

DRAFT
Trip Assignment Methodology
Maine Medical Center – St. John Street Garage
Portland, Maine

Date: May 11, 2018
Subject: Trip Assignment Methodology
St. John Street Garage, Portland, Maine
To: Al Green, Maine Medical Center
From: Randy Dunton / Emily Tynes, Gorrill Palmer

Gorrill Palmer (GP) has prepared this memorandum as a summary of the methodology used to complete the trip assignment for the proposed St. John Street Garage in Portland, Maine. The trip assignment, shown on the attached Figure X, was completed and submitted to the City of Portland on April 18, 2018. The following summarizes the methodology used to determine the trip assignment shown on Figure X.

VHB Travelshed

The broader regional trip assignment has been based on the Travelshed created by VHB (attached) for the Institutional Development Plan (IDP). VHB plotted the Bramhall Employee addresses on a 50 mile plus Gravity Model and then created sectors (shown in different colors on the Gravity Model) of groups of employees that would be expected to enter into the region via certain general routes. In speaking with VHB, this model was intended to be regional and not specific as the study area reduced in size. The following summarizes the general regional Travelshed distribution:

- I-295 North: 12%
- Rt 35 / 302 / 117 North: 13%
- I-95 North: 10%
- I-95 South: 17%
- Ferries: 0%
- Peninsular Surface Streets: 9%
- Rt 25 / Brighton Avenue: 25%
- South Portland Surface Streets: 13%



These percentages represent the proportion of MMC employee traffic that is estimated to use each general route. It should be noted that as listed above, the total percentage is 99%. To increase the total percentage to 100%, the I-295 North was adjusted to 13%.

Refined Trip Assignment

GP used the regional VHB Travelshed as a base in which to establish how the MMC employees may approach the study area. The study area shown on the attached Figure 1 represents that discussed at the pre-scoping meeting for phase 3 of the project, the Congress Street expansion. This refinement in trip assignment is based on a combination of reviewing traffic counts at the study area intersections, AADT volumes from the MaineDOT Map Viewer, and engineering judgement. As discussed with the City previously, there are countless routes that employees could take to reach the study area depending on their knowledge of the area. The following summarizes the assumptions made to refine the trip assignment from the regional model (Figure X) to the study area (Figure 1):

- I-295 North: 13%
 - 13% inbound using Congress Street to I-295
 - 13% outbound using Park Avenue to I-295
- Rt 35 / 302 / 117 North: 13%
 - 12% using Park Avenue (inbound and outbound)
 - 1% using Congress Street (inbound and outbound)
- I-95 North: 10%
 - 3% inbound using Congress Street from the west
 - 4% inbound using Congress Street from I-295
 - 3% inbound using Park Avenue from the east
 - 3% outbound using Park Avenue to the west
 - 4% outbound using Park Avenue to I-295
 - 3% outbound using Park Avenue to the east
- I-95 South: 17%
 - 6% inbound using Congress Street from I-295
 - 11% inbound using Veterans Memorial Bridge
 - 4% outbound using Park Avenue to I-295
 - 13% outbound using Veterans Memorial Bridge
- Ferries: 0%
 - 0% not shown on trip assignment figure
- Peninsular Surface Streets: 9%
 - 7% using Congress Street (inbound and outbound)
 - 2% using Danforth Street (inbound and outbound)
- Rt 25 / Brighton Avenue: 25%
 - 20% using Brighton Avenue to St. John Street (inbound and outbound)

