

Relationships.
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Traffic Movement
Permit Application
Bramhall Street - 22:
MMC Congress Street
Building
Portland, Maine

PREPARED FOR:
Maine Medical Center
22 Bramhall Street
Portland, ME 04102

September 2018



SUBMITTED BY:
Gorrill Palmer
707 Sable Oaks Drive
Suite 30
So. Portland, ME 04106
207.772.2515



707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

September 25, 2018

Ms. Nell Donaldson
City of Portland Planning Division
389 Congress Street, 4th Floor
Portland, Maine 04101

RE: Application for Traffic Movement Permit
Maine Medical Center Expansion
Portland, Maine

Dear Ms. Donaldson,

Gorrill Palmer (GP) has been retained by Maine Medical Center to prepare this Traffic Movement Permit Application for the proposed Maine Medical Center expansion project located at the site of the existing Gilman Garage in the southeast corner of the Gilman Street / Congress Street intersection in Portland, Maine.

We have attached the following information in support of this application:

- Sections 1-7
- Signed application form
- Notice of intent to file
- List of abutters
- \$1,500 application fee

Section 7 (Traffic Impact Study) of the application is also being submitted under separate cover. Please contact our office with any questions regarding this application.

Sincerely,
Gorrill Palmer

A handwritten signature in black ink that reads 'Randy Dunton'. The signature is fluid and cursive.

Randy Dunton, PE, PTOE
Project Manager

Copy: Alexander Green, Maine Medical Center
Randy Ilian, MaineDOT Region I Traffic Engineer

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE
ID# _____
Total Fees: _____
Date Received: _____

12/99

**PERMIT APPLICATION – TRAFFIC
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. §704-A**

Please type or print:

This application is for (check all that apply):
Traffic 100-200 PCE's
Traffic 200 + PCE's

Name of Applicant: Maine Medical Center; Attn: Alexander Green

Address: 22 Bramhall Street, Portland, Maine 04102 Telephone: (207) 662-3689

Name of local contact or agent: Randy Dunton – Gorrill Palmer

Address: 707 Sable Oaks Drive, South Portland, ME 04106 Telephone: (207) 772-2515

Name and type of development: The Maine Medical Center Expansion includes razing the existing employee parking garage and constructing additional hospital space including new operating rooms and patient rooms, although the total number of beds will remain the same.

Location of development including road, street, or nearest route number: The site is located at the existing Gilman Street garage and the block bounded by Valley Street, Congress Street, Gilman

Street, and A Street.

City/Town/Plantation: Portland County: Cumberland Tax Maps: 53 & 67 Lots: D007
and H001, H002, H005, H008, and H009.

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? No

Was this development started prior to obtaining a traffic permit? No

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30-A, chapter 187)?
Yes _____ No _____

Is this project located within a compact area of an urban compact municipality? Yes X No _____

Is this development or any portion of the site currently subject to state or municipal enforcement action?
None Known

Existing DEP or MDOT permit number (if applicable): N/A

Name(s) DOT staff person(s) contacted concerning this application Delegated Review is to the City

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applicants: _____

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE
ID# _____

12/99

Total Fees: _____
Date Received: _____

CERTIFICATION

This person responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the applicant for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: *Randall E. Dunton* Re/Cert/Lic No.: _____

Name (print): **Randall E. Dunton** Engineer: **Maine PE # 8686**

Date: *Sept 24, 2018* Other: _____



If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature of applicant

9/25/2018
Date

[Handwritten signature]

NOTICE OF INTENT TO FILE

Please take notice that:

Maine Medical Center
22 Bramhall Street
Portland, ME 04102

is intending to file a MaineDOT Traffic Permit application with the City of Portland (Delegated Review Authority) pursuant to the provisions of 23 M.R.S.A. §704 – A on or about September 25, 2018.

This application is for:

The Congress Street building expansion of Maine Medical Center on Bramhall Street in Portland, Maine. The proposed development is to include razing the existing employee parking garage and constructing additional hospital space including new operating rooms and patient rooms, although the total number of beds will remain the same. A new patient drop-off on Congress Street is also proposed. The project is forecast to generate 68 and 66 AM and PM weekday peak hour trip ends respectively. The project is expected to open in 2023.

At the following location:

The site is located in the southeast corner of the Gilman Street / Congress Street intersection at the site of the existing Gilman Garage.

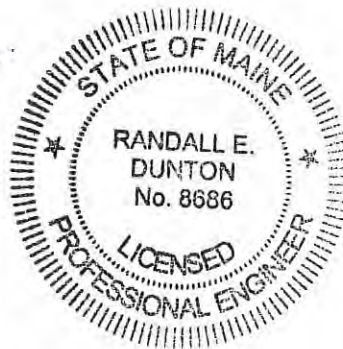
A request for a public hearing must be received by the City, in writing no later than 20 days after the application is found by the department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Transportation's office in Scarborough (Region 1) during normal working hours. A copy of the application may also be seen at the municipal offices in Portland, Maine.

Written public comments may be sent to the following address: Attention Nell Donaldson, Planning Division, 389 Congress Street, Portland, Maine 04101.



Randall Dunton, P.E., PTOE
Gorrill-Palmer Consulting Engineers, Inc.



ABUTTERS LIST
 MMC EXPANSION
 PORTLAND, ME
 JN 2866.01

CBL	UNITS	PROP_LOC	OWNER_NAME1	OWNER_NAME2	MAIL_ADDR1	OWNER_CITY	NBR STA	ZIPCODE	ProjectDesc
053	A013001	2 29 BOYNTON ST	HOLLOWAY MICAH L &	HANNAH MONACO JTS	29 BOYNTON ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A014001	3 27 BOYNTON ST	KONGO MATTHEW &	ROSE DIJIERI JTS	27 BOYNTON ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A015001	3 23 BOYNTON ST	EMPIRE REALTY LLC		17 BOYNTON ST # 1	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A017001	3 21 BOYNTON ST	MICHAUD STEPHEN J II &	TAMMY J BEAULIEU JTS	21 BOYNTON ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A018001	3 17 BOYNTON ST	EMPIRE REALTY LLC		17 BOYNTON ST # 1	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A019001	1 15 BOYNTON ST	MACCONNELL DOUGLAS F &	REBECCA MACCONNELL JTS	340 SOUTH LEMON AVE # 7427	WALNUT	CA	91789	2017002 MMC Master Facility Plan Phase III
053	A020001	1 11 BOYNTON ST	KURAN BARBARA LYNN		11 BOYNTON ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	A021001	2 9 BOYNTON ST	MARCISSO SAMUEL M JR		16 RUBY MAE LN	SCARBOROUGH	ME	04074	2017002 MMC Master Facility Plan Phase III
053	A022001	0 232 PARK AVE	HARRIS RICHARD S JR &	PEGGY HARRIS	103 LOUDEN RD	SACO	ME	04072	2017002 MMC Master Facility Plan Phase III
053	E003001	44 25 CRESCENT ST	CRESCENT HEIGHTS LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
053	E008001	6 19 CRESCENT ST	19 CRESCENT STREET LLC		26B BRACKETT ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	H001001	10 9 WESCOTT ST	FISK KENNETT H		43 SPINNAKER LN	FALMOUTH	MA	02540	2017002 MMC Master Facility Plan Phase III
053	H002001	0 25 ELLSWORTH ST	BEH REDEVELOPMENT LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
053	H003001	4 23 ELLSWORTH ST	MCCAIN MARK &	KATRINA SCHOLTZ JTS	812-6 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	H004001	2 19 ELLSWORTH ST	RAINBOW PARACHUTE LLC		19 ELLSWORTH ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	H005001	2 2 CRESCENT ST	BOURRET ANDREW P &	EMILY M BOURRET JTS	21 TAINE MOUNTAIN RD	UNIONVILLE	CT	06085	2017002 MMC Master Facility Plan Phase III
053	I007001	3 14 BOYNTON ST	MCKEOWN RYAN L		1226 SUNNYMEADE DR	NASHVILLE	TN	37215	2017002 MMC Master Facility Plan Phase III
053	I016001	5 879 CONGRESS ST	KONTOS GREGORY C &	CAROL A KONTOS	PO BOX 1785	WINDHAM	ME	04062	2017002 MMC Master Facility Plan Phase III
053	I017001	0 873 CONGRESS ST	KONTOS GREGORY C	C/O GCK GROUP	PO BOX 1785	WINDHAM	ME	04062	2017002 MMC Master Facility Plan Phase III
053	I019001	7 8 WEYMOUTH ST	GRANTWEY APARTMENTS LIMITED LIABILITY COMPANY		103 LOUDEN RD	SACO	ME	04072	2017002 MMC Master Facility Plan Phase III
053	I020001	9 871 CONGRESS ST	LASH LLC		PO BOX 4182	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
053	I021001	1 867 CONGRESS ST	PORT CITY BAPTIST CHURCH		867 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
054	B001001	3 12 ELLSWORTH ST	12 ELLSWORTH STREET LLC		PO BOX 7225	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	B002001	5 19 HILL ST	19 HILL STREET LLC		PO BOX 7225	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	B004001	8 17 HILL ST	17 HILL STREET LLC		PO BOX 7225	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	C001001	2 20 HILL ST	BEH REDEVELOPMENT LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	C005001	3 32 ELLSWORTH ST	BEH REDEVELOPMENT LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	C007001	2 7 RUSSELL ST	FERRELL RANDY D		7 RUSSELL ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
054	C008001	2 9 RUSSELL ST	WILHOITE ROBERT W ETALS JTS		9 RUSSELL ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
054	C009001	4 11 RUSSELL ST	STEINS KARL M &	RHIANNE STEINS JTS	2333 CAMINO DEL RIO SOUTH STE	SAN DIEGO	CA	92108	2017002 MMC Master Facility Plan Phase III
054	C012001	2 15 RUSSELL ST	SHIR MOHAMMAD NASIR		41 OCEAN HOUSE RD	CAPE ELIZABETH	ME	04107	2017002 MMC Master Facility Plan Phase III
054	D006001	0 331 BRACKETT ST	BEH REDEVELOPMENT LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
054	D007001	8 325 BRACKETT ST	BEH REDEVELOPMENT LLC		PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
063	A001001	1 31 BRAMHALL ST	PETERS ANNE GINDER		31 BRAMHALL ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	A002001	1 25 BRAMHALL ST	CARREN JOY M ETAL &	GARY LAMSON	PO BOX 9715-327	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
063	A003001	8 23 BRAMHALL ST	PALMER DEVELOPMENT	GROUP LLC	83 SOUTH FREEPORT RD	FREEPORT	ME	04032	2017002 MMC Master Facility Plan Phase III
063	A004001	10 19 BRAMHALL ST	NEW EARTH ASSOCIATES LLC		PO BOX 9715-327	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
063	A005001	10 15 BRAMHALL ST	WEST COMPANY		104 GRANT ST	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
063	A006001	1 7 BRAMHALL ST	7 BRAMHALL STREET LLC		335 BRIGHTON AVE	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E001001	4 12 A ST	CUMMINGS THOMAS L HEIRS		12 A ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E014001	4 36 GILMAN ST	LAMBERT STUART C		36 GILMAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E015001	4 34 GILMAN ST	AWLARI IWANI M &	LIA BOULIS KODI JTS	34 GILMAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E016001	4 28 GILMAN ST	SABBATH NICHOLAS M		28 GILMAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E017001	3 24 GILMAN ST	SNYDER KAREN L		72 WATERVILLE ST # 3	PORTLAND	ME	04103	2017002 MMC Master Facility Plan Phase III
064	E018001	5 20 GILMAN ST	SS MINNOW LLC &	PUTTERS LLC	22 BARLEY LN	SCARBOROUGH	ME	04074	2017002 MMC Master Facility Plan Phase III
064	E019001	6 16 GILMAN ST	SEA OTTER 16G LIMITED	LIABILITY COMPANY	39 COVESIDE LN	YARMOUTH	ME	04096	2017002 MMC Master Facility Plan Phase III
064	E020001	8 12 GILMAN ST	12 GILMAN STREET LLC		295 BROWN ST STE 1	WESTBROOK	ME	04092	2017002 MMC Master Facility Plan Phase III
064	E021001	4 10 GILMAN ST	10 GILMAN STREET LLC		40 WOODFIELD DR	SCARBOROUGH	ME	04074	2017002 MMC Master Facility Plan Phase III
064	E022001	1 10 A ST	STICKNEY BRIAN J		10 A ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E023001	3 4 GILMAN ST	HOCHSTEDLER ANNA F &	MOISES T SABINA JTS	4 GILMAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E025001	1 8 A ST	MACKENZIE JENNIFER A &	GARRY J BOWCOTT	8 A ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E028001	1 4 GILMAN PL	FOX STEPHEN H		4 GILMAN PL	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	E029001	3 3 GILMAN PL	FOX STEPHEN H		4 GILMAN PL	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
065	D014001	1 931 CONGRESS ST	CR VENTURES LLC		302 CHANDLER'S WHARF	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
065	D016001	1 925 CONGRESS ST	WORAMALEE SAENGTONG		921 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
065	D017001	2 921 CONGRESS ST	WORAMALEE SAENGTONG		921 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
065	E017001	1 24 FOREST ST	CAREY MEGHAN		24 FOREST ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
065	E019001	0 22 FOREST ST	EAST END DEVELOPMENT LLC		PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
065	E021001	0 18 FOREST ST	EAST END DEVELOPMENT LLC		PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
065	E023001	0 14 FOREST ST	EAST END CORP		ONE CANAL PLAZA	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
065	E025001	12 12 FOREST ST	EAST END CORP		PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
065	E028001	1 919 CONGRESS ST	EAST END CORP		PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
065	E030001	0 909 CONGRESS ST	EAST END HOLDINGS LLC		PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III

ABUTTERS LIST
MMC EXPANSION
PORTLAND, ME
JN 2866.01

065	G002001	3	942 CONGRESS ST	TPA ASSOCIATES	940 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
065	G003001	0	VALLEY ST	TPA ASSOCIATES	940 CONGRESS ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
065	G004001	3	274 VALLEY ST	JORDAN ROBERT K TRUSTEE	1050 ISLAND AVE	LONG ISLAND	ME	04050	2017002 MMC Master Facility Plan Phase III	
054	E001001	9	59 BRAMHALL ST	BJB REALTY LLC	PO BOX 6842	PORTLAND	ME	04103	2017002 MMC Master Facility Plan Phase III	
054	E010001	4	315 BRACKETT ST	315 BRACKETT STREET LLC	55 D ST	SOUTH PORTLAND	ME	04106	2017002 MMC Master Facility Plan Phase III	
054	E011001	5	311 BRACKETT ST	JOBİ PROPERTIES LLC	16 CHARLOTTE DR	FALMOUTH	ME	04105	2017002 MMC Master Facility Plan Phase III	
054	F033001	7	249 VAUGHAN ST	PARKER VAUGHAN STREET LLC	249 VAUGHAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
054	F034001	5	303 BRACKETT ST	303 BRACKETT LLC	PO BOX 2301	SOUTH PORTLAND	ME	04116	2017002 MMC Master Facility Plan Phase III	
063	A015001	1	146 CHADWICK ST	ISERBYT SAMUEL T	146 CHADWICK ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	A016001	5	140 CHADWICK ST	NEWFANGLED CAPITAL LLC	140 CHADWICK ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	A018001	1	132 CHADWICK ST	BOYD MARJORIE ANN	132 CHADWICK ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	B001001	36	135 CHADWICK ST	BOWDOIN REALTY LLC	131 CHADWICK ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	B009001	1	212 VAUGHAN ST	BLANK CHERYL L	212 VAUGHAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	B010001	2	208 VAUGHAN ST	210 VAUGHAN STREET LLC	81 COUSINS RD	BUXTON	ME	04093	2017002 MMC Master Facility Plan Phase III	
063	C001001	1	304 BRACKETT ST	HENNIGAR CHRISTOPHER G	405 WESTERN AVE	SOUTH PORTLAND	ME	04106	2017002 MMC Master Facility Plan Phase III	
063	C004001	1	233 VAUGHAN ST	VAUGHAN STREET REALTY ASSOCIATES	233 VAUGHAN ST	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	C006001	1	217 VAUGHAN ST UNIT 1	SMITH LORI L	217 VAUGHAN ST # 1	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III	
063	C006002	1	217 VAUGHAN ST UNIT 2	WHORF STEVEN C &	DHL EXPRESS ASIA PACIFIC REGI	819458 SINGAPORE			2017002 MMC Master Facility Plan Phase III	
063	C006003	1	217 VAUGHAN ST UNIT 3	TEDESCO THEODORE M &	MARILYN M TEDESCO	217 VAUGHAN ST # 3	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	C006004	1	217 VAUGHAN ST UNIT 4	MAIN CHARLES D &	JUDITH Z MAIN JTS	36 LONGFELLOW W AVE	BRUNSWICK	ME	04011	2017002 MMC Master Facility Plan Phase III
063	C006005	1	217 VAUGHAN ST UNIT 5	GALLO JORDAN L &	JACLYN R GALLO JTS	217 VAUGHAN ST # 5	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	C006006	1	217 VAUGHAN ST UNIT 6	BIBERSTEIN KATHRYN L		43 BYRAM AVE	FREEPORT	ME	04032	2017002 MMC Master Facility Plan Phase III

UPON REVIEW OF ABOVE ABUTTERS LIST PROVIDED BY MMC WITH CITY'S TAX MAPS; WE HAVE ADDED THE FOLLOWING ABUTTERS:

053	E005	25	CRESCENT ST	CRESCENT HEIGHTS LLC	PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
053	E013	868	CONGRESS ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	E014	25	CRESCENT ST	CRESCENT HEIGHTS LLC	PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
053	E015	25	CRESCENT ST	CRESCENT HEIGHTS LLC	PO BOX 4790	PORTLAND	ME	04112	2017002 MMC Master Facility Plan Phase III
053	H006	9	WESCOTT ST	KENNETT FISK	43 SPINNAKER LANE	FALMOUTH	MA	02540	2017002 MMC Master Facility Plan Phase III
053	I001	887	CONGRESS ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	I002	887	CONGRESS ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	I003	887	CONGRESS ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	I007	14	BOYNTON ST	MCKEOWN RYAN	1226 SUNNYMEADOW DRIVE	NASHVILLE	TN	37215	2017002 MMC Master Facility Plan Phase III
053	I012	887	CONGRESS ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
053	X001	19	FOREST ST	MMC / CAT-WALK					2017002 MMC Master Facility Plan Phase III
054	C006	34	ELLSWORTH ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
054	C010	40	ELLSWORTH ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
054	D005	46	BRAMHALL ST	YENTSCH CARLTON	PO BOX 254	W. BOOTHBAY HBR	ME	04575-025	2017002 MMC Master Facility Plan Phase III
054	E009	47	BRAMHALL ST	MMC					2017002 MMC Master Facility Plan Phase III
054	I001	308	BRACKETT ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	A007	7	BRAMHALL ST	7 BRAMHALL STREET LLC	160 ANN MARY BROWN DRIVE	WARWICK	RI	02888	2017002 MMC Master Facility Plan Phase III
063	A008	265	WESTERN PROMENAD	COPE SAMUEL & SARA	265 WEST PROMENADE	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	A017	132	CHADWICK ST	MARGERY ANN BOYD	132 CHADWICK STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	B008	214	VAUGHAN ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	C005	229	VAUGHAN ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
063	C007	217	VAUGHAN ST	BIBERSTEIN KATHRYN	43 BYRAM AVENUE	FREEPORT	ME	04032	2017002 MMC Master Facility Plan Phase III
063	C008	217	VAUGHAN ST	BIBERSTEIN KATHRYN	43 BYRAM AVENUE	FREEPORT	ME	04032	2017002 MMC Master Facility Plan Phase III
064	B002	264	VALLEY ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III
064	D011	254	VALLEY ST	STICKNEY ADAM	254 VALLEY STREET	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
064	E024	51	VALLEY ST	CITY OF PORTLAND - LAND BANK	389 CONGRESS STREET	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
065	C001	939	CONGRESS ST	THE INN AT ST. JOHN	939 CONGRESS STREET	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
065	C002	947	CONGRESS ST	LI RI TENG & WEI YI WANG	PO BOX 495	MOODY	ME	04054-049	2017002 MMC Master Facility Plan Phase III
065	C009	937	CONGRESS ST	MARDIGAN STEPHEN	460 BAXTER BOULEVARD	PORTLAND	ME	04101	2017002 MMC Master Facility Plan Phase III
065	E029	909	CONGRESS ST	EAST END HOLDINGS LLC	PO BOX 10291	PORTLAND	ME	04104	2017002 MMC Master Facility Plan Phase III
065	G005	0	VALLEY ST	MMC	22 BRAMHALL STREET	PORTLAND	ME	04102	2017002 MMC Master Facility Plan Phase III

- ALL PROPERTIES OWNED BY MAINE MEDICAL CENTER - DO NOT SEND ABUTTERS NOTICES - INCLUDED FOR INFORMATION PURPOSES ONLY

Section I Site and Traffic Information

I.A. Site Description and Site Plan

The proposed project is located at the site of the existing Gilman Garage for Maine Medical Center employees on Congress Street and the southeast corner of the Gilman Street / Congress Street intersection. The site is identified on City Tax Map 53, Lot D007, and City Tax Map 65 Lots H001, H002, H005, H008, and H009. A proposed site plan is included in the site plan application submitted under separate cover.

I.B. Existing and Proposed Site Uses

The existing site is the Gilman parking garage for the employees of Maine Medical Center. The proposed project consists of razing the existing employee garage and constructing additional hospital space, including new private universal patient rooms, procedure rooms, a new hospital entrance, and a new drop off area with a connection to the visitor garage. Although the expansion will include new patient rooms, the project will optimize the current bed capacity, and is not proposed to add any beds. Vehicular access to the hospital expansion will be expanded to include a new entrance on Congress Street and a new patient drop-off area with a direct connection to the visitor garage. Employees who park in the existing employee parking garage will park in the larger proposed employee parking garage on St. John Street with approximately 2,400 spaces. It should be noted that of the approximately 2,400 spaces, 50 are will be reserved for the Eagles and approximately 200 are reserved for the tenants of 222 St. John Street. There will be many shuttles that run throughout the day to transport employees to and from the parking garage from Maine Medical Center. The project is proposed to increase the number of employees by 200 between 2016 and 2023.

I.C. Site Vicinity and Boundaries

The entire site is bordered by Congress Street to the north, Wescott Street to the east, the Bramhall Street to the south, and Gilman Street to the west. A site location map showing the development area is included in Attachment IA.

I.D. Proposed Uses in the Vicinity of the Proposed Development

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Based on conversations with City Staff, the traffic from these projects that is forecast to impact the Maine Medical Center Expansion study area is discussed in Section 7 (Traffic Impact Study).

I.E. Trip Generation

The trip generation for the proposed expansion was calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation*, Seventh Edition, Land Use Code (LUC) 610 – Hospital. The Tenth Edition is available, but has not yet been accepted by the MaineDOT. The expansion is proposed to be a total of 265,000 sf and it is anticipated to add 200 employees (including employees, students, and physicians). As approved at the October 13, 2017 Pre-Scoping meeting with the City, the trip generation for the expansion is based on the number of employees, students, and physicians. The following is a summary of the trip generation for the expansion that will need to be permitted:

- AM Peak Hour Adjacent Street: 68 trip ends
- PM Peak Hour Adjacent Street: 66 trip ends
- AM Peak Hour of Generator: 78 trip ends
- PM Peak Hour of Generator: 94 trip ends
- Saturday Peak Hour of Generator: 106 trip ends

A trip end is defined as a trip into or out of the site; thus, a round trip is equal to two trip ends. Since the forecast traffic exceeds 99 trip ends during a peak hour, a Traffic Movement Permit is required. The City of Portland has delegated review authority, so the application can be administered by the City. A copy of the trip generation calculations are included as an attachment to this section.

I.F. Trip Distribution

Based on ITE's *Trip Generation*, the following trip distribution is anticipated:

- AM Peak Hour Adjacent Street: 54 in / 14 out
- PM Peak Hour Adjacent Street: 23 in / 43 out

- AM Peak Hour of Generator: 51 in / 27 out
- PM Peak Hour of Generator: 38 in / 56 out
- Saturday Peak Hour of Generator: 58 in / 48 out

I.G. Trip Composition and Assignment

GP has assumed that all trips are primary in nature and made for the sole purpose of going to and from the site. The trips will also be comprised of both employees and patients/visitors. The portion of the trip generation that is forecast to be due to patients/visitors has been based on information provided by MMC Staff in an email dated August 8, 2018. Based on MMC's information, an additional 15,500 patient trips are anticipated annually by 2023. Based on discussions with MMC, the distribution of the patient/visitors has been based on the following assumptions:

- Patient trips are split evenly throughout the year
- 90% of patient trips occur Monday through Friday
- Patient trips are evenly split through the week
- 20% of daily trips occur during the peak hours
- 80% entering during the AM peak hour
- 80% exiting during the PM peak hour

Based on these assumptions, the following trip composition is forecast for the peak hours of the adjacent street:

- AM Peak Hour Adjacent Street (assumed 7:30AM – 8:30AM):
 - Patients/Visitors: 10 trip ends (8 in / 2 out)
 - Employees: 58 trip ends (46 in / 12 out)
- PM Peak Hour Adjacent Street (assumed 4:15PM – 5:15PM):
 - Patients/Visitors: 10 trip ends (2 in / 8 out)
 - Employees: 56 trip ends (21 in / 35 out)

The trip assignment for the employees has been based on the VHB Travelshed (attached) for employees, previously reviewed by the City. The patient/visitor trip assignment has been based on the proposed driveway locations, information from MMC in an email dated August 8, 2018, and the existing traffic patterns. The trip assignment is discussed in more detail in Section 7 of this application.

I.H. Attachments

Attachment IA – Site Location Map, Trip Assignment Diagram, VHB Travelshed

Attachment IB – Trip Generation Calculations

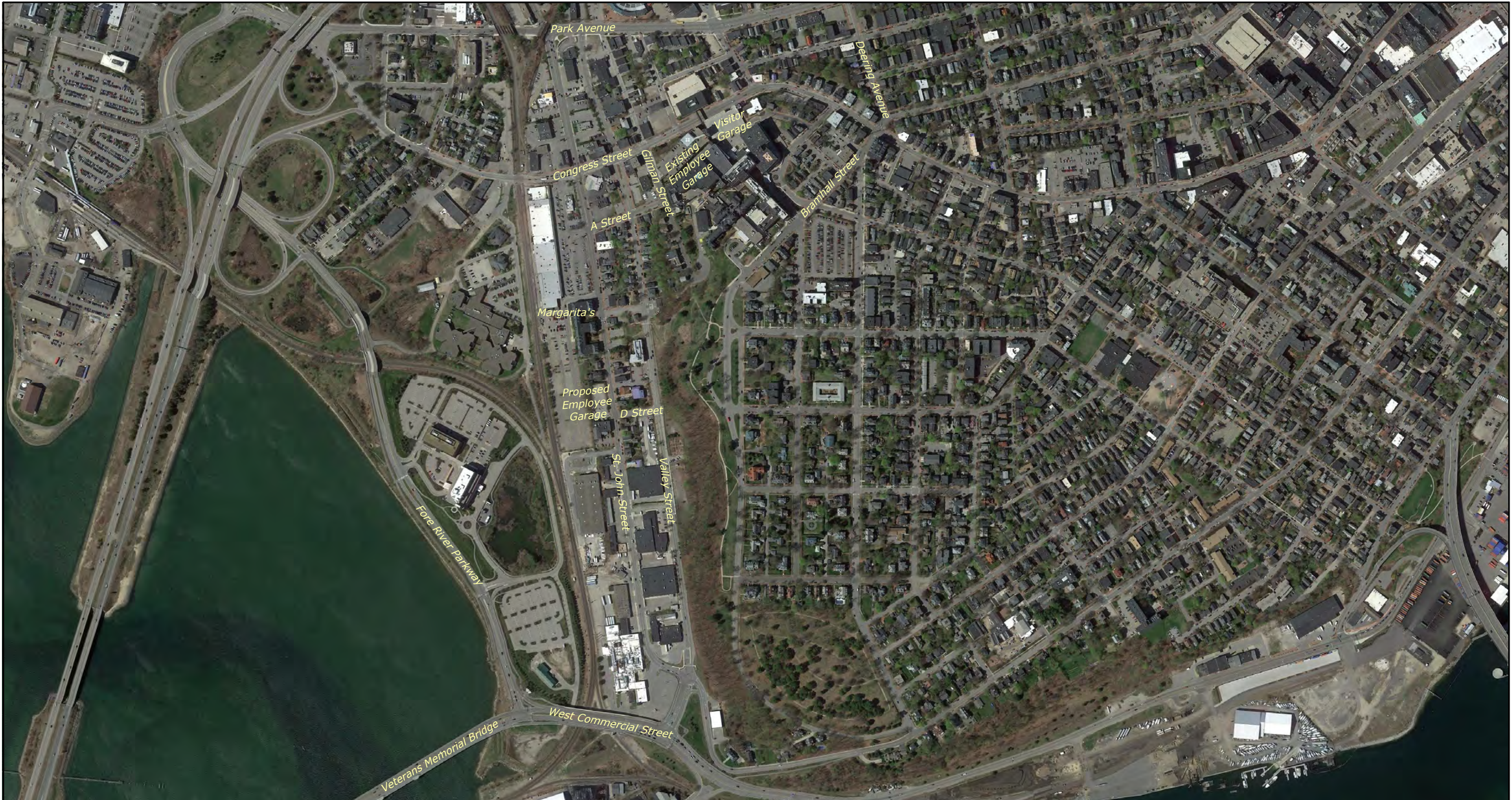
Attachment 1A

Site Location Map

Trip Assignment Diagram

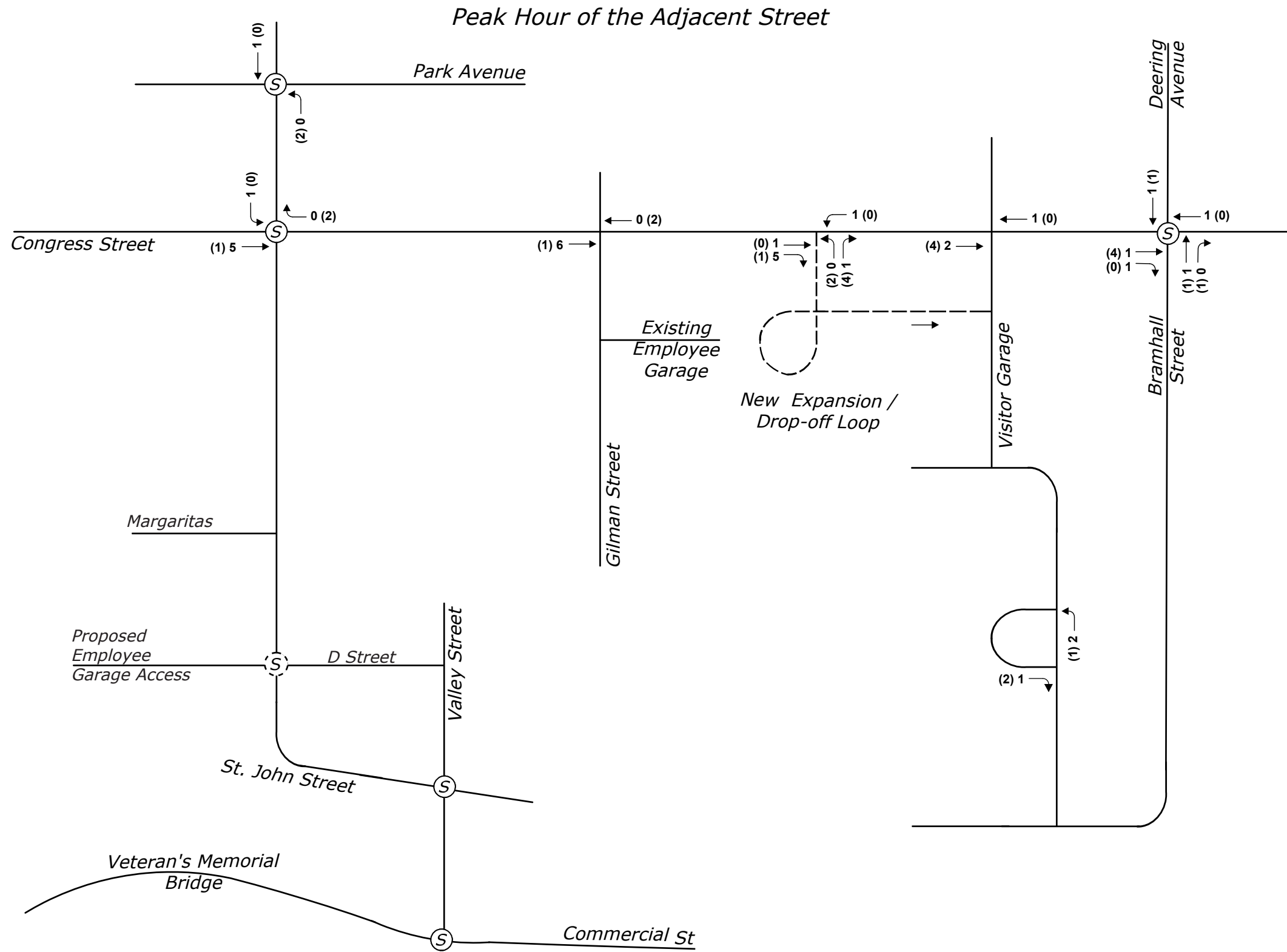
VHB Travelshed

Location Map



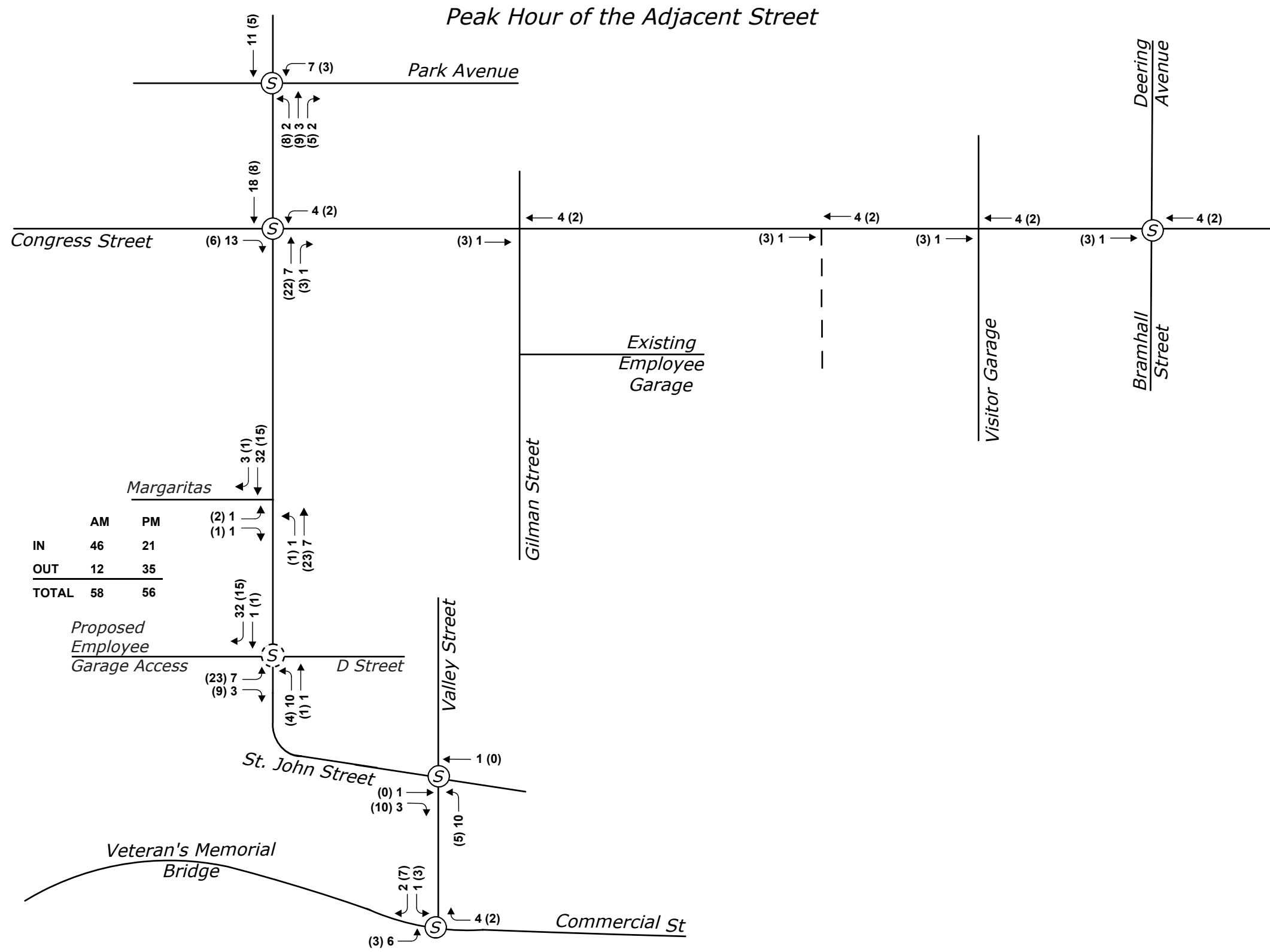
**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

Phase 3 Patient/Visitor Assignment

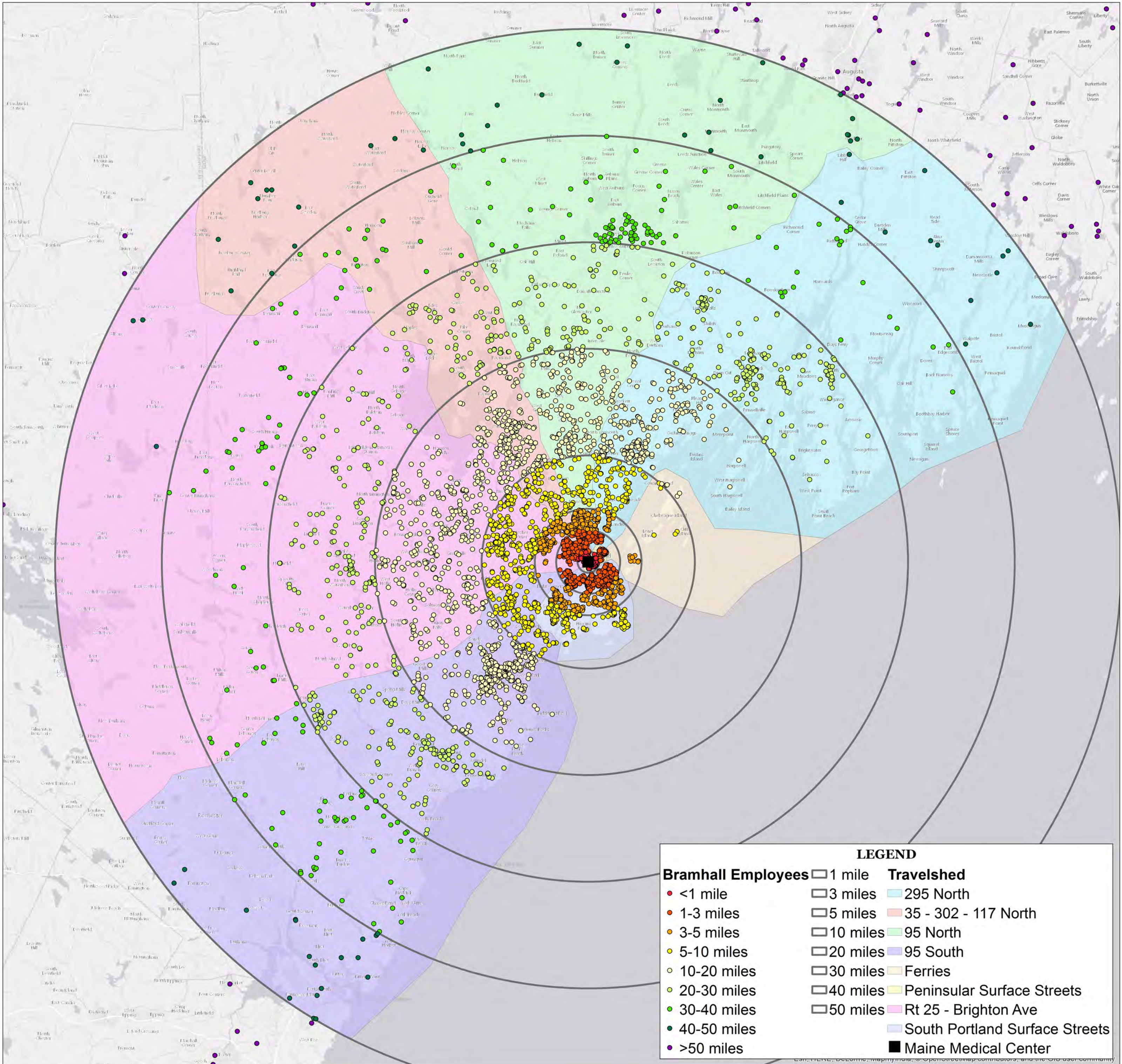


**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

Phase 3 Employee Trip Assignment



**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**



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**

Attachment 1B

Trip Generation Calculations

JN: 2866.01
 Project Description: Maine Medical Center Phase 3
 Project Location: Portland, ME
 Date: 08/14/18

Gorrill Palmer
 707 Sable Oaks Drive
 Suite 30
 South Portland, Maine 04106

**Hospital
 Land Use Code (LUC) 610**

Employees 200

Fitted Curve:

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution		Sample Size/R2
			IN	OUT	IN	OUT	
Weekday	$T = 4.40 (X) + 711.46$	1591	50%	50%	796	795	19/.77
AM Peak Adjacent Street	$T = 0.32 (X) + 35.15$	99	80%	20%	79	20	9/.77
PM Peak Adjacent Street	$T = 0.28 (X) + 75.75$	132	35%	65%	46	86	8/.69
AM Peak of Generator	$T = 0.33 (X) + 66.57$	133	65%	35%	86	47	8/.83
PM Peak of Generator	$T = 0.36 (X) + 97.41$	169	40%	60%	68	101	15/.73
Saturday	$T = 2.95 (X) + 691.43$	1281	50%	50%	641	640	15/.84
Saturday Peak of Generator	Not given	-	55%	45%	-	-	4

* Percentages rounded to nearest 5%

Average Rate:

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution		Sample Size
			IN	OUT	IN	OUT	
Weekday	$T = 5.2 (X)$	1040	50%	50%	520	520	19
AM Peak Adjacent Street	$T = 0.34 (X)$	68	80%	20%	54	14	9
PM Peak Adjacent Street	$T = 0.33 (X)$	66	35%	65%	23	43	8
AM Peak of Generator	$T = 0.39 (X)$	78	65%	35%	51	27	8
PM Peak of Generator	$T = 0.47 (X)$	94	40%	60%	38	56	15
Saturday	$T = 3.78 (X)$	756	50%	50%	378	378	15
Saturday Peak of Generator	$T = 0.53 (X)$	106	55%	45%	58	48	4

* Percentages rounded to nearest 5%

Section 2 Traffic Crashes

2.A. Crash Summary Data

Gorrill Palmer obtained the crash data from MaineDOT for the period of 2015-2017, the most recent period available (Attachment 2A).

