

SUMMARY MEMORANDUM

TO: Joe Delaney, Maine Licensed Architect
Whipple-Callender Architects
136 Pleasant Avenue
Portland, Maine 04103

DATE: August 7, 2017

RE: Trip Generation Analysis for Proposed Detox and Recovery Center at 17 Bishop Street, Portland

The purpose of this memorandum is to summarize a trip generation analysis prepared for a proposed Detox and Recovery Center at 17 Bishop Street in Portland, Maine. The new center will replace the existing Spurwink Center, housed in an existing two-story building. The lower first floor of the existing building will house the residential clients. The facility is expected to provide for up to 40 clients for three week stays. The admissions are expected to be staggered by day and also time of day. The majority of employees for the residential operations are expected to work twelve-hour shifts, from 7 to 7. Twelve (12) employees are expected for these shifts when the center is fully operational with 40 clients. The upper second story, 5,659 square feet (S.F.) in size, will provide for administrative offices. These offices will operate on a typical daily office schedule. Six employees are anticipated for this facility.

Existing Trip Generation

Actual traffic counts were performed at the existing Spurwink facility given that it is not a typical office building and given that the Spurwink facility is still operating. Trip generation counts were conducted at the existing site drives during the AM (7:00 ó 9:00 AM) and PM (4:00 ó 6:00 PM) peak hour periods to determine existing peak hour trip levels for the building. The PM count was conducted on Wednesday, July 19, 2017 and the peak hour of the facility occurred from 4:00 to 5:00 PM. The AM count was conducted on July 20, 2017 and the peak hour occurred from 7:45 to 8:45 AM. The count records are attached to this memorandum. The total trips, entering and exiting, during the AM and PM peak hours of the Spurwink facility are summarized below:

<u>Time Period</u>	<u>Measured Spurwink Trip Generation One-Way Trip-Ends</u>
AM Peak Hour ó Generator	17
Entering	11
Exiting	6
PM Peak Hour ó Generator	12
Entering	2
Exiting	10

As seen in the preceding table, the Spurrwink facility is currently generating 17 one-way trips during the AM peak hour and 12 trips during the PM peak hour.

Projected Trip Generation

The number of trips to be generated by the proposed Detox and Recovery Center was estimated using the most recent Institute of Transportation Engineers (ITE) "Trip Generation, 9th Edition," as well as information provided by the center for expected operations. The trips for the second floor administrative offices were calculated using ITE Land Use Code (LUC) 710 "General Offices on the basis of 5,659 S.F. and six (6) employees. Since the square footage basis yielded higher estimates, it was used for the analysis, to be conservative.

The trips for the residential first floor were estimated based upon the expected client and employee information. The facility at full future build out is expected to house 40 patients for three week stays. It is understood that these patient stays and admissions will be staggered. Hence, assuming admissions over the 15 weekdays results in 3 admissions per day. To allow for peaking characteristics, it was assumed that up to 6 admissions and 6 discharges could occur in a single day. Since these trips will be staggered throughout the day, but most will occur during normal daytime hours, it was assumed that one (1) patient trip would be entering the facility and one (1) departing during each peak hour.

In terms of employee trips for the residential component of the center, twelve staff are expected to be employed in 12 hour shifts, running from 7 to 7. Most employees arriving for the 7 AM shift will arrive prior to the 7 to 9 AM peak hour period. It was assumed that 6 employees leaving the overnight shift will impact the 7 to 9 AM peak hour period. In terms of the 4 to 6 PM weekday PM peak hour period, no significant employee trips should occur within this period. However, one (1) entering and (1) exiting trip was assumed. The overall trip generation results are summarized in the table below:

ITE Projected Trip Generation (One-Way Trip-Ends)

<u>Time Period</u>	<u>Detox Facility</u>		<u>Adm. Offices</u>		<u>Total Trips</u>
	<u>Clients</u>	<u>Emp.</u>	<u>S.F.</u>	<u>Emp.</u>	
AM Peak Hour	2	7	9	6	18
Entering	1	1	8	5	10
Exiting	1	6	1	1	8
PM Peak Hour	2	2	8	3	12
Entering	1	1	1	1	3
Exiting	1	1	7	2	9