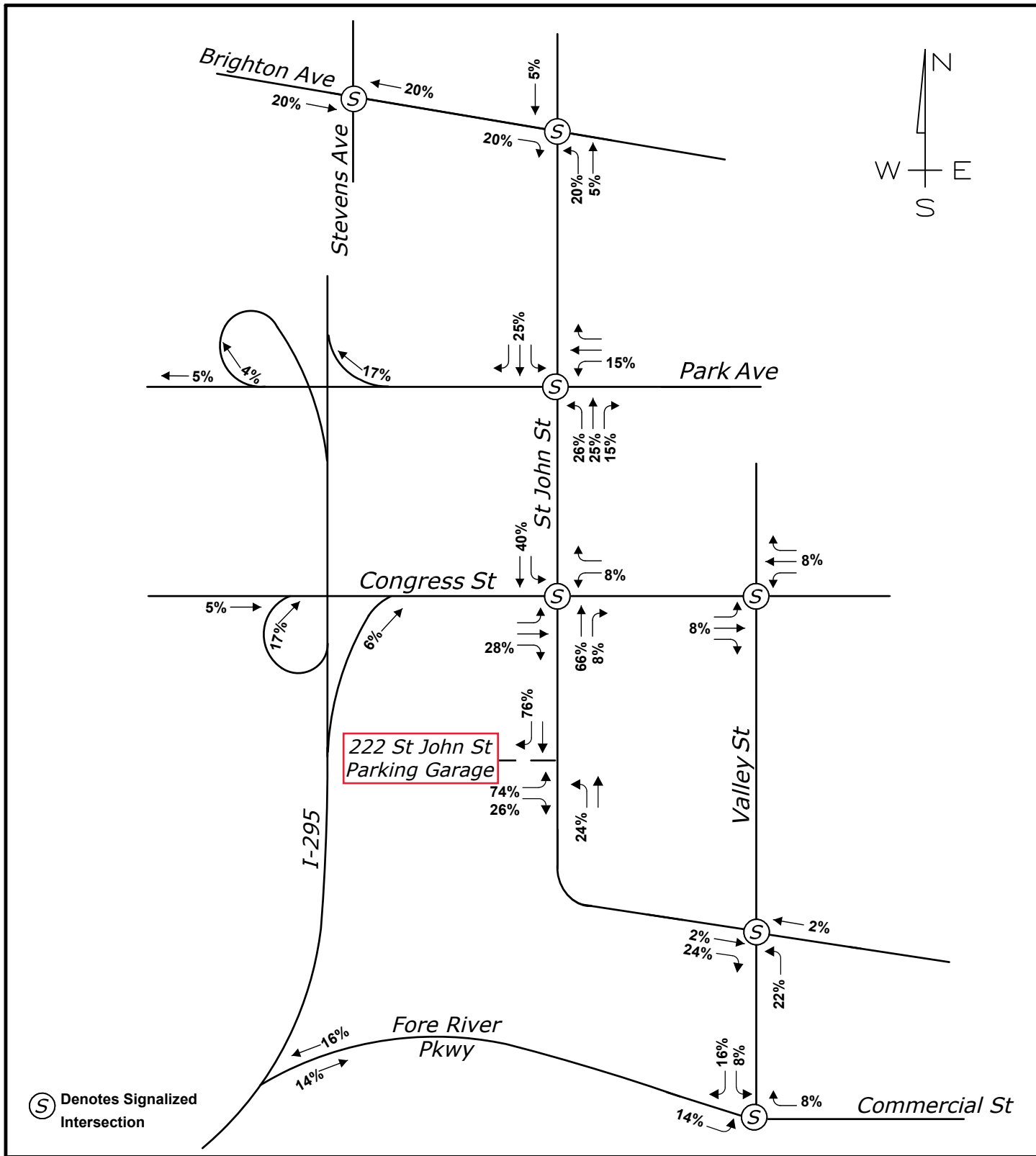


- 5% using Devonshire Street to St. John Street (inbound and outbound)
- South Portland Surface Streets: 13%
 - 2% inbound using Congress Street from the west
 - 3% inbound using Veterans Memorial Bridge
 - 8% inbound using Commercial Street
 - 2% outbound using Park Avenue to the west
 - 3% outbound using Veterans Memorial Bridge
 - 8% outbound using Commercial Street