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average) **and**:
2. A minimum of eight crashes over the same three year period.

Based on the crash data provided by MaineDOT, there are eight high crash locations in the vicinity of the study area:

- Intersection of Park Avenue with Valley Street
- Intersection of Congress Street with Gilman Street
- Intersection of St. John Street with A Street
- Intersection of Park Avenue with St. John Street
- Valley Street from A Street to C Street
- Congress Street from Forest Street to Weymouth Street
- St. John Street from Congress Street to Non-Intersection (just south of Park Avenue)

To better evaluate the high crash locations and identify correctable crash patterns, the police reports for these locations were provided by MaineDOT and used to create collision diagrams, included as Attachment 2A to this section. The following discusses the high crash locations as well as pedestrian and bicycle crashes in more detail.

High Crash Locations

The following describes the HCLs in more detail.

Park Avenue / Valley Street

This intersection has a CRF of 1.80 and experienced 10 collisions during the most recent three-year period. It is an unsignalized intersection that is STOP controlled on Valley Street with free flowing traffic on Park Avenue. The northbound Valley Street approach is one-way into the intersection.

There is one crash pattern at this intersection involving vehicles turning left from northbound Valley Street onto westbound Park Avenue and colliding with vehicles traveling westbound on Park Avenue. Additionally, one collision that occurred at this intersection involved a pedestrian and one that involved a bicyclist. The traffic from the proposed MMC expansion is not expected to exacerbate this pattern.

Congress Street / Gilman Street

This intersection has a CRF of 3.26 and experienced 20 collisions during the most recent three-year period. It is an unsignalized intersection that is STOP controlled on the Gilman Street approaches with free flowing traffic on Congress Street. The southbound Gilman Street approach is one-way into the intersection. Based on a review of the collision diagram there are three crash patterns at this intersection; southbound through traffic on Gilman Street failing to yield to eastbound through traffic on Congress Street, southbound through traffic on Gilman Street failing to yield to westbound through traffic on Congress Street, and rear end collisions involving eastbound Congress Street traffic.

There were four collisions that involved southbound through traffic on Gilman Street failing to yield the right of way to the eastbound through traffic on Congress Street and three collisions that involved vehicles coming from the same direction failing to yield the right of way to westbound through traffic on Congress Street. These types of collisions may be due to the buildings along Congress Street blocking the sight distance of the southbound traffic. Because the MMC employee parking is being relocated to St. John Street, both the AM and PM total entering traffic volume for this intersection will be decreased from the Predevelopment condition to the Postdevelopment condition.

There were three rear end collisions on Congress Street eastbound. All three were caused by drivers following too closely and/or driver inattention. Additionally, all three collisions involved vehicles stopping for pedestrians in the crosswalk.

St. John Street / A Street

This intersection has a CRF of 1.82 and experienced 8 collisions during the most recent three-year period. It is an unsignalized four-leg intersection with two-way traffic on all approaches. Based on a review of the collision diagram, there were no correctable crash patterns identified at this intersection.

Park Avenue / St. John Street

This intersection has a CRF of 1.63 and experienced 36 collisions during the most recent three-year period. It is a signalized four-leg intersection with two-way traffic on all approaches, with the exception of Park Avenue to the east of St. John Street, which is one way away from the intersection. Based on a review of the collision diagram, there are four crash patterns at this intersection.

One crash pattern involved vehicles in the northbound St. John Street left turn lane attempting to go straight through the intersection from the left-most lane and colliding with left turning vehicles in the adjacent left-through lane. There were 13 such crashes at this intersection during the most recent three year period. Most of the drivers that incorrectly attempted to travel through the intersection claimed that they believed they could travel through the intersection from that lane.

Another crash pattern was northbound left turning vehicles sideswiping one another while traveling in the left turn lane and left-through lane from the northbound St. John Street approach to the intersection. Six of these crashes occurred at this intersection during the most recent three year period. There is already a skip line striping between the left turn lane and the left-through lane through the intersection. Many of the crashes involved in the two crash patterns discussed at this intersection so far occurred either during the winter or in the spring when the striping of the skip line may have faded away.

A third crash pattern at this intersection involves right angle collisions between westbound through vehicles on Park Avenue failing to yield to northbound through vehicles on St. John Street. Three of these crashes occurred at this intersection during the most recent three year period. All three collisions involved the westbound Park Avenue vehicle running the red light.

The fourth crash pattern at this intersection involved rear-end collisions involving vehicles at the northbound approach to this intersection. One potential contributing factor to rear end collisions at signalized intersections is inadequate signal clearance times.

Valley Street from A Street to C Street

This intersection has a CRF of 2.89 and experienced 8 collisions during the most recent three-year period. There were no correctable crash patterns identified, however there were five crashes involving parked vehicles. Of the five crashes involving parked vehicles, three crashes involved vehicles that were parked illegally. Stricter enforcement of the parking regulations may help reduce the number of crashes along this segment of Valley Street. It should also be noted that there was one crash involving a pedestrian at this location during the most recent three year period.

Congress Street from Forest Street to Weymouth Street

This section of Congress Street has a CRF of 1.45 and experienced 10 collisions during the most recent three-year period. Based on a review of the collision diagram there is one crash pattern of rear end collisions in the eastbound direction. Of the 10 collisions, five were rear end collisions on Congress Street eastbound. The five collisions were caused by drivers following too closely. There are multiple driveways in this roadway segment, including an entrance to the Maine Medical Center visitor parking garage.

An overall review of the collisions showed that there were 9 collisions that occurred on a weekday and of those, 2 occurred during the AM peak commuter hour and 4 occurred during the PM peak commuter hour, when traffic volumes are heaviest. Additionally, one of the collisions that occurred in this area involved a bicyclist.

Restriping of this section of Congress Street to include a center turn lane may be an alternative to be pursued to improve this section of Congress Street.

St. John Street from Congress Street to Non-Intersection (just south of Park Avenue)

This section of St. John Street has a CRF of 3.00 and experienced 30 collisions during the most recent three-year period. Based on a review of the collision diagram, there are two crash patterns.

The first crash pattern involves sideswipe crashes involving vehicles traveling northbound on St. John Street, which are caused by vehicles making lane changes.

Of the 30 collisions, 17 involved vehicles attempting to turn left onto St. John Street from various driveways. There are many driveways on this link of St. John Street including McDonald's, Amato's, Sullivan Tire, Dunkin' Donuts, Lang's Express, Salty Sally's Bare and Grille and Portland Physical Therapy. Of the 30 crashes in this roadway segment, two involved left turns into driveways from St. John Street.

In a recent Traffic Impact Study completed by Maine Traffic Resources for a Dunkin Donuts relocation project in this section of St. John Street, a "road diet" was recommended that would include a single travel lane in each direction with a center turn lane. Gorrill Palmer supports that recommendation.

Pedestrian Collisions

There were 22 collisions involving pedestrians throughout the study area. Of those, 15 occurred when the pedestrian was within the marked crosswalk, seven of which involved one vehicle rear ending another that was yielding to the pedestrian. Several of the collisions involved pedestrians crossing without the walk sign at a signalized intersection,

or abruptly entering the intersection. Others involved vehicles failing to yield to the pedestrians in the crosswalks.

Bicycle Collisions

There were 9 collisions involving bicyclists throughout the study area. One collision involved a bicyclist riding in a bike lane being struck by a turning vehicle on Park Avenue. Several of the collisions involved bicyclists riding in the roadway, but not following traffic rules.

2.B. Attachments

Attachment 2A – Crash Report, Collision Diagrams

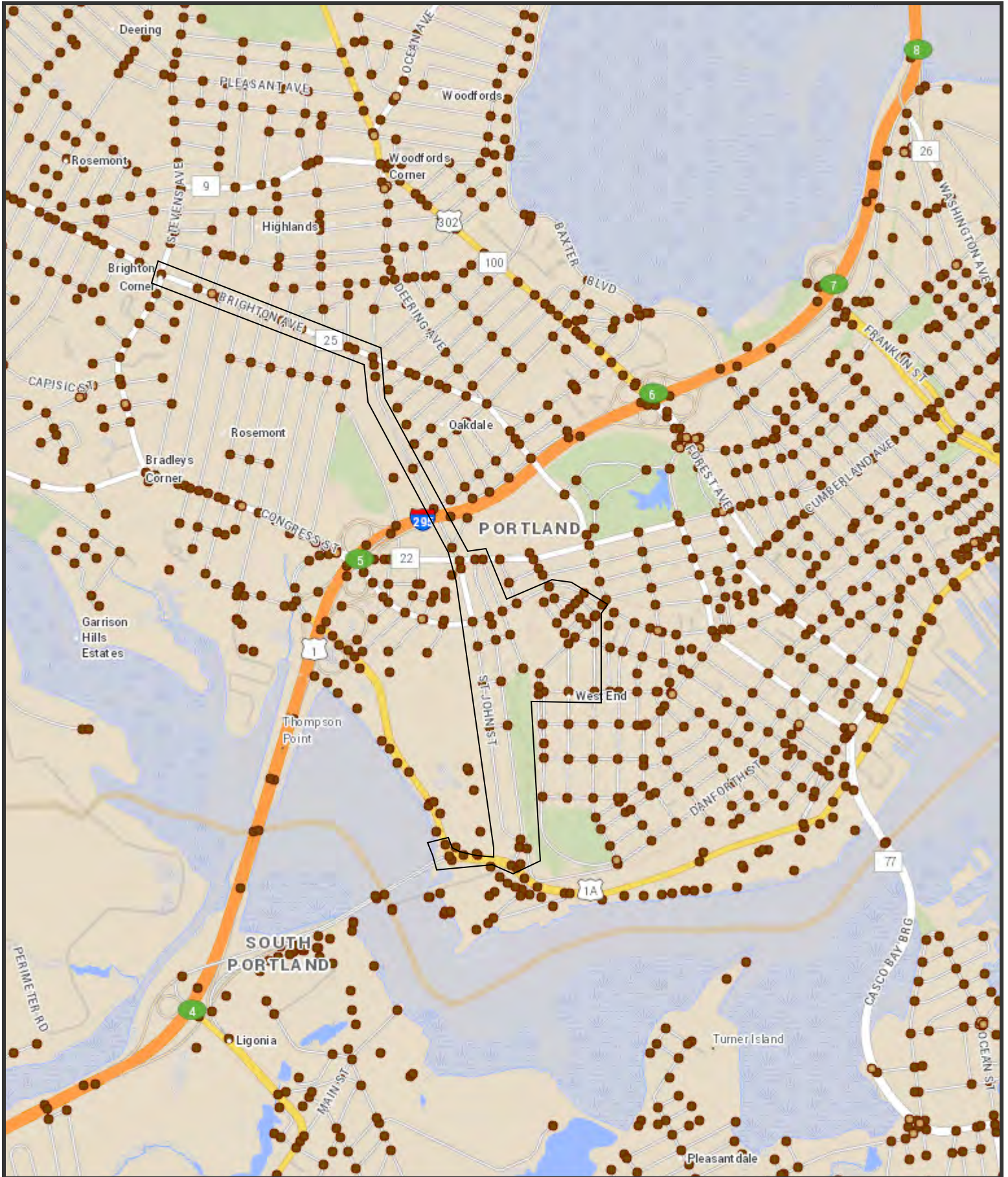
Attachment 2A

Node Map

Crash History

Collision Diagrams

PORTLAND NODE MAP PAGE 1



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.

0.4 Miles
1 inch = 0.45 miles

Date: 8/8/2018
Time: 4:08:26 PM

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

Portland
Brighton Ave., St. John St., Congress St. Area

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

Route: 0001A	Start Node: 66546 End Node: 16747	Start Offset: 0 End Offset: 0	<input type="checkbox"/> Exclude First Node <input type="checkbox"/> Exclude Last Node
Route: 001AS	Start Node: 16747 End Node: 66542	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
Route: 3209586	Start Node: 66548 End Node: 66546	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
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Route: 3209776	Start Node: 16752 End Node: 67695	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
Route: 0560191	Start Node: 67749 End Node: 16748	Start Offset: 0 End Offset: 0	<input type="checkbox"/> Exclude First Node <input checked="" type="checkbox"/> Exclude Last Node
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Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

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 1320 Public
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 1320 Summary

REPORT DESCRIPTION

Portland
Brighton Ave., St. John St., Congress St. Area

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

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Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

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 Section Detail
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 1320 Public
 1320 Private
 1320 Summary

REPORT DESCRIPTION

Portland
 Brighton Ave., St. John St., Congress St. Area

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

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Crash Summary Report

Report Selections and Input Parameters

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Crash Summary I
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REPORT DESCRIPTION

Portland
 Brighton Ave., St. John St., Congress St. Area

REPORT PARAMETERS

Year 2015, Start Month 1 through Year 2017 End Month: 12

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Route: 0560001	Start Node: 16751 End Node: 16764	Start Offset: 0 End Offset: 0	<input checked="" type="checkbox"/> Exclude First Node <input checked="" 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	K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF		
16747	0001A - 9.88	Int of FORE RIVER PKY VALLEY ST W COMMERCIAL ST	9	26	0	0	3	4	19	26.9	10.520	0.82	1.12	0.00		
												Statewide Crash Rate:	0.74			
66542	0001A - 9.72	Int of FORE RIVER PKY VETERANS BRIDGE	9	19	0	0	1	2	16	15.8	9.400	0.67	1.14	0.00		
												Statewide Crash Rate:	0.74			
66546	0001A - 9.69	Int of FORE RIVER PKY RD INV 3209586	2	0	0	0	0	0	0	0.0	3.283	0.00	0.44	0.00		
												Statewide Crash Rate:	0.16			
66548	001AS - 2.59	Int of FORE RIVER PKY RD INV 3209586	2	0	0	0	0	0	0	0.0	5.449	0.00	0.38	0.00		
												Statewide Crash Rate:	0.16			
16753	3201019 - 0.82	Int of PARK AV VALLEY ST	2	10	0	0	1	4	5	50.0	4.639	0.72	0.40	1.80		
												Statewide Crash Rate:	0.16			
16749	3201019 - 0.37	Int of D ST VALLEY ST	2	2	0	0	0	0	2	0.0	1.357	0.49	0.55	0.00		
												Statewide Crash Rate:	0.16			
16751	3201019 - 0.60	Int of A ST VALLEY ST	2	5	0	0	0	2	3	40.0	1.467	1.14	0.54	2.11		
												Statewide Crash Rate:	0.16			
16748	3201019 - 0.07	Int of DANFORTH ST ST JOHN ST VALLEY ST	9	11	0	0	1	2	8	27.3	3.995	0.92	1.34	0.00		
												Statewide Crash Rate:	0.74			
16750	3201019 - 0.49	Int of C ST VALLEY ST	2	1	0	0	0	0	1	0.0	1.286	0.26	0.55	0.00		
												Statewide Crash Rate:	0.16			
16752	3201019 - 0.66	Int of CONGRESS ST VALLEY ST	9	9	0	0	0	1	8	11.1	5.210	0.58	1.27	0.00		
												Statewide Crash Rate:	0.74			
67750	3201019 - 0.05	Int of RD INV 3209812 VALLEY ST	2	0	0	0	0	0	0	0.0	2.723	0.00	0.46	0.00		
												Statewide Crash Rate:	0.16			
67695	3201019 - 0.64	Non Int VALLEY ST	2	0	0	0	0	0	0	0.0	0.480	0.00	0.67	0.00		
												Statewide Crash Rate:	0.16			
67749	0560191 - 1.34	Int of DANFORTH ST RD INV 3209812	2	0	0	0	0	0	0	0.0	2.670	0.00	0.44	0.00		
												Statewide Crash Rate:	0.15			
18571	0560314 - 0.17	Int of CONGRESS ST GILMAN ST	2	20	0	0	0	6	14	30.0	5.274	1.26	0.39	3.26		
												Statewide Crash Rate:	0.16			
19080	0560314 - 0.10	0509500 POR,GILMAN,'A' ST.	2	0	0	0	0	0	0	0.0	0.058	0.00	-0.42	0.00		
												Statewide Crash Rate:	0.14			
19081	0560314 - 0	0509501 POR,GILMAN ST,END	2	0	0	0	0	0	0	0.0	0.019	0.00	-4.47	0.00		
												Statewide Crash Rate:	0.14			
19079	0560314 - 0.31	Int of GILMAN ST PARK AV	2	1	0	0	1	0	0	100.0	3.841	0.09	0.42	0.00		
												Statewide Crash Rate:	0.16			
16828	0560160 - 2.23	Int of CONGRESS ST FOREST ST	2	1	0	0	0	0	1	0.0	4.848	0.07	0.40	0.00		
												Statewide Crash Rate:	0.16			
16827	0560160 - 2.13	Int of CONGRESS ST WEYMOUTH ST	2	3	0	0	0	1	2	33.3	4.615	0.22	0.40	0.00		
												Statewide Crash Rate:	0.16			
16825	0560160 - 1.97	Int of BRAMHALL ST CONGRESS ST DEERING AV	9	17	0	1	1	4	11	35.3	7.276	0.78	1.19	0.00		
												Statewide Crash Rate:	0.74			
16826	0560160 - 2.03	Int of CONGRESS ST ELLSWORTH ST	2	3	0	0	1	0	2	33.3	4.494	0.22	0.40	0.00		
												Statewide Crash Rate:	0.16			
18352	0560077 - 0.01	Int of BRAMHALL PL BRAMHALL ST	2	0	0	0	0	0	0	0.0	2.944	0.00	0.41	0.00		
												Statewide Crash Rate:	0.14			

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Nodes														
Node	Route - MP	Node Description	U/R	Total Crashes	K	Injury A	Crashes B	Crashes C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
12625	0560077 - 0.24	Int of BRAMHALL ST WESTERN PROMENADE	2	0	0	0	0	0	0	0.0	0.386	0.00	0.60	0.00
												Statewide Crash Rate:	0.14	
12603	0560077 - 0.13	0503015 POR,BRAMHALL,BRACKETT,CHADWICK	2	0	0	0	0	0	0	0.0	0.521	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
19111	0560077 - 0.11	0509531 POR,BRACKETT,BRAMHALL ST.	2	4	0	0	1	1	2	50.0	1.973	0.68	0.45	1.50
												Statewide Crash Rate:	0.14	
12621	0560077 - 0.06	0503033 POR,BRAMHALL,HILL ST.	2	1	0	0	0	0	1	0.0	1.575	0.21	0.48	0.00
												Statewide Crash Rate:	0.14	
12604	0560077 - 0.03	0503016 POR,BRAMHALL,VAUGHN ST.	2	1	0	0	0	0	1	0.0	3.051	0.11	0.40	0.00
												Statewide Crash Rate:	0.14	
60369	0560785 - 0.62	Non Int WESTERN PROMENADE	2	0	0	0	0	0	0	0.0	0.386	0.00	0.60	0.00
												Statewide Crash Rate:	0.14	
71553	0560782 - 0	Non Int WESTERN PROMENADE	2	0	0	0	0	0	0	0.0	0.214	0.00	0.56	0.00
												Statewide Crash Rate:	0.14	
12751	0560782 - 0.01	Int of WEST ST WESTERN PROMENADE	2	0	0	0	0	0	0	0.0	0.395	0.00	0.60	0.00
												Statewide Crash Rate:	0.14	
12602	0560782 - 0.07	Int of CHADWICK ST, WEST ST	2	0	0	0	0	0	0	0.0	1.295	0.00	0.50	0.00
												Statewide Crash Rate:	0.14	
12605	0560782 - 0.14	0503017 POR,VAUGHN,WEST ST.	2	0	0	0	0	0	0	0.0	1.753	0.00	0.47	0.00
												Statewide Crash Rate:	0.14	
19110	0560751 - 0.06	0509530 POR,BRACKETT,VAUGHN ST.	2	1	0	0	1	0	0	100.0	2.274	0.15	0.44	0.00
												Statewide Crash Rate:	0.14	
19112	0560071 - 0.82	0509532 POR,CHARLES,BRACKETT ST.	2	0	0	0	0	0	0	0.0	0.843	0.00	0.55	0.00
												Statewide Crash Rate:	0.14	
12617	0560128 - 0.03	0503029 POR,ELLSWORTH,CHARLES ST.	2	0	0	0	0	0	0	0.0	0.930	0.00	0.54	0.00
												Statewide Crash Rate:	0.14	
12624	0560128 - 0.09	0503036 POR,CHARLES,CRESCENT ST.	2	1	0	0	0	0	1	0.0	0.313	1.06	0.60	1.77
												Statewide Crash Rate:	0.14	
12622	0560251 - 0.03	0503034 POR,WESCOTT,ELLSWORTH ST.	2	0	0	0	0	0	0	0.0	0.542	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
12618	0560251 - 0.05	0503030 POR,ELLSWORTH,HILL ST.	2	1	0	0	0	0	1	0.0	0.871	0.38	0.54	0.00
												Statewide Crash Rate:	0.14	
15476	0560251 - 0.08	Int of BRAMHALL PL ELLSWORTH ST	2	0	0	0	0	0	0	0.0	0.525	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
12619	0560251 - 0.07	0503031 POR,CRESCENT,ELLSWORTH ST.	2	0	0	0	0	0	0	0.0	0.537	0.00	0.59	0.00
												Statewide Crash Rate:	0.14	
12623	0560171 - 0.05	0503035 POR,CRESCENT,WESCOTT ST.	2	0	0	0	0	0	0	0.0	0.096	0.00	0.20	0.00
												Statewide Crash Rate:	0.14	
12620	0560369 - 0.03	0503032 POR,HILL,RUSSELL ST.	2	1	0	0	0	0	1	0.0	0.242	1.38	0.58	2.37
												Statewide Crash Rate:	0.14	
16763	3201042 - 0.44	Int of C ST ST JOHN ST	2	3	0	0	1	0	2	33.3	2.590	0.39	0.47	0.00
												Statewide Crash Rate:	0.16	
16762	3201042 - 0.32	Int of D ST ST JOHN ST	2	0	0	0	0	0	0	0.0	2.480	0.00	0.47	0.00
												Statewide Crash Rate:	0.16	

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Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
16764	3201042 - 0.54	Int of A ST ST JOHN ST	2	8	0	0	0	1	7	12.5	3.383	0.79	0.43	1.82
												Statewide Crash Rate:	0.16	
16765	3201042 - 0.60	Int of CONGRESS ST ST JOHN ST	9	25	0	1	1	3	20	20.0	11.212	0.74	1.11	0.00
												Statewide Crash Rate:	0.74	
16770	0022S - 1.04	Int of PARK AV ST JOHN ST	9	36	0	0	2	4	30	16.7	5.948	2.02	1.24	1.63
												Statewide Crash Rate:	0.74	
66777	0022S - 1.02	Non Int ST JOHN ST	2	0	0	0	0	0	0	0.0	2.639	0.00	0.46	0.00
												Statewide Crash Rate:	0.16	
12629	0560637 - 0.15	Int of GRANITE ST ST JOHN ST	2	1	0	0	0	0	1	0.0	3.175	0.10	0.44	0.00
												Statewide Crash Rate:	0.16	
12692	0560637 - 0.53	Int of DARTMOUTH ST ST JOHN ST	2	1	0	0	0	0	1	0.0	2.890	0.12	0.45	0.00
												Statewide Crash Rate:	0.16	
12695	0560637 - 0.27	Int of FALMOUTH ST ST JOHN ST	2	1	0	0	0	0	1	0.0	3.223	0.10	0.44	0.00
												Statewide Crash Rate:	0.16	
12628	0560637 - 0.04	Int of ST JOHN ST WASHBURN AV	2	0	0	0	0	0	0	0.0	3.041	0.00	0.45	0.00
												Statewide Crash Rate:	0.16	
71539	0560637 - 0.56	Non Int ST JOHN ST	2	0	0	0	0	0	0	0.0	2.745	0.00	0.46	0.00
												Statewide Crash Rate:	0.16	
12878	0025X - 1.15	Int of BRIGHTON AV MASSACHUSETTS AV	2	1	0	0	0	0	1	0.0	6.452	0.05	0.33	0.00
												Statewide Crash Rate:	0.14	
A12883	0025X - 1.20	Int of BOLTON ST BRIGHTON AV	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.14	
A12891	0025X - 1.30	Int of BRIGHTON AV FRANCES ST	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.14	
P12776	0025X - 1.26	Int of BRIGHTON AV ORLAND ST	2	3	0	0	0	0	3	0.0	6.582	0.15	0.33	0.00
												Statewide Crash Rate:	0.14	
A12892	0025X - 1.35	Int of BRIGHTON AV EDWARDS ST	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.14	
12877	0025X - 1.10	Int of BRIGHTON AV DOUGLASS ST	2	7	0	0	0	0	7	0.0	6.575	0.35	0.33	1.07
												Statewide Crash Rate:	0.14	
P12899	0025X - 1.47	Int of BRIGHTON AV, CALEB ST	2	3	0	0	0	1	2	33.3	6.064	0.16	0.34	0.00
												Statewide Crash Rate:	0.14	
12928	0025X - 1.63	Int of BRIGHTON AV STEVENS AV	9	54	0	0	2	9	43	20.4	8.793	2.05	1.15	1.78
												Statewide Crash Rate:	0.74	
12779	0025X - 1.12	Int of BRIGHTON AV, ST GEORGE ST	2	0	0	0	0	0	0	0.0	6.095	0.00	0.34	0.00
												Statewide Crash Rate:	0.14	
P12782	0025X - 1.18	Int of BEACON ST, BRIGHTON AV	2	4	0	0	2	0	2	50.0	6.796	0.20	0.33	0.00
												Statewide Crash Rate:	0.14	
A12884	0025X - 1.25	Int of BRIGHTON AV WHITNEY AV	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.14	
A12904	0025X - 1.49	Int of BRIGHTON AV HOLLIS RD	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.14	
P12775	0025X - 1.29	Int of BRIGHTON AV, DEBLOIS ST	2	1	0	0	0	0	1	0.0	6.090	0.05	0.34	0.00
												Statewide Crash Rate:	0.14	

Crash Summary I

Nodes															
Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes					Percent Annual M Ent-Veh	Crash Rate	Critical Rate	CRF		
					K	A	B	C	PD						
P12783	0025X - 1.34	Int of BRIGHTON AV, HIGHLAND ST	2	6	0	0	0	1	5	16.7	6.056	0.33	0.34	0.00	
												Statewide Crash Rate: 0.14			
12903	0025X - 1.53	Int of BRADLEY ST, BRIGHTON AV	2	3	0	0	0	2	1	66.7	5.930	0.17	0.34	0.00	
												Statewide Crash Rate: 0.14			
12898	0025X - 1.41	0503311 POR,BRIGHTON AVE,CRAIGIE ST.	2	4	0	0	0	0	4	0.0	6.112	0.22	0.34	0.00	
												Statewide Crash Rate: 0.14			
12700	0025X - 1.05	Int of BRIGHTON AV DEVONSHIRE ST NOYES ST ST JOH	9	21	0	1	0	7	13	38.1	7.464	0.94	1.19	0.00	
												Statewide Crash Rate: 0.74			
Study Years: 3.00		NODE TOTALS:		320	0	3	19	55	243	24.1	226.905	0.47	0.39	1.21	

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						
66546	66542	3508657	0 - 0.03	0001A - 9.69 US 1A	0.03	2	0	0	0	0	0	0.0	0.00064	0.00	828.15	0.00	
Int of FORE RIVER PKY RD INV 3209586														Statewide Crash Rate: 218.56			
66542	16747	3140171	0 - 0.16	0001A - 9.72 US 1A	0.16	2	3	0	0	0	1	2	33.3	0.00782	127.84	445.86	0.00
Int of FORE RIVER PKY VETERANS BRIDGE														Statewide Crash Rate: 218.56			
16747	66548	3117394	0 - 0.13	001AS - 2.46 US 1AS	0.13	2	4	0	0	0	1	3	25.0	0.00708	188.21	456.26	0.00
Int of FORE RIVER PKY VALLEY ST W COMMERCIAL ST														Statewide Crash Rate: 218.56			
66548	66542	3121654	0 - 0.04	001AS - 2.59 US 1AS	0.04	2	0	0	0	0	0	0	0.0	0.00187	0.00	637.86	0.00
Int of FORE RIVER PKY RD INV 3209586														Statewide Crash Rate: 218.56			
66548	66546	3120374	0 - 0.06	3209586 - 0 RD INV 3209586	0.06	2	0	0	0	0	0	0	0.0	0.00046	0.00	880.08	0.00
Int of FORE RIVER PKY RD INV 3209586														Statewide Crash Rate: 218.56			
16747	67750	3417945	0 - 0.05	3201019 - 0 RD INV 3201019	0.05	2	0	0	0	0	0	0	0.0	0.00155	0.00	669.13	0.00
Int of FORE RIVER PKY VALLEY ST W COMMERCIAL ST														Statewide Crash Rate: 218.56			
67750	16748	3417946	0 - 0.02	3201019 - 0.05 RD INV 3201019	0.02	2	0	0	0	0	0	0	0.0	0.00047	0.00	878.84	0.00
Int of RD INV 3209812 VALLEY ST														Statewide Crash Rate: 218.56			
16748	16749	3139464	0 - 0.30	3201019 - 0.07 RD INV 3201019	0.30	2	2	0	0	1	0	1	50.0	0.00383	174.05	530.31	0.00
Int of DANFORTH ST ST JOHN ST VALLEY ST														Statewide Crash Rate: 218.56			
16749	16750	3118971	0 - 0.12	3201019 - 0.37 RD INV 3201019	0.12	2	4	0	0	0	0	2	0.0	0.00148	903.57	677.99	1.33
Int of D ST VALLEY ST														Statewide Crash Rate: 218.56			
16750	16751	3117941	0 - 0.11	3201019 - 0.49 RD INV 3201019	0.11	2	8	0	0	0	2	5	28.6	0.00133	2010.83	696.66	2.89
Int of C ST VALLEY ST														Statewide Crash Rate: 218.56			
16751	67695	3416725	0 - 0.04	3201019 - 0.60 RD INV 3201019	0.04	2	1	0	0	0	0	1	0.0	0.00038	868.76	906.67	0.00
Int of A ST VALLEY ST														Statewide Crash Rate: 218.56			
67695	16752	3508600	0 - 0.02	3201019 - 0.64 RD INV 3201019	0.02	2	0	0	0	0	0	0	0.0	0.00010	0.00	726.01	0.00
Non Int VALLEY ST														Statewide Crash Rate: 218.56			
16752	16753	3118516	0 - 0.16	3201019 - 0.66 RD INV 3201019	0.16	2	2	0	0	0	0	2	0.0	0.00134	496.76	694.56	0.00
Int of CONGRESS ST VALLEY ST														Statewide Crash Rate: 218.56			
16752	67695	3416727	0 - 0.03	3209776 - 0 RD INV 3209776	0.03	2	0	0	0	0	0	0	0.0	0.00014	0.00	893.23	0.00
Int of CONGRESS ST VALLEY ST														Statewide Crash Rate: 218.56			
16748	67749	3417943	0 - 0.03	0560191 - 1.34 RD INV 05 60191	0.03	2	0	0	0	0	0	0	0.0	0.00062	0.00	696.56	0.00
Int of DANFORTH ST ST JOHN ST VALLEY ST														Statewide Crash Rate: 174.83			
67750	67749	3417947	0 - 0.02	3209812 - 0 RD INV 3209812	0.02	2	0	0	0	0	0	0	0.0	0.00008	0.00	316.22	0.00
Int of RD INV 3209812 VALLEY ST														Statewide Crash Rate: 174.83			
19080	19081	194795	0 - 0.10	0560314 - 0 RD INV 05 60314	0.10	2	5	0	0	0	0	3	0.0	0.00004	43077.45	926.59	46.49
0509500 POR,GILMAN,'A' ST.														Statewide Crash Rate: 407.52			
18571	19080	194101	0 - 0.07	0560314 - 0.10 RD INV 05 60314	0.07	2	3	0	0	0	1	2	33.3	0.00002	49542.97	-1166.96	0.00
Int of CONGRESS ST GILMAN ST														Statewide Crash Rate: 407.52			
18571	19079	194100	0 - 0.14	0560314 - 0.17 RD INV 05 60314	0.14	2	4	0	0	0	0	1	0.0	0.00023	5889.98	1666.75	3.53
Int of CONGRESS ST GILMAN ST														Statewide Crash Rate: 407.52			

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						
16751	19080	192420	0 - 0.03	0560001 - 0	0.03	2	0	0	0	0	0	0.0	0.00001	0.00	-3169.30	0.00	
Int of A ST VALLEY ST				RD INV 05 60001	Statewide Crash Rate: 407.52												
16750	16763	192417	0 - 0.05	0560100 - 0	0.05	2	0	0	0	0	0	0.0	0.00007	0.00	1603.07	0.00	
Int of C ST VALLEY ST				RD INV 05 60100	Statewide Crash Rate: 407.52												
16749	16762	192415	0 - 0.04	0560184 - 0	0.04	2	0	0	0	0	0	0.0	0.00008	0.00	1693.39	0.00	
Int of D ST VALLEY ST				RD INV 05 60184	Statewide Crash Rate: 407.52												
16825	16826	3106408	0 - 0.06	0560160 - 1.97	0.06	2	6	0	1	0	1	3	40.0	0.00285	701.52	571.89	1.23
Int of BRAMHALL ST CONGRESS ST DEERING AV				RD INV 05 60160	Statewide Crash Rate: 218.56												
16826	16827	3106410	0 - 0.10	0560160 - 2.03	0.10	2	4	0	0	0	1	3	25.0	0.00424	314.80	517.06	0.00
Int of CONGRESS ST ELLSWORTH ST				RD INV 05 60160	Statewide Crash Rate: 218.56												
16827	16828	3120728	0 - 0.10	0560160 - 2.13	0.10	2	10	0	0	0	2	8	20.0	0.00453	735.77	508.44	1.45
Int of CONGRESS ST WEYMOUTH ST				RD INV 05 60160	Statewide Crash Rate: 218.56												
16828	18571	3106411	0 - 0.04	0560160 - 2.23	0.04	2	4	0	0	0	1	3	25.0	0.00207	645.26	621.60	1.04
Int of CONGRESS ST FOREST ST				RD INV 05 60160	Statewide Crash Rate: 218.56												
16752	18571	3106395	0 - 0.04	0560160 - 2.27	0.04	2	3	0	0	0	0	3	0.0	0.00201	497.12	625.94	0.00
Int of CONGRESS ST VALLEY ST				RD INV 05 60160	Statewide Crash Rate: 218.56												
16752	16765	3106394	0 - 0.05	0560160 - 2.31	0.05	2	1	0	0	0	0	1	0.0	0.00222	150.41	610.42	0.00
Int of CONGRESS ST VALLEY ST				RD INV 05 60160	Statewide Crash Rate: 218.56												
16825	18352	192521	0 - 0.01	0560077 - 0	0.01	2	2	0	0	0	0	1	0.0	0.00029	2267.52	1591.62	1.42
Int of BRAMHALL ST CONGRESS ST DEERING AV				RD INV 05 60077	Statewide Crash Rate: 407.52												
12604	18352	186995	0 - 0.02	0560077 - 0.01	0.02	2	0	0	0	0	0	0	0.0	0.00058	0.00	1368.39	0.00
0503016 POR, BRAMHALL, VAUGHN ST.				RD INV 05 60077	Statewide Crash Rate: 407.52												
12604	12621	186994	0 - 0.03	0560077 - 0.03	0.03	2	1	0	0	0	0	1	0.0	0.00047	706.95	1436.70	0.00
0503016 POR, BRAMHALL, VAUGHN ST.				RD INV 05 60077	Statewide Crash Rate: 407.52												
12621	19111	187026	0 - 0.05	0560077 - 0.06	0.05	2	2	0	0	0	0	1	0.0	0.00069	963.34	1307.97	0.00
0503033 POR, BRAMHALL, HILL ST.				RD INV 05 60077	Statewide Crash Rate: 407.52												
12603	19111	186993	0 - 0.02	0560077 - 0.11	0.02	2	0	0	0	0	0	0	0.0	0.00021	0.00	1687.34	0.00
0503015 POR, BRAMHALL, BRACKETT, CHADWICK				RD INV 05 60077	Statewide Crash Rate: 407.52												
12603	12625	186992	0 - 0.11	0560077 - 0.13	0.11	2	0	0	0	0	0	0	0.0	0.00042	0.00	1472.20	0.00
0503015 POR, BRAMHALL, BRACKETT, CHADWICK				RD INV 05 60077	Statewide Crash Rate: 407.52												
60369	12751	3097430	0 - 0.02	0560785 - 0.60	0.02	2	0	0	0	0	0	0	0.0	0.00003	0.00	680.37	0.00
Non Int WESTERN PROMENADE				RD INV 05 60785	Statewide Crash Rate: 407.52												
12625	60369	2074703	0 - 0.03	0560785 - 0.62	0.03	2	0	0	0	0	0	0	0.0	0.00012	0.00	1758.24	0.00
Int of BRAMHALL ST WESTERN PROMENADE				RD INV 05 60785	Statewide Crash Rate: 407.52												
71553	12751	4047594	0 - 0.01	0560782 - 0	0.01	2	0	0	0	0	0	0	0.0	0.00002	0.00	-892.86	0.00
Non Int WESTERN PROMENADE				RD INV 05 60782	Statewide Crash Rate: 407.52												

