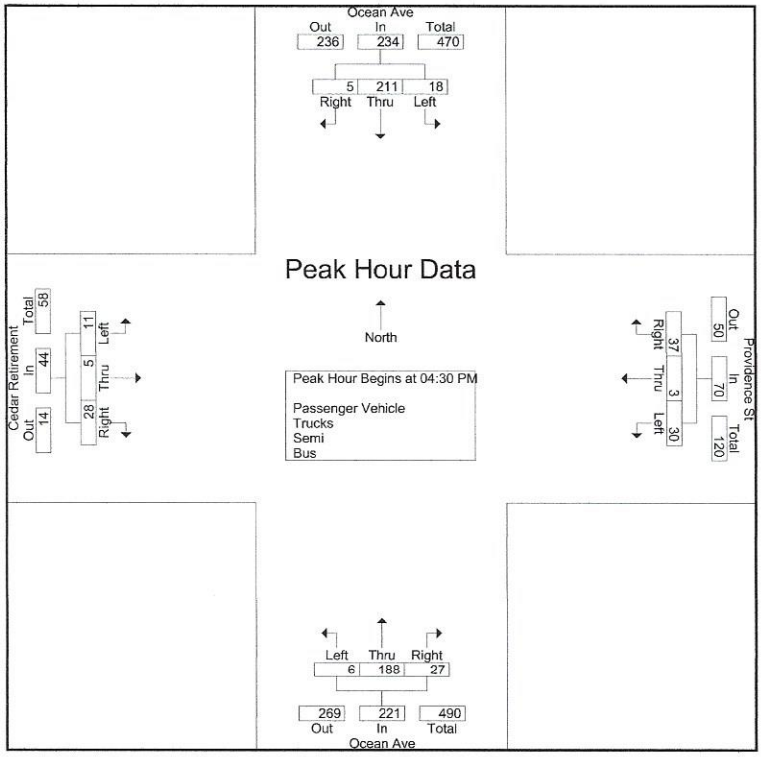
Portland: 620 Ocean Ave
Wednesday November 29, 2017
Cloudy With Sprinkles
Count By:Dawn-Marie Fahey

File Name : Portland 620 Ocean Ave AM 112917
Site Code : 01118171
Start Date : 11/29/2017
Page No : 6



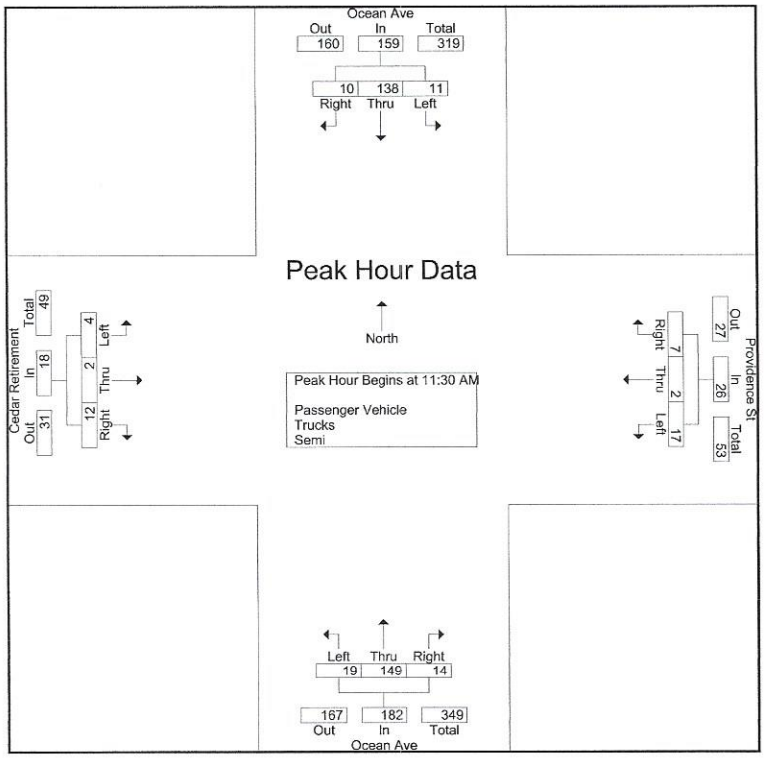
Portland: 620 Ocean Ave
Wednesday November 29, 2017
Cloudy with Sprinkles The Clear
Count By: Dawn-Marie Fahey

File Name : Portland 620 Ocean Ave PM 112917
Site Code : 01128172
Start Date : 11/29/2017
Page No : 6



Portland: 620 Ocean Ave
Saturday December 2, 2017
Clear
Count By: Dawn-Marie Fahey

File Name : Portland 620 Ocean Ave 120217
Site Code : 01202171
Start Date : 12/2/2017
Page No : 1