Study Area Trip Assignment

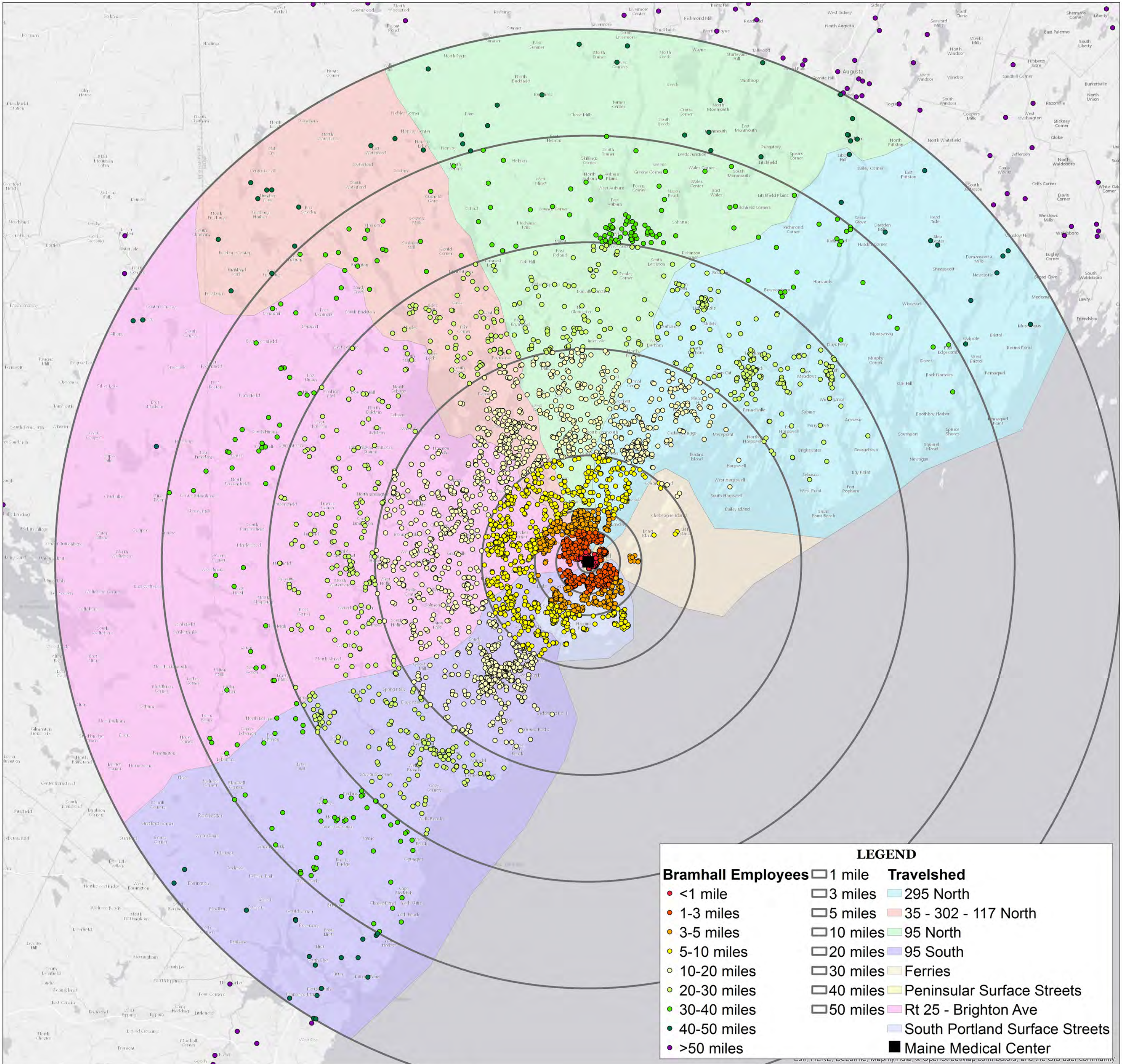
Figure No.

1



MAINE MEDICAL CENTER EXPANSION PORTLAND, MAINE

Design: ET Scale: NONE
 Draft: Date: MAY 2018
 Checked: RED File Name: 2866.01-TRAFF.dwg



LEGEND

Bramhall Employees	1 mile	Travelsheds
• <1 mile	3 miles	295 North
• 1-3 miles	5 miles	35 - 302 - 117 North
• 3-5 miles	10 miles	95 North
• 5-10 miles	20 miles	95 South
• 10-20 miles	30 miles	Ferries
• 20-30 miles	40 miles	Peninsular Surface Streets
• 30-40 miles	50 miles	Rt 25 - Brighton Ave
• 40-50 miles		South Portland Surface Streets
• >50 miles		■ Maine Medical Center

**Bramhall Employee Address Locations and Travelsheds
Maine Medical Center**

Emily Tynes

From: Randy Dunton
Sent: Monday, May 8, 2017 5:21 PM
To: Emily Tynes
Subject: FW: MMC - St John Parking Garage
Attachments: Attachments.html

ShareFile Attachments Expires November 04, 2017

Maine Medical Bramhall Employee Distanc...x17.jpg	11.4 MB
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Randy Dunton P.E., PTOE | Project Manager



707 Sable Oaks Drive, Suite 30 | South Portland, ME 04106
207.772.2515 (office) | 207.239.7430 (mobile)
www.gorrillpalmer.com