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							
60369	71553	4047593	0 - 0.01	3200519 - 0	0.01	2	0	0	0	0	0	0.0	0.00002	0.00	-892.86	0.00
Non Int WESTERN PROMENADE						RD INV 3200519						Statewide Crash Rate: 407.52				
12602	12751	3097432	0 - 0.06	0560782 - 0.01	0.06	2	0	0	0	0	0	0.0	0.00020	0.00	1694.97	0.00
Int of CHADWICK ST, WEST ST						RD INV 05 60782						Statewide Crash Rate: 407.52				
12602	12605	186990	0 - 0.07	0560782 - 0.07	0.07	2	0	0	0	0	0	0.0	0.00052	0.00	1403.49	0.00
Int of CHADWICK ST, WEST ST						RD INV 05 60782						Statewide Crash Rate: 407.52				
12602	12603	186989	0 - 0.13	0560124 - 0.27	0.13	2	2	0	0	0	1	0.0	0.00091	733.68	1220.10	0.00
Int of CHADWICK ST, WEST ST						RD INV 05 60124						Statewide Crash Rate: 407.52				
12604	19110	186996	0 - 0.06	0560751 - 0	0.06	2	0	0	0	0	0	0.0	0.00099	0.00	1194.44	0.00
0503016 POR,BRAMHALL,VAUGHN ST.						RD INV 05 60751						Statewide Crash Rate: 407.52				
12605	19110	186999	0 - 0.13	0560751 - 0.06	0.13	2	3	0	0	0	3	0.0	0.00167	598.89	1042.44	0.00
0503017 POR,VAUGHN,WEST ST.						RD INV 05 60751						Statewide Crash Rate: 407.52				
19110	19111	194832	0 - 0.06	0560071 - 0.72	0.06	2	0	0	0	0	0	0.0	0.00040	0.00	1492.48	0.00
0509530 POR,BRACKETT,VAUGHN ST.						RD INV 05 60071						Statewide Crash Rate: 407.52				
19111	19112	194833	0 - 0.04	0560071 - 0.78	0.04	2	0	0	0	0	0	0.0	0.00034	0.00	1544.01	0.00
0509531 POR,BRACKETT,BRAMHALL ST.						RD INV 05 60071						Statewide Crash Rate: 407.52				
12617	19112	187018	0 - 0.03	0560128 - 0	0.03	2	0	0	0	0	0	0.0	0.00025	0.00	1640.21	0.00
0503029 POR,ELLSWORTH,CHARLES ST.						RD INV 05 60128						Statewide Crash Rate: 407.52				
12617	12624	187017	0 - 0.06	0560128 - 0.03	0.06	2	0	0	0	0	0	0.0	0.00034	0.00	1541.73	0.00
0503029 POR,ELLSWORTH,CHARLES ST.						RD INV 05 60128						Statewide Crash Rate: 407.52				
12617	12622	187016	0 - 0.03	0560251 - 0	0.03	2	0	0	0	0	0	0.0	0.00014	0.00	1756.21	0.00
0503029 POR,ELLSWORTH,CHARLES ST.						RD INV 05 60251						Statewide Crash Rate: 407.52				
12618	12622	187021	0 - 0.02	0560251 - 0.03	0.02	2	0	0	0	0	0	0.0	0.00010	0.00	1739.73	0.00
0503030 POR,ELLSWORTH,HILL ST.						RD INV 05 60251						Statewide Crash Rate: 407.52				
12618	12619	187019	0 - 0.02	0560251 - 0.05	0.02	2	0	0	0	0	0	0.0	0.00011	0.00	1752.80	0.00
0503030 POR,ELLSWORTH,HILL ST.						RD INV 05 60251						Statewide Crash Rate: 407.52				
12619	15476	187023	0 - 0.01	0560251 - 0.07	0.01	2	0	0	0	0	0	0.0	0.00004	0.00	1140.14	0.00
0503031 POR,CRESCENT,ELLSWORTH ST.						RD INV 05 60251						Statewide Crash Rate: 407.52				
15476	16826	191013	0 - 0.02	0560251 - 0.08	0.02	2	0	0	0	0	0	0.0	0.00010	0.00	1741.07	0.00
Int of BRAMHALL PL ELLSWORTH ST						RD INV 05 60251						Statewide Crash Rate: 407.52				
12620	19112	187025	0 - 0.05	0560633 - 0	0.05	2	1	0	0	0	1	0.0	0.00003	11783.77	160.62	73.37
0503032 POR,HILL,RUSSELL ST.						RD INV 05 60633						Statewide Crash Rate: 407.52				
12619	12623	187022	0 - 0.05	0560171 - 0	0.05	2	1	0	0	0	1	0.0	0.00005	6739.79	1306.79	5.16
0503031 POR,CRESCENT,ELLSWORTH ST.						RD INV 05 60171						Statewide Crash Rate: 407.52				
12623	12624	187028	0 - 0.04	0560171 - 0.05	0.04	2	0	0	0	0	0	0.0	0.00002	0.00	-939.97	0.00
0503035 POR,CRESCENT,WESCOTT ST.						RD INV 05 60171						Statewide Crash Rate: 407.52				
12622	12623	187027	0 - 0.05	0560780 - 0	0.05	2	0	0	0	0	0	0.0	0.00007	0.00	1609.51	0.00
0503034 POR,WESCOTT,ELLSWORTH ST.						RD INV 05 60780						Statewide Crash Rate: 407.52				
12618	12620	187020	0 - 0.03	0560369 - 0	0.03	2	1	0	0	0	1	0.0	0.00005	6302.57	1384.61	4.55
0503030 POR,ELLSWORTH,HILL ST.						RD INV 05 60369						Statewide Crash Rate: 407.52				

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						
12620	12621	187024	0 - 0.02	0560369 - 0.03	0.02	2	0	0	0	0	0	0.0	0.00004	0.00	933.70	0.00	
				0503032 POR,HILL,RUSSELL ST.	RD INV 05 60369											Statewide Crash Rate: 407.52	
15476	18352	191014	0 - 0.06	0560076 - 0	0.06	2	0	0	0	0	0	0.0	0.00004	0.00	863.16	0.00	
				Int of BRAMHALL PL ELLSWORTH ST	RD INV 05 60076											Statewide Crash Rate: 407.52	
16753	19079	3122262	0 - 0.02	0022X - 0.53	0.02	2	1	0	0	0	1	0.0	0.00079	420.00	789.03	0.00	
				Int of PARK AV VALLEY ST	ST RTE 22											Statewide Crash Rate: 218.56	
16753	16770	4338968	0 - 0.02	0022X - 0.55	0.02	2	1	0	0	0	1	0.0	0.00073	458.87	804.91	0.00	
				Int of PARK AV VALLEY ST	ST RTE 22											Statewide Crash Rate: 218.56	
16753	16770	4338968	0.02 - 0.04	0022X - 0.57	0.02	2	0	0	0	0	0	0.0	0.00073	0.00	804.91	0.00	
				Int of PARK AV VALLEY ST	ST RTE 22											Statewide Crash Rate: 218.56	
16748	16762	3944344	0 - 0.06	3201042 - 0	0.06	2	2	0	0	1	0	50.0	0.00139	478.71	688.07	0.00	
				Int of DANFORTH ST ST JOHN ST VALLEY ST	RD INV 3201042											Statewide Crash Rate: 218.56	
16748	16762	3944344	0.06 - 0.32	3201042 - 0.06	0.26	2	2	0	0	1	0	50.0	0.00603	110.47	473.98	0.00	
				Int of DANFORTH ST ST JOHN ST VALLEY ST	RD INV 3201042											Statewide Crash Rate: 218.56	
16762	16763	3120382	0 - 0.12	3201042 - 0.32	0.12	2	5	0	0	0	4	0.0	0.00292	571.18	568.48	1.00	
				Int of D ST ST JOHN ST	RD INV 3201042											Statewide Crash Rate: 218.56	
16763	16764	3119255	0 - 0.10	3201042 - 0.44	0.10	2	4	0	0	0	4	0.0	0.00261	510.48	584.97	0.00	
				Int of C ST ST JOHN ST	RD INV 3201042											Statewide Crash Rate: 218.56	
16764	16765	3106397	0 - 0.06	3201042 - 0.54	0.06	2	0	0	0	0	0	0.0	0.00206	0.00	622.08	0.00	
				Int of A ST ST JOHN ST	RD INV 3201042											Statewide Crash Rate: 218.56	
16765	66777	3155094	0 - 0.14	0022S - 0.88	0.14	2	30	0	0	0	6	23	20.7	0.00739	1353.16	451.78	3.00
				Int of CONGRESS ST ST JOHN ST	ST RTE 22S											Statewide Crash Rate: 218.56	
66777	16770	3154475	0 - 0.02	0022S - 1.02	0.02	2	0	0	0	0	0	0.0	0.00106	0.00	737.39	0.00	
				Non Int ST JOHN ST	ST RTE 22S											Statewide Crash Rate: 218.56	
12628	16770	3122179	0 - 0.04	0560637 - 0	0.04	2	0	0	0	0	0	0.0	0.00119	0.00	715.26	0.00	
				Int of ST JOHN ST WASHBURN AV	RD INV 05 60637											Statewide Crash Rate: 218.56	
12628	12629	3131531	0 - 0.11	0560637 - 0.04	0.11	2	3	0	0	0	1	2	33.3	0.00338	296.12	547.57	0.00
				Int of ST JOHN ST WASHBURN AV	RD INV 05 60637											Statewide Crash Rate: 218.56	
12629	12695	3120379	0 - 0.12	0560637 - 0.15	0.12	2	3	0	0	1	0	2	33.3	0.00376	265.69	532.67	0.00
				Int of GRANITE ST ST JOHN ST	RD INV 05 60637											Statewide Crash Rate: 218.56	
12692	12695	3129248	0 - 0.26	0560637 - 0.27	0.26	2	6	0	0	1	1	4	33.3	0.00751	266.16	450.03	0.00
				Int of DARTMOUTH ST ST JOHN ST	RD INV 05 60637											Statewide Crash Rate: 218.56	
12692	71539	4047229	0 - 0.03	0560637 - 0.53	0.03	2	0	0	0	0	0	0.0	0.00079	0.00	790.98	0.00	
				Int of DARTMOUTH ST ST JOHN ST	RD INV 05 60637											Statewide Crash Rate: 218.56	
71539	12700	4047230	0 - 0.02	0560637 - 0.56	0.02	2	0	0	0	0	0	0.0	0.00024	0.00	943.59	0.00	
				Non Int ST JOHN ST	RD INV 05 60637											Statewide Crash Rate: 218.56	
12700	71539	4047231	0 - 0.02	3210295 - 0	0.02	2	0	0	0	0	0	0.0	0.00029	0.00	935.64	0.00	
				Int of BRIGHTON AV DEVONSHIRE ST NOYES ST ST JOHN ST	RD INV 3210295											Statewide Crash Rate: 218.56	
12700	12877	3944348	0 - 0.05	0025X - 1.05	0.05	2	8	1	0	0	2	5	37.5	0.00320	833.87	525.54	1.59
				Int of BRIGHTON AV DEVONSHIRE ST NOYES ST RTE 25											Statewide Crash Rate: 202.97		

Crash Summary I

Sections

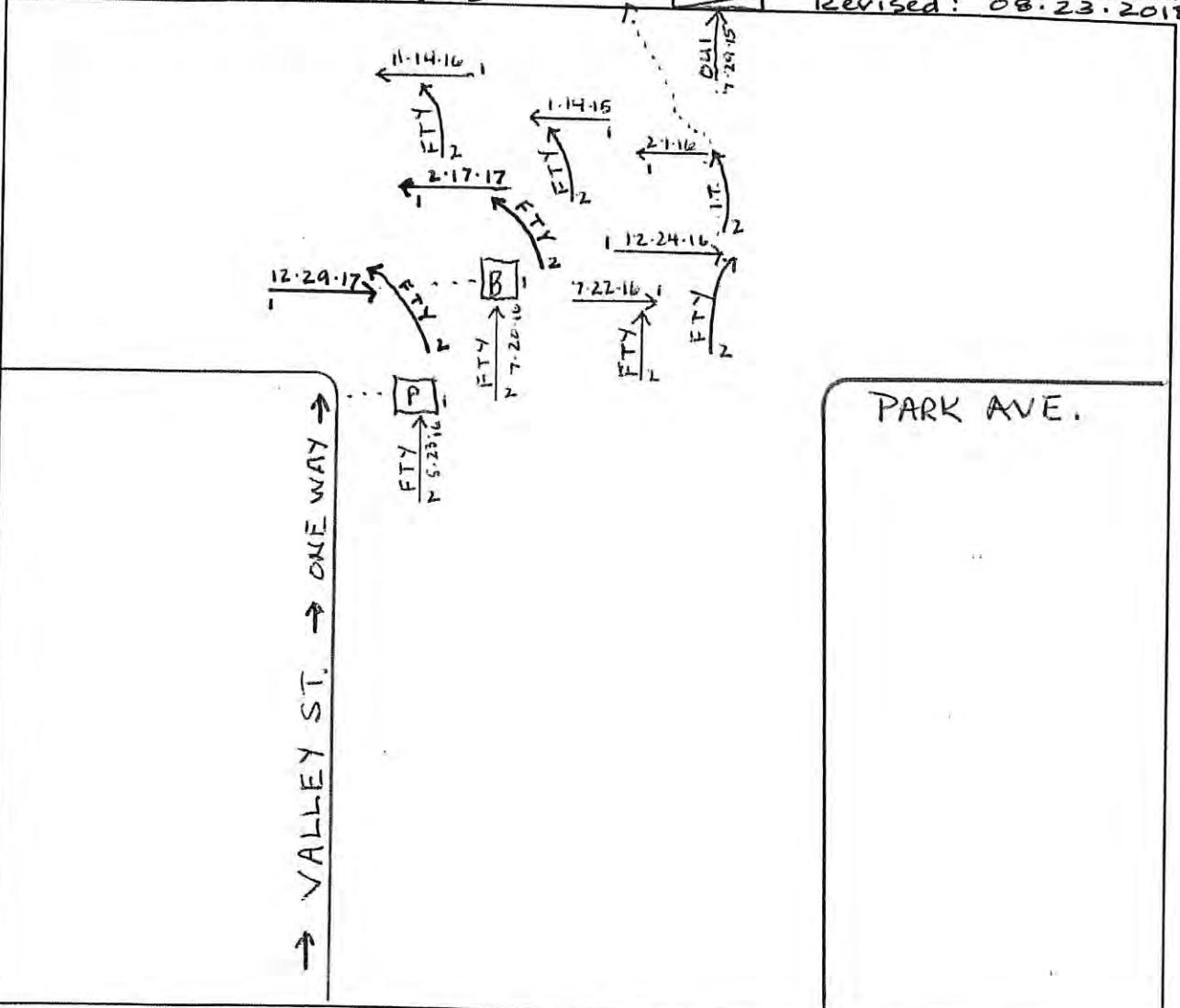
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	Injury Crashes				Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF	
								A	B	C	PD						
ST ST JOHN ST																	
12779	12877	3120098	0 - 0.02	0025X - 1.10	0.02	2	1	0	0	0	1	0	100.0	0.00121	275.34	674.27	0.00
												Statewide Crash Rate: 202.97					
12779	12878	3129250	0 - 0.03	0025X - 1.12	0.03	2	2	0	0	0	0	2	0.0	0.00181	368.03	608.80	0.00
												Statewide Crash Rate: 202.97					
12782	12878	3131537	0 - 0.03	0025X - 1.15	0.03	2	3	0	0	0	2	1	66.7	0.00200	501.20	593.80	0.00
												Statewide Crash Rate: 202.97					
12782	12883	3120099	0 - 0.02	0025X - 1.18	0.02	2	0	0	0	0	0	0	0.0	0.00129	0.00	663.59	0.00
												Statewide Crash Rate: 202.97					
12883	12884	3123616	0 - 0.05	0025X - 1.20	0.05	2	0	0	0	0	0	0	0.0	0.00318	0.00	526.41	0.00
												Statewide Crash Rate: 202.97					
12776	12884	3122184	0 - 0.01	0025X - 1.25	0.01	2	0	0	0	0	0	0	0.0	0.00064	0.00	779.59	0.00
												Statewide Crash Rate: 202.97					
12775	12776	3106212	0 - 0.03	0025X - 1.26	0.03	2	2	0	0	0	1	1	50.0	0.00191	349.34	600.67	0.00
												Statewide Crash Rate: 202.97					
12775	12891	3123710	0 - 0.01	0025X - 1.29	0.01	2	0	0	0	0	0	0	0.0	0.00056	0.00	799.93	0.00
												Statewide Crash Rate: 202.97					
12783	12891	3123925	0 - 0.04	0025X - 1.30	0.04	2	1	0	0	0	1	0	100.0	0.00224	148.49	575.94	0.00
												Statewide Crash Rate: 202.97					
12783	12892	3131538	0 - 0.01	0025X - 1.34	0.01	2	0	0	0	0	0	0	0.0	0.00061	0.00	788.53	0.00
												Statewide Crash Rate: 202.97					
12892	12898	187491	0 - 0.06	0025X - 1.35	0.06	2	2	0	0	0	0	2	0.0	0.00362	183.97	508.96	0.00
												Statewide Crash Rate: 202.97					
12898	12899	187501	0 - 0.06	0025X - 1.41	0.06	2	4	0	0	0	1	3	25.0	0.00361	369.75	509.60	0.00
												Statewide Crash Rate: 202.97					
12899	12904	3131543	0 - 0.02	0025X - 1.47	0.02	2	1	0	0	0	1	0	100.0	0.00117	285.32	680.22	0.00
												Statewide Crash Rate: 202.97					
12903	12904	3106229	0 - 0.04	0025X - 1.49	0.04	2	1	1	0	0	0	0	100.0	0.00233	142.84	570.17	0.00
												Statewide Crash Rate: 202.97					
12903	12928	3131544	0 - 0.10	0025X - 1.53	0.10	2	1	0	0	0	0	1	0.0	0.00581	57.38	452.28	0.00
												Statewide Crash Rate: 202.97					
16751	16764	192419	0 - 0.05	0560001 - 0.03	0.05	2	5	0	0	0	0	4	0.0	0.00036	4631.04	1527.03	3.03
												Statewide Crash Rate: 407.52					
Study Years:			3.00	Section Totals:		5.54	165	2	1	5	27	115	21.2	0.13524	406.69	288.24	1.41
Grand Totals:						5.54	485	2	4	24	82	358	23.1	0.13524	1195.42	406.85	2.94

COLLISION DIAGRAM

LOCATION Intersection of Park Avenue & Valley Street SHEET 1 OF 2

TOWN Portland, Maine NODE NO(S) 116753

YEARS REVIEWED 2014 - 2016 DATE PREPARED 11.21.2017
Added 2017 Data Revised: 08.23.2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

<p>LIGHT</p> <p>1. DARK (MORNING) 2. DAYLIGHT 3. DUSK (EVENING)</p> <p>4. DARK (ST. LIGHTS ON) 5. DARK (NO ST. LIGHTS) 6. DARK (ST. LIGHTS OFF)</p> <p>7. OTHER</p> <p>ROAD SURFACE</p> <p>1. DRY 2. WET 3. SNOW/SLUSH-SANDED</p> <p>4. ICE/PACKED SNOW-SANDED 5. MUDDY 6. DEBRIS</p> <p>7. OILY 8. SNOW/SLUSH-NOT SANDED 9. ICE-PKD. SNOW-NOT SANDED</p> <p>10. OTHER</p> <p>APPARENT CONTRIBUTING FACTORS - HUMAN</p> <p>1. NO IMPROPER ACTION 2. FAIL TO YLD. RIGHT OF WAY 3. ILLEGAL UNSAFE SPEED</p> <p>4. FOLLOW TOO CLOSE 5. DISREGARD TRAFFIC CONTROL DEVICE</p> <p>6. DRIVING LEFT OF CENTER-NO PASSING 7. IMPROPER PASS-OVERTAKING</p> <p>8. IMP. UNSAFE LAKE CHANGE 9. IMP. PARKING START/STOP 10. IMPROPER TURN</p> <p>11. UNSAFE BACKING 12. NO SIGNAL OR IMP. SIGNAL 13. IMPEDING TRAFFIC</p> <p>14. DRIVER INATTENTION-DISTRACTION 15. DRIVER INEXPERIENCE</p> <p>16. PEDEST. VIOLATION ERROR 17. PHYSICAL IMPAIRMENT 18. VISION OBSCURED-</p> <p>19. VISION OBSCURED-SUN/HEADLIGHTS</p> <p>20. OTHER VISION OBSCUREMENT 30. OTHER HUMAN VIOLATION FACTOR</p> <p>31. HIT AND RUN 51. UNKNOWN</p> <p>- VEHICULAR</p> <p>41. DEFECTIVE BRAKES 42. DEFECTIVE TIRE/FAILURE 43. DEFECTIVE LIGHTS</p> <p>44. DEFECTIVE SUSPENSION OR FACTOR 45. DEFECTIVE STEERING 50. OTHER VEHICLE DEFECT</p> <p>51. UNKNOWN</p>	<p style="text-align: center;">SYMBOLS</p> <p>ANGLE →</p> <p>BACKING →</p> <p>FIXED OBJECT →</p> <p>HEAD ON →</p> <p>OVERTURN →</p> <p>PARKED VEHICLE →</p> <p>PEDESTRIAN → [P]</p> <p>REAR END →</p> <p>SIDE SWIPE →</p> <p>TURNING MOVE →</p> <p>CHANGE LANE →</p> <p>OUT OF CONTROL →</p> <p>FATAL ACCIDENT →</p> <p>VEHICLE (MOVING) →</p> <p>BICYCLE → [B]</p> <p>ANIMAL → [A]</p> <p>SLED → [S]</p> <p>WEATHER</p> <p>C = CLEAR F = FOG R = RAIN</p> <p>SL = SLEET S = SNOW CL = CLOUDY</p> <p>XW = CROSS WINDS</p> <p>INJURIES</p> <p>K = FATAL B = NON-INCAPACITATING</p> <p>A = INCAPACITATING C = POSSIBLE INJURY</p>
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COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Intersection of Park Avenue & Valley Street

TOWN Portland, Maine NODE NO(S) 16753

YEARS REVIEWED 2014 - 2016 DATE PREPARED 11.21.2017

Added 2017 Data Revised: 08.23.2018

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
15-0190	01.14.15	12:40					2	2	2	
15-2555	07.29.15	17:30					2	1	14/17	OWI
16-0371	02.01.16	14:50					2	1	10	
16-1541	05.23.16	22:02				1	5	1	2	
16-2240	07.20.16	17:24			1		2	1	2	
16-2272	07.22.16	13:48				1	2	1	2	
16-3509	11.14.16	12:20					2	1	2	
16-3941	12.24.16	11:10				1	2	2	2	
17-0600	02.17.17	09:14					2	1	2	
17-4129	12.29.17	13:09				1	2	1	2	

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COLLISION DIAGRAM

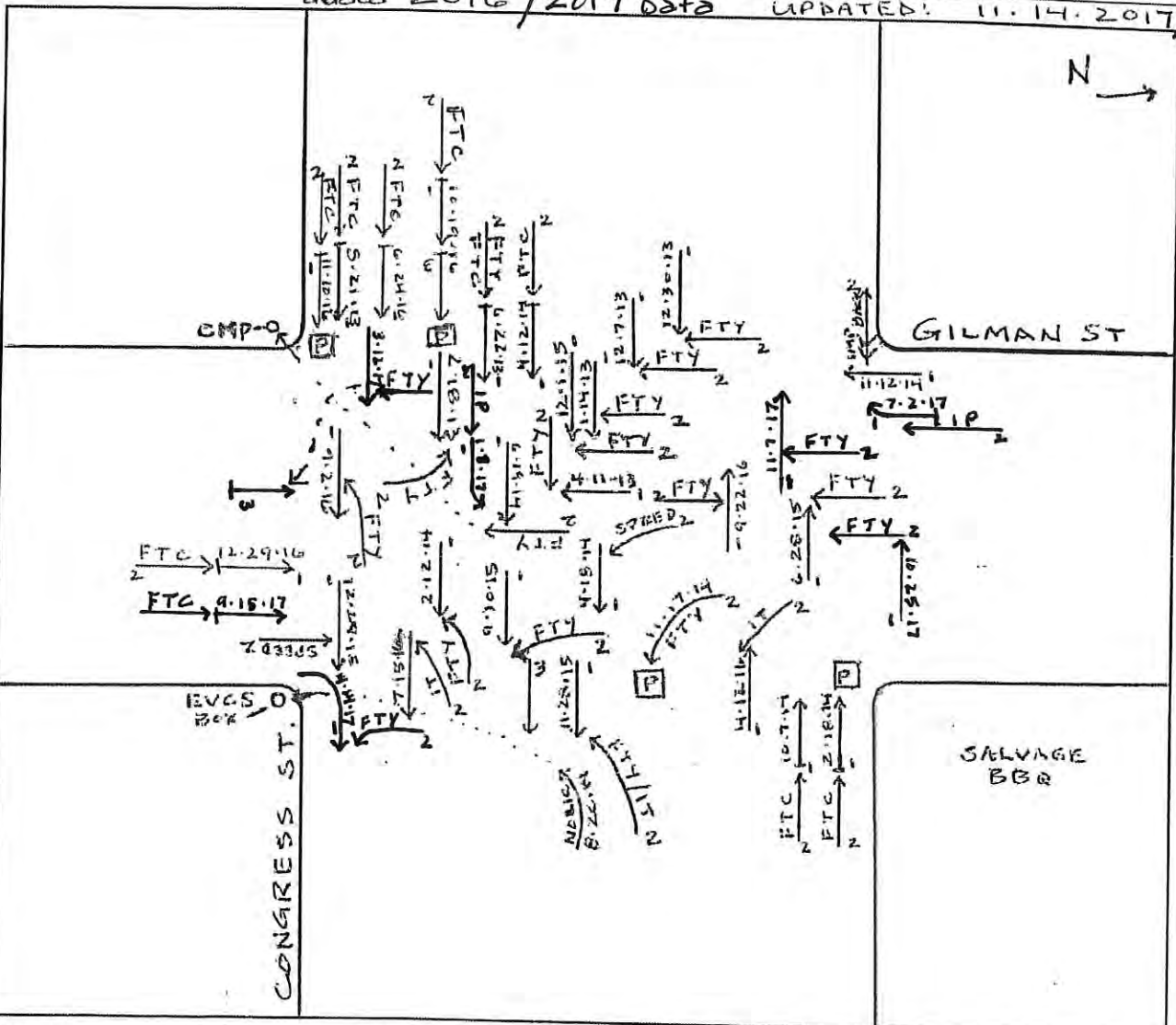
SHEET 1 OF 2

LOCATION Intersection of Congress Street & Gilman Street

TOWN Portland, Maine NODE NO(S) 18571

YEARS REVIEWED 2013 - 2015 DATE PREPARED 10.24.2016

added 2016/2017 data UPDATED: 11.14.2017 / 08.24.2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT**
- 1. DAWN (MORNING)
 - 2. DAYLIGHT
 - 3. DUSK (EVENING)
 - 4. DARK (ST. LIGHTS ON)
 - 5. DARK (NO ST. LIGHTS)
 - 6. DARK (ST. LIGHTS OFF)
 - 7. OTHER
- ROAD SURFACE**
- 1. DRY
 - 2. WET
 - 3. SNOW/SLUSH-SANDED
 - 4. ICE/PACKED SNOW-SANDED
 - 5. MUDDY
 - 6. DEBRIS
 - 7. OILY
 - 8. SNOW/SLUSH-NOT SANDED
 - 9. ICE-PKO. SNOW-NOT SANDED
 - 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- 1. NO IMPROPER ACTION
 - 2. FAIL TO YLD. RIGHT OF WAY
 - 3. ILLEGAL UNSAFE SPEED
 - 4. FOLLOW TOO CLOSE
 - 5. DISREGARD TRAFFIC CONTROL DEVICE
 - 6. DRIVING LEFT OF CENTER-NO PASSING
 - 7. IMPROPER PASS-OVERTAKING
 - 8. IMP. UNSAFE LANE CHANGE
 - 9. IMP. PARKING START/STOP
 - 10. IMPROPER TURN
 - 11. UNSAFE BACKING
 - 12. NO SIGNAL OR IMP. SIGNAL
 - 13. IMPEDING TRAFFIC
 - 14. DRIVER INATTENTION-DISTRACTION
 - 15. DRIVER INEXPERIENCE
 - 16. PEDEST. VIOLATION ERROR
 - 17. PHYSICAL IMPAIRMENT
 - 18. VISION OBSCURED-WINDSHIELD GLASS
 - 19. VISION OBSCURED-SUN/HEADLIGHTS
 - 20. OTHER VISION OBSCUREMENT
 - 20. OTHER HUMAN VIOLATION FACTOR
 - 21. HIT AND RUN
 - 21. UNKNOWN
- VEHICULAR**
- 41. DEFECTIVE BRAKES
 - 42. DEFECTIVE TIRE/FAILURE
 - 43. DEFECTIVE LIGHTS
 - 44. DEFECTIVE SUSPENSION OR FACTOR
 - 45. DEFECTIVE STEERING
 - 50. OTHER VEHICLE DEFECT
 - 51. UNKNOWN

SYMBOLS

ANGLE →	PEDESTRIAN → P	FATAL ACCIDENT → ①
BACKING →	REAR END →	VEHICLE (MOVING) →
FIXED OBJECT →	SIDE SWIPE →	BICYCLE → B
HEAD ON →	TURNING MOVE →	ANIMAL → A
OVERTURN →	CHANGE LANE →	SLED → S
PARKED VEHICLE →	OUT OF CONTROL →	

WEATHER

C - CLEAR
SL - SLEET

F - FOG
S - SNOW

R - RAIN
CL - CLOUDY
XW - CROSS WINDS

INJURIES

K - FATAL
A - INCAPACITATING

B - NON-INCAPACITATING
C - POSSIBLE INJURY

DATE PLOTTED: 10/24/16 BY: [signature]

COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Intersection of Congress Street & Gilman Street

TOWN Portland, Maine NODE NO(S) 18571

YEARS REVIEWED 2013 - 2015 DATE PREPARED 10.24.2016
 added 2016/2017 DATA UPDATED: 11.14.2017

08.24.2018

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
13.169	01.14.13	16:15					2	1	2	
13.609	02.18.13	21:00				1	4	1	2	
13.1153	04.11.13	12:40					2	1	2	
13.1780	06.22.13	12:13				1	2	1	2/4	
13.2364	08.21.13	14:08					2	1	4	
13.3531	12.07.13	10:11				1	2	2	2/19	Sun
13.3827	12.30.13	11:43					2	2	2	
14.538	02.12.14	14:50					2	1	2	
14.631	02.18.14	12:10					2	1	4	Pedestrian
14.1194	04.12.14	12:30					2	1	4/14	
14.1243	04.18.14	11:10					2	1	3	
14.1789	06.19.14	23:45					4	1	2	
14.2519	08.26.14	14:54					2	1	15/30	NO LICENSE NO INSURANCE
14.2955	10.07.14	13:14					2	1	4	
14.3344	11.12.14	18:49					4	1	11	
14.3389	11.17.14	17:15				1	5	2	2	Pedestrian
15.2214	06.28.15	13:00					2	2	2	
15.3054	09.10.15	20:16					4	1	2	
15.3961	11.28.15	12:30					2	1	2/10	
15.3994	12.01.15	16:00					2	2	2	
15.4357	12.29.15	15:00					2	3	3	
16.1134	04.12.16	14:24					2	2	10	
16.1930	06.24.16	18:38					2	1	4	
16.2178	07.15.16	12:20					2	1	10	
16.2693	09.02.16	08:43					2	1	2	No License
16.2932	09.22.16	12:59				1	2	1	2	
16.3228	10.19.16	10:51				1	2	1	4	
16.3480	11.10.16	11:35				1	2	1	4	
16.3991	12.29.16	16:41					4	3	4	
17.0081	01.08.17	17:32					4	2	12	
17.0882	03.12.17	12:00				2	2	1	2	
17.1262	04.14.17	10:30					2	1	2	
17.2092	07.02.17	18:00					2	1	12	
17.2941	09.15.17	11:15				1	2	1	4	
17.3359	10.25.17	04:42					4	2	2	
17.3493	11.07.17	08:12				1	2	1	2	

COLLISION DIAGRAM

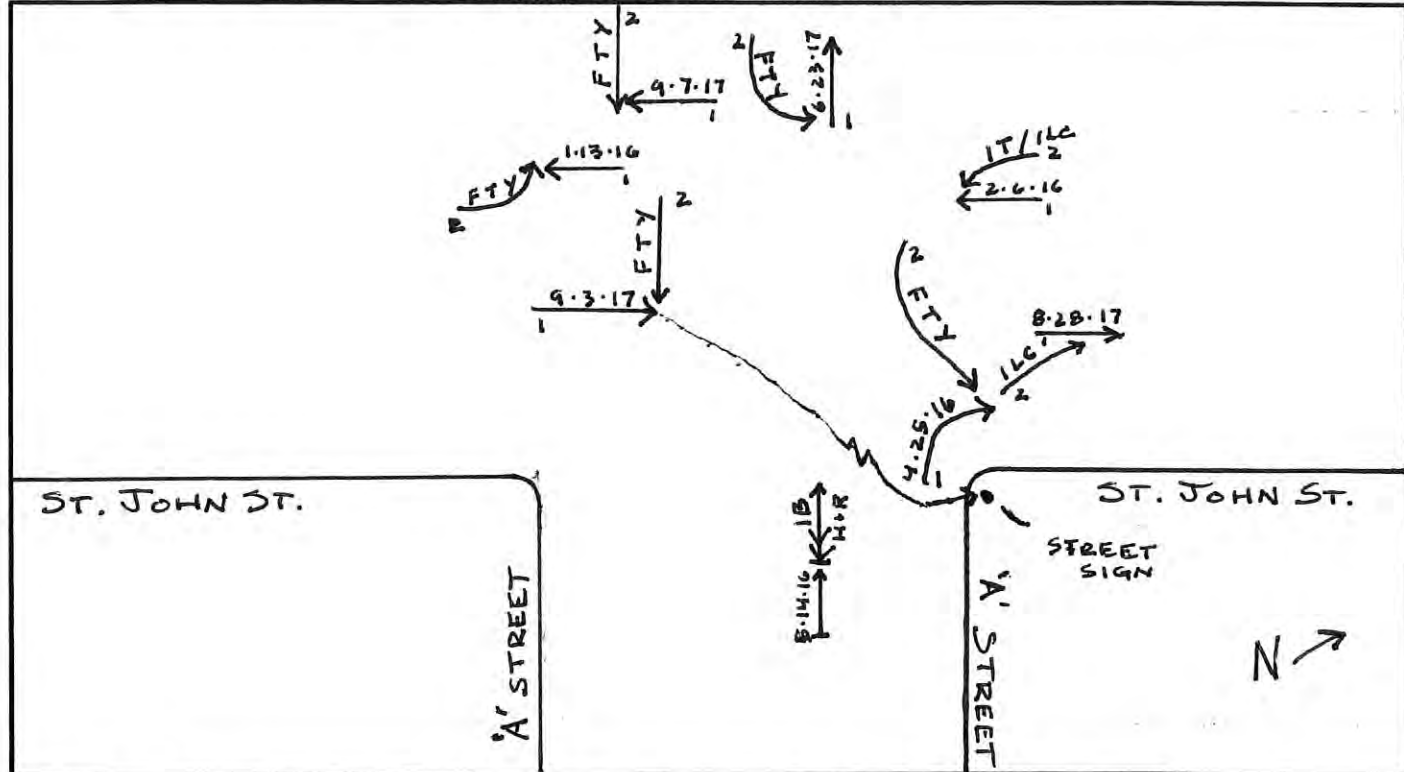
SHEET 1 OF 1

LOCATION St. John Street / 'A' Street

TOWN Portland, Maine NODE NO(S) 16764

YEARS REVIEWED 2015 to 2017 DATE PREPARED 08.24.2018

- UNION STATION PLAZA -



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT**
- 1. DAWN (MORNING)
 - 2. DAYLIGHT
 - 3. DUSK (EVENING)
 - 4. DARK (ST. LIGHTS ON)
 - 5. DARK (NO ST. LIGHTS)
 - 6. DARK (ST. LIGHTS OFF)
 - 7. OTHER
- ROAD SURFACE**
- 1. DRY
 - 2. WET
 - 3. SNOW/SLUSH-SANDED
 - 4. ICE/PACKED SNOW-SANDED
 - 5. MUDDY
 - 6. DEBRIS
 - 7. OILY
 - 8. SNOW/SLUSH-NOT SANDED
 - 9. ICE-PKD. SNOW-NOT SANDED
 - 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- 1. NO IMPROPER ACTION
 - 2. FAIL TO YLD. RIGHT OF WAY
 - 3. ILLEGAL UNSAFE SPEED
 - 4. FOLLOW TOO CLOSE
 - 5. DISREGARD TRAFFIC CONTROL DEVICE
 - 6. DEBRIS
 - 7. IMPROPER PASS-OVERTAKING
 - 8. IMP. UNSAFE LANE CHANGE
 - 9. IMP. PARKING START/STOP
 - 10. IMPROPER TURN
 - 11. UNSAFE BACKING
 - 12. NO SIGNAL OR IMP. SIGNAL
 - 13. IMPEDING TRAFFIC
 - 14. DRIVER INATTENTION-DISTRACTION
 - 15. DRIVER INEXPERIENCE
 - 16. PEDEST. VIOLATION ERROR
 - 17. PHYSICAL IMPAIRMENT
 - 18. VISION OBSCURED-WINDSHIELD GLASS
 - 19. VISION OBSCURED-SUN/HEADLIGHTS
 - 20. OTHER VISION OBSCUREMENT
 - 30. OTHER HUMAN VIOLATION FACTOR
 - 31. HIT AND RUN
 - 51. UNKNOWN
- VEHICULAR**
- 41. DEFECTIVE BRAKES
 - 42. DEFECTIVE TIRE/FAILURE
 - 43. DEFECTIVE LIGHTS
 - 44. DEFECTIVE SUSPENSION OR FACTOR
 - 45. DEFECTIVE STEERING
 - 50. OTHER VEHICLE DEFECT
 - 51. UNKNOWN

SYMBOLS

ANGLE		PEDESTRIAN		FATAL ACCIDENT	
BACKING		REAR END		VEHICLE (MOVING)	
FIXED OBJECT		SIDE SWIPE		BICYCLE	
HEAD ON		TURNING MOVE		ANIMAL	
OVERTURN		CHANGE LANE		SLED	
PARKED VEHICLE		OUT OF CONTROL			

WEATHER

C = CLEAR	F = FOG	R = RAIN
SL = SLEET	S = SNOW	CL = CLOUDY
		XW = CROSS WINDS

INJURIES

K = FATAL	B = NON-INCAPACITATING
A = INCAPACITATING	C = POSSIBLE INJURY

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
16.0134	01.13.16	07:06					2	3	2/14	
16.0455	02.06.16	16:24					2	2	8/10	
16.1232	04.25.16	17:06					2	1	2	
16.1433	05.14.16	12:25					2	1	11/31	
17.2019	06.23.17	12:06					2	1	2/14	
17.2741	08.28.17	14:26					2	1	8	
17.2808	09.03.17	18:24					3	2	2/3	
17.2844	09.07.17	17:58					2	1	2	