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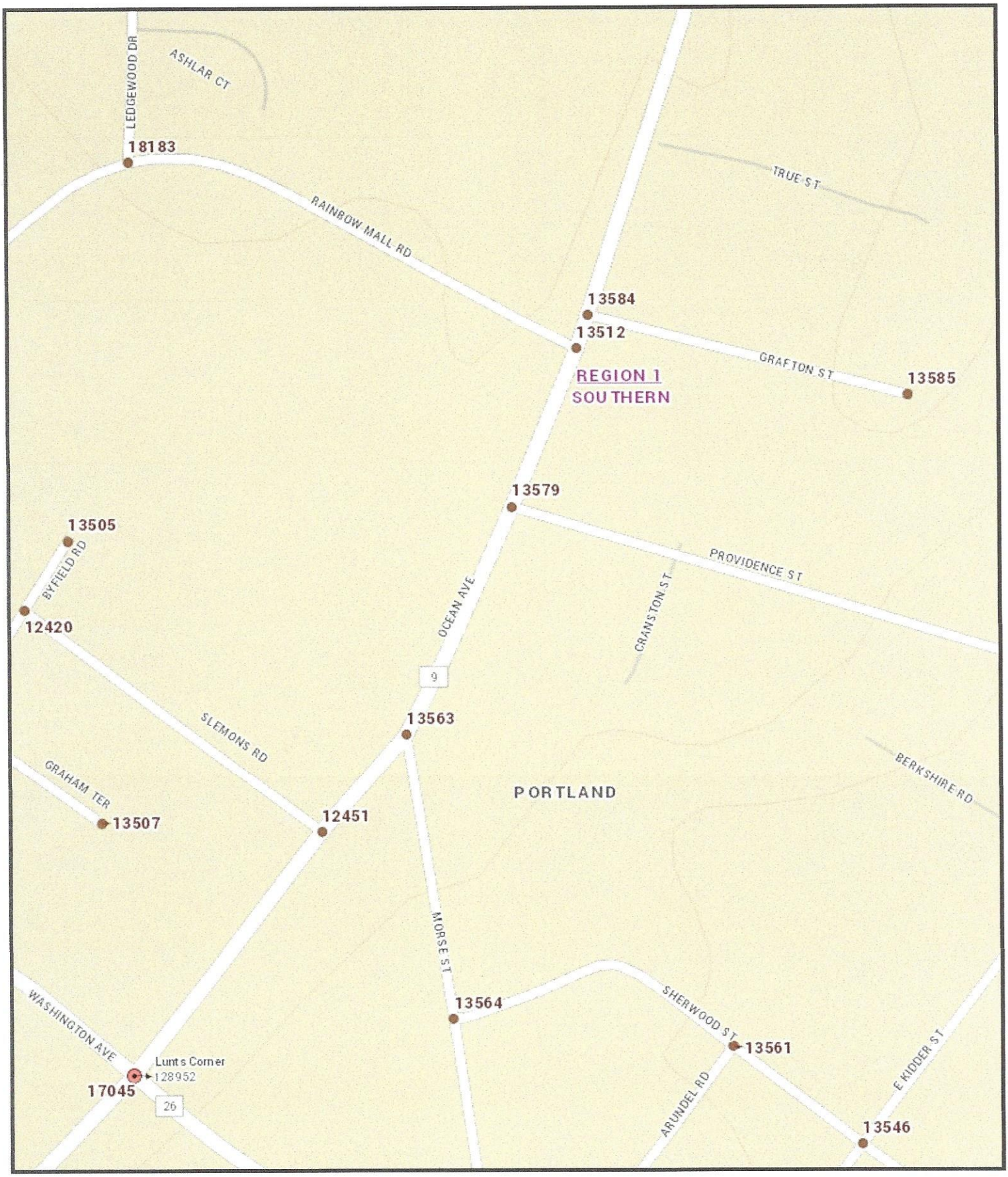

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0.045 Miles

1 inch = 0.05 miles

Date: 12/4/2017
Time: 7:15:08 AM

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

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 in Portland

REPORT PARAMETERS

Year 2014, Start Month 1 through Year 2016 End Month: 12

Route: **0009X**	Start Node: **13563**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **13512**	End Offset: **0**	☐ **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 K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
13563	0009X - 64.54	Int of MORSE ST OCEAN AV	2	0	0	0	0	0	0	0.0	1.836	0.00	0.46	0.00
												Statewide Crash Rate:	0.14	
13579	0009X - 64.61	Int of OCEAN AV PROVIDENCE ST	2	1	0	0	0	0	1	0.0	1.822	0.18	0.46	0.00
												Statewide Crash Rate:	0.14	
P13512	0009X - 64.66	Int of OCEAN AV, RAINBOW MALL RD	2	3	0	0	0	3	0	100.0	1.475	0.68	0.49	1.40
												Statewide Crash Rate:	0.14	
Study Years:	3.00	**NODE TOTALS:**		4	0	0	0	3	1	75.0	5.133	0.26	0.35	0.74

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
13563	13579	3131561	0 - 0.07	0009X - 64.54	0.07	2	0	0	0	0	0	0	0.0	0.00127	0.00	585.99	0.00
Int of MORSE ST OCEAN AV				ST RTE 9											Statewide Crash Rate: 171.37		
13512	13579	3122200	0 - 0.05	0009X - 64.61	0.05	2	0	0	0	0	0	0	0.0	0.00086	0.00	642.07	0.00
Int of OCEAN AV, RAINBOW MALL RD				ST RTE 9											Statewide Crash Rate: 171.37		
Study Years: 3.00				**Section Totals:**	0.12		0	0	0	0	0	0	0.0	0.00213	0.00	514.95	0.00
				Grand Totals:	0.12		4	0	0	0	3	1	75.0	0.00213	625.84	738.33	0.85