From: Nham, Janie [mailto:JNham@VHB.com]
Sent: Monday, May 08, 2017 5:10 PM
To: Randy Dunton <rdunton@gorrillpalmer.com>; Grier, Nat <NGrier@VHB.com>; Manning, Sean <smanning@VHB.com>
Cc: Houdlette, Meghan <mhoudlette@VHB.com>
Subject: RE: MMC - St John Parking Garage

Hi Randy,

Enclosed are the findings from our travelshed analysis of the Bramhall employee address data. This data applies to the Bramhall employee population only; if you need it for all MMC employees, please let us know.

Bramhall Employees

Distance to MMC (in miles)

Travelshed	1	3	5	10	20	30	40	50	Total	Percent
295 North		110	71	101	239	170	69	15	775	12%
35 - 302 - 117 North	33	214	165	79	221	79	29	15	835	13%
95 North			161	60	204	103	81	18	627	10%
95 South		83	43	83	556	152	93	37	1047	17%
Ferries				11	10				21	0%
Peninsular Surface Streets	350	205							555	9%
Rt 25 - Brighton Ave	41	228	62	323	488	216	124	42	1524	25%
South Portland Surface Streets		332	267	228					827	13%
Total	424	1172	769	885	1718	720	396	127	6211	100%

Thanks,

Janie Nham

Transportation Planner

P 571.389.8123

www.vhb.com**From:** Randy Dunton [<mailto:rdunton@gorrillpalmer.com>]**Sent:** Monday, May 08, 2017 12:39 PM**To:** Grier, Nat <NGrier@VHB.com>; Manning, Sean <smanning@VHB.com>**Cc:** Houdlette, Meghan <mhoudlette@VHB.com>; Nham, Janie <JNham@VHB.com>**Subject:** RE: MMC - St John Parking Garage

Sounds great. If you could send that along we will review and let you know if we need anything additional beyond that.

Randy Dunton P.E., PTOE | Project Manager



707 Sable Oaks Drive, Suite 30 | South Portland, ME 04106

207.772.2515 (office) | 207.239.7430 (mobile)

www.gorrillpalmer.com**From:** Grier, Nat [<mailto:NGrier@VHB.com>]**Sent:** Monday, May 08, 2017 12:36 PM**To:** Randy Dunton <rdunton@gorrillpalmer.com>; Manning, Sean <smanning@VHB.com>**Cc:** Houdlette, Meghan <mhoudlette@VHB.com>; Nham, Janie <JNham@VHB.com>**Subject:** RE: MMC - St John Parking Garage

You just need something for trip distribution? We have a travelshed approach complete which we can provide you and save you a step.

Nathaniel Grier, PE, ENV SP

National Practice Leader – Campus Transportation Planning

From: Randy Dunton [<mailto:rdunton@gorrillpalmer.com>]

Sent: Monday, May 08, 2017 12:24 PM

To: Manning, Sean <smanning@VHB.com>

Cc: Houdlette, Meghan <mhoudlette@VHB.com>; Nham, Janie <JNham@VHB.com>; Grier, Nat <NGrier@VHB.com>

Subject: RE: MMC - St John Parking Garage

Thank you.

Randy Dunton P.E., PTOE | Project Manager



707 Sable Oaks Drive, Suite 30 | South Portland, ME 04106

207.772.2515 (office) | 207.239.7430 (mobile)

www.gorrillpalmer.com

From: Manning, Sean [<mailto:smanning@VHB.com>]

Sent: Monday, May 08, 2017 12:20 PM

To: Randy Dunton <rdunton@gorrillpalmer.com>

Cc: Houdlette, Meghan <mhoudlette@VHB.com>; Nham, Janie <JNham@VHB.com>; Grier, Nat <NGrier@VHB.com>

Subject: RE: MMC - St John Parking Garage

Hi guys –

Can we provide Randy/Gorrill Palmer with the geo-coded data indicating MMC home origin

Thanks

sm

Sean M. Manning, PE

From: Randy Dunton [<mailto:rdunton@gorrillpalmer.com>]

Sent: Monday, May 8, 2017 12:15 PM

To: Manning, Sean <smanning@VHB.com>

Subject: MMC - St John Parking Garage

Good afternoon Sean,

I am hoping that through the employee surveys you conducted and knowing where the employees live, you can assist us in identifying the potential trip distribution should a parking garage be located off St John. If you have not created something already, could you provide us with the employee information such that we can create a form of gravity model?