COLLISION DIAGRAM

SHEET 1 OF 2

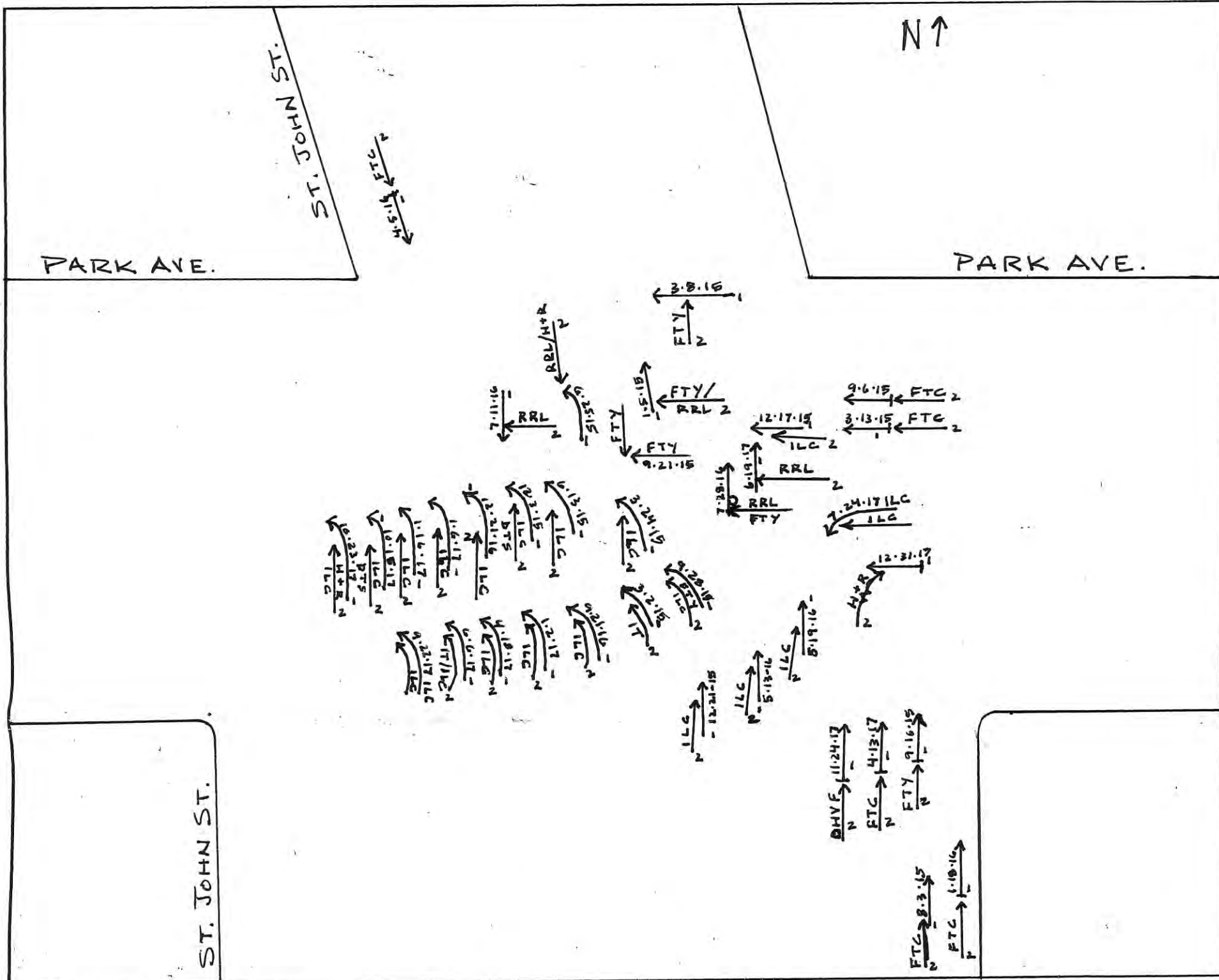
LOCATION Park Avenue / St. John Street

TOWN Portland, Maine

NODE NO(S) 16770

YEARS REVIEWED 2015 to 2017

DATE PREPARED 08.22.2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT**
1. DAWN (MORNING)
 2. DAYLIGHT
 3. DUSK (EVENING)
 4. DARK (ST. LIGHTS ON)
 5. DARK (NO ST. LIGHTS)
 6. DARK (ST. LIGHTS OFF)
 7. OTHER
- ROAD SURFACE**
1. DRY
 2. WET
 3. SNOW/SLUSH-SANDED
 4. ICE/PACKED SNOW-SANDED
 5. MUDDY
 6. DEBRIS
 7. OILY
 8. SNOW/SLUSH-NOT SANDED
 9. ICE-PKD. SNOW-NOT SANDED
 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN**
1. NO IMPROPER ACTION
 2. FAIL TO YLD. RIGHT OF WAY
 3. ILLEGAL UNSAFE SPEED
 4. FOLLOW TOO CLOSE
 5. DISREGARD TRAFFIC CONTROL DEVICE
 6. DRIVING LEFT OF CENTER-NO PASSING
 7. IMPROPER PASS-OVERTAKING
 8. IMP. UNSAFE LANE CHANGE
 9. IMP. PARKING START/STOP
 10. IMPROPER TURN
 11. UNSAFE BACKING
 12. NO SIGNAL OR IMP. SIGNAL
 13. IMPEDING TRAFFIC
 14. DRIVER INATTENTION-DISTRACTION
 15. DRIVER INEXPERIENCE
 16. PEDEST. VIOLATION ERROR
 17. PHYSICAL IMPAIRMENT
 18. VISION OBSCURED-
 19. VISION OBSCURED-SUN/HEADLIGHTS
 20. OTHER VISION OBSCUREMENT
 30. OTHER HUMAN VIOLATION FACTOR
 31. HIT AND RUN
 51. UNKNOWN
- VEHICULAR**
41. DEFECTIVE BRAKES
 42. DEFECTIVE TIRE/FAILURE
 43. DEFECTIVE LIGHTS
 44. DEFECTIVE SUSPENSION OR FACTOR
 45. DEFECTIVE STEERING
 50. OTHER VEHICLE DEFECT
 51. UNKNOWN

SYMBOLS

ANGLE	↓	PEDESTRIAN	→ P	FATAL ACCIDENT	⊙
BACKING	←←←	REAR END	→ →	VEHICLE (MOVING)	→
FIXED OBJECT	→	SIDE SWIPE	→ →	BICYCLE	--- B
HEAD ON	→ ←	TURNING MOVE	→ ↻	ANIMAL	--- A
OVERTURN	→ ○	CHANGE LANE	→ ↻	SLED	--- S
PARKED VEHICLE	▣	OUT OF CONTROL	→ ~		

WEATHER

C = CLEAR
SL = SLEET

F = FOG
S = SNOW

R = RAIN
CL = CLOUDY
XW = CROSS WINDS

INJURIES

K = FATAL
A = INCAPACITATING

B = NON-INCAPACITATING
C = POSSIBLE INJURY

COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Park Avenue / St. John Street

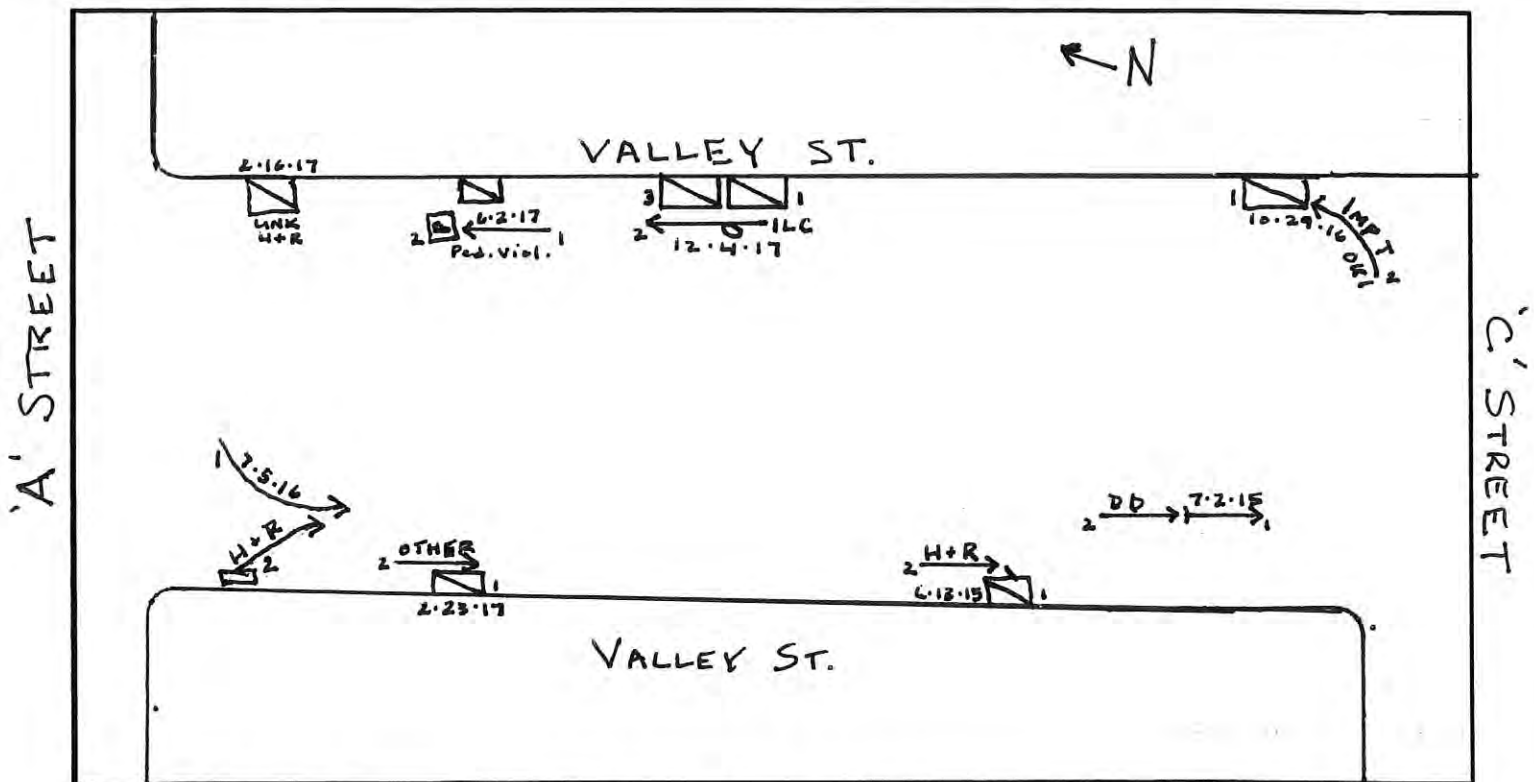
TOWN Portland, Maine NODE NO(S) 16770

YEARS REVIEWED 2015 to 2017 DATE PREPARED 08.22.2018

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
15.0051	01.05.15	15:28			3		2	3	2/5	
15.1037	03.02.15	20:45					4	1	10	
15.1106	03.08.15	11:39				2	2	1	2/5	
15.1164	03.13.15	13:58				2	2	1	2/4	
15.1273	03.24.15	15:30					2	1	8	
15.2027	06.13.15	16:42					2	1	8/10	
15.2184	06.25.15	18:55					2	1	31	
15.2405	08.03.15	17:20					2	1	4	
15.3014	09.26.15	14:31					2	1	4/14	
15.3110	09.16.15	14:28				1	2	1	2/14	
15.3164	09.21.15	05:36					1	1	2	
15.3253	09.28.15	10:29					2	1	8/10	
15.4031	12.03.15	17:09					4	2	5	
15.4211	12.17.15	14:58					2	2	8	
15.4278	12.21.15	20:35					4	1	8	
16.0208	01.18.16	15:00					2	3	3/4	
16.1078	04.05.16	15:42					2	1	4	
16.1420	05.13.16	13:17					2	1	8	
16.1502	05.19.16	17:32					2	1	8	
16.2107	07.11.16	13:10					2	1	5	
16.2341	07.28.16	20:06				2	3	1	2/5/14	
16.2921	09.21.16	16:33					2	1	8	
16.3906	12.21.16	12:47					2	1	8	
17.0012	01.02.17	20:30					4	1	8	
17.0060	01.06.17	16:37					4	1	8	
17.0158	01.16.17	16:56					4	1	8	
17.1251	04.13.17	13:08					2	1	4	
17.1302	04.18.17	19:06					4	1	8	
17.1827	06.06.17	12:46					2	2	10	
17.1966	06.19.17	15:37					2	1	5	
17.2353	07.24.17	13:10					2	2	5	
17.3010	09.22.17	16:25					2	1	8	
17.3241	10.15.17	14:25					2	1	5	
17.3340	10.23.17	13:13					2	1	8/31	
17.3674	11.24.17	23:27			1	1	4	1	30	
17.4166	12.31.17	20:40					4	1	3/10/31	

COLLISION DIAGRAM

LOCATION Valley St. from 'A' Street to 'C' Street SHEET 1 OF 1
 TOWN Portland, Maine NODE NO(S) 16750 to 16751
 YEARS REVIEWED 2015 to 2017 DATE PREPARED 08-24-2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT**
- 1. DAWN (MORNING)
 - 2. DAYLIGHT
 - 3. DUSK (EVENING)
 - 4. DARK (ST. LIGHTS ON)
 - 5. DARK (NO ST. LIGHTS)
 - 6. DARK (ST. LIGHTS OFF)
 - 7. OTHER
- ROAD SURFACE**
- 1. DRY
 - 2. WET
 - 3. SNOW/SLUSH-SANDED
 - 4. ICE/PACKED SNOW-SANDED
 - 5. MUDDY
 - 6. DEBRIS
 - 7. OILY
 - 8. SNOW/SLUSH-NOT SANDED
 - 9. ICE-PKD. SNOW-NOT SANDED
 - 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN**
- 1. NO IMPROPER ACTION
 - 2. FAIL TO YLD. RIGHT OF WAY
 - 3. ILLEGAL UNSAFE SPEED
 - 4. FOLLOW TOO CLOSE
 - 5. DISREGARD TRAFFIC CONTROL DEVICE
 - 6. DRIVING LEFT OF CENTER-NO PASSING
 - 7. IMPROPER PASS-OVERTAKING
 - 8. IMP. UNSAFE LANE CHANGE
 - 9. IMP. PARKING START/STOP
 - 10. IMPROPER TURN
 - 11. UNSAFE BACKING
 - 12. NO SIGNAL OR IMP. SIGNAL
 - 13. IMPEDING TRAFFIC
 - 14. DRIVER INATTENTION-DISTRACTION
 - 15. DRIVER INEXPERIENCE
 - 16. PEDEST. VIOLATION ERROR
 - 17. PHYSICAL IMPAIRMENT
 - 18. VISION OBSCURED-WINDSHIELD GLASS
 - 19. VISION OBSCURED-SUN/HEADLIGHTS
 - 20. OTHER VISION OBSCUREMENT
 - 30. OTHER HUMAN VIOLATION FACTOR
 - 31. HIT AND RUN
 - 51. UNKNOWN
- VEHICULAR**
- 41. DEFECTIVE BRAKES
 - 42. DEFECTIVE TIRE/FAILURE
 - 43. DEFECTIVE LIGHTS
 - 44. DEFECTIVE SUSPENSION OR REPORT
 - 45. DEFECTIVE STEERING
 - 50. OTHER VEHICLE DEFECT
 - 51. UNKNOWN

SYMBOLS

ANGLE → PEDESTRIAN → P FATAL ACCIDENT ●

BACKING → REAR END → VEHICLE (MOVING) →

FIXED OBJECT → SIDE SWIPE → BICYCLE --- B

HEAD ON → TURNING MOVE → ANIMAL --- A

OVERTURN → CHANGE LANE → SLED --- S

PARKED VEHICLE □ OUT OF CONTROL →

WEATHER

C = CLEAR F = FOG R = RAIN
 SL = SLEET S = SNOW CL = CLOUDY
 XW = CROSS WINDS

INJURIES

K = FATAL B = NON-INCAPACITATING
 A = INCAPACITATING C = POSSIBLE INJURY

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
15.2037	06.13.15	21:30				1	4	1	31	
15.2268	07.02.15	08:00					2	1	14	
16.2031	07.05.16	07:14					2	1	31	
16.3334	10.29.16	01:17					4	1	10/17	
17.0609	02.16.17	20:00					4	1	31	
17.0710	02.23.17	17:20					2	1	30	
17.1786	06.02.17	06:55					2	1	16	Pedestrian
17.3754	12.04.17	08:36					2	1	8/14	

COLLISION DIAGRAM

SHEET 1 OF 2

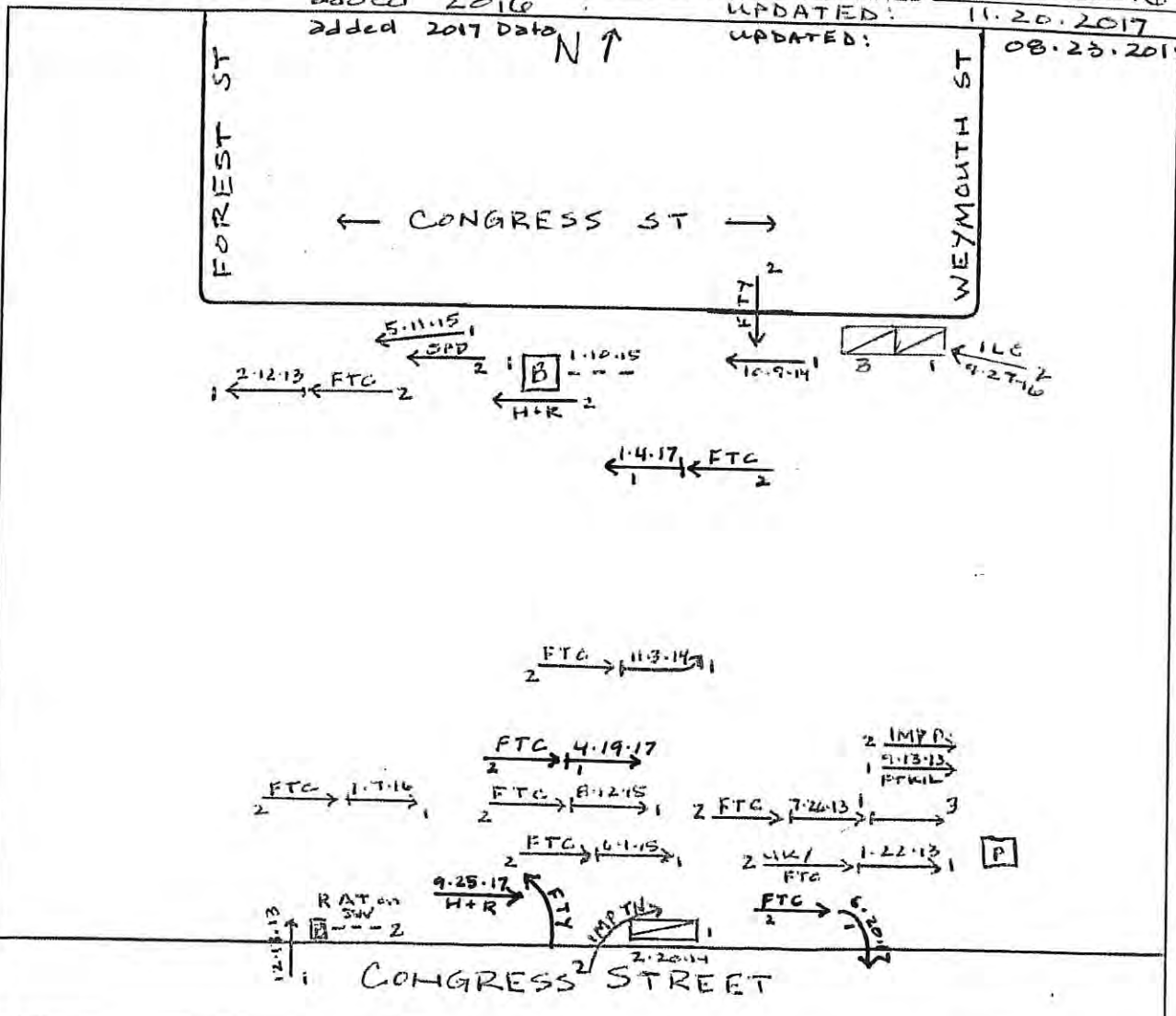
LOCATION Congress Street - Forest to Weymouth Street

TOWN Portland, Maine NODE NO(S) 16827 to 16828

YEARS REVIEWED 2013 - 2015 DATE PREPARED 10.25.2016

added 2016
added 2017 data

UPDATED: 11.20.2017
UPDATED: 08.23.2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT**
1. DAWN (MORNING)
 2. DAYLIGHT
 3. DUSK (EVENING)
 4. DARK (ST. LIGHTS ON)
 5. DARK (NO ST. LIGHTS)
 6. DARK (ST. LIGHTS OFF)
 7. OTHER
- ROAD SURFACE**
1. DRY
 2. WET
 3. SNOW/SLUSH-SANDED
 4. ICE/PACKED SNOW-SANDED
 5. MUDDY
 6. DEBRIS
 7. OILY
 8. SNOW/SLUSH-NOT SANDED
 9. ICE-PKD, SNOW-NOT SANDED
 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN**
1. NO IMPROPER ACTION
 2. FAIL TO YLD, RIGHT OF WAY
 3. ILLEGAL UNSAFE SPEED
 4. FOLLOW TOO CLOSE
 5. DISREGARD TRAFFIC CONTROL DEVICE
 6. DRIVING LEFT OF CENTER-NO PASSING
 7. IMPROPER PASS-OVERTAKING
 8. IMP. UNSAFE LANE CHANGE
 9. IMP. PARKING START/STOP
 10. IMPROPER TURN
 11. UNSAFE BACKING
 12. NO SIGNAL OR IMP. SIGNAL
 13. IMPEDING TRAFFIC
 14. DRIVER INATTENTION-DISTRACTION
 15. DRIVER INEXPERIENCE
 16. PEDEST. VIOLATION ERROR
 17. PHYSICAL IMPAIRMENT
 18. VISION OBSCURED-WINDSHIELD GLASS
 19. VISION OBSCURED-SUN/HEADLIGHTS
 20. OTHER VISION OBSCUREMENT
 21. OTHER HUMAN VIOLATION FACTOR
 22. HIT AND RUN
 23. UNKNOWN
- VEHICULAR**
1. DEFECTIVE BRAKES
 2. DEFECTIVE TIRE/FAILURE
 3. DEFECTIVE LIGHTS
 4. DEFECTIVE SUSPENSION OR FACTOR
 5. DEFECTIVE STEERING
 6. OTHER VEHICLE DEFECT

SYMBOLS

ANGLE	↓	PEDESTRIAN	→ P	FATAL ACCIDENT	⊙
BACKING	←←←	REAR END	→	VEHICLE (MOVING)	→
FIXED OBJECT	→	SIDE SWIPE	→	BICYCLE	--- B
HEAD ON	→ ←	TURNING MOVE	→ ↗	ANIMAL	--- A
OVERTURN	→	CHANGE LAKE	→ ↘	SLED	--- S
PARKED VEHICLE	□	OUT OF CONTROL	→		

WEATHER

C - CLEAR
SL - SLEET
F - FOG
S - SNOW
R - RAIN
CL - CLOUDY
XIV - CROSS WINDS

INJURIES

R - FATAL
A - INCAPACITATING
B - NON-INCAPACITATING
C - POSSIBLE INJURY

COLLISION DIAGRAM

SHEET 2 OF 2

LOCATION Congress Street - Forest to Weymouth Street
 TOWN Portland, Maine NODE NO(S) 16827 to 16828

YEARS REVIEWED 2013 - 2015 DATE PREPARED 10-25-2016
added 2017 Data added 2016 UPDATED: 11-20-2017

08-23-2018

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
13-272	01-22-13	11:55					2	1	51	Pedestrian
13-525	02-12-13	11:50					2	1	4	
13-2108	07-26-13	15:35				1	2	1	4	
13-2604	09-13-13	22:03					4	2	7/8	
13-3610	12-13-13	13:33					2	1	16	Bicyclist
14-710	02-20-14	16:15					2	2	10	
14-2975	10-09-14	13:43					2	1	2	
14-3295	11-03-14	14:38					2	2	4	
15-125	01-10-15	20:40				1	4	3	31	Hit + Run Bicyclist
15-1725	05-11-15	16:35					2	1	3	
15-1925	06-01-15	16:55					2	2	4	
15-2704	08-12-15	15:02					2	1	4	
16-0071	01-07-16	16:28					4	1	4	
16-2980	09-27-16	10:36					2	1	8	
17-0029	01-04-17	13:50					2	1	4	
17-1307	04-19-17	08:01					2	1	4	
17-1971	06-20-17	08:00					2	1	4	
17-3033	09-25-17	20:20					4	1	2	

S:\ASSETS\COLLISION DIAGRAM.DWG

COLLISION DIAGRAM

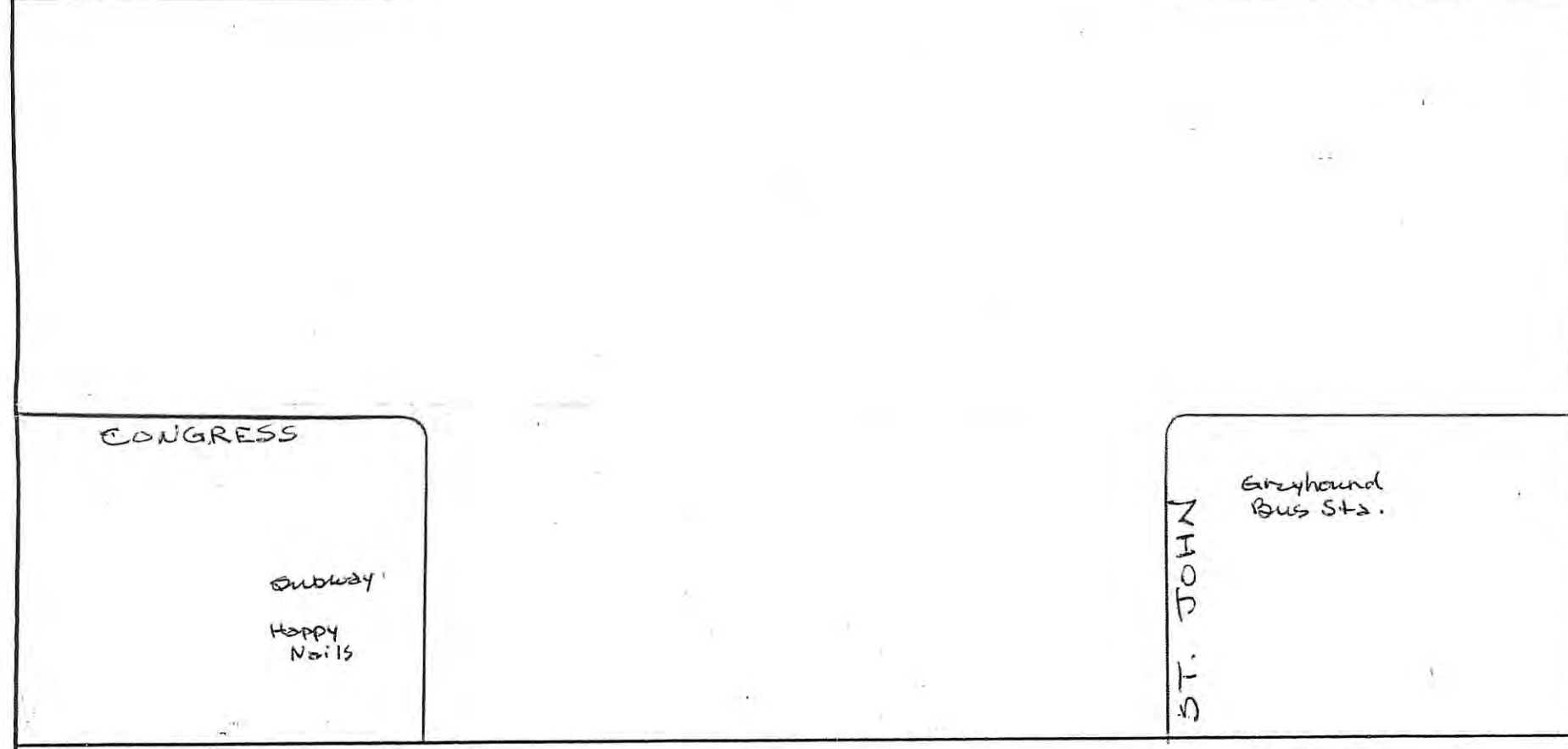
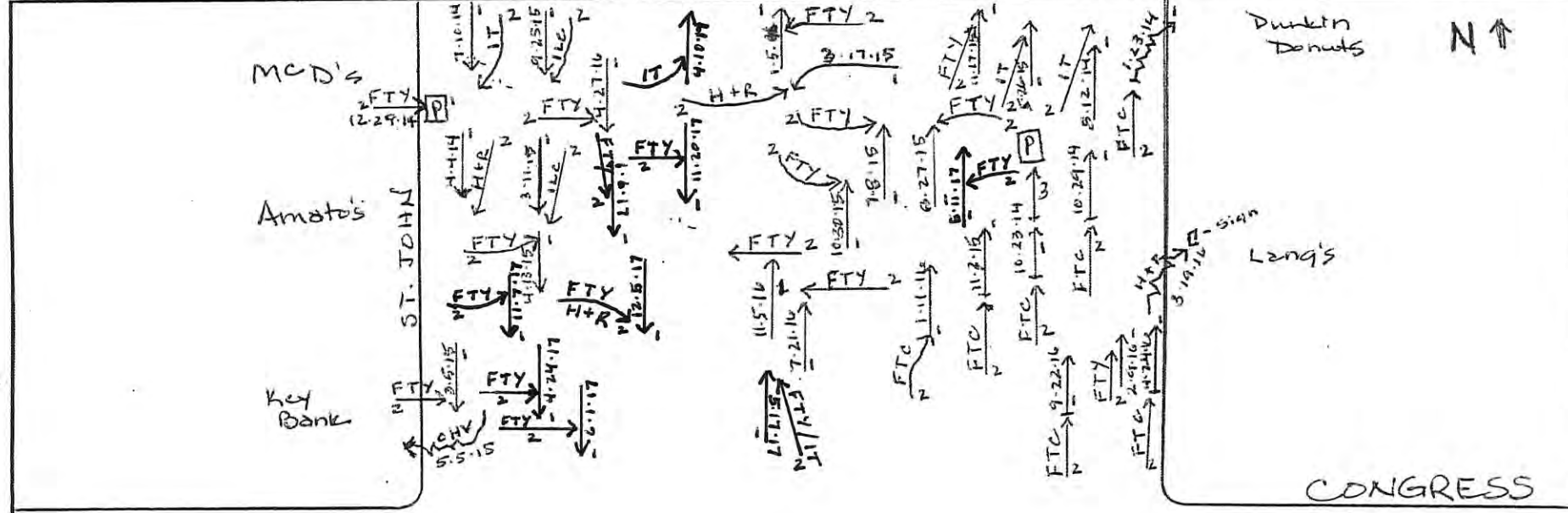
SHEET 1 OF 3

LOCATION Intersection of Congress Street & St. John Street

TOWN Portland, Maine NODE NO(S) 16765-66777

YEARS REVIEWED 2014-2016 DATE PREPARED 11.21.2017

Added 2017 Data Revised: 08.23.2018



CRITICAL RATE FACTOR _____ EQUIV. PROP. DAMAGE ACC/YEAR _____ ACC/MEV _____

- LIGHT
 1. DAWN (MORNING) 2. DAYLIGHT 3. DUSK (EVENING)
 4. DARK (ST. LIGHTS ON) 5. DARK (NO ST. LIGHTS) 6. DARK (ST. LIGHTS OFF)
 7. OTHER
- ROAD SURFACE
 1. DRY 2. WET 3. SNOW/SLUSH-SANDED
 4. ICE/PACKED SNOW-SANDED 5. MUDDY 6. DEBRIS
 7. OILY 8. SNOW/SLUSH-NOT SANDED 9. ICE-PKD. SNOW-NOT SANDED
 10. OTHER
- APPARENT CONTRIBUTING FACTORS - HUMAN
 1. NO IMPROPER ACTION 2. FAIL TO YLD. RIGHT OF WAY 3. ILLEGAL UNSAFE SPEED
 4. FOLLOW TOO CLOSE 5. DISREGARD TRAFFIC CONTROL DEVICE 6. IMPROPER PASS-OVERTAKING
 6. DRIVING LEFT OF CENTER-NO PASSING 7. IMPROPER TURN
 8. IMP. UNSAFE LANE CHANGE 9. IMP. PARKING START/STOP 10. IMPROPER TURN
 11. UNSAFE BACKING 12. NO. SIGNAL OR IMP. SIGNAL 13. IMPEDING TRAFFIC
 14. DRIVER INATTENTION-DISTRACTION 15. DRIVER INEXPERIENCE
 16. PEDEST. VIOLATION ERROR 17. PHYSICAL IMPAIRMENT 18. VISION OBSCURED-WINDSHIELD GLASS
 19. VISION OBSCURED-SUN/HEADLIGHTS
 20. OTHER VISION OBSCUREMENT 30. OTHER HUMAN VIOLATION FACTOR
 31. HIT AND RUN 51. UNKNOWN
- VEHICULAR
 41. DEFECTIVE BRAKES 42. DEFECTIVE TIRE/FAILURE 43. DEFECTIVE LIGHTS
 44. DEFECTIVE SUSPENSION OR FACTOR 45. DEFECTIVE STEERING 50. OTHER VEHICLE DEFECT
 51. UNKNOWN

SYMBOLS

ANGLE	↓	PEDESTRIAN	→ P	FATAL ACCIDENT	⊙
BACKING	←←←	REAR END	→ →		
FIXED OBJECT	→□	SIDE SWIPE	→→	VEHICLE (MOVING)	→
HEAD ON	→ ←	TURNING MOVE	→↗	BICYCLE	--- B
OVERTURN	↻	CHANGE LANE	→↘	ANIMAL	--- A
PARKED VEHICLE	◻	OUT OF CONTROL	→~	SLED	--- S

WEATHER
 C = CLEAR
 SL = SLEET
 F = FOG
 S = SNOW
 R = RAIN
 CL = CLOUDY
 XW = CROSS WINDS

INJURIES
 K = FATAL
 A = INCAPACITATING
 B = NON-INCAPACITATING
 C = POSSIBLE INJURY

SHEET/COLLISION DIAGRAM

COLLISION DIAGRAM

SHEET 2 OF 3

LOCATION Intersection of Congress Street & St. John Street
 TOWN Portland, ME NODE NO(S) 16765 - 66777
 YEARS REVIEWED 2014 - 2016 DATE PREPARED 11.21.2017
 Added 2017 Data Revised: 08.23.2017

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
14.0299	01.23.14	06:31				1	2	1	4/31	
14.1129	04.04.14	13:00					2	1	31	
14.1990	07.10.14	06:08					2	1	10	
14.2345	08.12.14	14:30			1		2	1	10	
14.3141	10.23.14	18:01					4	2	4	
14.3202	10.29.14	16:03					2	1	4	
14.3836	12.29.14	00:55			1		4	1	2	
15.1075	03.05.15	14:47					2	1	2	
15.1142	03.11.15	08:00					2	1	2/8/14	
15.1208	03.17.15	14:58					2	1	31	
15.1458	04.13.15	12:00					2	1	2	suspended license
15.1654	05.05.15	15:24				3	2	1	30	
15.1861	05.26.15	20:18					3	1	10	
15.2343	07.08.15	19:21					2	1	2	
15.2908	08.27.15	15:49				1	2	1	2	
15.3228	09.25.15	16:04					2	1	8	
15.3635	10.30.15	10:41					2	1	2	
15.3684	11.03.15	11:50					2	1	4	
15.3841	11.17.15	12:17					2	1	2/7	
16.0030	01.05.16	15:09					2	1	2	
16.0108	01.11.16	14:15					2	1	4	Expired License
16.0489	02.09.16	16:09					2	1	2	
16.0902	03.19.16	18:45					4	1	31	
16.1219	04.24.16	16:24					2	1	4	Permitted Driver Only
16.1251	04.27.16	12:02					2	1	2	
16.2261	07.21.16	17:52				1	2	1	2	Suspended NH License
16.2929	09.22.16	11:08					2	1	4	
16.3415	11.05.16	10:30					2	1	2	

S:\SHEETS\COLLISION DIAGRAMS

COLLISION DIAGRAM

LOCATION Congress St. / St. John St.
 TOWN Portland, Maine NODE NO(S) 16765 - 66777
 YEARS REVIEWED Adding 2017 Data DATE PREPARED 08.23.2018

REPORT NO.	DATE	TIME	INJURIES				LIGHT	ROAD SURFACE	ACF	OTHER
			K	A	B	C				
17.0053	01.06.17	06:48					2	2	2	
17.1210	04.10.17	08:15					2	1	10	
17.1355	04.24.17	11:55					2	1	2	
17.1553	05.11.17	16:58				2	2	1	2	
17.1615	05.17.17	18:18				1	2	1	2/10	
17.1782	06.01.17	17:08				1	2	1	2	
17.3490	11.07.17	07:49					2	1	2/14	
17.3630	11.20.17	11:31					2	1	2	
17.3783	12.05.17	17:49					4	2	31	

Section 3 Development Entrances and Exits

3.A. Entrance and Exit Locations

Vehicular access to the specific site is currently via an access to the employee parking garage on Gilman Street and an access to the visitor parking garage on Congress Street with a second access to the visitor parking garage on Crescent Street, and a pick-up and drop-off area in front of the East Tower off Bramhall Street.

Vehicular access to the proposed MMC expansion includes a full movement access with Congress Street, primarily to the pick-up / drop-off area. The existing Congress Street access to the visitor garage will be maintained and a vehicular connection will be provided between the existing visitor garage and the pick-up / drop-off area. This new connection will eliminate the need for traffic to recirculate onto Congress Street, thus reducing off-site conflicts. All other MMC site accesses will be maintained.

3.B. Plan View

A proposed site plan is provided in the Site Plan application provided under separate cover.

- Frontage Road(s) – Congress Street and Gilman Street
- Posted Speed Limit – 25 mph
- Sight Lines – The posted speed on Congress Street is 25 mph, which requires a MaineDOT and City available sight distance of 200 feet. The sight distances at the proposed site access currently appear to meet the requirements; however, we recommend that this be reviewed throughout the review process to ensure no obstacles such as signing, vegetation, or structures restrict proper sight distances.

Section 4
Title, Right, or Interest

4.A. Evidence of Title, Right, or Interest

A copy of the deeds to the property are included in Attachment in 4A.

4.B. Attachments

Attachment 4A – Deeds

Attachment 4A

Deeds

Know All Men by These Presents,

2

That We, Henry H. Grant and Gladys H. Grant, both of Portland in the County of Cumberland and State of Maine,

in consideration of one (\$1.00) dollar and other valuable considerations

paid by Maine Medical Center, a corporation duly organized and existing under the laws of the State of Maine and located at said Portland,

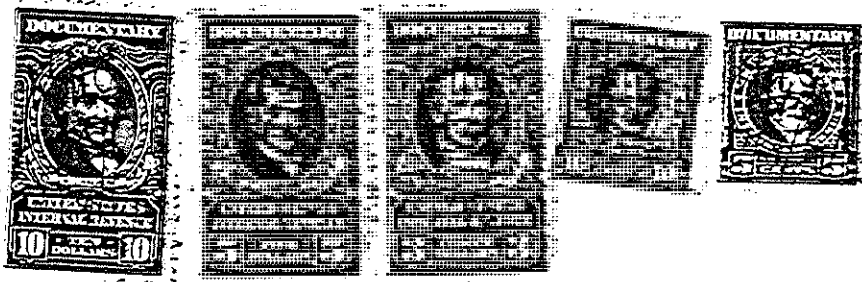
the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey unto the said Maine Medical Center, its successors

and assigns forever, a certain lot or parcel of land with the buildings thereon, situated in Portland in the County of Cumberland and State of Maine, on the northwesterly side of Bramhall Street, bounded and described as follows:

Commencing at the southwesterly corner of land, now or formerly, of James Miller and Charlotte Johnson on Bramhall Street; thence northwesterly by land of said James Miller and Charlotte Johnson, sixty (60) feet to land formerly of William J. Knowlton; thence southwesterly along said Knowlton land, parallel with said street, fifty-five (55) feet to a corner of land formerly of William J. Knowlton; thence parallel with first mentioned line sixty (60) feet, more or less, to said street; thence northeasterly by said street fifty-five (55) feet to the place of beginning.

Being the same premises conveyed to us by Russell Fanning by deed recorded in Cumberland County Registry of Deeds in Book 1833, Page 415, and are conveyed subject to the conditions contained in said deed.

The Grantee herein, as part of the consideration hereof, assumes and agrees to pay taxes for the taxable year 1961.



50
To have and to hold the aforegranted and bargained premises with all the privileges and appurtenances thereof, to the said

Maine Medical Center, its successors

~~heirs~~ and assigns, to its and their use and behoof forever.

its successors

And we do covenant with the said Grantee, / ~~heirs~~ and assigns, that we are lawfully seized in fee of the premises, that they are free of all incumbrances;

that we have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that we and our heirs shall and will warrant and defend the same to the said Grantee, its successors ~~heirs~~ and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof. We the said Henry H. Grant

and Gladys H. Grant, being husband and

wife ~~of the said~~

joining in this deed as Grantors, and relinquishing and conveying all right by descent and all other rights in the above described premises, have hereunto set our hands and seals this *thirty-first* day of July in the year of our Lord one thousand nine hundred and sixty-one.

Signed, Sealed and Delivered in presence of

R. E. Jensen

Henry H. Grant

State of ~~Maine~~ Cumberland, ME July 31, 1961.
Personally appeared the above named Henry H. Grant

and acknowledged the foregoing instrument to be his free act and deed.

Before me,
[Signature]
Justice of the Peace
~~Notary Public~~

AUG 4 1961
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at *10* H *25* M *A* M, and recorded in
BOOK *2619* PAGE *499* *[Signature]* Register

Whitlock 1971

9/1

Murphy

FROM

Henry H. Grant, et al

TO

Maine Medical Center

Dated July 31, 1961

State of Maine.