As shown in the previous table, the proposed new Detox and Recovery Center is expected to generate 18 trips during the AM peak hour period and 12 during the PM peak hour. These trip estimates are expected to be conservative since the trips for the three components will likely not occur within the same hour (i.e. administrative office arrivals and overnight shift worker departures) but instead over the two-hour peak hour period. The expected trips are compared to the existing Spurwink trips below:

Ends) <u>Time Period</u>	Change in Trip Generation (One-Way Trip-		
	<u>Existing</u>	<u>Projected</u>	<u>Increase</u>
AM Peak Hour – Generator	17	18	1
PM Peak Hour – Generator	12	12	0

As seen above, these trip results are almost identical to the measured Spurwink trips. Therefore, the proposed Detox and Recovery Center should have no measurable impact off-site on traffic operations or safety.

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



Sincerely,

Diane W. Morabito

Diane W. Morabito, P.E. PTOE
President

Maine Traffic Resources
25 Vine Street
Gardiner, ME 04345
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Title: 17 Bishop Street AM
Town: Portland, Maine
Counter: NLS
Weather: Sunny

File Name : Portland17BishopStAM
Site Code : 00000000
Start Date : 7/20/2017
Page No : 1

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

Start Time	17 Bishop Street Exiting From North					17 Bishop Street Entering From East					From South					17 Bishop Street Entering From West					Int. Total
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	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		1.0	1.0	1.0	1.0		
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***																					
07:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	4
07:45 AM	2	0	1	0	3	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	8
Total	3	0	1	0	4	4	0	0	0	4	0	0	0	0	0	0	0	5	0	5	13
*** BREAK ***																					
08:15 AM	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	4
08:30 AM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	5
08:45 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	4
Total	0	0	3	0	3	6	0	0	0	6	0	0	0	0	0	0	0	4	0	4	13
Grand Total	3	0	4	0	7	10	0	0	0	10	0	0	0	0	0	0	0	9	0	9	26
Apprch %	42.9	0.0	57.1	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	11.5	0.0	15.4	0.0	26.9	38.5	0.0	0.0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.6	0.0	34.6	

Start Time	17 Bishop Street Exiting From North					17 Bishop Street Entering From East					From South					17 Bishop Street Entering From West					Int. Total		
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total			
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																							
Intersection	07:45 AM																						
Volume	2	0	4	0	6	6	0	0	0	6	0	0	0	0	0	0	0	5	0	5	17		
Percent	33.3	0.0	66.7	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0				
07:45 Volume Peak Factor	2	0	1	0	3	3	0	0	0	3	0	0	0	0	0	0	0	2	0	2	8		
High Int. Volume Peak Factor	07:45 AM																				0.531		
Volume	2	0	1	0	3	07:45 AM	3	0	0	0	3	6:45:00 AM	0	0	0	0	07:45 AM	0	0	2	0	2	
Peak Factor					0.50					0.50					0.62					0.62	5		

Maine Traffic Resources
 25 Vine Street
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 mainetrafficresources.com

Title: 17 Bishop Street PM
 Town: Portland, Maine
 Counter: NLS
 Weather: Sunny

File Name : Portland17BishopStPM
 Site Code : 00000000
 Start Date : 7/19/2017
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Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

Start Time	17 Bishop Street Exiting From North					17 Bishop Street Entering From East					From South					17 Bishop Street Entering From West					Int. Total
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	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		1.0	1.0	1.0	1.0		
04:00 PM	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	5	0	5	0	10	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	12
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	4
05:45 PM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Total	2	0	5	0	7	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	11
Grand Total	7	0	10	0	17	4	0	0	0	4	0	0	0	0	0	0	0	2	0	2	23
Apprch %	41.2	0.0	58.8	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	30.4	0.0	43.5	0.0	73.9	17.4	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	8.7	

Start Time	17 Bishop Street Exiting From North					17 Bishop Street Entering From East					From South					17 Bishop Street Entering From West					Int. Total
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	5	0	5	0	10	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	12
Percent	50.0	0.0	50.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
04:00 Volume	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
Peak Factor																					0.600
High Int. Volume	04:00 PM					04:45 PM					3:45:00 PM					04:00 PM					
Peak Factor	2	0	2	0	4	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0.25
	0.62					0.25					0.25					0					