Thank you Sean.

Randy Dunton P.E., PTOE | Project Manager



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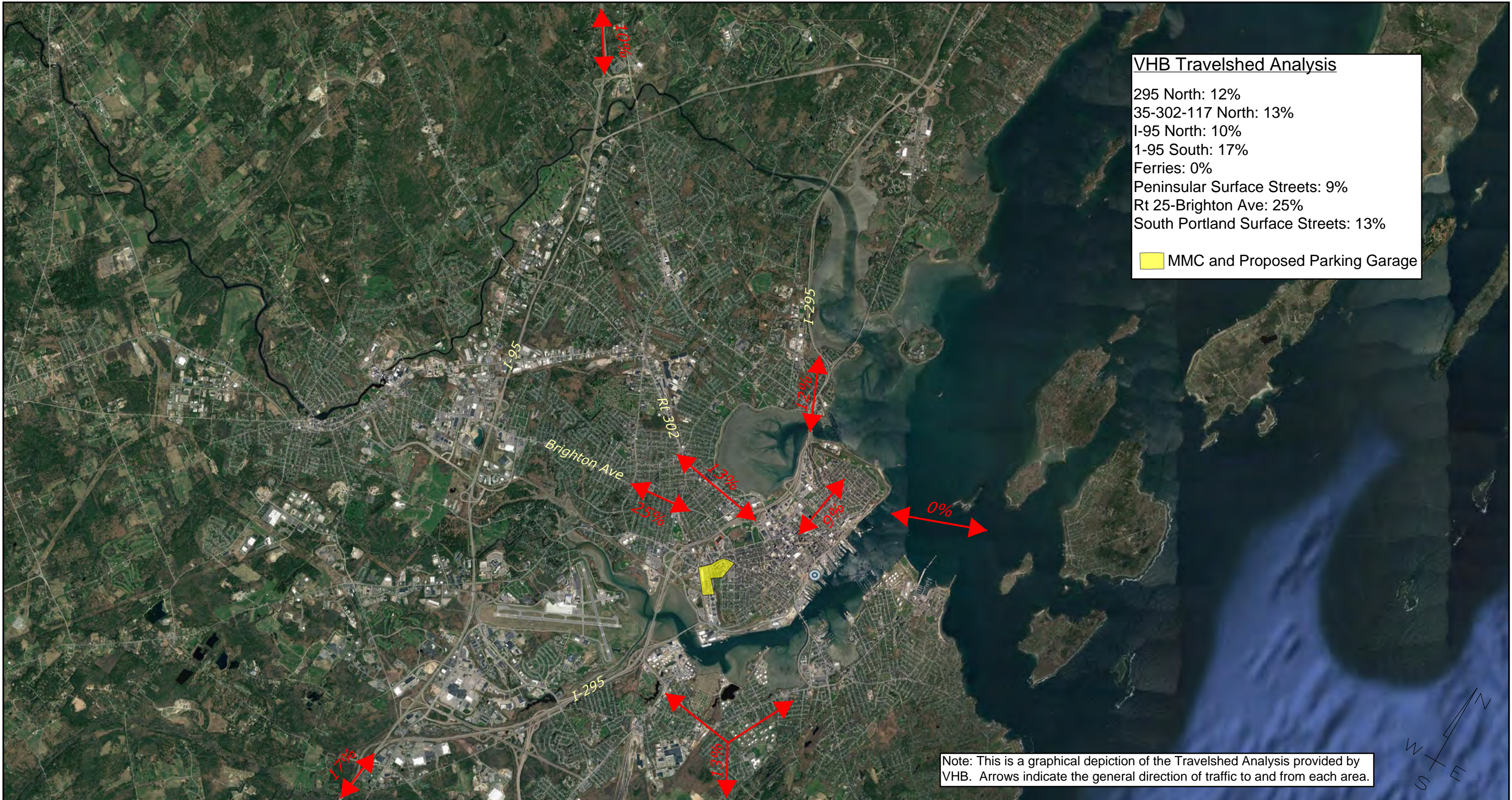
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VHB Travelshed Analysis



Note: This is a graphical depiction of the Travelshed Analysis provided by VHB. Arrows indicate the general direction of traffic to and from each area.



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