Dr. Registry of Deeds

Received AUG 4 1961 19.....

at H, M, M, and

recorded in Book Page

Attest:

..... Registrar

FROM THE OFFICE OF

JENSEN & BAIRD
477 Congress Street
Portland, Maine

1-38

Know All Men by these Presents,

That I, DONALD D. McPHEE of Portland in the County of Cumberland and State of Maine,

in consideration of One Dollar (\$1) and other valuable considerations

paid by MAINE MEDICAL CENTER, a corporation duly organized and existing under the laws of the State of Maine and located at Portland in said County and State

the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said MAINE MEDICAL CENTER, its

successors ~~Heirs and~~ Assigns forever,

the following described property:

A certain lot or parcel of land with the buildings thereon situated in said Portland and being the premises conveyed to me by Hope K. Fletcher by deed dated November 22, 1946 and recorded in Cumberland County Registry of Deeds in Book 1848, Page 160, in which deed said premises are described as follows:

Beginning at the Northeast corner of Sophia T. Jones lot, so-called, on Arsenal Street; thence Northeasterly on Arsenal Street fifty (50) feet to land of one Raymond; thence Southeasterly by line of Raymond forty-eight (48) feet, more or less, to land of one Haskell; thence Southwesterly along line of said Haskell land thirteen (13) feet and two (2) inches to a point; thence Northwesterly parallel to land of said Raymond three (3) feet to a point; thence Southwesterly along the line of said Haskell land thirty-six (36) feet, more or less, to land of said Jones; thence Northwesterly forty-six (46) feet, more or less to point of beginning.

Also conveying all my interest in and to said Arsenal Street, recently abandoned by the City of Portland.

To have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said
MAINE MEDICAL CENTER, its successors

~~XXXXX~~ and Assigns, to its and their use and behoof
forever.

And I do covenant with the said Grantee, its successors
~~XXXXX~~
and Assigns, that I am lawfully seized in fee of the premises;
that they are free of all incumbrances;

that I have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that I and my Heirs, shall
and will warrant and defend the same to the said Grantee, its successors

~~XXXXX~~ and Assigns forever, against the lawful claims and demands
of all persons.

In Witness Whereof,

I

the said DONALD D. McPHEE

and I, Lorraine J. McPhee wife of the said Donald D. McPhee

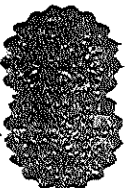
joining in this deed as Grantor, and relinquishing and conveying
my rights by descent and all other rights in the above
described premises, have hereunto set our hands and seals this
9th day of May in the year of our Lord
one thousand nine hundred and fifty-three.

Signed, Sealed and Delivered

in presence of

Edward F. Davis
to both

Donald D. McPhee
Lorraine J. McPhee



State of Maine,
Cumberland,

{ ss.

May 9, 1953.

Personally appeared the above named Donald D. McPhee

and acknowledged the above instrument to be his free act and
deed.

Before me,

Edward F. Davis

Justice of the Peace



Checkbook

378

Security Dept.

FROM

DONALD D. MOPHEE

TO

MAINE MEDICAL CENTER

DATE: May 19 53

State of Maine.

Cumberland County, City of Bangor.

Received MAY 9 1953, 19 53,

at 7 31 11 AM, and

recorded in Book 2127, Page 320.

Attest:

Robert W. Conner
REGISTER

FROM THE OFFICE OF

VERRILL DANA WALKER PHILBRICK

& WHITEHOUSE,

No. 108, Roberts Office Supply Company
Portland - Maine - Lewiston

Know all Men by these Presents,

4

That I, Henry H. Grant of Portland, in the County of Cumberland and State of Maine,

in consideration of one dollar and other valuable consideration

paid by Maine Medical Center, a corporation organized and existing under the laws of the State of Maine and located at said Portland,

the receipt whereof I do hereby acknowledge, do hereby

give, grant, bargain, sell and convey unto the said

Maine Medical Center, its Successors

heirs and assigns forever,

a certain lot or parcel of land with the buildings thereon situated between Bramhall and Arsenal Streets in said Portland, adjoining land now or formerly belonging to Sophia P. Jones, and more particularly bounded and described as follows:

Beginning on the northerly side line of said Bramhall Street, at the south-westerly corner of said Jones' land; thence westerly by said Bramhall Street, twenty-five (25) feet to a stake and from these two points extending northerly adjoining said Jones land, keeping the width of twenty-five (25) feet, to Arsenal Street.

Excepting and reserving however, a certain lot or parcel of land with the buildings thereon out of the aforesaid property, a conveyance by Westprom Realty Company to Maud L. and Janice M. Pillsbury by deed dated January 23, 1946 and recorded in Cumberland County Registry of Deeds in Book 1803, Page 444, to which reference may be had.

Meaning and intending to convey a parcel of land at the rear of 26 Bramhall Street, which parcel of land is approximately 26'x25' and contains a garage thereon.

Being the same premises conveyed to me by Westprom Realty Company by their warranty deed dated April 11, 1951 and recorded in said Registry of Deeds in Book 2040, Page 192.

On ~~Have~~ and in ~~Full~~ the aforegranted and bargained premises with all the privileges and appurtenances thereof, to the said

Maine Medical Center, its Successors

~~heirs~~ and assigns, to its and their use and behoof forever.

And I do COVENANT with the said Grantee, its ^{Successors} ~~heirs~~ and assigns, that I am lawfully seized in fee of the premises, that they are free of all incumbrances;

that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my heirs shall and will WARRANT AND DEFEND the same to the said Grantee, its ^{Successors} ~~heirs~~ and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, I, the said

Henry H. Grant
and I, Gladys E. Grant,

wife of the said

Henry H. Grant

Joining in this deed as Grantor, and relinquishing and conveying
my right by descent and all other rights in the above described
premises, have hereunto set our hands and seals this 4th
day of ~~June~~ *September* in the year of our Lord one thousand nine
hundred and fifty-three.

Signed, Sealed and Delivered

in presence of

H. Edwin Gell

Henry H. Grant
Gladys E. Grant

State of Maine,
Cumberland,

} ss.

September 4, 1953 .

Personally appeared the above named

HENRY H. GRANT

and acknowledged the above instru-

ment to be his free act and deed.

Before me,

H. Edwin Gell

Justice of the Peace.
Notary Public
My Commission Expires June 29, 1955



Phillips

116

Suretyty Bond

From

HENRY H. GRANT

To

MAINE MEDICAL CENTER

Dated, 1953

State of Maine,

County of Cumberland

ss. Registry of Deeds,

Received SEP 9 1953 Ad

at H. M., and

recorded in Book 2147 Page 110

Attest: *[Signature]* Registrar

FROM THE OFFICE OF

Warren E. Winslow, Esq.,
443 Congress Street
Portland, Maine

LONNIE, SHORT & SIMMON, LAW OFFICERS
PORTLAND, MAINE

9-50

4

MORTGAGE AND SECURITY AGREEMENT

KNOW ALL MEN BY THESE PRESENTS, that MAINE MEDICAL CENTER, a corporation organized and existing under the laws of the State of Maine, having its principal place of business at 22 Bramhall Street, in Portland, County of Cumberland, State of Maine (hereinafter referred to as the Grantor), for and in consideration of the sum of ONE MILLION SEVEN HUNDRED NINETY-NINE THOUSAND FIVE HUNDRED SIXTY-NINE (\$1,799,569) DOLLARS, paid by MAINE SAVINGS BANK, a banking corporation organized and existing under the laws of the State of Maine, having its principal office at One Maine Savings Plaza, in the said Portland, County of Cumberland and State of Maine (hereinafter called the Grantee), the receipt of which is hereby acknowledged, does give, grant, bargain, sell, and convey unto the said Grantee, its successors and assigns, forever, the following-described premises:

A certain lot or parcel of land with the buildings and improvements thereon situated at and near Gilman Street, Congress Street, Charles Street, Brackett Street, Bramhall Street and the Western Promenade, in the City of Portland, County of Cumberland and State of Maine, more particularly described in Schedule A attached hereto, which Schedule A is hereby made a part of this Mortgage and Security Agreement by reference thereto.

Also conveying and granting hereby as part of the realty and in addition to said realty and as property mortgaged hereunder, all of the following articles now or hereafter owned or acquired by Grantor, or in which it may now or hereafter acquire an interest, and now or hereafter located on the above-described premises or used therewith as follows: All machinery, equipment, furnishings, furniture, fixtures, chattels and articles of tangible personal property, including, without limitation, all hospital and medical diagnostic, treatment and convalescent equipment, machinery and supplies, all beds and bedding, all food service and cafeteria equipment, machinery and supplies, all other machinery, equipment and chattels used or usable in the operation of a hospital and full service medical center, furnaces, boilers, oil burner, refrigeration, air conditioning and sprinkler systems, awnings, screens, window shades, motors, dynamos, incinerators, plants and shrubbery, whether now owned or hereafter from time to time acquired by the Grantor, together with all substitutions, replacements, additions, attachments, accessories, accretions thereto or thereof, now or in the future, situated or located on, or used or usable in connection with the maintenance and/or operation of hospital and medical center now constructed and any other facilities to be constructed on the premises described in said Schedule A attached hereto. If the lien of this mortgage on any fixtures or personal property be subject to a lease agreement, conditional sale agreement or chattel mortgage covering such property, then in the event of any default hereunder all the rights, title and interest of the Grantor in and to any and all deposits made thereon or therefor are hereby assigned to the Grantee, together with the benefit of any payments now or hereafter made thereon. There are also transferred, set over and assigned by Grantor to Grantee, its successors and assigns, hereby all leases and use agreements of machinery, equipment and other personal property of Grantor in the categories hereinabove set forth, under which Grantor is the lessee of, or entitled to use, such items, and Grantor agrees to execute and deliver to Grantee specific separate assignments to Grantee of such leases and agreements when requested by Grantee; and nothing herein shall obligate Grantee to perform any obligations of Grantor under such leases, or agreements, unless it so chooses, which obligations Grantor hereby covenants and agrees to well and punctually perform.

As further security for payment of the indebtedness and performance of the obligations, covenants and agreements secured hereby, Grantor hereby transfers, sets over and assigns to Grantee:

a. All rents, profits, revenues, royalties, bonuses, rights and benefits under any and all leases or tenancies now existing or hereafter created of the premises or any part thereof, with the right to receive and apply the same to said indebtedness, and Grantee may demand, sue for and recover such payments, but shall not be required to do so; provided, however, that so long as Grantor is not in default hereunder, the right to receive and retain such rents, issues and profits is reserved to Grantor. To carry out the foregoing, Grantor agrees (1) to execute and deliver to Grantee such conditional assignments of leases and rents applicable to the mortgaged premises as the Grantee may from time to time request while this mortgage and the debt secured hereby are outstanding, and further (2) not to cancel, accept a surrender of, reduce the rentals under, anticipate any rentals under, or modify any such leases or tenancies, or consent to an assignment or subletting thereof, in whole or in part, without Grantee's written consent. Nothing herein shall obligate the Grantee to perform the duties of the Grantor as landlord or lessor under any such leases or tenancies, which duties Grantor hereby covenants and agrees to well and punctually perform.

b. All judgments, awards of damages and settlements hereafter made as a result or in lieu of any taking of the premises or any interest thereon or part thereof under the power of eminent domain, or for any damage (whether caused by such taking or otherwise) to the premises or the improvements thereon or any part thereof, including any award for change of grade of streets. Grantee may apply all such sums or any part thereof so received on the indebtedness secured hereby in such manner as it elects or, at its option, the entire amount or any part thereof so received may be released. Grantor hereby irrevocably authorizes and appoints Grantee its attorney-in-fact to collect and receive any such judgments, awards, and settlements from the authorities or entities making the same, to appear in any proceeding therefor, to give receipts and acquittances therefor, and to apply the same to payment on account of the debt secured hereby, whether then matured or not; and the Grantor will execute and deliver to the Grantee on demand such assignments and other instruments as the Grantee may require for said purposes and will reimburse the Grantee for its costs (including reasonable counsel fees) in the collection of such judgments and settlements.

Receipt of rents, awards, and any other moneys or evidences thereof, pursuant to the provisions of the foregoing paragraphs a. and b. and any disposition of the same by Grantee shall not constitute a waiver of the right of foreclosure by Grantee in the event of default or failure of performance by Grantor of any covenant or agreement contained herein or any note secured hereby.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to Grantee, its successors and assigns, to its and their use and behoof forever; PROVIDED NEVERTHELESS, that if Grantor pays to Grantee the sum of ONE MILLION SEVEN HUNDRED NINETY-NINE THOUSAND FIVE HUNDRED SIXTY-NINE (\$1,799,569.00) DOLLARS, with interest and other charges, as applicable, in accordance with all the terms and conditions of a certain Mortgage Note of even date signed and given by Grantor to Grantee, and until such payment performs all of Grantor's obligations, covenants and agreements contained herein and contained in said promissory note, then this deed, as also said certain promissory note, shall be void, otherwise shall remain in full force.

Grantor covenants and agrees with Grantee as follows:

1. That Grantor is lawfully seized of an indefeasible estate in fee simple, free from encumbrances, except as may have been specifically noted herein, or in Schedule A attached hereto, and has good right and power to convey the premises to Grantee to hold as aforesaid, and that Grantor shall and will Warrant and Defend the same to Grantee forever against the claims and demands of all persons, except as aforesaid.

2. That Grantor shall pay all sums secured hereby when due.

3. That Grantor will not permit or suffer the use of any of the mortgaged property for any purposes other than hospital or medical center purposes.

4. That the Loan Guaranty Agreement between the Grantor and the Secretary of Health, Education, and Welfare, which is being executed simultaneously herewith, is incorporated herein and made a part of this mortgage.

5. That upon default hereunder Grantee shall be entitled, in addition to any other rights given by this Agreement or by law, to the appointment of a receiver by any court having jurisdiction, without notice, to take possession and protect the property described herein and operate same and collect the rents, profits, and income therefrom.

6. That the Grantor will keep the building and improvements now existing or hereafter erected on the mortgaged property insured against loss by fire and such other hazards, casualties, and contingencies, as may be stipulated by the Secretary of Health, Education, and Welfare upon the guarantee of the Note and other hazards, all as may be required from time to time by the Grantee, and all such insurance shall be evidenced by standard fire and extended coverage insurance policy or policies, in amounts not less than necessary to comply with the applicable Coinsurance Clause percentage, but in no event shall the amounts of coverage be less than eighty per centum (80%) of the insurable value and in no event less than the unpaid balance of the debt secured hereby, and in default thereof the Grantee shall have the right to obtain such insurance at the cost of Grantor, such cost to be secured hereby. Such policies shall be endorsed with standard mortgagee clause with loss payable to the Grantee and the Secretary of Health, Education, and Welfare, as their interests may appear, and shall be deposited with the Grantee; and that if the premises mortgaged hereby, or any part thereof, shall be damaged by fire or other hazard against which insurance is held as hereinabove provided, the amounts paid by any insurance company in pursuance of the contract of insurance to the extent of the indebtedness then remaining unpaid, shall be paid to the Grantee and, at the option of Grantee and the Secretary of Health, Education, and Welfare, may be applied to the debt or released for the repairing or rebuilding of the premises.

7. That at the request of Grantor with consent of Grantee, or at the option of Grantee, the principal balance secured hereby may be reamortized on terms acceptable to the Secretary of Health, Education, and Welfare if a partial prepayment results from an eminent domain or condemnation award or from a fire or casualty insurance payment where there is a resulting loss of project income.

8. That in order more fully to protect the security of this Mortgage, together with, and in addition to, such payments of interest, or of principal and interest, Grantor will pay to the Grantee, on the

dates each month that such payments are due, until the Note is fully paid, the following sums:

- (a) A sum equal to the ground rents, if any, next due, plus the premiums that will next become due and payable on policies of fire and other property insurance covering the premises covered hereby, plus water rates, taxes and assessments next due on the premises covered hereby (all as estimated by the Grantee) less all sums already paid therefor divided by the number of months to elapse before one month prior to the date when such ground rents, premiums, water rates, taxes and assessments will become delinquent, such sums to be held by Grantee in escrow to pay said ground rents, premiums, water rates, taxes, and special assessments; no interest shall be due on sums so held;
- (b) All payments mentioned in the preceding subsection of this paragraph and all payments to be made under the Note secured hereby shall be added together and the aggregate amount thereof shall be paid each (month) in a single payment to be applied by Grantee to the following items in the order set forth:
 - (I) ground rents, taxes, special assessments, water rates, fire and other property insurance premiums;
 - (II) interest on the Note secured hereby;
 - (III) amortization of the principal of said Note;

9. In the event of Grantor's failure to pay any sums provided for in this Mortgage, the Grantee, at its option, may pay the same. Any excess funds accumulated under (a) of the preceding paragraph remaining after payment of the items therein mentioned, shall be credited to subsequent periodic payments of the same nature required thereunder; but if any such items shall exceed the estimate therefor, or if the Grantor shall fail to pay any other governmental or municipal charge, the Grantor shall forthwith make good the deficiency or pay the charge before the same become delinquent or subject to interest or penalties and in default thereof the Grantee may pay the same. All sums paid by the Grantee shall be added to the principal of the debt secured hereby and shall bear interest from the date of payment at the rate specified in the Note and shall be due and payable on demand. If the property is sold under foreclosure or is otherwise acquired by the Grantee after default, any remaining balance of the accumulations under (a) of the preceding paragraph shall be credited to the principal of the Mortgage as of the date of the commencement of foreclosure proceedings or as of the date the property is otherwise acquired.

10. That Grantor will keep the premises above conveyed in good order and condition and will not commit or permit any waste thereof, reasonable wear and tear excepted, and in the event of the failure of the Grantor to keep the buildings on said premises and those to be erected on said premises, or improvements thereon, in good repair, the Grantee may make such repairs as in its discretion it may deem necessary for the proper preservation thereof, and any sums paid for such repairs shall bear interest from the date of payment at the rate specified in the Note, shall be due and payable on demand and shall be fully secured by this Mortgage.

11. That Grantor will not voluntarily create, permit or suffer

to be created against the property subject to this Mortgage any lien or liens inferior or superior to the lien of this Mortgage and further that it will keep and maintain the same free from the claim of all persons supplying labor or materials which will enter into the construction of any and all buildings and improvements now being erected or to be erected on said premises.

12. That Grantor further covenants and agrees that this mortgage shall constitute a security agreement with respect to any and all machinery, equipment, chattels, articles of personal property, and fixtures described and included in this mortgage, and all additions, accessions, substitutions, and replacements thereto and therefor, and all of which are hereinafter referred to as the collateral, and Grantor hereby grants and conveys to Grantee, its successors and assigns, a security interest therein. That upon default of any term, condition or covenant of this mortgage and acceleration of any indebtedness hereby secured, the Grantee may, at its discretion, require the Grantor to assemble the collateral and make it available to the Grantee at a place reasonably convenient to both parties to be designated by the Grantee. That the Grantee shall give the Grantor notice, by registered mail, postage prepaid, of the time and place of any public sale or other intended disposition thereof is to be made by sending notice to the Grantor at least five days before the time of the sale or other disposition, which provisions for notice the Grantor and Grantee agree are reasonable; provided, however, that nothing herein shall preclude the Grantee from proceeding as to both real and personal property in accordance with Grantee's rights and remedies in respect of the real property. Grantee shall have all of the remedies of a secured party under the Uniform Commercial Code as now in effect in the State of Maine and such further remedies as may from time to time hereafter be provided in Maine for a secured party. Grantor agrees that all rights of Grantee as to said collateral and as to said real estate, and rights and interests appurtenant thereto, may be exercised together or separately and further agrees that in exercising its power of sale as to said collateral and as to said real estate, and rights and interest appurtenant thereto, the Grantee may sell the collateral or any part thereof either separately from or together with the said real estate, rights and interests appurtenant thereto, or any part thereof, all as the Grantee may in its discretion elect.

13. That Grantor shall maintain full and correct books and records showing in detail the earnings and expenses of the mortgaged premises; will permit the Grantee and its representatives to examine said books and records and all supporting vouchers and data any time and from time to time upon request by the Grantee at the mortgaged premises or at such other place in the County in which the mortgaged premises are located as such books and records are customarily kept; and Grantor hereby agrees to furnish to Grantee within one hundred twenty (120) days after the close of each fiscal year an audited financial statement of the operation of the premises reflecting income (including sources thereof) and expenses, such statement to be prepared by a certified or other competent accountant satisfactory to the Grantee.

14. That Grantor within seven (7) days upon request in person or within ten (10) days upon request by mail shall furnish a duly acknowledged written statement setting forth the amount of the debt secured by this mortgage, and stating either that no offsets or defenses exist against the mortgage debt, or, if such offsets or defenses are alleged to exist, the nature thereof.

15. That in case of foreclosure of this Mortgage, and as often

as any proceedings shall be taken to foreclose the same, the Grantor will pay to the Grantee a reasonable attorney's fee, and the same shall be a further charge and lien upon the said premises.

16. That no sale of the premises hereby mortgaged and no forbearance on the part of the Grantee, and no extension of the time for the payments of the debt hereby secured given by the Grantee, shall operate to release, discharge, modify, change, or affect the original liability of the Grantor herein either in whole or in part.

17. That in the event of any default, as herein described, this mortgage may be foreclosed in any manner prescribed or permitted by law, appraisement being hereby waived; and out of all the monies arising from a sale to retain the amount then due or to become due according to the conditions of this instrument together with the costs and charges of making such sale, and the overplus, if any there be, shall be paid by the party or parties making such sale to the Grantor, its successors and assigns.

18. That no waiver of any covenant herein or of the Note secured hereby shall at any time thereafter be held to be a waiver of the terms hereof or of the Note secured hereby.

19. That receipt and disposition of rents, income of the premises, insurance proceeds, eminent domain awards, or any other sums under the provisions of the mortgage, the note, or other loan documentation by Grantee shall not be a waiver or release of any rights of the Grantee, including but not limited to, the right of foreclosure or acceleration of the note, whether such receipt or disposition shall be before or after exercise of any such rights.

20. That Grantee hereof, its successors and assigns, shall have The Statutory Power of Sale in addition to all other rights of a Mortgagee allowed by law and this mortgage in case of default in any term or condition contained or referred to herein.

21. That it is an additional condition of this Mortgage and Security Agreement for breach of which foreclosure may be claimed and for breach of which all indebtedness secured hereby may be declared due and payable at once, that title to the within described mortgaged premises shall not pass by deed, mortgage or other means, or operation of law, from Grantor, or from any subsequent title holder, either voluntarily or involuntarily. This condition shall continue until all indebtedness and obligations secured hereby are satisfied, and permission given, or election not to foreclose or accelerate said indebtedness by Grantee, its successors or assigns, as to any one such transfer, shall not constitute a waiver of any rights of Grantee, its successors or assigns, as to any subsequent such transfer of title as to which this condition shall remain in full force and effect. The term title as used herein shall mean the estate of the Grantor subject to the lien of this mortgage.

22. This Mortgage and Security Agreement is expressly made subject and inferior to a Mortgage (FHA Form 4125-B) and to Security Agreement both of even date herewith executed and delivered by Grantor herein to Grantee herein encumbering the real and personal property herein described and securing a Mortgage Note (FHA Form 4125-d) of even date herewith in the amount of \$3,245,431.00, all of which documents are hereinafter collectively called the FHA Mortgage. Grantor herein shall perform, or cause to be performed, when due all obligations of the mortgagor under the terms

and provisions of the FHA Mortgage, specifically including prompt payment when due of all indebtedness secured and evidenced thereby. Should Grantor herein fail to comply with its obligations set forth in this paragraph 22, such failure shall constitute a default under the terms and provisions of this Mortgage and Security Agreement and, in addition to any other rights which the Grantee may have hereunder and by operation of law, the Grantee herein shall have the right, but not the obligation, to make all payments and to do all things to render said FHA Mortgage current, and all advances made for such purpose, including interest paid thereon at the rate specified in said FHA Mortgage Note, shall be payable by Grantor herein to Grantee herein upon demand by Grantee herein and, to the extent permitted by law, all such advances shall be secured by the lien of this Mortgage and Security Agreement.

23. That in the event of default in making any payment provided for herein or in the Note secured hereby, or in the event of a breach of any other stipulation, agreement, condition or covenant of this mortgage, including any transfer of title to the mortgaged premises without permission of Grantee as set forth in paragraph 21 hereof, and if such default or breach is not cured prior to the expiration of 90 days after the Secretary of Health, Education, and Welfare, aforesaid, receives notification from the holder of the loan of such default or breach then in any such event the whole principal sum of said Note shall, at the option of the Grantee, its successors and assigns, as such holder, be deemed to have become immediately due, and the same with interest thereon and with all other costs and charges, shall thereupon be collectible by foreclosure of this mortgage; provided, however, such notice to said Secretary of Health, Education, and Welfare and such 90 day period shall not be necessary should the guaranty of this mortgage indebtedness be terminated or become void pursuant to its terms and Grantee receives written notice thereof from said Secretary.

The covenants herein contained shall bind, and the benefits and advantages shall inure to, the respective successors and assigns of the parties hereto and to the extent permitted by law shall bind any future owner of the mortgaged premises or any part thereof. Whenever used, the singular number shall include the plural and the plural the singular, and the use of any gender shall include all genders.

IN WITNESS WHEREOF, the said Grantor has caused these presents to be signed in its name by JACK R. DYSON, its Treasurer, and its corporate seal to be hereunto affixed this 14th day of February, 1975.

Signed, Sealed and Delivered
in the Presence of:

MAINE MEDICAL CENTER, a Maine
corporation

Robert B. Patterson, Jr.

BY Jack R. Dyson
Its Treasurer
(CORPORATE SEAL)

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

February 14, 1975

Then personally appeared the above-named Jack R. Dyson as Treasurer of Maine Medical Center, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

Before me.

Robert A. [Signature]
Notary Public

MY COMMISSION EXPIRES
MAY 2, 1980

SCHEDULE A

GRANTOR: MAINE MEDICAL CENTER

GRANTEE: MAINE SAVINGS BANK

DATE : February 14, 1975

A certain lot or parcel of land together with the buildings and improvements thereon, located in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows: Beginning at a point at the intersection of the southeasterly side of Congress Street and the easterly side of Gilman Street, said point being marked by an iron pin; thence North $79^{\circ} 44\frac{1}{2}'$ East, four hundred twenty and seventy-nine hundredths (420.79) feet to a point marked by an iron; thence South $18^{\circ} 24'$ East by land now or formerly of Brophy, one hundred forty-eight and eighty-five hundredths (148.85) feet, more or less, to an iron; thence North $72^{\circ} 01'$ East by said Brophy land, seventy-four and eight tenths (74.8) feet, more or less, to Charles Street; thence by Charles Street, South $18^{\circ} 24'$ East, three hundred fifty-seven and twenty-three hundredths (357.23) feet to a point; thence South $18^{\circ} 04\frac{1}{2}'$ East, ninety-eight and eighty hundredths (98.80) feet to a point on the northwesterly terminus of Brackett Street; thence South $62^{\circ} 24'$ West by Brackett Street, thirty-eight and fifty-seven (38.57) feet to a point; thence South $33^{\circ} 29'$ East by said Brackett Street, sixty and thirty-two hundredths (60.32) feet to a point; thence South $57^{\circ} 21\frac{1}{2}'$ East by said Brackett Street, fifty and eighteen hundredths (50.18) feet to a point and land now or formerly of Gemma A. McKenzie et al; thence South $61^{\circ} 08\frac{1}{2}'$ West by said McKenzie land, forty-two and ninety-six hundredths (42.96) feet to a point; thence South $27^{\circ} 36'$ East by said McKenzie land, sixty-two and twenty-eight hundredths (62.28) feet, more or less, to the northerly side of Bramhall Street; thence South $61^{\circ} 00\frac{1}{2}'$ West by said Bramhall Street, five hundred nine and fifty-eight hundredths (509.58) feet to a point in the Western Promenade; thence North $50^{\circ} 49' 20''$ West, one hundred fifty-one and thirty-nine hundredths (151.39) feet to a point on the southeasterly line of Arsenal Street; thence North $62^{\circ} 24'$ East by Arsenal Street, fifty (50) feet to a point at the easterly terminus of Arsenal Street; thence North $27^{\circ} 36'$ West by said Arsenal Street and by land conveyed by the Maine Medical Center to the City of Portland by deed dated August 4, 1972, and recorded in Cumberland County Registry of Deeds in Book 3278, Page 212, one hundred (100) feet to a point; thence South $85^{\circ} 56'$ West by said City of Portland land, ninety-four and two hundredths (94.02) feet, more or less, to Gilman Street; thence North $04^{\circ} 04'$ West by said Gilman Street, six hundred ninety-five and twenty-five hundredths (695.25) feet, more or less, to said Congress Street and the point of beginning.

Being the same premises shown on a plan entitled "Plan of Property in Portland, Maine made for Maine Medical Center", H.I. & E.C. Jordan-Surveyors, dated May 31, 1966 and updated and certified on June 13, 1966, July 7, 1966, October 26, 1972, January 24, 1975 and February 12, 1975.

COPY

such default or breach then in any such event the entire unpaid principal balance of this mortgage note plus accrued interest, at the option of the holder hereof shall become immediately due and payable; provided, however, such notice to said Secretary and such 90 day period shall not be necessary should the guaranty of this mortgage note be terminated or become void pursuant to its terms and payee receives written notice thereof from said Secretary.

The payments due hereunder shall be made to Maine Savings Bank at its office at One Maine Savings Plaza, Portland, Maine 04111, unless another holder or address be given in writing to the parties liable herefor.

All parties to this mortgage note, whether principal, surety, guarantor, or endorser, hereby waive presentment for payment, demand, protest, notice of protest, and notice of dishonor.

Signed and Sealed the day and year first above written.

WITNESS:

Thomas J. Duchette
Robert B. Patterson, Jr.

MAINE MEDICAL CENTER, a Maine corporation

By Lois M. H. [Signature]
Its Treasurer

(CORPORATE SEAL)

THIS IS TO CERTIFY that this is the Note described in and secured by said Mortgage and Security Agreement of even date herewith and in the same principal amount as herein stated and secured by real estate and personal property situated in the City of Portland, Cumberland County, Maine.

Dated: February 14, 1975

Lois A. Ward
Notary Public

MY COMMISSION EXPIRES
MAY 2, 1980

COPY

3

MORTGAGE NOTE

\$1,799,569.00

Portland, Maine
February 14, 1975

FOR VALUE RECEIVED, the undersigned, MAINE MEDICAL CENTER, a Maine corporation located in the City of Portland, County of Cumberland and State of Maine, promises to pay to MAINE SAVINGS BANK, a Maine banking corporation, or order, at its principal place of business at One Maine Savings Plaza in the said City of Portland, County of Cumberland and State of Maine, the principal sum of ONE MILLION SEVEN HUNDRED NINETY-NINE THOUSAND FIVE HUNDRED SIXTY-NINE (\$1,799,569.00) DOLLARS, with interest from date at the rate of seven per centum (7%) per annum on the unpaid balance thereof until paid; which principal and interest shall be paid as follows: Interest only at said rate shall be paid on the first day of March, 1975; thereafter commencing on the first day of April, 1975, monthly installments of interest and principal shall be paid in the sum of Twelve Thousand Seven Hundred Eighteen and 98/100ths (\$12,718.98) Dollars each; such payments shall continue to be made monthly thereafter upon the first day of each succeeding month until the entire indebtedness has been paid in full; in any event, the balance of principal, if any, remaining unpaid, plus accrued interest at said rate, shall be paid on March 1, 2000. Said monthly installments of interest and principal shall be applied first to interest at said rate per annum upon the principal sum, or so much thereof as shall from time to time remain unpaid, and the balance thereof shall be applied to principal.

In the event any installment, or part of any installment, of principal or interest becomes delinquent for more than 15 days, there shall be due, at the option of the holder hereof, an additional sum equal to two cents (\$.02) for each dollar (\$1.00) of each installment so delinquent; provided, nevertheless, that as long as this mortgage note shall be guaranteed by the Secretary of the Department of Health, Education, and Welfare the amount of the monthly payment upon which such delinquency charge may be imposed shall be limited to the amount actually to be paid by the maker hereof and shall not include for such purpose any amount payable as an interest subsidy by said Secretary.

This note is secured by Mortgage and Security Agreement upon real estate and personal property situated in the City of Portland, Cumberland County, State of Maine.

Privilege is reserved to pay the debt in whole or in an amount equal to one or more monthly payments on principal next due, on the first day of any month prior to maturity upon at least thirty (30) days' prior written notice to the holder.

No default shall exist by reason of nonpayment of any required installment of principal so long as the amount of optional additional prepayments of principal already made pursuant to the privilege of prepayment set forth in this mortgage note equals or exceeds the amount of such required installment of principal.

In the event of default in the making of any payment provided for herein, including any delinquency charge, or in the event of a breach of any agreement, condition or covenant of the said Mortgage and Security Agreement given by the maker hereof to Maine Savings Bank, and if such default or breach is not cured prior to the expiration of 90 days after the Secretary of Health, Education, and Welfare, aforesaid, receives notification from the holder hereof of

Know All Men by these Presents,

That We, Leola J. Noyes and William H. Noyes, Jr., both of Portland, County of Cumberland, State of Maine,

in consideration of one dollar (\$1.00) and other valuable considerations

paid by Maine Medical Center, a Corporation established by law in said Portland

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Maine Medical Center

its successors ~~Heirs~~ and Assigns forever,

the following described property:

A certain lot or parcel of land with the buildings thereon situated in said Portland between Bramhall and Arsenal Streets adjoining land formerly belonging to Sophia P. Jones and conveyed to us by Maud L. Pillsbury by deed dated October 2, 1951, recorded in Cumberland County Registry of Deeds in Book 2060, Page 419, and therein bounded and described as follows: Beginning on the northerly side of Bramhall Street at the southwesterly corner of said Jones land; thence running westerly by said Bramhall Street twenty-five (25) feet to a stake and from these two points extending northerly adjoining said Jones land keeping a width of twenty-five (25) feet, a distance of sixty-eight feet and two inches (68'2"), which distances are marked by stakes and which stakes are twenty-six (26) feet distant from the southerly boundary line of Arsenal Street. 7

To have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said Maine
Medical Center, its successors

~~Heirs~~ and Assigns, to its and their use and behoof
forever.

And we do ~~Warrant~~ with the said Grantee, its ^{successors}
~~Heirs~~
and Assigns, that we are lawfully seized in fee of the premises;
that they are free of all incumbrances;

that we have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that we and our Heirs, shall
and will ~~Warrant~~ and ~~Defend~~ the same to the said Grantee, its
successors

~~Heirs~~ and Assigns forever, against the lawful claims and demands
of all persons.

In Witness Whereof, We, the said Leola J. Noyes and William H. Noyes, Jr., the said grantors, both being unmarried

and

~~of the County of Cumberland~~

~~do hereby certify that the above named Leola J. Noyes and William H. Noyes, Jr. have hereunto set their hands and seals this~~

~~12th~~ day of June in the year of our Lord one thousand nine hundred and fifty-three.

Signed, Sealed and Delivered
in presence of

Edward F. Haus
to both

Leola J. Noyes
William H. Noyes, Jr.



State of Maine
Cumberland

{ ss.

June 12, 1953

Personally appeared the above named Leola J. Noyes and William H. Noyes, Jr. and acknowledged the above instrument to be their free act and deed.

Before me,

Edward F. Haus

Justice of the Peace



Philbrick 1953

317

Merrymouth Men.

FROM

LEOLA J. NOYES, et al
TO

MAINE MEDICAL CENTER

DATE: June, 1953.

State of Maine.
Cumberland

As: Registry of Deaths.

Received JUN 12 1953

at 11, 44 St., B. 19, and

recorded in Book 2133, Page 317.

ATTEST:

Robert W. Carver
Registrar

FROM THE OFFICE OF

Verrill Dana Walker Philbrick

& Whitehouse

No. 106, ROBERTS OFFICE SUPPLY COMPANY
Portland - Maine - Jackson

1-111

⑦

Know All Men by these Presents,

That WE, FRED A. PATTERSON and ELLA H. WHIDDEN both of Derry in the County of Rockingham and State of New Hampshire, RUBY E. MCKENZIE of Raymond in said County and State and ALZO F. PATTERSON of Portland in the County of Cumberland and State of Maine

in consideration of One dollar (\$1.00) and other valuable considerations

paid by MAINE MEDICAL CENTER, a Corporation organized and existing under the laws of Maine and located at said Portland,

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Maine Medical Center, its Successors

~~XXXXX~~ and Assigns forever,

the following described property:

A certain lot or parcel of land with the buildings thereon, situated in said Portland on the northerly side of Bramhall Street and bounded and described as follows:

Beginning on the northerly side of Bramhall Street at the southwesterly corner of land formerly of Frederick A. Carle; thence running westerly by said Bramhall Street twenty-five (25) feet to a stake or point, and from these two points extending northerly adjoining said Carle land, keeping a width of twenty-five (25) feet, to Arsenal Street, being the premises conveyed to Daniel W. Patterson by Maria M. Jose by deed dated September 12, 1921 and recorded in Cumberland County Registry of Deeds in Book 1085, Page 228.

The said Daniel W. Patterson died intestate on September 3, 1952 leaving no widow and as his sole heirs-at-law, the Grantors herein.

The Grantee as part of the consideration hereof assumes and agrees to pay the taxes for the taxable year of 1953.

Also conveying all our right, title and interest in and to Arsenal Street recently abandoned by the City of Portland, Maine.

To have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said
Maine Medical Center, its Successors and Assigns :

~~Heirs and Assigns~~, to its and their use and behoof
forever.

And we do WARRANT with the said Grantee, its / ~~heirs~~ ^{Successors}
and Assigns, that we are lawfully seized in fee of the premises;
that they are free of all incumbrances; except as aforesaid.

that we have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that we and our Heirs, shall
and will WARRANT and DEFEND the same to the said Grantee, its Successors

~~Heirs~~ and Assigns forever, against the lawful claims and demands
of all persons.

In Witness Whereof, We the said Fred A. Patterson and
 Chrystine I. Patterson, wife of the said Fred A. Patterson; Ella H. Whidden and
 Charles F. Whidden, husband of the said Ella H. Whidden; Ruby E. McKenzie and
 Elmer W. McKenzie, husband of the said Ruby E. McKenzie, and Alzo F. Patterson
 and Bessie E. Patterson, wife of the said Alzo F. Patterson

200

~~XXXXXXXXXXXXXXXXXXXX~~

joining in this deed as Grantors, and relinquishing and conveying
 our rights by descent and all other rights in the above
 described premises, have hereunto set our hands and seals this
 twentieth day of May in the year of our Lord
 one thousand nine hundred and fifty-three.

Signed, Sealed and Delivered
 in presence of

R. E. Jensen
 R. E. Jensen
 Charles Chase
 Charles Chase
 Arthur K. Smith
 Arthur K. Smith
 P. J. Campbell
 P. J. Campbell

Alzo F. Patterson
 Bessie E. Patterson
 Fred A. Patterson
 Chrystine I. Patterson
 Ella H. Whidden
 Charles F. Whidden
 Ruby E. McKenzie
 Elmer W. McKenzie

State of Maine
 Cumberland

{ ss.

May 20, 1953

Personally appeared the above named Alzo F. Patterson
 and acknowledged the above instrument to be his free act and
 deed.

Before me,

Raymond E. Jensen
 Justice of the Peace



Black 115

911

Warrant of Arrest

FROM

ALZO F. PATTERSON, ET AL,

TO

MAINE MEDICAL CENTER

DATED....., 1953.

State of Maine,

Cumberland..... ss: Registry of Deeds.

Received..... JUN 12 1953..... 19/

at..... 11/..... 5. M., and..... A. M., and

recorded in Book 2133..... Page..... 311.

Attest:

Robert W. Cannon

FROM THE OFFICE OF
RAYMOND B. JENSEN
115 Congress Street
Portland, Maine

11-5

Know All Men by These Presents.

8

That I, John T. Lennon of Portland in the County of Cumberland and State of Maine

in consideration of One Dollar and other valuable considerations

paid by Maine Medical Center, a corporation organized and existing under the Laws of the State of Maine and located at said Portland

the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey unto the said Maine Medical Center, its

successors

heirs and assigns forever, a certain lots or parcels of land with the buildings thereon situated in said Portland and bounded and described as follows: First:

Beginning on the northerly side of Bramhall Street at the southwesterly corner of land now or formerly of Thomas H. Pratt, running thence westerly by said Bramhall Street fifty (50) feet to land now or formerly of Sophia M. Knight, and from these two points extending northerly towards Arsenal Street, holding to said width of fifty feet, and adjoining said Pratt premises on one side and said Knight premises on the other for a distance of sixty (60) feet to land now or formerly of Edward T. Burrows. The said lot is the southerly portion of the premises conveyed to Albert B. Cole, Frank H. Cole and Warren W. Cole by Nettie E. Pierce by deed dated September 26, 1911 and recorded in the Registry of Deeds for said County of Cumberland in Book 882, Page 188. Said premises are numbered thirty (30) on said Bramhall Street.

Second:

A certain lot of land with the buildings thereon on the southerly side of Arsenal Street in said Portland bounded and described as follows:

Commencing at a point on the Westerly line of land of Maude E. Pratt at a point sixty (60) feet northerly from the northerly side of Bramhall Street, thence westerly on a line parallel with and sixty (60) feet from said Bramhall Street, fifty (50) feet, more or less, to land of Sophia M. Knight; thence northerly from these two points keeping a width of fifty (50) feet and bounded on the West by land of said Knight and on the East by land of said Pratt and George H. Fletcher, forty-nine (49) feet, more or less, to said Arsenal Street.

Being the same property conveyed to me by Harriet B. Foster by her warranty deed dated February 24, 1945 and recorded in the Cumberland County Registry of Deeds in Book 1771 Page 131.

Also conveying all my right, title and interest in and to Arsenal Street, recently abandoned by the City of Portland.

To have and to hold the aforegranted and bargained premises with all the privileges and appurtenances thereof, to the said Maine Medical Center, its

successors
heirs and assigns, to its and their use and behoof forever.

And I do covenant with the said Grantee, its ^{successors} heirs and assigns, that I am lawfully seized in fee of the premises, that they are free of all incumbrances;

that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my heirs shall and will warrant and defend the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof I the said John T. Lennon

and Ann C. Lennon

wife of the said John T. Lennon

joining in this deed as Grantor, and relinquishing and conveying my right by descent and all other rights in the above described premises, have hereunto set our hand and seal this fifth day of May in the year of our Lord one thousand nine hundred and fifty three.

Signed, Sealed and Delivered in presence of

John J. Devine
to wch

John T. Lennon
Ann C. Lennon



1650

State of Maine Cumberland ss. May 5, 19 53.

Personally appeared the above named John T. Lennon

and acknowledged the foregoing instrument to be his free act and deed.

Before me,
John J. Devine
Justice of the Peace
Notary Public



Michael

101

Guaranty Open

FROM

John F. Lennon

TO

Maine Medical Center

Dated May 5th 1953

State of Maine
Cumberland

Reg. Registry of Deeds

Received MAY 5 1953

at 2 11, 30 M., 19 M., and

recorded in Book 2127 Page 269

ATTEST:

Robert W. Devine
Secretary

FROM THE OFFICE OF

Devine, Devine, Devine
102 Exchange St
Portland, Maine.

L. L. MARTIN, PORTLAND, ME.—OFFICE FURNITURE AND SUPPLIES
TYPEWRITERS, ADDING MACHINES, FILING CABINETS, SAFES, ETC.

MARTIN'S FORM NO. 1—STANDARD REGISTRY FORM

0 30

Know All Men by these Presents,

I, HAZEL B. THERIO of Portland in the County of Cumberland and State of Maine

in consideration of One Dollar and other valuable considerations

paid by MAINE MEDICAL CENTER, a corporation duly organized and existing under the Laws of the State of Maine and located at said Portland

the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said MAINE MEDICAL CENTER, its

successors ~~Heirs~~ and Assigns forever,

the following described property:

A certain lot or parcel of land with the buildings thereon situated on the Westerly side of Bramhall Street in said Portland, being more particularly described in deed from Hazel E. Skillings to the Grantor, dated September 18, 1945 and recorded in Cumberland County Registry of Deeds in Book 1790, Page 500, in which deed said premises are described as follows:

A certain lot or parcel of land, with the buildings thereon situated in said City of Portland, on the Northwestern side of Bramhall Street, bounded and described as follows: Beginning at the most easterly corner of land now or formerly of Sophia P. Jones; thence Northeasterly on said Bramhall Street fifty (50) feet to land now or formerly of one Raymond; thence Northwesternly by said Raymond land fifty-nine (59) feet; thence Southwesterly thirteen (13) feet two (2) inches, more or less, to a fence; thence Northwesternly by the line of the division fence three (3) feet two (2) inches; thence Southwesterly by said fence thirty-six (36) feet five (5) inches, more or less, to said Jones land; thence Southeasterly by said Jones land sixty-two (62) feet two (2) inches to the point begun at.

Also, all my right, title and interest in and to Arsenal Street recently abandoned by the City of Portland.

To have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said
MAINE MEDICAL CENTER, its successors

~~Deeds~~ and Assigns, to its and their use and behoof
forever.

And I do ~~reunant~~ with the said Grantee, its successors
and Assigns, that I am lawfully seized in fee of the premises;
that they are free of all incumbrances;

that I have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that I and my Heirs, shall
and will ~~Warrant and Bind~~ the same to the said Grantee, its successors

Heirs and Assigns forever, against the lawful claims and demands
of all persons.

In WITNESS Whereof,

I

the said Hazel B. Therio,
being unmarried,

XXXXX

XXXXXXXXXXXXXXXXXXXX

~~Joining in this deed as Grantor, and relinquishing and conveying
rights by descent and all other rights in the above~~

~~described premises,~~ have hereunto set my hand and seal this
16th day of May in the year of our Lord
one thousand nine hundred and fifty-three.

Signed, Sealed and Delivered
in presence of

Edward F. Jones

Hazel B. Therio



State of Maine.
Cumberland

} ss.

May 16, 1953.

Personally appeared the above named Hazel B. Therio

and acknowledged the above instrument to be her free act and
deed.

Before me,

Edward F. Jones

Justice of the Peace



Philbrick

443

Maternity Dept.

FROM

HAZEL B. THERIO

TO

MAINE MEDICAL CENTER

Date..... May 16 1953

State of Maine.

Cumberland .. no: Registry of Births.

Received..... MAY 16 1953

no..... 10, 11, 1355 M, R

recorded in Book..... P127, Page..... 443

Attest:

Robert W. Cannon
Registrar

FROM THE OFFICE OF

VERRILL DANA WALKER PHILBRICK

& WHITEHOUSE,

No. 100, ROBZATA OFFICE SUPPLY COMPANY
Portland - Maine - Lewiston

10-35

Know All Men by these Presents,

That We, Albert N. Tardif and M. Louise Tardif, both of Portland, County of Cumberland, State of Maine

in consideration of one dollar (\$1.00) and other valuable considerations

paid by Maine Medical Center, a Corporation established by law at said Portland

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Maine Medical Center

its successors ~~Heirs~~ and Assigns forever,

the following described property:

A certain lot or parcel of land with the buildings thereon situated on the northerly side of Bramhall Street in said Portland which was conveyed to the grantors by Wilhelmina M. Mantine, by deed dated September 16, 1935 and recorded in Cumberland County Registry of Deeds in Book 1478, Page 294 and therein described as follows: Beginning on the northerly side of Bramhall Street at the easterly corner of land formerly of James Miller; thence northeasterly by Bramhall Street twenty-one and seven twentieths (21-7/20) feet to a stake; thence northwesterly about one hundred eleven (111) feet to a point in the southerly side of Arsenal Street; thence southwesterly by Arsenal Street twenty-two and three quarters (22-3/4) feet to said Miller's land; thence southeasterly by said Miller's land one hundred eleven and four tenths (111-4/10) feet to the point of beginning.

Also all our right title and interest in and to Arsenal Street recently abandoned by the City of Portland.

On have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said Maine
Medical Center, its successors

~~HEIRS~~ and Assigns, to its and their use and behoof
forever.

And we do covenant with the said Grantee, its ^{successors} ~~HEIRS~~
and Assigns, that we are lawfully seized in fee of the premises;
that they are free of all incumbrances;

that we have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that we and ~~our~~ ^{our} Heirs, shall
and will warrant and defend the same to the said Grantee, its
successors

~~HEIRS~~ and Assigns forever, against the lawful claims and demands
of all persons.

In Witness Whereof, We the said Albert N. Tardif and M. Louise Tardif, the said Grantors, being Husband and Wife

~~XXXX~~

~~XXXXXXXXXX~~

each joining in this deed as Grantors, and/ ^{each} relinquishing and conveying our respective rights by descent and all other rights in the above

described premises, have hereunto set our hands and seals this

11th day of June in the year of our Lord one thousand nine hundred and fifty-three.

Signed, Sealed and Delivered
in presence of

Edward J. Haug
to both

Albert N. Tardif
M. Louise Tardif



State of Maine.
Cumberland

{ ss.

June 11, 1953.

Personally appeared the above named Albert N. Tardif and M. Louise Tardif: and acknowledged the above instrument to be their free act and deed.

Before me,

Edward J. Haug

Justice of the Peace



Philbrick

310

Warrant of Return.

FROM

ALBERT N. TARDIF, et al.
TO

MAINE MEDICAL CENTER

DATED June, 1953.

State of Maine.

Cumberland ss: Magistrate at Breton.

Received JUN 12 1953

at 11 A.M. 5 A.M. and

recorded in Book 2133, Page 310.

Attest:

Robert C. ...

FROM THE OFFICE OF

Verrill Dana Walker Philbrick
& Whitehouse

11-5

Know All Men by these Presents,

That I, CLARA G. READ, of Portland, in the County of Cumberland and State of Maine,

in consideration of one dollar and other valuable considerations

paid by MAINE MEDICAL CENTER, a Maine corporation having a place of business in said Portland, in said County and State,

the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Maine Medical Center,

its Successors ~~Heirs~~ and Assigns forever,

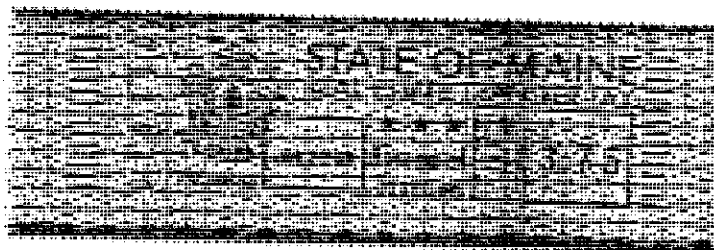
the following described property:

A certain lot or parcel of land, with the buildings thereon, situated on the southwesterly side of Charles Street in said Portland, bounded and described as follows:

Beginning on said southwesterly side of Charles Street at a point thirty (30) feet northwesterly by said Street from the northeasterly corner of land formerly of Charles A. Donnell; thence northwesterly by said Street thirty (30) feet; thence southwesterly parallel with the line of said Donnell land seventy-four and two-tenths (74.2) feet to land formerly known as the Arsenal property; thence southeasterly by said Arsenal lot thirty (30) feet; thence northeasterly parallel with said Donnell land seventy-four and two-tenths (74.2) feet to the point of beginning.

Being the same premises conveyed to this Grantor and Clarence D. Read, as joint tenants, by Grace R. Loomis by deed dated September 1, 1948 and recorded in Cumberland County Registry of Deeds in Book 1926, Page 336. The said Clarence D. Read having deceased and his estate is of record in the Registry of Probate for Cumberland County, Maine.

The Grantor herein shall have the right to occupy the premises hereby conveyed until September 15, 1969.



To have and to hold the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said Maine Medical Center, its Successors

~~Heirs~~ and Assigns, to them and their use and behoof forever.

And I do ~~Warrant~~ with the said Grantee, its ^{Successors} ~~Heirs~~ and Assigns, that I am lawfully seized in fee of the premises; that they are free of all incumbrances;

that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my Heirs, shall and will ~~Warrant~~ and ~~Defend~~ the same to the said Grantee, its Successors

~~Heirs~~ and Assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, I, the said Clara G. Read, being a widow,

~~and~~ ~~in~~ ~~the~~ ~~presence~~ ~~of~~ ~~my~~ ~~notary~~ ~~public~~ ~~and~~ ~~my~~ ~~attorney~~ ~~in~~ ~~fact~~ ~~and~~ ~~my~~ ~~deeds~~ ~~and~~ ~~conveyances~~ ~~rights~~ ~~and~~ ~~interests~~ ~~in~~ ~~and~~ ~~to~~ ~~the~~ ~~same~~ ~~premises~~, have hereunto set my hand and seal this 23 day of July in the year of our Lord one thousand nine hundred and sixty-nine.

Signed, Sealed and Delivered in presence of
[Signature]

[Signature]

State of Maine,
CUMBERLAND

} ss.

July 23, 1969.

Personally appeared the above-named

CLARA G. READ

and acknowledged the above instrument to be her free act and deed.

Before me,

[Signature]

Justice of the Peace

JUL 23 1969
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 10 H. 58 AM. and recorded in
BOOK 76 95 PAGE 34

[Signature]
Register

Plunkh/144

V

Warrantly Book.

FROM

CLARA G. READ

TO

MAINE MEDICAL CENTER

Date..... July 22, 1899.

State of Maine,

County of ~~York~~ us: Registry of Deeds

Received..... JUL 22 1899, 19

at H, M, N, and

recorded in Book....., Page.....

Attest:

....., Registrar.

FROM THE OFFICE OF

JOHN W. STURDIS

415 Congress Street
Portland, Maine

No. 106, HOBERTS OFFICE SUPPLY COMPANY
Portland, Maine

18. 56

Gokey
12

Know All Men by these Presents,

That We, WILLIAM C. GOKEY and SUZANNE E. GOKEY, both of Portland in the County of Cumberland and State of Maine

in consideration of One Dollar (\$1.00) and other valuable considerations

paid by MAINE MEDICAL CENTER, a corporation organized and existing under the laws of Maine and located at Portland, County of Cumberland and State of Maine

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Maine Medical Center,

its successors ~~heirs~~ and Assigns forever,

the following described property:

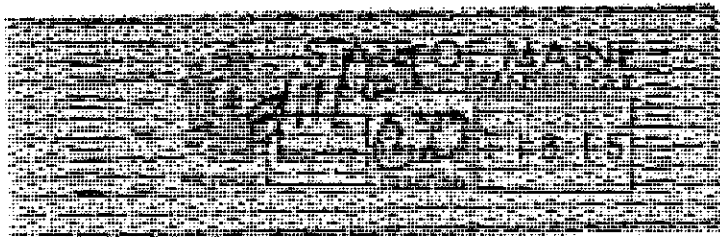
A certain lot or parcel of land with the buildings thereon situated on the southeasterly side of Ellsworth Street in said Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at the northeasterly corner of a lot of land on Bramhall's Hill which John B. Brown sold to one Tuttle; thence northeasterly on said Ellsworth Street forty (40) feet; thence southeasterly about seventy-four (74) feet to land formerly of Davis; thence southwesterly by said Davis's land to land formerly of said Tuttle forty (40) feet; thence northwesterly to said Ellsworth Street, the bounds begun at, seventy-four (74) feet.

Being the same premises conveyed to William C. Gokey and Suzanne E. Gokey by Thelma A. Barter, by deed dated June 19, 1968, recorded in Cumberland County Registry of Deeds in Book 3045, Page 187.

This conveyance is made subject to taxes for the year 1969 which the Grantee assumes and agrees to pay.

[Handwritten initials]



To have and to hold the aforegranted and bargained premises,
with all privileges and appurtenances thereof to the said
Maine Medical Center, its successors

~~Heirs~~ and Assigns, to its and their use and behoof
forever.

And we do covenant with the said Grantee, its successors
and Assigns, that we are lawfully seized in fee of the premises;
that they are free of all incumbrances; ~~Heirs~~

that we have good right to sell and convey the same to the said
Grantee to hold as aforesaid; and that we and our Heirs, shall
and will warrant and defend the same to the said Grantee,
its successors

~~Heirs~~ and Assigns forever, against the lawful claims and demands
of all persons.

In Witness Whereof, we the said William C. Gokey and Suzanne E. Gokey, being husband and wife

~~and~~

~~of the said~~

~~pointing to the said premises and conveying the rights by descent and otherwise rights in the above~~

~~described premises~~, have hereunto set our hands and seals this 11th day of August in the year of our Lord one thousand nine hundred and sixty-nine.

Signed, Sealed and Delivered in presence of

Edward F. Hanna

[Signature]



State of Maine, }
Cumberland } SR

August 11, 1969

Personally appeared the above named William C. Gokey

and acknowledged the above instrument to be his free act and deed.

Before me, Edward F. Hanna
Justice of the Peace

AUG 11 1969

REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 2 E 24 M. and recorded in
BOOK 3697 PAGE 244

Edward F. Hanna
Register

Philbrick/1969

15

Warrantly Depn.

FROM

William C. Gokev. et. al.
TO

Maine Medical Center

DATE..... AUGUST....., 1969.

State of Maine,

vs: ~~Warrantly of Depn~~

Received..... AUG 11 1969....., 19

At..... H,..... M,..... M, and

recorded in Book....., Page.....

ATTORNEY:

....., REGISTER.

FROM THE OFFICE OF
Verrill Dana Philbrick Whitehouse
& Putnam
57 Exchange Street
Portland, Maine

No. 106. ROBERTS OFFICE SUPPLY COMPANY
Portland, Maine

2-28

126

Know all Men by these Presents,

That I, HELEN M. GRIFFIN

of Portland in the county of Cumberland
sole acting executor of the last will and testament
of Mary Davis late of Portland
deceased, testate, by virtue of the authority to me given by
the said Mary Davis in her last will and
testament, in my capacity of executor as afore-
said, and in consideration of One Dollar (\$1.00) and other
valuable considerations

to me paid by MAINE MEDICAL CENTER, a corporation organized under
the laws of Maine and situated in Portland

~~of~~ the receipt whereof is hereby ac-
knowledge, do hereby sell and runny unto the said Maine Medical Center,
its successors

~~and~~ and assigns, the following described real estate, which was
the property of the said Mary Davis.

~~and bounded as follows:~~

A certain lot or parcel of land with the buildings thereon situated
in Portland on the northerly side of Brackett Street, bounded and
described as follows:

Beginning at the intersection of the northerly side of Brackett Street
with the westerly side of Russell Street; thence running northeasterly
by Russell Street thirty-seven (37) feet, more or less, to land formerly
owned by Hobart W. Richardson; thence running northwesterly by said
Richardson land seventy-four (74) feet, more or less, to land formerly
owned or occupied by W. S. Dunn; thence southwesterly by the line of
said Dunn's land forty-one (41) feet, more or less, to a lane; thence
southeasterly by said lane forty-one (41) feet, more or less, to
Brackett Street; thence easterly by Brackett Street thirty-seven (37)
feet, more or less, to the point of beginning.

Being the same premises conveyed to Mary Davis by Harry E. Davis by
deed dated March 18, 1915, recorded in Cumberland County Registry of
Deeds in Book 945, Page 109.

Reference is made to Will of said Mary Davis, abstract of which is
recorded in said Registry of Deeds in Book 3025, Page 28.

On here and to hold the above-granted premises unto the said
Maine Medical Center, its successors

~~and~~ ~~and~~ and assigns forever. And I the said
Helen M. Griffin,

in my said capacity, do hereby covenant to and with the said
Maine Medical Center, its successors ~~and~~ and assigns, that

I am the lawful executor of the last will and
testament of the said Mary Davis ; that I

have power under said will to sell as aforesaid; and that in making
this conveyance, I have in all respects, acted in pursuance of
the authority granted in and by the said last will and testament.



In Witness Whereof, I the said Helen M. Griffin
in my said capacity of executor
as aforesaid have hereunto set my hand and seal
this 31st day of March in the year of our
Lord one thousand nine hundred and sixty-six.

Signed, Sealed and Delivered
in presence of

[Signature]
.....
.....
.....

[Signature]
.....
.....
.....



March 31 1966.

State of Maine. }
Cumberland } ss.

Then personally appeared the above named Helen M. Griffin
and acknowledged the above instrument to be her free act and deed
in her said capacity.

Before me,
[Signature]
Justice of the Peace.

MAR 31 1966
REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE
Received at 3:55 P.M. and recorded in
BOOK 2957 PAGE 927 Samuel R. [Signature] Register

Executor's and Trustee's Deed.

(WHEN THE WILL AUTHORIZES A SALE.)

Helen M. Griffin

to

Maine Medical Center

Dated..... 19

ss. Registry of Deeds.

Received..... 18
at .. MAR 31 1966 .. M., and

recorded in Book..... Page.....

Attest:..... Register.

FROM THE OFFICE OF
Verrill Dana Walker Philbrick
& Whitehouse
57 Exchange Street
Portland, Maine

LORING, SHORT & HARMON, LAW STATIONERS
PORTLAND, MAINE

355

KNOW ALL MEN BY THESE PRESENTS

THAT OLD COLONY TRUST COMPANY a Corporation located in Boston, County of Suffolk and Commonwealth of Massachusetts, sole surviving Trustee under a Trust Agreement created by ALICE A. BURKITT late of Portland and dated March 30, 1961 by virtue of the authority to it given by said Trust Agreement in its capacity of Trustee as aforesaid, and in consideration of One Dollar (\$1.00) and other valuable considerations to it paid by MAINE MEDICAL CENTER of Portland, Maine, the receipt whereof is hereby acknowledged, does hereby sell and convey unto the said Maine Medical Center its successors and assigns forever, the following described real estate, which was the property of Alice A. Burkitt late of Portland, situated in said Portland, Maine and bounded as follows:

a certain lot or parcel of land with the buildings thereon, situated in said Portland, bounded and described as follows: Beginning at a point on the easterly side of Western Promenade, which point is eighty-five (85) feet from the intersection of the northeasterly side line of said Promenade with the northwesterly side line of Bramhall Street; thence northerly by the line of said Promenade seventy-seven and five tenths (77.5) feet, more or less, to Arsenal Street; thence northeasterly by said Arsenal Street seventy-four and one tenth (74.1) feet, more or less, to land now or formerly of William J. Miller et al; thence southeasterly at right angles to Arsenal Street by said Miller land fifty-five and five tenths (55.5) feet, more or less, to land formerly of Hiram Knowlton; thence southwesterly parallel with said Arsenal Street one hundred and twenty-seven (127) feet, more or less, to the Western Promenade and point of beginning, containing fifty-six hundred (5600) square feet more or less.

Also another parcel of land adjoining the above described lot, and bounded and described as follows: Commencing at a point on the northwesterly side of Bramhall Street, which point is the northeasterly corner of land of Frederick C. Hussey et al, and ninety-eight and two tenths (98.2) feet, more or less, from the intersection of said northwesterly side line of Bramhall Street with the easterly side line of the Western Promenade; thence northeasterly on said Bramhall Street thirty-three and five tenths (33.5) feet to a point and land formerly of Hiram Knowlton, and from these two points extending northwesterly keeping a width of thirty-three and five

tenths (33.5) feet a distance of sixty (60) feet to the first parcel herein conveyed, containing two thousand and ten (2010) square feet.

Meaning and intending to convey and hereby conveying the real estate acquired by Alice A. Burkitt by Warranty Deed of Good Will Home Association dated December 11, 1930 recorded in the Cumberland County Registry of Deeds Book 1361, page 373; said real estate having been devised to the Grantor as Trustee by the Will of Alice A. Burkitt duly probated in the Cumberland County Probate Court.

TO HAVE AND TO HOLD the above-granted premises unto the said Maine Medical Center its successors and assigns forever. And the said Old Colony Trust Company in its said capacity does hereby covenant to and with the said Maine Medical Center its successors and assigns that it is the sole surviving Trustee under said Trust Agreement; that it has power under said Trust Agreement to sell as aforesaid; and that in making this conveyance it has in all respects acted in pursuance of the authority granted in and by said Trust Agreement.

IN WITNESS WHEREOF, the said Old Colony Trust Company in its said capacity as Trustee as aforesaid has caused this instrument to be signed in its corporate name and sealed with its corporate seal by S. Vincent its Vice President thereunto duly authorized this 4th day of February 1969.

Witness:

[Signature]

OLD COLONY TRUST COMPANY
By [Signature]
Its Vice President

COMMONWEALTH OF MASSACHUSETTS
SUFFOLK, SS.

February 4, 1969.

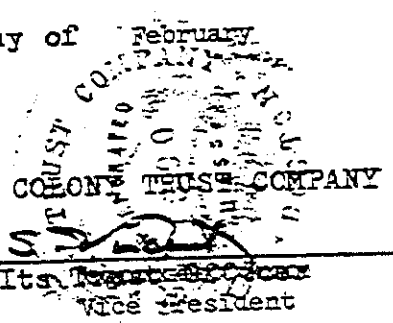
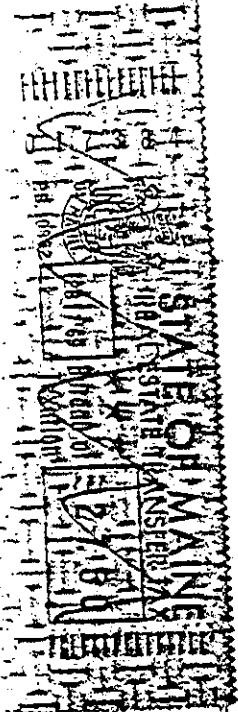
Then personally appeared the above-named S. Vincent who made oath that the foregoing instrument was his free act and deed and the free act and deed of the Grantor corporation in its said capacity as Trustee as aforesaid.

Before me,

[Signature]
Notary Public

Mary F. Archoska
NOTARY PUBLIC

My commission expires May 23, 1971



Section 5
Public or Private Rights-of-Way

5.A. Public or Private Rights-of-Way

The existing site has four primary accesses; one on Gilman Street for the existing employee garage, one on Congress for the visitor parking garage, one onto Crescent Street for the visitor parking garage, and a pick-up and drop-off driveway off Bramhall Street. The site is proposed to have one new access on Congress Street for the proposed visitor pick-up and drop-off driveway and visitor parking garage connection. The East Tower will continue to be accessed via the existing drop-off and pick-up driveway off Bramhall Street, and the two existing visitor parking garage accesses will remain. The existing Gilman Street employee garage access will be eliminated.

**Section 6
Schedule**

6.A. Schedule

The proposed project is anticipated to be completed and occupied by 2023.

Relationships.
Responsiveness.
Results.



Section #7
Traffic Impact
Study
Bramhall Street - 22;
MMC Congress Street
Building
Portland, Maine

PREPARED FOR:
Maine Medical Center
22 Bramhall Street
Portland, ME 04102

October 2018

SUBMITTED BY:
Gorrill Palmer
707 Sable Oaks Drive
Suite 30
So. Portland, ME 04106
207.772.2515

**Revised - Traffic Impact Study
Bramhall St. – 22; MMC Congress St. Building
Portland, Maine
October 2018**

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Attachment 7A

Site Location Map
Turning Movement Diagrams

Attachment 7B

Trip Generation Calculations
May 2013 Traffic Impact Study

Attachment 7C

Capacity and Queue Analysis Results

Attachment 7D

Pedestrian and Bicycle Collision Locations
Left Turn Lane Warrants

I. Introduction

A Scoping Meeting for this project was held on October 23, 2018 that reviewed Sections 1-6 of the Traffic Movement Permit (TMP) application. This traffic impact study is Section 7 of that application, and examines the potential traffic impact of phase three (3) of the proposed Maine Medical Center expansion in Portland, Maine. The site of the expansion is located at the site of the existing Gilman Garage in the southeast corner of the Congress Street / Gilman Street intersection. The site is identified on City Tax Map 53, Lot D007, and City Tax Map 65 Lots H001, H002, H005, H008, and H009. A proposed site plan is provided with the site plan application under separate cover. The attached Figure I in Attachment 7A shows the location of the site.

The existing site is the same location as the Gilman parking garage for the employees of Maine Medical Center. The proposed project consists of razing the existing employee garage and constructing additional hospital space, including new operating rooms and patient rooms, although the total number of beds will remain the same, since the new patient rooms are intended to decompress the existing hospital. A new drop off and pick up loop, with access to the visitor garage is proposed on Congress Street, to the west of the existing visitor garage. Parking will be provided for employees at the recently approved St. John Street employee parking garage and for the patients and visitors in the existing and recently expanded visitor parking garage. The expansion is proposed to be a total of 265,000 sf and is also anticipated to add 200 employees by 2023, the opening year of the project. After opening, MMC is anticipated to add an additional 124 employees, for a total increase of 324 employees.

II. Existing Traffic Volumes

Turning movement counts were completed by Accurate Counts at the following intersections from 5:00AM to 9:00AM and 2:00PM to 8:00 PM on the specified dates:

- St John Street / Valley Street: November 8, 2017
- Valley Street / Commercial Street: November 2, 2017
- Congress Street / St. John Street: November 2, 2017
- St John Street / Park Avenue: November 8, 2017

Accurate Counts also completed turning movement counts at the intersection of Valley Street with Congress Street on June 26, 2018 from 6:00AM – 6:00PM.

Turning movement counts were also completed by Gorrill Palmer at the following intersections:

- St. John Street / D Street: May 30, 2018, 6:00AM – 9:00AM and 3:00PM – 6:00PM
- Congress Street / Bramhall Street: August 23, 2018, 6:00AM – 9:00AM and 3:00PM – 6:00PM
- Congress Street / Visitor Garage: August 29, 2018, 6:00AM – 9:15AM and 3:00PM – 6:00PM
- Visitor Garage / Crescent Street: August 29, 2018, 6:00AM – 9:00 AM and 3:00PM – 6:00PM

In addition, turning movement counts were completed by Gorrill Palmer at the intersection of St. John Street with the Margarita’s Driveway on May 17, 18, and 19, 2017 from 6:00AM to 8:00AM, 7:45AM to 9:00AM, 5:00PM to 8:00PM, and 3:00PM to 5:00PM. Those volumes were used as the base raw volumes for St. John Street and for Margaritas during the peak hours of the generator. This evaluation has focused on the peak hour of the adjacent street, which occurs at 7:30AM to 8:30AM and 4:15PM to 5:15PM at the intersection of Congress Street with Bramhall Street.

The results of all counts for the peak hour of the adjacent street are shown on the attached Figure 2 in Attachment 7A.

III. Other Developments in the Vicinity of the Site

Approved projects that are not yet opened as well as projects for which applications have been filed are required to be included in the predevelopment volumes for this project. Based on conversations with City Staff, traffic from the proposed Mercy Hospital expansion, the proposed Dunkin’ Donuts on St. John Street, and the Thompson’s Point development should be included in the background traffic. It should be noted that although portions of the Thompson’s Point development have been constructed, the full build out traffic volumes from the August 2011 Traffic Impact Study have been utilized to be conservative. The traffic from this project that is forecast to impact the Maine Medical Center Expansion study area is shown on the attached Figure 4.

IV. Predevelopment Traffic Volumes

Traffic volumes that are not collected during peak summer months are typically seasonally adjusted to estimate traffic volumes that may be experienced during the peak summer months. Since the traffic counts were not collected during the peak summer months, the raw volumes shown on Figure 2 have been seasonally adjusted based on the weekly group mean factors published by MaineDOT. The following summarizes the adjustment at each intersection:

- Valley Street / Commercial Street: 8.3%
- St. John Street / Valley Street: 8.3%
- D Street / St. John Street: 2.4%
- Margaritas / St. John Street: 3.6%
- Congress Street / St. John Street: 8.3%
- Park Avenue / St. John Street: 8.3%
- Valley Street / Congress Street: 2.4%
- Gilman Street / Congress Street: 15.5% (Congress through traffic only)
- Bramhall Street / Congress Street: 0.0%

In addition to the seasonal adjustment, the adjacent roadway volumes were also increased by an annual growth rate to forecast the traffic volume that may be experienced during the build out year of the project. An annual growth rate of 0.5% per year (approved by the City and consistent with other studies in the area) has been applied to the seasonally adjusted volumes to yield the 2023 Adjusted Volumes shown on the attached Figure 3. The 2023 Adjusted Volumes have been combined with the Other Development Volumes to yield the 2023 Predevelopment traffic volumes shown on the attached Figure 5. It should be noted that the employee growth rate in the IDP is forecast to be approximately 0.63% per year, which is very similar to the growth rate approved by the City for overall on-street traffic and used on other studies in the area.

It should be noted that the traffic volumes into and out of parking areas has not been adjusted because significant seasonal or annual fluctuation is not anticipated.

V. Trip Generation

The trip generation for the Phase 3 Expansion was calculated using the Institute of Transportation Engineers' (ITE) publication, *Trip Generation*, Seventh Edition, Land Use Code (LUC) 610 – Hospital. The Tenth Edition is available, but has not yet been accepted by the MaineDOT. The expansion is proposed to be a total of 265,000 sf and is anticipated to add 200 employees by 2023 and an additional 124 employees after opening for a total of 324 employees. As approved at the October 13, 2017 Pre-Scoping meeting, the trip generation for the expansion has been based on the number of employees, students, and physicians. The following is a summary of the trip generation for the expansion based on an increase of 324 employees:

- AM Peak Hour Adjacent Street: 110 trip ends
- PM Peak Hour Adjacent Street: 107 trip ends
- AM Peak Hour of Generator: 126 trip ends
- PM Peak Hour of Generator: 152 trip ends
- Saturday Peak Hour: 172 trip ends

A trip end is defined as a trip into or out of the site; thus, a round trip is equal to two trip ends. Since the forecast traffic exceeds 99 trip ends during a peak hour, a Traffic Movement Permit is required. The City of Portland has delegated review authority, so the application can be administered by the City. A copy of the trip generation calculations are included as an attachment to this section.

Based on ITE's *Trip Generation*, the following trip distribution is anticipated:

- AM Peak Hour Adjacent Street: 88 in / 22 out
- PM Peak Hour Adjacent Street: 37 in / 70 out
- AM Peak Hour of Generator: 82 in / 44 out
- PM Peak Hour of Generator: 61 in / 91 out
- Saturday Peak Hour: 95 in / 77 out

VI. Trip Composition and Assignment

GP has assumed that all trips are primary in nature and made for the sole purpose of going to and from the site. The forecast trip generation is anticipated to be comprised of patients/visitors and employees. The portion of the trip generation that is forecast to be due to patients/visitors has been based on information provided by MMC in an email dated August 8, 2018.

Table 2.4 on page 41 of the IDP shows the forecast campus weekday volumes for 2026. The patient and visitor volumes from 2026 have been proportionally reduced based on the growth rates to estimate the number of patients and visitors in 2023. Based on the 2026 patient and visitor volumes, an increase of approximately 50 patients and visitors in an average weekday is anticipated by 2023 due to the proposed expansion. The distribution of the patient/visitors has been based on the following assumptions:

- 20% of daily trips occur during the peak hours
- 80% entering during the AM peak hour
- 80% exiting during the PM peak hour

Based on these assumptions, the following trip composition is forecast for the peak hours of the adjacent street:

- AM Peak Hour Adjacent Street (assumed 7:30AM – 8:30AM):
 - Patients/Visitors: 14 trip ends (11 in / 3 out)
 - Employees: 58 trip ends (46 in / 12 out)

- PM Peak Hour Adjacent Street (assumed 4:15PM – 5:15PM):
 - Patients/Visitors: 14 trip ends (3 in / 11 out)
 - Employees: 56 trip ends (21 in / 35 out)

It should be noted that although the patient/visitor trip generation appears to be low, it is a reasonable level of trip generation for the expansion since the expansion is proposed to decompress the existing hospital, and not significantly increase the number of patients at the hospital.

The patient/visitor trip assignment has been based on the proposed driveway locations, information from MMC in an email dated August 8, 2018, and the existing traffic patterns and is shown on Figure 6 in Attachment 7A. The trip assignment for the employees was initially based on the VHB Travelshed for employees, and adjusted per City comments. The trip assignments are shown on Figure 7 in Attachment 7A.

VII. Previously Approved Expansions

Although the currently proposed expansion is for 324 employees, there were previously approved expansions that did not trigger a Traffic Movement Permit. It is required that any development on a property that was completed within the last 10 years be included in the permitted trip generation. Based on information from the City of Portland, there were two previously approved, constructed, and occupied expansions. Based on a review of a traffic impact study completed for the second expansion, dated May 2013, the trip generation for the combined expansions was forecast to be the following:

- AM Peak Hour of the Generator: 77 trip ends
- PM Peak Hour of the Generator: 84 trip ends

It should be noted that the May 2013 traffic impact study included only the peak hours of the generator. Since the expansion projects that were forecast to generate this traffic have been completed and occupied, this traffic is assumed to be included in the existing traffic on the adjacent roadway network. However, it must be included when determining the study area for the currently proposed expansion. The forecast trip generation for the currently proposed expansion has been combined with the previous expansions to yield the following trip generation:

- AM Peak Hour: 187 trip ends
- PM Peak Hour: 191 trip ends

The proposed expansion focuses on the peak hour of the adjacent street traffic, since this is expected to be the most congested time period on the adjacent roadway network. Since the only available information for the previous studies is the peak hour of the generator, those volumes were added to the proposed traffic for the purposes of determining the overall study area. This is a conservative approach, since it overlaps the peak of the hospital that includes primarily employees and occurs off hours, with the peak of the adjacent street traffic.

The distribution between patients and visitors for the previous expansion is assumed to be the same as the currently proposed expansion. The attached Figure 17 shows the estimated trip assignment for the previous expansion and the currently proposed expansion.

VIII. Congress Street Pick-Up / Drop-Off

As part of the proposed expansion, a new patient drop-off / pick-up loop is proposed on Congress Street to the west of the existing visitor garage. The loop is proposed to have a connection to the Visitor Garage, to allow people to drop a patient off then park or pick up a patient after exiting the Visitor Garage. This prevents traffic from recirculating on Congress Street between the loop and the parking garage. There is space for approximately 11 vehicles before backing onto Congress Street, which is anticipated to be adequate based on observations completed at the existing Bramhall Street loop. It is anticipated that the new Congress Street pick-up / drop-off will draw existing traffic from the Bramhall Street drop-off loop. To estimate the traffic that may use the Congress drop-off instead of the Bramhall drop-off, counts and observations were completed by Gorrill Palmer at the Bramhall drop-off on August 28-30, 2018 from 7:00AM – 10:00AM and 3:00PM – 6:00PM. On August 29, 2018 an additional two hours, from 10:00AM – 12:00PM, was also collected. The counts were separated into six types of trips through the loop; pick-up, drop-off, pass-through, parked, valet parking (park), and valet parking (return). Using the counts collected, traffic was reassigned based on existing traffic patterns and the following assumptions:

- Valet parking and return will remain at the Bramhall drop off
- 75% of pick-ups and drop-offs will use the Congress drop off (from MMC in an email dated August 8, 2018)
- 25% of pick-ups and drop-offs will remain at the Bramhall drop off (from MMC in an email dated August 8, 2018)

The reassigned traffic volumes are shown on Figure 8 in Attachment 7A. It should be noted that the initial assumption was that valet parking would remain only at the Bramhall drop-off. Since that time, it has been identified that there will be valet parking at the

Congress Street drop-off as well as the Bramhall drop-off. This may increase traffic volumes using the Congress drop-off and right turning traffic from Congress to Bramhall. The increase in traffic due to valet parking is not forecast to significantly impact the results of this evaluation.

IX. Phase 3 Net Impact

The Phase 3 patient/visitor trip assignment on Figure 6, the Phase 3 employee trip assignment on Figure 7, and the reassigned drop-off traffic on Figure 8 were combined to yield the Phase 3 Net Impact shown on Figure 9 in Attachment 7A.

X. Existing Employee Garage

The proposed Phase 3 expansion will be located at the site of the existing employee garage in the southeast corner of the Congress Street / Gilman Street intersection. The existing employee garage is proposed to be razed and MMC will be constructing a new 2400 space employee parking garage on St. John Street. As a result, the existing employee traffic volumes will be relocated to St. John Street. The existing employee garage traffic volumes have been estimated based on the turning movement counts completed at the garage access on Gilman Street on November 2, 2017, the previously approved proposed employee garage assignment, and existing traffic patterns. Figure 10 in Attachment 7A shows the existing employee garage traffic to be removed from the adjacent roadway network.

XI. Proposed Employee Garage

MMC will construct an approximately 2,400 space employee parking garage with an adjacent surface lot with approximately 50 spaces on St. John Street. The proposed garage and adjacent surface lot are anticipated to initially accommodate the following:

- Gilman Garage: 1,274 spaces
- Sportsman Lot: 60 spaces
- 222 St. John Street Lot: 283 spaces
- Gateway Garage: 100 spaces
- Classic Lot: 97 spaces
- 321 Brackett Street Lot: 9 spaces
- MMC Employee On-Street Parking: 200 spaces (estimated)

Total Parking Spaces = 2,023

The 200 on-street parking spaces are an approximate number of spaces intended to include vehicles that may currently park on neighborhood streets. It should be noted that in the garage and surface lot 50 spaces are proposed to be reserved for the Eagles and approximately 150 are reserved for 222 St. John Street. The 50 parking spaces reserved for the Eagles are not expected to occur on a regular and frequent basis. Additionally, the Eagles and 222 St. John Street peaks are not expected to coincide with the peaks of MMC.

The Institutional Development Plan (IDP) identifies a current total of 2,027 employee parking spaces both on and off campus. The existing employee spaces that are not included in the garage spaces identified above are located in the 7 Bramhall Street lot (26 spaces). This lot is proposed to remain where it is because it serves specific programs at that location.

Existing Parking Area Traffic Volumes

Traffic counts were completed at the existing Gilman Garage access as follows:

- Accurate Counts - November 2, 2017 from 5:00AM to 9:00PM (16 hours) – The counts indicate that the peak hours of traffic entering and exiting the garage occurred from 6:45AM to 7:45AM with 448 trip ends, and 6:00PM to 7:00PM with 326 trip ends.
- GP – January 18, 2018 from 6:30AM to 8:00AM and 5:45PM to 7:15PM - The times were chosen based on the peak hours determined in the November 2, 2017 counts. The counts completed by GP confirmed the original findings from the November 2, 2017 counts.

Traffic counts were also completed at the existing 222 St. John Street surface parking as follows:

- GP - January 18, 2018 from 6:15AM to 7:45AM and from 3:30PM to 5:00PM
- GP - January 23, 2018 from 5:45PM to 7:15PM

The 222 St. John Street parking lot peak hours occurred from 6:15AM to 7:15AM and 3:30PM to 4:30PM. The entering and exiting traffic for each 15 minute period at the 222 St. John Street is shown on the attached “St. John Street Parking Garage Trip Generation” table.

The Gilman Employee Parking Garage and 222 St. John Street surface lot represent approximately 85% of the MMC employee spaces anticipated to be accommodated by the proposed St. John Street garage. As such, it is anticipated that when combined they will

represent the majority of the traffic patterns that can be expected at the new garage. To represent the traffic patterns of the remaining 15% of the satellite lots as well as the on-street parking spaces, the traffic patterns were assumed to be similar to the 222 St. John Street satellite lot. The trip generation for each 15 minute period for each satellite parking area has been estimated based on the trip generation at the 222 St. John Street parking lot and is shown on the attached “St. John Street Parking Garage Trip Generation” table.

Reassigned Parking Area Traffic Volumes

Since the employees that currently park in the Gilman garage will be shifted to the new garage, they will have to take a shuttle in the future rather than have direct access to the hospital as they do currently. Because of this shift, we would expect those employees to arrive approximately 15 minutes earlier than they typically would and that they would end up leaving the new garage approximately 15 minutes later. Therefore, the counted volumes for the Gilman Garage were adjusted by 15 minutes to estimate the traffic that would be experienced when the spaces are relocated to 222 St. John Street. The adjusted Gilman Garage volumes are shown on the attached “St. John Street Parking Garage Trip Generation” table.

The trip generation for the proposed St. John Street garage is based on adding the existing or estimated trip generation of each 15 minute period for each parking location to identify the overall AM & PM peak hours. The AM peak hour of the proposed garage is estimated to occur from 6:00AM to 7:00AM with and the PM peak hour of the garage is estimated to occur 4:15PM to 5:15PM. The peak hours of the garage were evaluated in the St. John Street Garage Memorandum dated June 19, 2018, completed by Gorrill Palmer. This evaluation focuses on the peak hours of the adjacent street which occur from 7:30AM to 8:30AM and 4:15PM to 5:15PM. It should be noted that the PM peak hour of the adjacent street occurs at the same time as the PM peak hour of the proposed garage. The trip generation for the reassigned 2,023 spaces is estimated to be **443 trip ends** during the AM peak hour of the adjacent street and **474 trip ends** during the PM peak hour of the adjacent street. Detailed data is shown on the attached spreadsheet.

Trip Distribution and Assignment

The garage is proposed to be accessed via a full movement driveway directly onto St. John Street as well as indirectly via the Margarita’s driveway. During peak hours of the garage, the garage will be set up such that the ground level and first deck will be accessed via the Margarita’s driveway and decks 2-8 will be accessed directly via the St. John Street access. All of the 222 St. John Street employees, the 50 Eagles spaces, and some of the MMC Campus employees will use the ground level and first deck parking spaces with decks 2 – 8 used by MMC Campus employees only. It should be noted that at the time this study was prepared, it was estimated that of the approximately All employee shuttles throughout the day (enter and exit) will access the garage via the Margarita’s access.

Unused shuttles during non-peak times of the day are expected to be parked on the ground level.

The trip distribution (enter vs. exit) for the proposed St. John Street garage has been based on the counts completed at the existing 222 St. John Street surface lot and the Gilman Garage. Based on the counts, the following trip distribution is anticipated for the proposed 222 St. John Street garage:

- AM Peak Hour: 98% entering, 2% exiting
- PM Peak Hour: 14% entering, 86% exiting

The regional trip assignment has been based primarily on the VHB travelshed completed for the IDP and revised slightly per comments received from the City. For localized assignment, it is based on GP's review of the area as well as numerous discussions with the City of Portland staff and traffic consultant. The trip assignment is shown on the attached Figure 11 in Attachment 7A.

Proposed Parking Garage Trip Generation – Adjacent Street Peak Hour

The proposed St. John Street garage was evaluated for full capacity in a memorandum dated June 19, 2018. To ensure that the proposed garage can accommodate the proposed expansion, the total trip generation for the full capacity garage has been compared to the trip generation for the reassigned existing spaces. The difference between the reassigned existing spaces and the full capacity garage trip generation has been compared to the proposed expansion employee trip generation to determine if the proposed garage can accommodate the proposed expansion.

The total trip generation for the proposed St. John Street garage is based on adding the existing or estimated trip generation of each 15 minute period for each parking location to identify the overall AM & PM peak hours. Then, a ratio of the proposed number of parking spaces (2,450) to the existing combined number of parking spaces to forecast the trip generation for the proposed garage.

Based on the combined volumes for the parking areas and the proportional increase in number of parking spaces, the trip generation of the proposed garage during the peak hours of the adjacent street is forecast to be **537 trip ends** during the AM peak hour and **574 trip ends** during the PM peak hour.

The MMC employee's full garage is 94 trip ends greater than the existing reassigned volumes during the AM peak hour of the adjacent street and 100 trip ends greater than the reassigned volumes during the PM peak hour of the adjacent street. The proposed garage was previously evaluated for full capacity and was forecast to operate at acceptable levels of service. The ITE forecast trip generation for the AM and PM peak hours of the

adjacent street is forecast to be 68 trip ends and 66 trip ends respectively, which is less than the increase from the existing to full build out of the garage. Since the garage is forecast to operate at acceptable levels of service with more trip generation, the garage can accommodate the increase of 200 employees and students.

XII. Shuttle Assignment

MMC will be upgrading their current shuttle service to accommodate the new garage. In addition to employee traffic, shuttles will be used to transport employees between the parking garage and the hospital. There are proposed to be 13 shuttles during the peak hours, each with an approximate 15 minute headway. Based on this information, one shuttle can make approximately four trips to and from the proposed garage during a one hour period. With 13 shuttles, approximately 52 round (52 enter and 52 exit) trips are anticipated at the site during the peak hour. As identified previously, all entering and exiting shuttles will use the Margarita's access. These 104 trips have been added to the employee trips. The shuttle assignment has been based on the shuttle routes provided by MMC. At this time, seven of the shuttles are proposed to use the Congress Street drop off area on Gilman Street and six shuttles are proposed to use the Bramhall Street drop off. It has been assumed that the shuttles will turn right out of the Margarita's access with the Gilman Drop off shuttles entering taking a right in and the Bramhall shuttles entering taking a left in. The shuttle assignment is shown on Figure 12 in Attachment 7A.

XIII. 222 St. John Street MMC Traffic

MMC currently utilizes a satellite parking lot at 222 St. John Street for employees. This traffic currently uses the Margarita's access and will be relocated to the proposed parking garage and is included in the proposed parking garage trip generation. The existing estimated 222 St. John Street MMC traffic is shown on Figure 13 in Attachment 7A.

XIV. 222 St. John Street Cut-Through (Non-MMC Traffic)

The existing turning movement counts indicate that some traffic uses the existing Union Station access from Congress Street to the site. For the purposes of this assessment, to be conservative, it has been assumed that this cut-through will not be available and that traffic has been reassigned to the adjacent street. The attached Figure 14 shows the reassignment of the cut-through traffic (not including MMC traffic).

XV. Proposed Garage Net Impact

The net impact of the proposed St. John Street garage has been calculated by combining the Proposed Garage Reassignment on Figure 11 with the Shuttle Assignment on Figure 12 and the 222 St. John Street Cut-Through traffic on Figure 14, then subtracting the existing Gilman garage traffic on Figure 10 and the existing 222 St. John Street MMC traffic on Figure 13. This yields the Proposed Garage Net Impact traffic volumes on Figure 15 included in Attachment 7A.

XVI. Postdevelopment Traffic Volumes

The predevelopment traffic volumes shown in Figure 5 have been combined with the Phase 3 Net Impact on Figure 9 and the Proposed Employee Garage Net Impact on Figure 15 to yield the 2023 Postdevelopment volumes shown on the attached Figure 16 in Attachment 7A.

XVII. Capacity Analysis

GP completed capacity analyses for the intersections discussed above using the Synchro/SimTraffic computer analysis software (Version 10). Level of service rankings are similar to the academic ranking system where an 'A' is good with little control delay and an 'F' represents poor conditions. At an unsignalized intersection, if the level of service falls below a 'D', an evaluation should be made to determine if mitigation is warranted. The following tables summarize the relationship between control delay per vehicle and level of service:

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (s)
A	Less than 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay per Vehicle (s)
A	Less than 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The analysis has been completed assuming that the signal at the intersection of Valley Street with Congress is removed and will be unsignalized (based on a study completed by Sebago Technics, Inc.). This change is supported by the City and MaineDOT. Additionally, the intersection of St. John Street with the proposed Garage access is unsignalized in the predevelopment conditions and signalized in the postdevelopment conditions. The predevelopment conditions include timing and phasing that was provided by the City. The postdevelopment has been evaluated based on optimized signal timing. This includes converting the intersection of St. John Street / Congress Street from exclusive pedestrian phasing to concurrent pedestrian phasing. The following table summarizes the capacity analysis results. The detailed analyses are included in Attachment 7C.

Level of Service Summary

Approach	Level of Service			
	AM Pre	AM Post	PM Pre	PM Post
Park / St John (S)				
Park WB	C	C	D	D
St. John NB	C	B	D	C
St. John SB	E	C	D	C
Overall	D	C	D	C
Congress / St John (S)				
Congress EB	B	C	B	C
Congress WB	B	B	B	B
St. John NB	C	C	C	C
St. John SB	C	C	C	C
Overall	B	C	B	C
Margarita's / St. John (U)				
Margarita's EB	A	A	A	A
St. John NB	A	A	A	A
St. John SB	A	A	A	A
Garage / D / St. John (U/S)				
Garage EB	A	B	A	B
D WB	A	A	A	A
St. John NB	A	A	A	A
St. John SB	A	A	A	B
Overall	N/A	A	N/A	B

Approach	Level of Service			
	AM Pre	AM Post	PM Pre	PM Post
Valley / St. John (S)				
St. John EB	B	B	B	B
St. John WB	B	B	B	B
Valley NB	B	B	B	B
Valley SB	B	B	B	B
Overall	B	B	B	B
Commercial / Valley (S)				
Fore River Pkwy EB	E	C	E	D
Commercial WB	B	B	B	B
Valley SB	B	B	B	B
Overall	D	C	D	C
Valley / Congress (U)				
Congress EB	A	A	A	A
Congress WB	A	A	A	A
Valley NB	B	B	B	B
Gilman / Congress (U)				
Congress EB	A	A	A	A
Congress WB	A	A	A	A
Gilman NB	C	B	D	D
Gilman SB	A	B	B	B
Proposed Drop-Off / Congress (U)				
Congress EB	N/A	A	N/A	A
Congress WB	N/A	A	N/A	A
Drop-Off NB	N/A	C	N/A	C
Visitor Garage / Congress (U)				
Congress EB	A	A	A	A
Congress WB	A	A	A	A
Visitor Garage NB	C	C	B	C
MOB Garage SB	A	A	A	A
Bramhall / Congress (S)				
Congress EB	A	A	B	B
Congress WB	B	B	C	C
Bramhall NE	B	B	B	B
Deering SW	B	B	B	B
Overall	B	B	B	B

S=Signalized, U=Unsignalized

As shown in the table, all approaches to the study area intersections are forecast to operate at acceptable levels of service ('D' or better) during the AM and PM peak hours. Additionally, the operation of most intersection approaches is forecast to be maintained, while some are forecast to improve from the predevelopment conditions due to adjustments to signal timing. Any intersection approaches that are forecast to decrease in operation are forecast to decrease by one level of service (e.g. 'B' to 'C').

It should be noted that the intersection of Valley Street with A Street was not included in the capacity analysis. However, the removal of the existing employee garage is anticipated to reduce the traffic volumes at this intersection by 132 trip ends during the AM peak hour and 102 trip ends during the PM peak hour, which will improve its operation.

XVIII. Queue Analysis

GP completed a queue analysis using the same Synchro/SimTraffic computer analysis software that was used for the capacity analysis. The queuing analysis involves comparing the postdevelopment 95th percentile queue lengths of the site driveway and turn lanes to the available storage lengths. The queue lengths have been rounded up to the nearest five feet. The following table summarizes the postdevelopment 95th percentile queue lengths based on SimTraffic analyses. The detailed reports are included in Attachment 7C.

Queue Analysis Summary

Approach	Storage Length (ft)	95 th Percentile Queue Length (ft)			
		AM Pre	AM Post	PM Pre	PM Post
Park / St John					
Park WB L	95	125	140	185	195
Park WB T	95	200	200	275	280
Park WB TR		225	230	410	525
St. John NB L		160	175	405	335
St. John NB LT		275	290	510	475
St. John NB R	110	165	165	185	175
St. John SB LT		740	330	340	260
St. John SB R	55	105	105	105	105
Congress / St John					
Congress EB L		200	245	195	230
Congress EB T		335	405	315	365
Congress EB R	290	165	295	140	205
Congress WB L	80	65	80	80	95
Congress WB R		100	95	135	140
St. John NB T		90	175	160	345
St. John NB TR	265	115	175	165	220
St. John SB L		135	110	110	110
St. John SB T		170	220	205	210
Margarita's / St. John					
Margarita's EB L		35	40	85	60
Margarita's EB R	125	30	55	60	60
St. John NB LT		30	100	40	100
St. John SB T		--	15	5	10

Approach	Storage Length (ft)	95 th Percentile Queue Length (ft)			
		AM Pre	AM Post	PM Pre	PM Post
Garage / D / St. John					
Garage EB LTR		15	N/A	20	N/A
Garage EB LT		N/A	145	N/A	165
Garage EB R	150	N/A	80	N/A	100
D WB LTR		40	35	45	35
St. John NB LTR		10	N/A	20	N/A
St. John NB L	100	N/A	55	N/A	50
St. John NB TR		N/A	120	N/A	165
St. John SB LTR		20	N/A	25	N/A
St. John SB L	75	N/A	60	N/A	85
St. John SB TR		N/A	160	N/A	220
Valley / St. John					
St. John EB LT		90	120	90	140
St. John EB R	110	100	120	125	140
St. John WB L	335	245	215	25	250
St. John WB TR		50	50	60	60
Valley NB L		135	160	115	120
Valley NB TR		245	225	145	165
Valley SB LT		55	50	85	40
Valley SB TR	265	70	45	130	30
Commercial / Valley					
Fore River Pkwy EB L	430	630	395	625	465
Fore River Pkwy EB L	430	640	435	640	505
Fore River Pkwy EB T		1525	330	1225	650
Fore River Pkwy EB T		1420	265	1130	570
Commercial WB T		190	195	225	215
Commercial WB T		190	185	220	205
Commercial WB R	415	80	85	60	60
Valley SB L		105	115	115	115
Valley SB R		115	120	140	145
Valley SB R		120	130	140	155
Valley / Congress					
Congress EB L	50	10	15	15	20
Congress EB TR		5	10	10	15
Congress WB L	50	20	45	35	50
Congress WB TR		5	5	15	5
Valley NB LT		60	55	80	70
Valley NB R	170	55	60	65	55
Gilman / Congress					
Congress EB TR		45	30	30	30
Congress WB T		25	--	30	40
Congress WB L	65	65	45	75	65
Gilman NB LTR		100	70	200	105
Gilman SB LTR		45	50	55	60

Approach	Storage Length (ft)	95 th Percentile Queue Length (ft)			
		AM Pre	AM Post	PM Pre	PM Post
Proposed Drop-Off / Congress					
Congress EB TR		N/A	20	N/A	--
Congress WB LT		N/A	85	N/A	115
Drop-Off NB LR		N/A	55	N/A	75
Visitor Garage / Congress					
Congress EB		100	110	30	45
Congress WB		30	35	40	55
Visitor Garage NB		55	50	70	65
MOB Garage SB		25	25	70	70
Bramhall / Congress					
Congress EB L		50	50	120	140
Congress EB TR	400	190	200	215	265
Congress WB L		135	135	180	160
Congress WB TR	65	105	105	105	105
Congress WB L		100	100	105	85
Bramhall NE TR	135	125	125	150	145
Deering SW L		105	120	235	230
Deering SW TR	50	85	85	85	90

As shown in the table, the 95th percentile queue lengths can be accommodated by the storage lengths for most approaches. Some queue lengths exceed the available storage lengths in both the predevelopment and postdevelopment conditions. The 95th percentiles are not forecast to increase by more than three vehicles for most approaches, assuming the length of a vehicle and the associated gap between vehicles is equal to 25 feet. In addition, there are several lanes which are forecast to have improved queue lengths, likely due to the redistribution of traffic in the study area and the modifications to signal timing. The 95th percentile queue length of the proposed Congress Street drop off is not forecast to exceed four vehicles during the AM or PM peak hours.

XIX. Sight Line Evaluation

As discussed in Sections I-6, the existing sight distances at the proposed drop-off appears to meet City and MaineDOT criteria for 25 mph. The sight distances should continue to be evaluated through the design process to ensure no signs, landscaping or structures will create sight distance deficiencies.

XX. Crash Summary Data

Gorrill Palmer obtained the crash data from MaineDOT for the period of 2015-2017, the most recent period available (See Section 2 of Sections 1-6, Attachment 2A).

In order to evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met in order to be classified as an HCL.

1. A critical rate factor (CRF) of 1.00 or more for a three year period. A CRF compares the actual crash rate to the rate for similar intersections in the state. A CRF of less than 1.00 indicates a rate of less than average **and**:
2. A minimum of eight crashes over the same three year period.

Based on the crash data provided by MaineDOT, there are seven high crash locations in the vicinity of the study area:

- Intersection of Park Avenue with Valley Street
- Intersection of Congress Street with Gilman Street
- Intersection of St. John Street with A Street
- Intersection of Park Avenue with St. John Street
- Valley Street from A Street to C Street
- Congress Street from Forest Street to Weymouth Street
- St. John Street from Congress Street to Non-Intersection (just south of Park Avenue)

To better evaluate the high crash locations and identify correctable crash patterns, the police reports for these locations were provided by MaineDOT and used to create collision diagrams, included as an attachment to this section. The following discusses the high crash locations as well as pedestrian and bicycle crashes in more detail.

Park Avenue / Valley Street

This intersection has a CRF of 1.80 and experienced 10 collisions during the most recent three-year period. It is an unsignalized intersection that is STOP controlled on Valley Street with free flowing traffic on Park Avenue. The northbound Valley Street approach is one-way into the intersection.

There is one crash pattern at this intersection involving vehicles turning left from northbound Valley Street onto westbound Park Avenue and colliding with vehicles

traveling westbound on Park Avenue. Potential mitigation for this crash pattern may include restricting left turns out of Valley Street.

Additionally, one collision that occurred at this intersection involved a pedestrian and one involved a bicyclist. The traffic from the proposed MMC expansion is not expected to exacerbate this pattern.

Congress Street / Gilman Street

This intersection has a CRF of 3.26 and experienced 20 collisions during the most recent three-year period. It is an unsignalized intersection that is STOP controlled on the Gilman Street approaches with free flowing traffic on Congress Street. The southbound Gilman Street approach is one-way into the intersection. Based on a review of the collision diagram there are three crash patterns at this intersection; southbound through traffic on Gilman Street failing to yield to eastbound through traffic on Congress Street, southbound through traffic on Gilman Street failing to yield to westbound through traffic on Congress Street, and rear end collisions involving eastbound Congress Street traffic.

There were four collisions that involved southbound through traffic on Gilman Street failing to yield the right of way to the eastbound through traffic on Congress Street and three collisions that involved vehicles coming from the same direction failing to yield the right of way to westbound through traffic on Congress Street. These types of collisions may be due to the buildings along Congress Street blocking the sight distance of the southbound traffic. Because the MMC employee parking is being relocated to St. John Street, both the AM and PM total entering traffic volume for this intersection will be decreased from the Predevelopment condition to the Postdevelopment condition.

There were three rear end collisions on Congress Street eastbound. All three were caused by drivers following too closely and/or driver inattention. Additionally, all three collisions involved vehicles stopping for pedestrians in the crosswalk. It is possible that the removal of the traffic signal at the intersection of Congress Street with Valley Street may improve this crash pattern. The crosswalk is located close to the currently signalized intersection. After a vehicle passes through a signalized intersection, they do not anticipate stopping again immediately, which could be a contributing factor of the rear end collisions. If the signal is removed, drivers may be more likely to anticipate stopping. Additionally, if the signal is removed, it may reduce the time that vehicles are queued over the crosswalk, which reduces the time that pedestrians may walk between queued vehicles or be blocked from view by the queue.

St. John Street / A Street

This intersection has a CRF of 1.82 and experienced 8 collisions during the most recent three-year period. It is an unsignalized four-leg intersection with two-way traffic on all

approaches. Based on a review of the collision diagram, there were no correctable crash patterns identified at this intersection. It should be noted that with the removal of the existing employee garage and the construction of the proposed employee garage, the traffic patterns at the intersection are forecast to change (decrease in traffic volume), which may reduce crashes.

Park Avenue / St. John Street

This intersection has a CRF of 1.63 and experienced 36 collisions during the most recent three-year period. It is a signalized four-leg intersection with two-way traffic on all approaches, with the exception of Park Avenue to the east of St. John Street, which is one way away from the intersection. Based on a review of the collision diagram, there are four crash patterns at this intersection.

One crash pattern involved vehicles in the northbound St. John Street left turn lane attempting to go straight through the intersection from the left-most lane and colliding with left turning vehicles in the adjacent left-through lane. There were 13 such crashes at this intersection during the most recent three year period. Most of the drivers that incorrectly attempted to travel through the intersection claimed that they believed they could travel through the intersection from that lane. Overhead lane use signing for the northbound approach mounted next to the traffic signal heads similar to the existing signs facing the westbound and southbound approaches to this intersection may help reduce driver lane confusion.

Another crash pattern was northbound left turning vehicles sideswiping one another while traveling in the left turn lane and left-through lane from the northbound St. John Street approach to the intersection. Six of these crashes occurred at this intersection during the most recent three year period. There is already a skip line striping between the left turn lane and the left-through lane through the intersection. Many of the crashes involved in the two crash patterns discussed at this intersection so far occurred either during the winter or in the spring when the striping of the skip line may have faded away. Re-striping the skip line more frequently may help left turning vehicles stay in their own lane while completing the turn and it also may help vehicles in the left turn lane realize that they cannot travel through the intersection.

A third crash pattern at this intersection involves right angle collisions between westbound through vehicles on Park Avenue failing to yield to northbound through vehicles on St. John Street. Three of these crashes occurred at this intersection during the most recent three year period. All three collisions involved the westbound Park Avenue vehicle running the red light. Additional signage on Park Avenue may improve this pattern.

The fourth crash pattern at this intersection involved rear-end collisions involving vehicles at the northbound approach to this intersection. One potential contributing factor to rear end collisions at signalized intersections is inadequate signal clearance times. This crash pattern may be mitigated by reviewing the signal timings of this intersection to assure that adequate signal clearance times are provided for this approach.

Valley Street from A Street to C Street

This roadway link has a CRF of 2.89 and experienced 8 collisions during the most recent three-year period. There were no correctable crash patterns identified, however there were five crashes involving parked vehicles. Of the five crashes involving parked vehicles, three crashes involved vehicles that were parked illegally. Stricter enforcement of the parking regulations may help reduce the number of crashes along this segment of Valley Street. It should also be noted that there was one crash involving a pedestrian at this location during the most recent three year period.

Congress Street from Forest Street to Weymouth Street

This section of Congress Street has a CRF of 1.45 and experienced 10 collisions during the most recent three-year period. Based on a review of the collision diagram there is one crash pattern of rear end collisions in the eastbound direction. Of the 10 collisions, five were rear end collisions on Congress Street eastbound. The five collisions were caused by drivers following too closely. There are multiple driveways in this roadway segment, including an entrance to the Maine Medical Center visitor parking garage.

An overall review of the collisions showed that there were 9 collisions that occurred on a weekday and of those, 2 occurred during the AM peak commuter hour and 4 occurred during the PM peak commuter hour, when traffic volumes are heaviest. Additionally, one of the collisions that occurred in this area involved a bicyclist.

Restriping of this section of Congress Street to include a center turn lane may be an alternative to be pursued to improve this section of Congress Street.

St. John Street from Congress Street to Non-Intersection (just south of Park Avenue)

This section of St. John Street has a CRF of 3.00 and experienced 30 collisions during the most recent three-year period. Based on a review of the collision diagram, there are two crash patterns.

The first crash pattern involves sideswipe crashes involving vehicles traveling northbound on St. John Street, which are caused by vehicles making lane changes.

Of the 30 collisions, 17 involved vehicles attempting to turn left onto St. John Street from various driveways. There are many driveways on this link of St. John Street including McDonald's, Amato's, Sullivan Tire, Dunkin' Donuts, Lang's Express, Salty Sally's Bare and Grille and Portland Physical Therapy. Of the 30 crashes in this roadway segment, two involved left turns into driveways from St. John Street.

In a recent Traffic Impact Study completed by Maine Traffic Resources for a Dunkin Donuts relocation project in this section of St. John Street, a "road diet" was recommended that would include a single travel lane in each direction with a center turn lane. Gorrill Palmer supports that recommendation.

Pedestrian Collisions

There were 22 collisions involving pedestrians throughout the study area. Of those, 15 occurred when the pedestrian was within the marked crosswalk, seven of which involved one vehicle rear ending another that was yielding to the pedestrian. Several of the collisions involved pedestrians crossing without the walk sign at a signalized intersection, or abruptly entering the intersection. Others involved vehicles failing to yield to the pedestrians in the crosswalks. The attached Figure A in Attachment 7D shows the locations of the pedestrian collisions. Several of the pedestrian involved collisions appear to be located at or near the intersection of Congress Street with Bramhall Street. Most of these collisions occurred after dark. Although there is lighting at the intersection, additional lighting may improve pedestrian visibility. Additionally, three of the rear end collisions due to vehicles yielding to pedestrians in the crosswalk occurred on Congress Street at Gilman Street, discussed above.

Bicycle Collisions

There were 9 collisions involving bicyclists throughout the study area. One collision involved a bicyclist riding in a bike lane being struck by a turning vehicle on Park Avenue. Several of the collisions involved bicyclists riding in the roadway, but not following traffic rules. The bicycle crashes are also shown on the attached Figure A.

XXI. Left Turn Lane Evaluation

The need for a left turn lane on Congress Street at the proposed drop-off has been evaluated using two different sources. The first was Figure 8-19 from the MaineDOT Highway Design Guide, "Volume Warrants for Left-Turn Lanes at Unsignalized Intersections on 2-Lane Highways (40 mph)." Although the speed limit on Congress Street is unposted and assumed to be 25 mph, the 40 mph warrant is the lowest speed chart available for reviewing left turn lanes. This yields a conservative lane warrant evaluation. Based on a review of the evaluation, a left turn lane is warranted during the

AM peak hour and is not warranted in the PM peak hour. The detailed evaluation is included in Attachment 7D.

The second source was the National Cooperative Highway Research Program (NCHRP) 457, Figure 2-5 “Guideline for determining the need for a major-road left-turn bay at a two-way stop controlled intersection.” This figure allows for the use of the assumed 25 mph speed limit. This evaluation supported the MaineDOT evaluation and indicated that the warrant is met in the AM peak hour but is not warranted in the PM peak hour. The detailed evaluation is included in Attachment 7D.

In addition to the two formal left turn lane warrant evaluations, the turning movements and crash history on the corridor were also considered in determining if left turn treatment should be considered. As discussed in the previous section, Congress Street in front of the proposed drop-off is a high crash location, with a crash pattern of rear end collisions. Additionally, the left turn volumes within this segment of Congress Street are shown on Figure 18 in Attachment 7A. Based on the left turn lane evaluation the crash history, and the left turn volumes, a center two way left turn lane is recommended on Congress Street from Forest Street to Weymouth Street.

XXII. Executive Summary

1. The proposed development is forecast to generate 126 trip ends during the AM peak hour of the generator, 152 trip ends during the PM peak hour of the generator, and 172 trip ends during the Saturday peak hour of the generator. This level of trip generation requires a MaineDOT traffic movement permit.
2. All study area intersection approaches are forecast to operate at acceptable levels of service in the Postdevelopment conditions. Additionally, for signalized intersections, we recommend that timing and phasing of the study area intersections be adjusted as needed upon completion of the MMC expansion.
3. Overall, the 95th percentile queue lengths are not forecast to exceed the predevelopment queue lengths by more than three vehicles for most approaches. For many approaches, the 95th percentile queue lengths are forecast to decrease from the predevelopment conditions due to both the redistribution of traffic throughout the study area and the optimization of signal timing.
4. The existing sight distances at the proposed Congress Street drop off appear to meet MaineDOT and City of Portland Standards.

5. The MaineDOT crash data indicates that there are seven high crash locations in the study area:
 - Intersection of Park Avenue with Valley Street
 - Intersection of Congress Street with Gilman Street
 - Intersection of St. John Street with A Street
 - Intersection of Park Avenue with St. John Street
 - Valley Street from A Street to C Street
 - Congress Street from Forest Street to Weymouth Street
 - St. John Street from Congress Street to Non-Intersection (just south of Park Avenue)

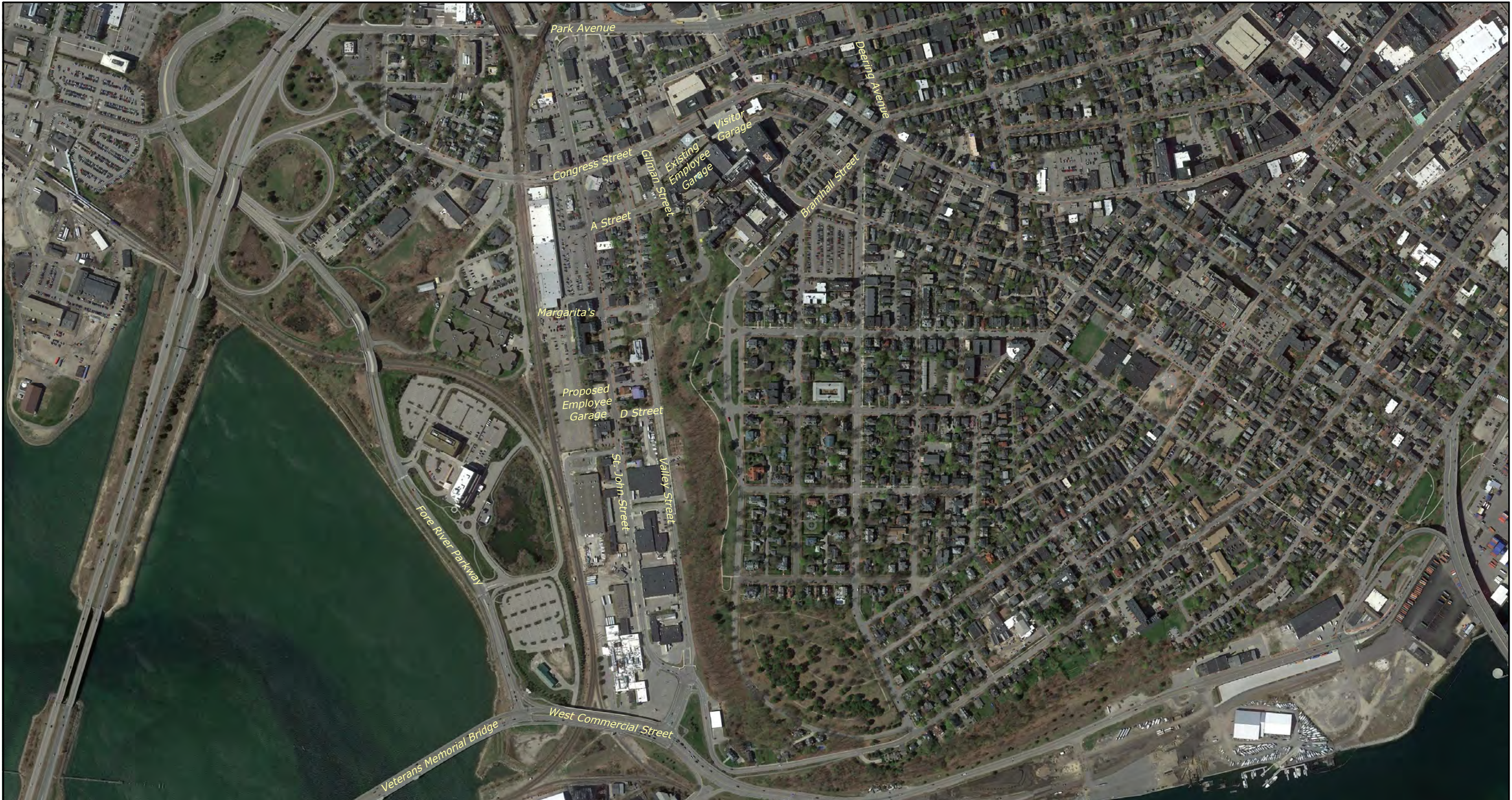
6. Based on a review of the MaineDOT and NCHRP left turn lane warrants at the proposed Congress Street drop-off / pick-up loop, as well as the crash history and the left turning volumes at adjacent intersections on Congress Street, a center two way left turn lane is recommended on Congress Street from Forest Street to Weymouth Street.

7. Overall, the proposed expansion is forecast to have a moderate impact on the surrounding roadway network; however, the surrounding roadway network has the capacity to accommodate the proposed project.

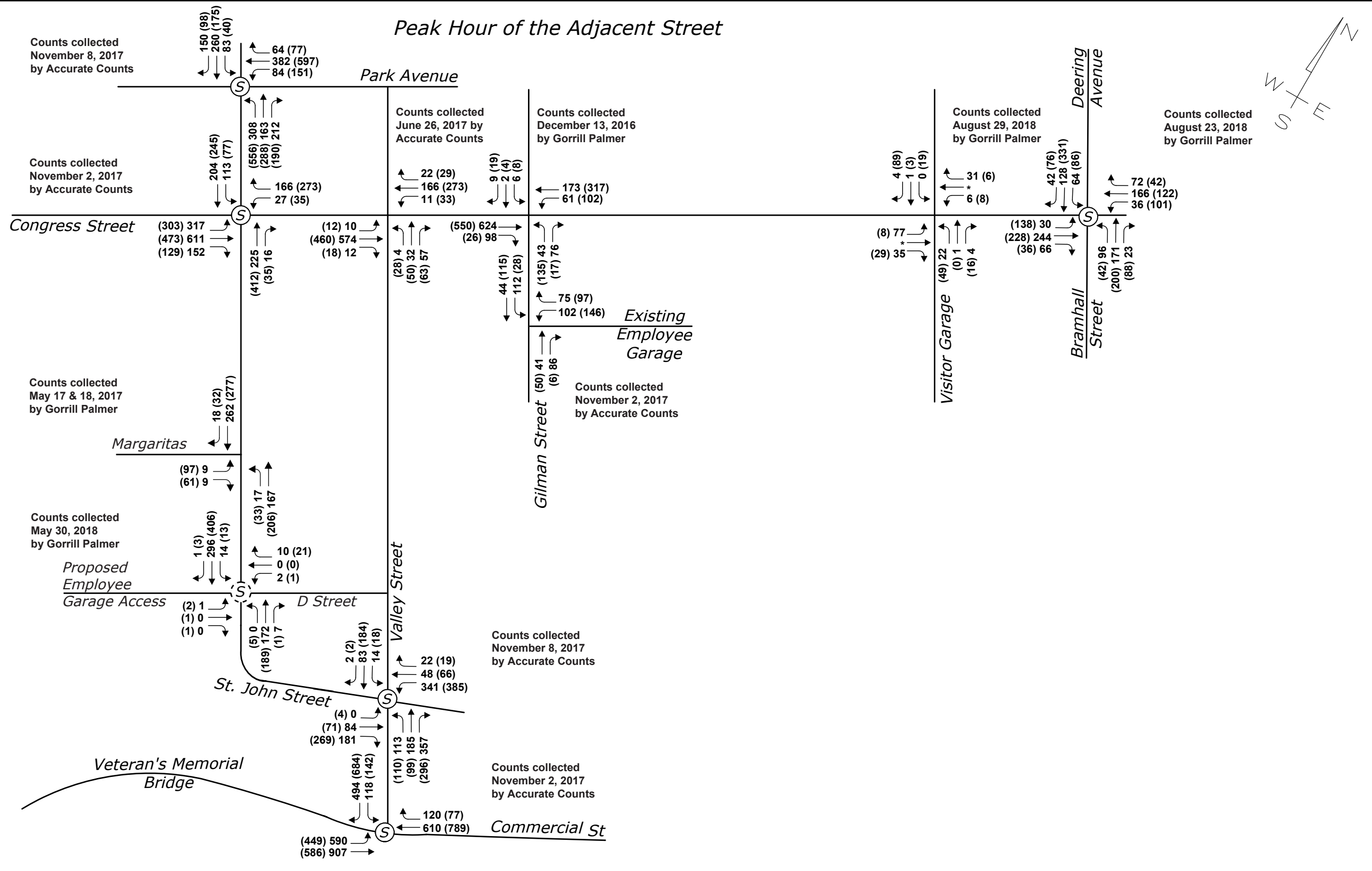
Attachment 7A

Site Location Map
Turning Movement Figures
VHB Travelshed

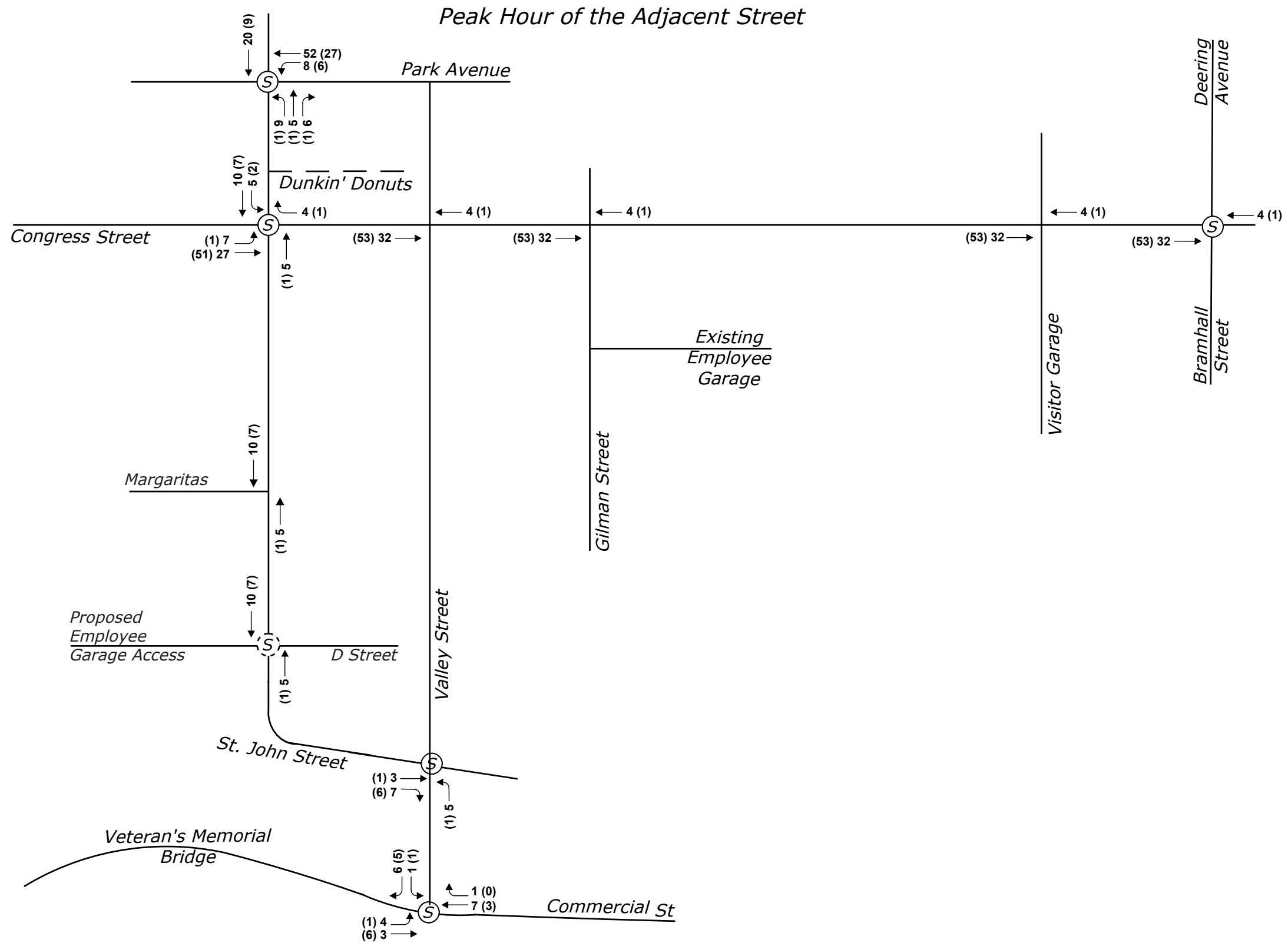
Location Map



**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

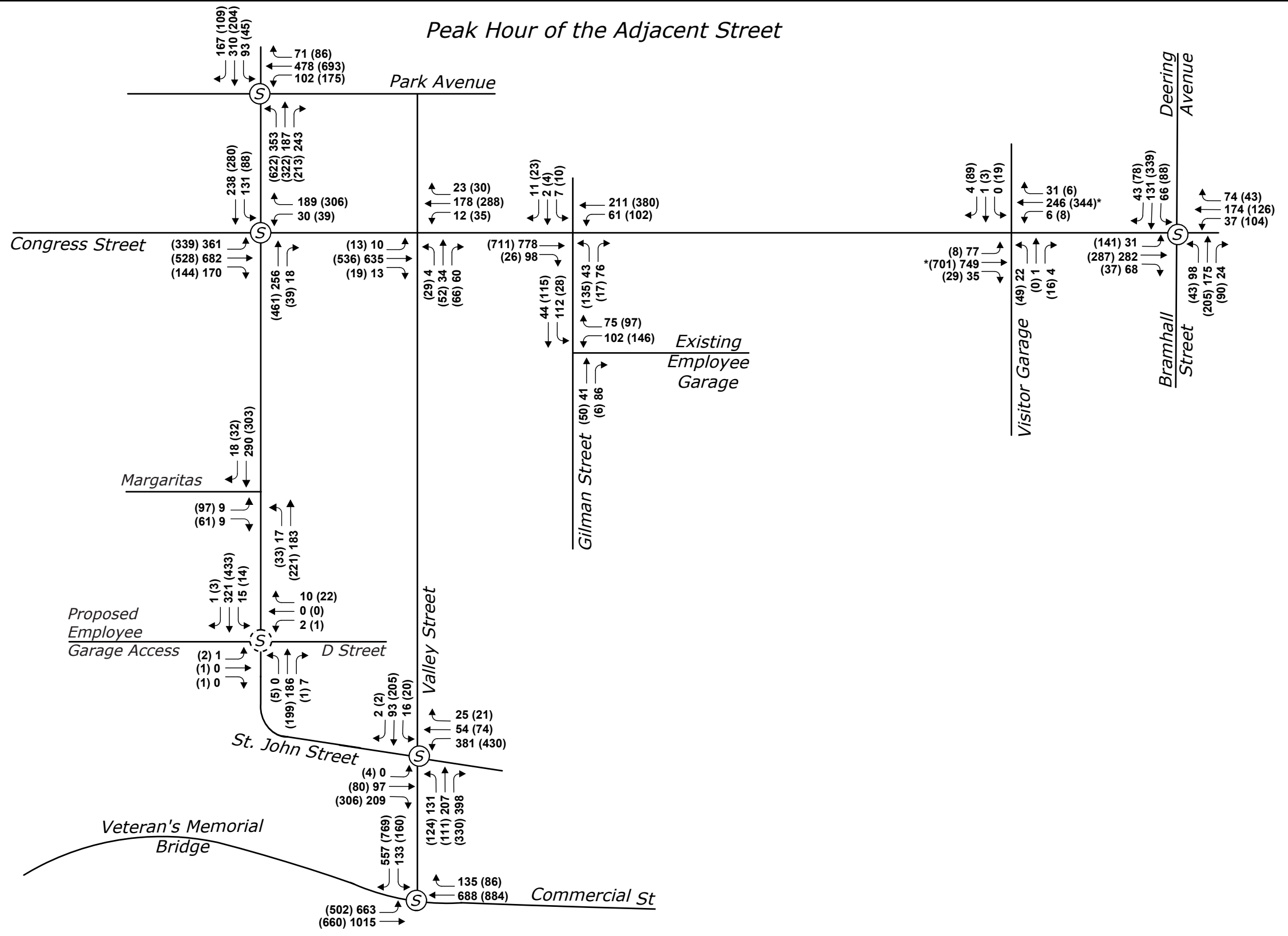


**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**



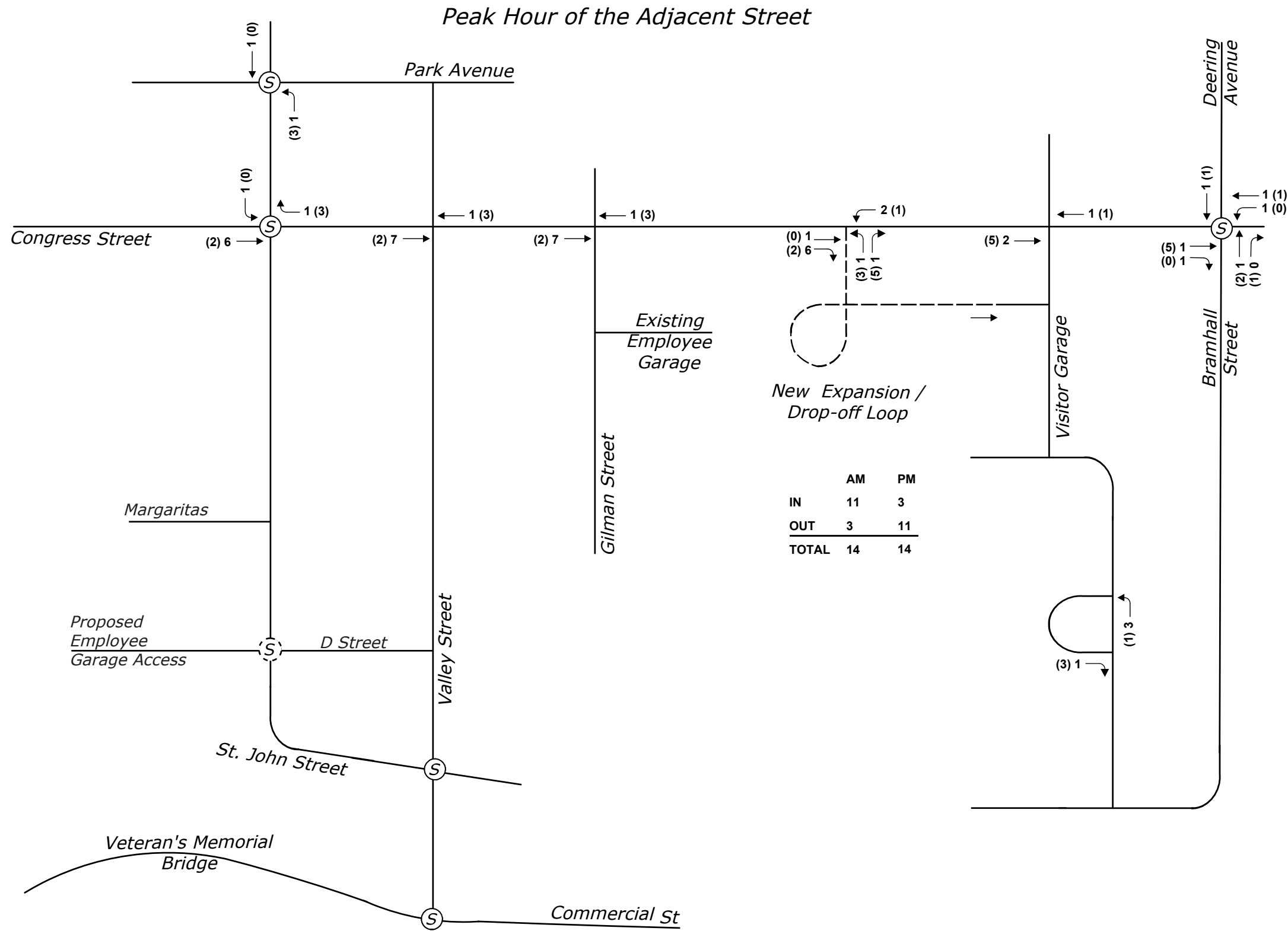
Proposed Signalized Intersection
 Denotes Signalized Intersection
 XX = AM Peak Hour of Adjacent Street
 (XX) = PM Peak Hour of Adjacent Street

**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**



Bramhall St. - 22; MMC Congress Street Building PORTLAND, MAINE

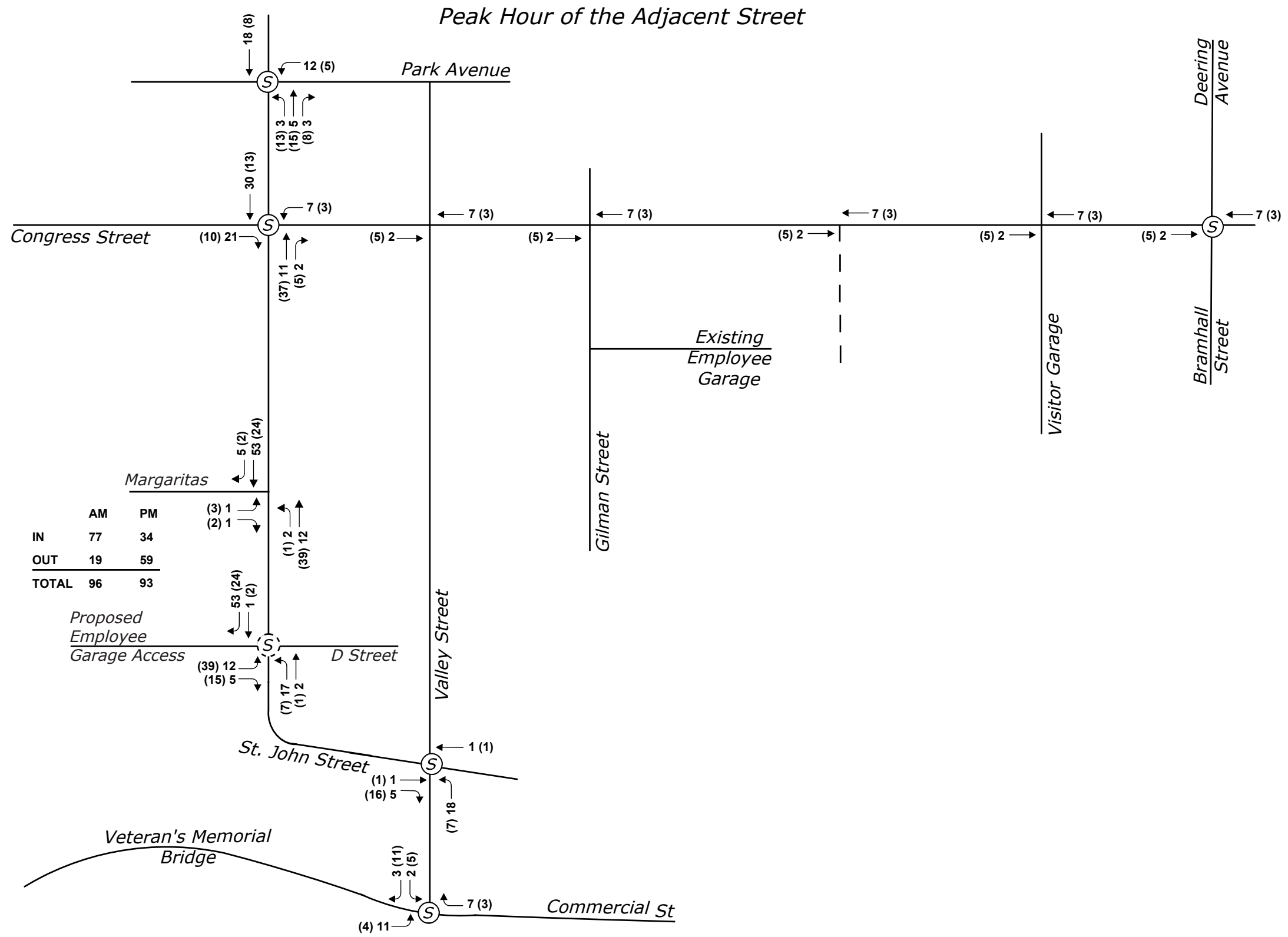
Phase 3 Patient/Visitor Assignment



Proposed Signalized Intersection
 Denotes Signalized Intersection
 XX = AM Peak Hour of Adjacent Street
 (XX) = PM Peak Hour of Adjacent Street

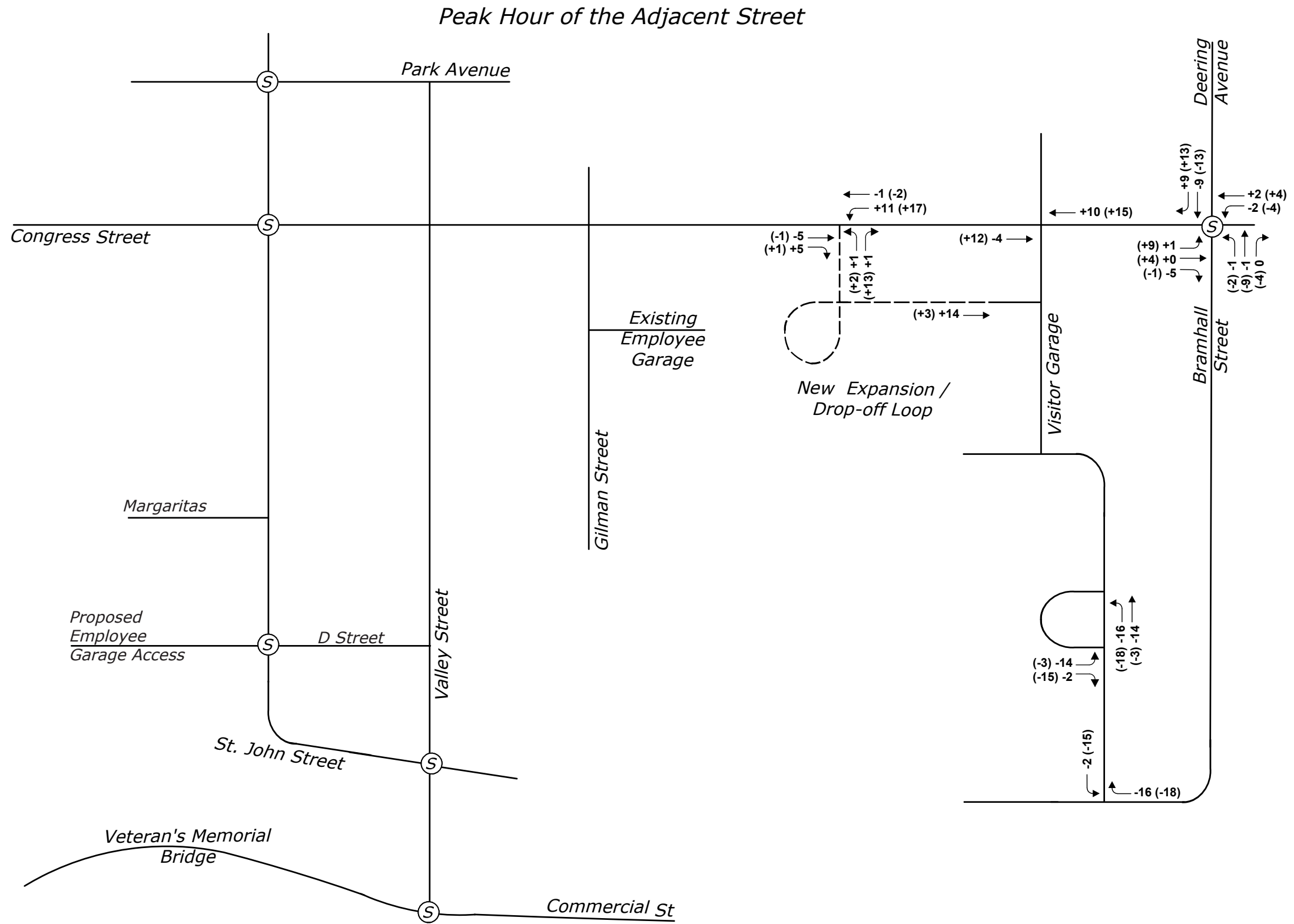
**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

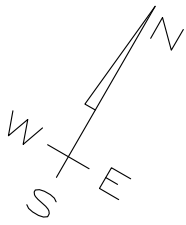
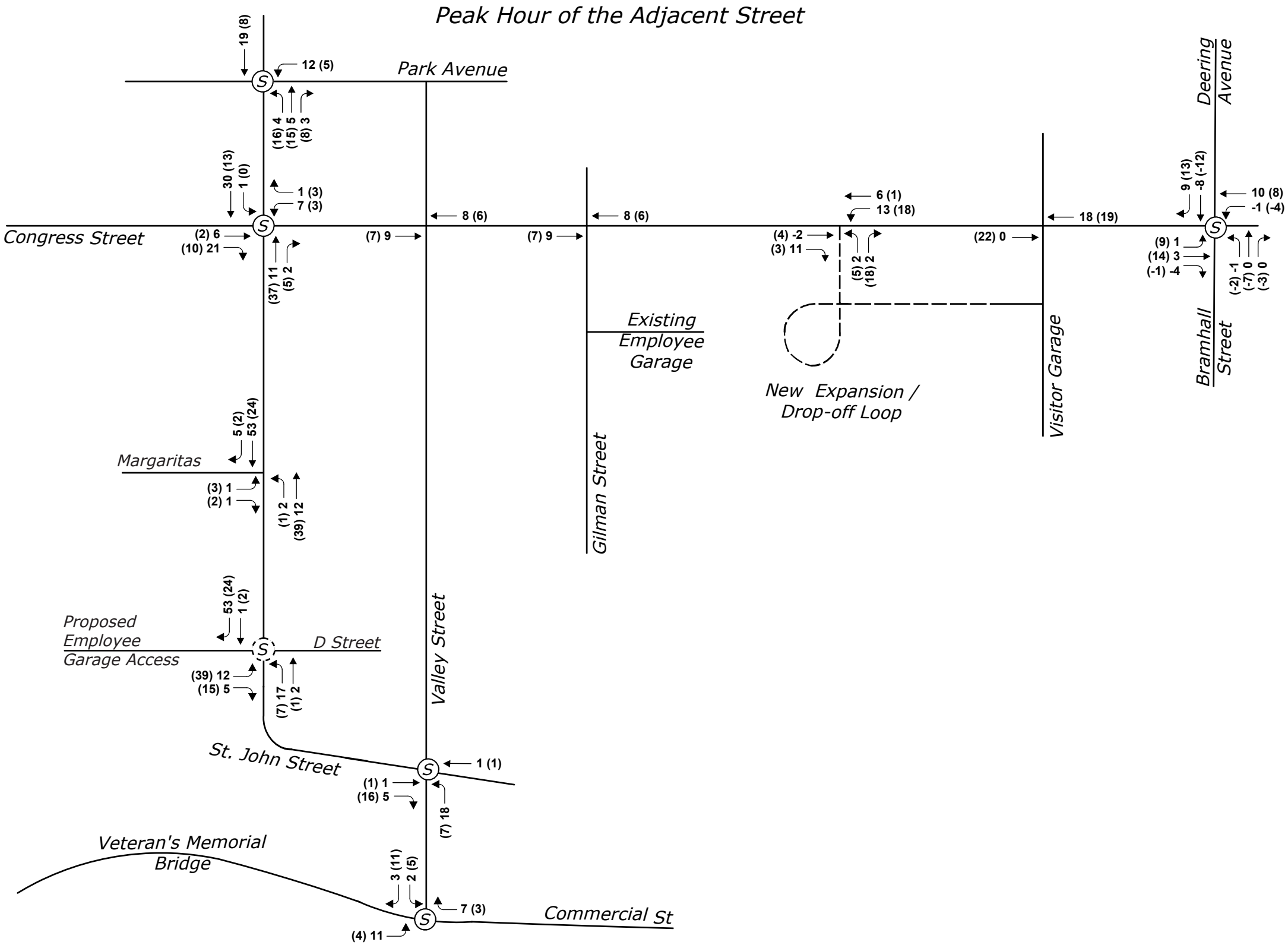
Phase 3 Employee Trip Assignment



**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

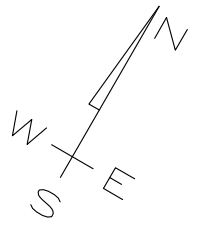
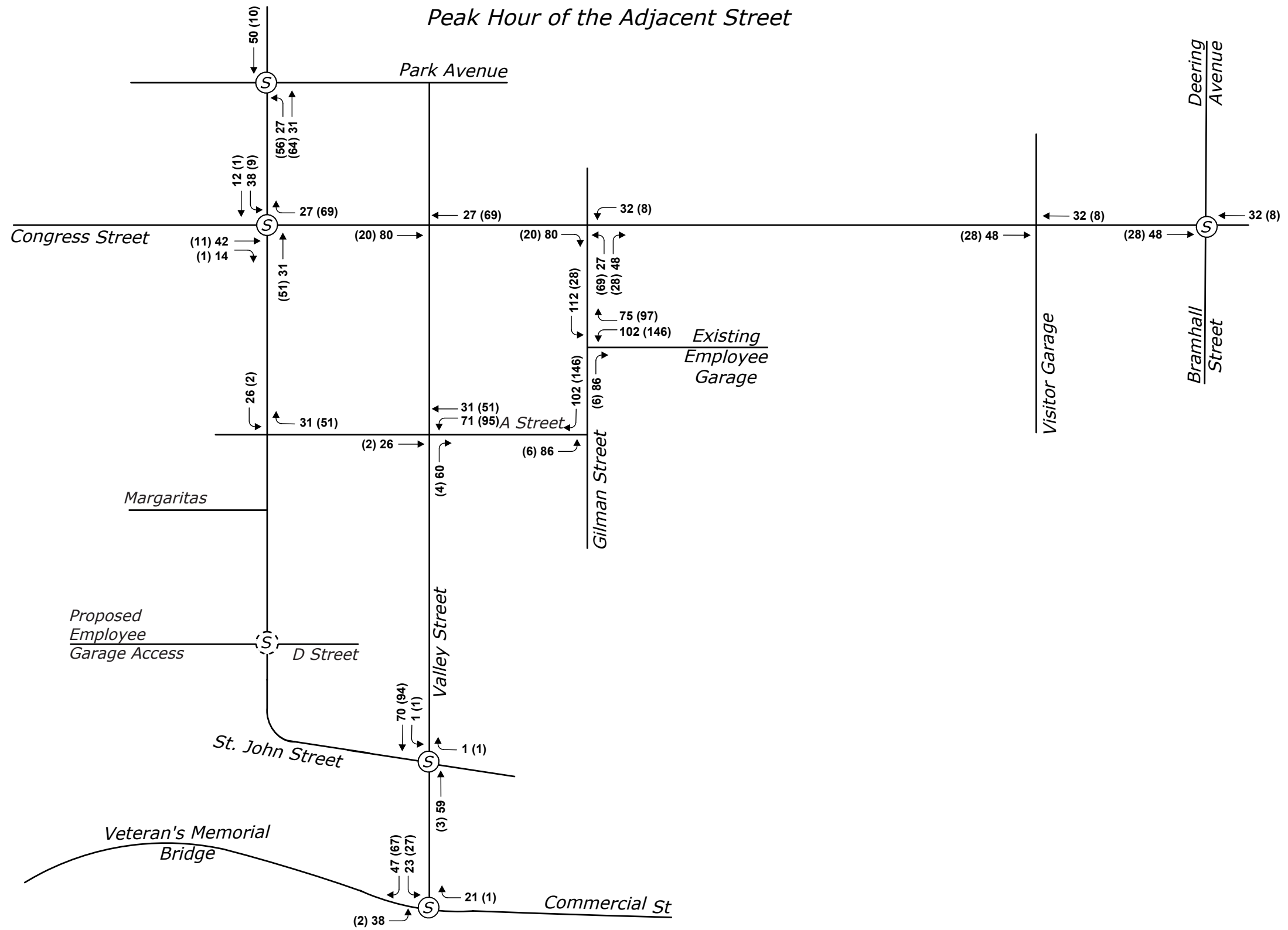
Phase 3 Drop Off Reassignment





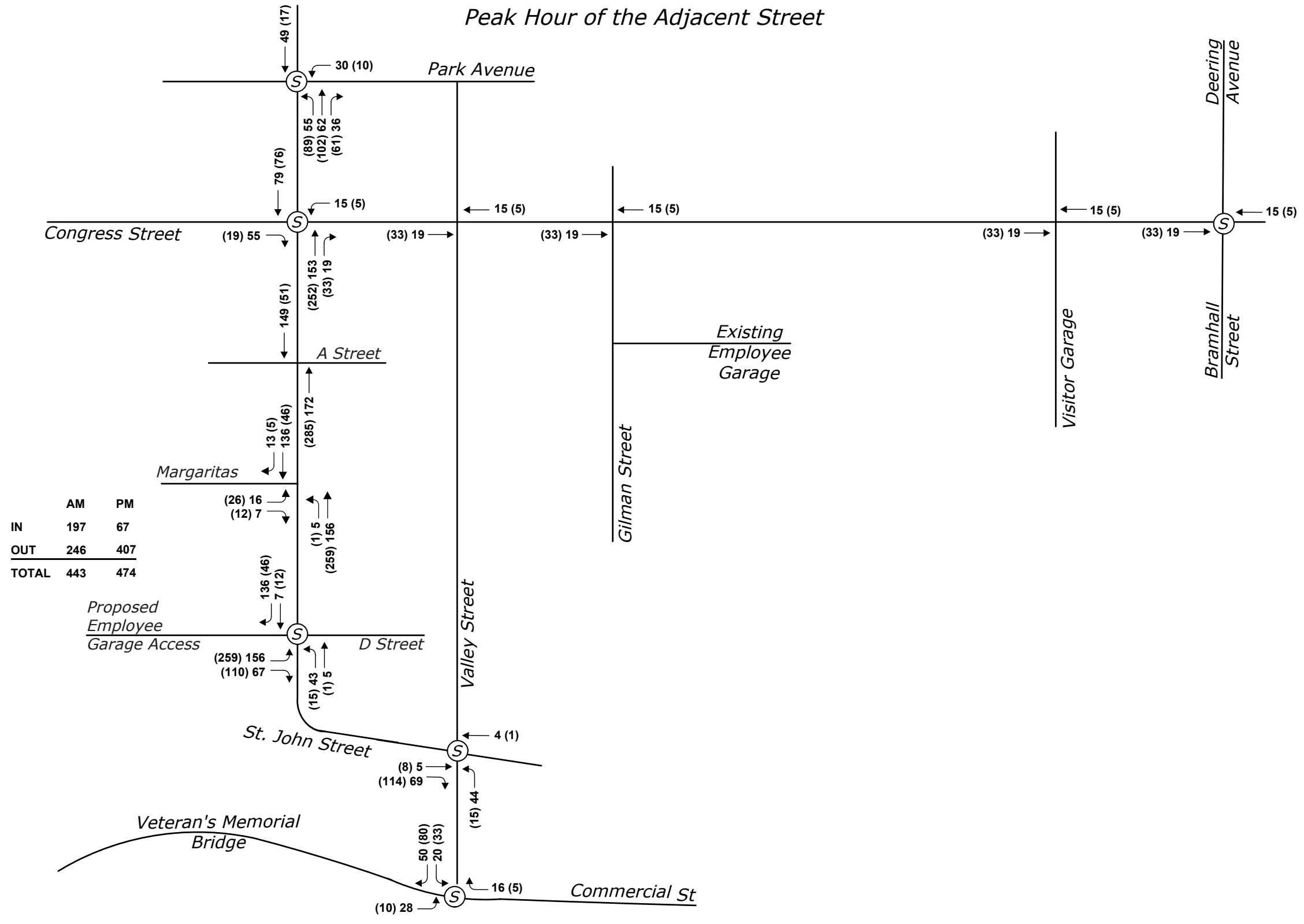
**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

Existing Employee Garage Assignment



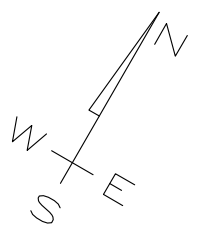
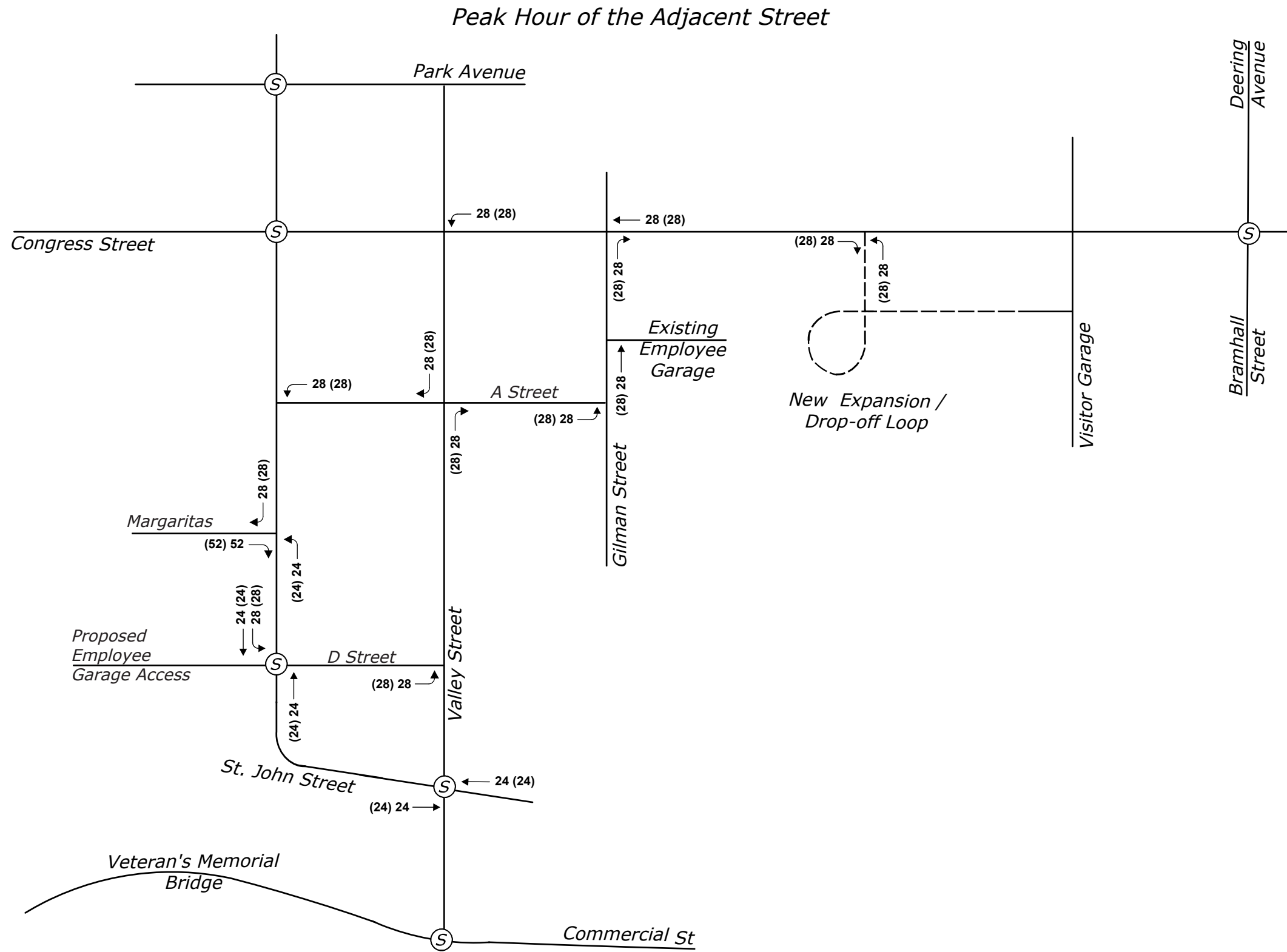
**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

Proposed Garage Reassignment



**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

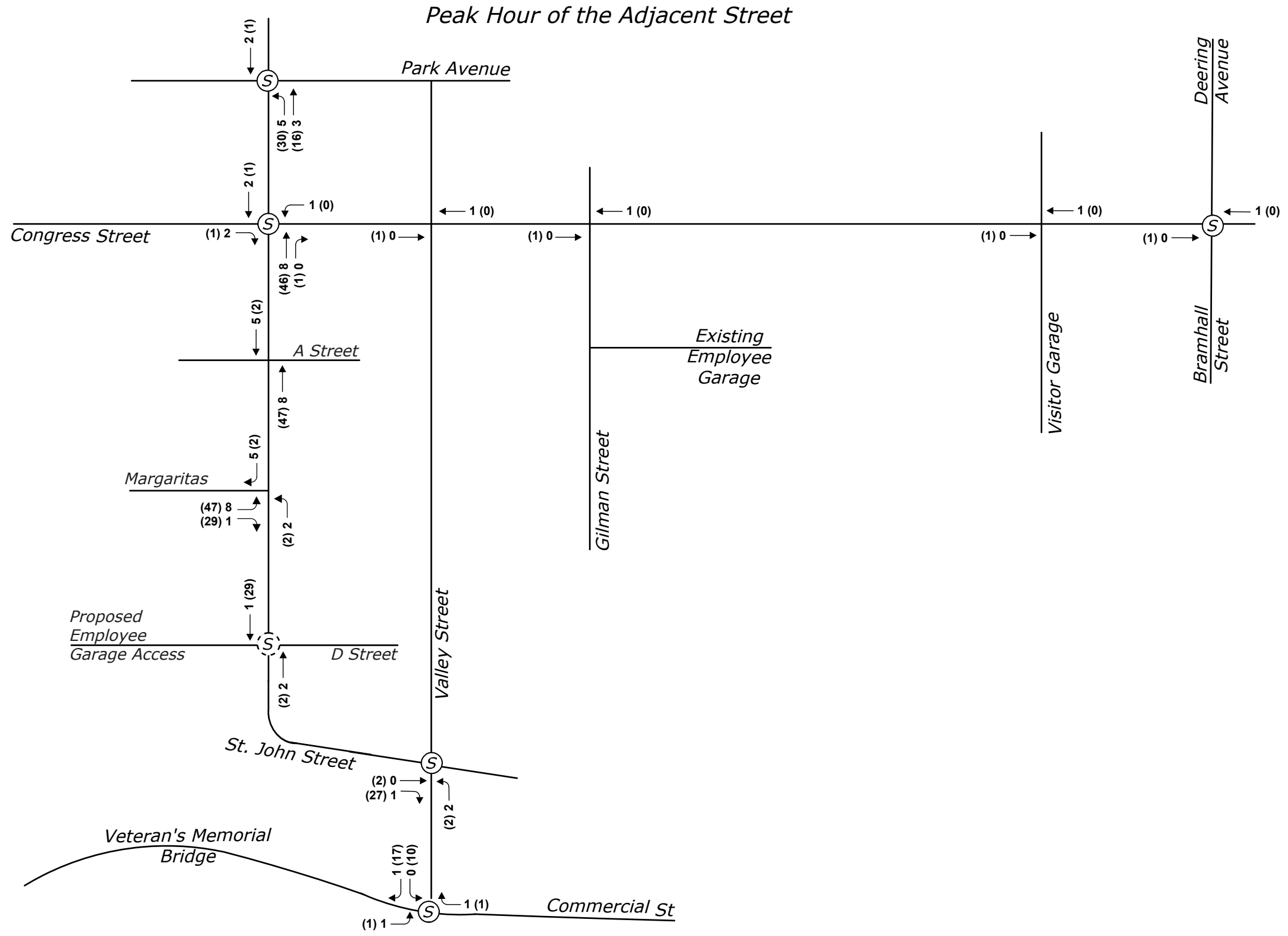
Shuttle Assignment



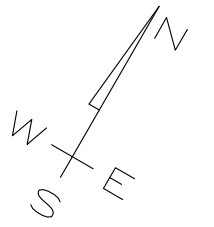
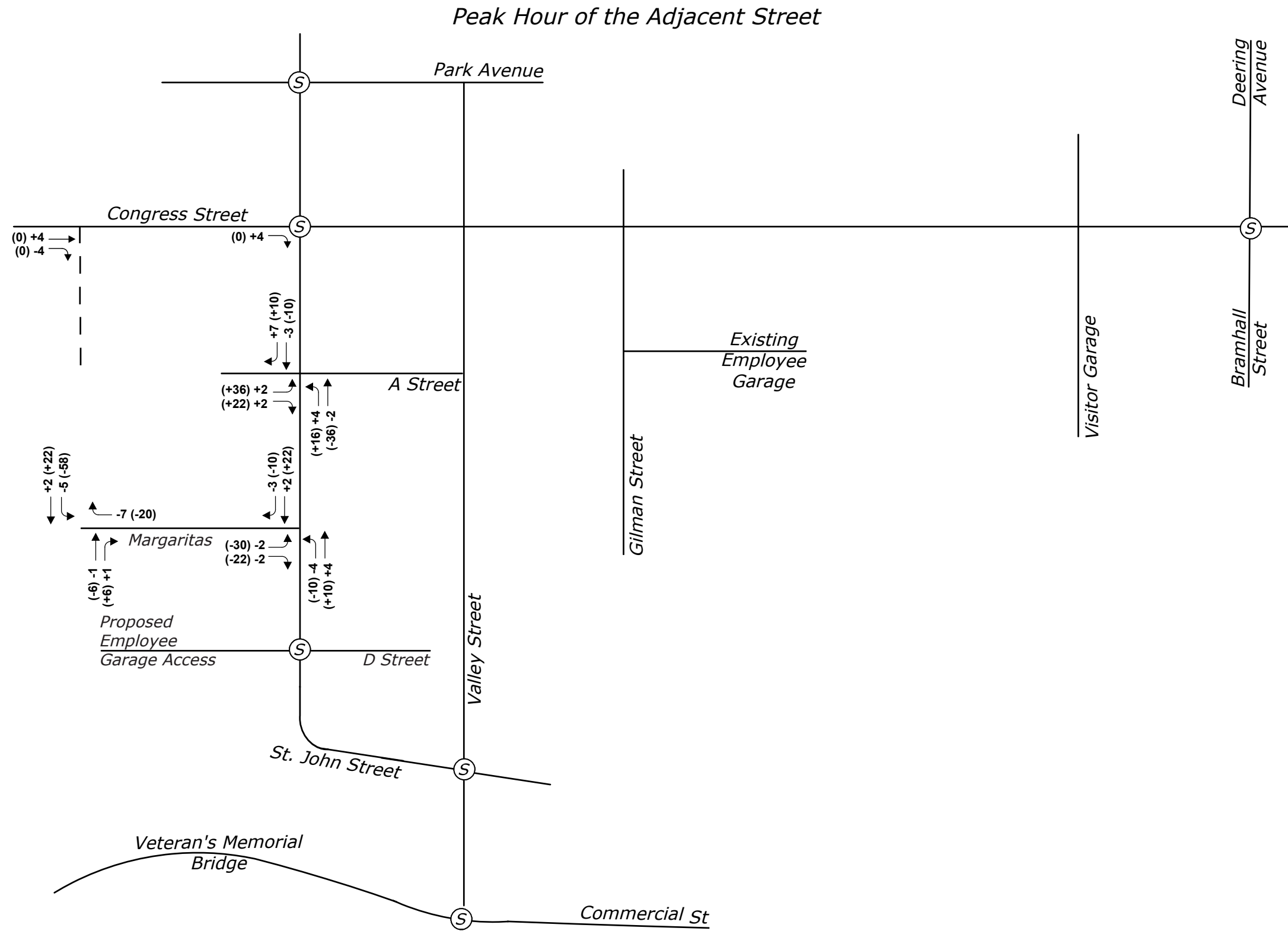
Proposed Signalized Intersection
 Denotes Signalized Intersection
 XX = AM Peak Hour of Adjacent Street
 (XX) = PM Peak Hour of Adjacent Street

**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

222 St. John Existing MMC Traffic

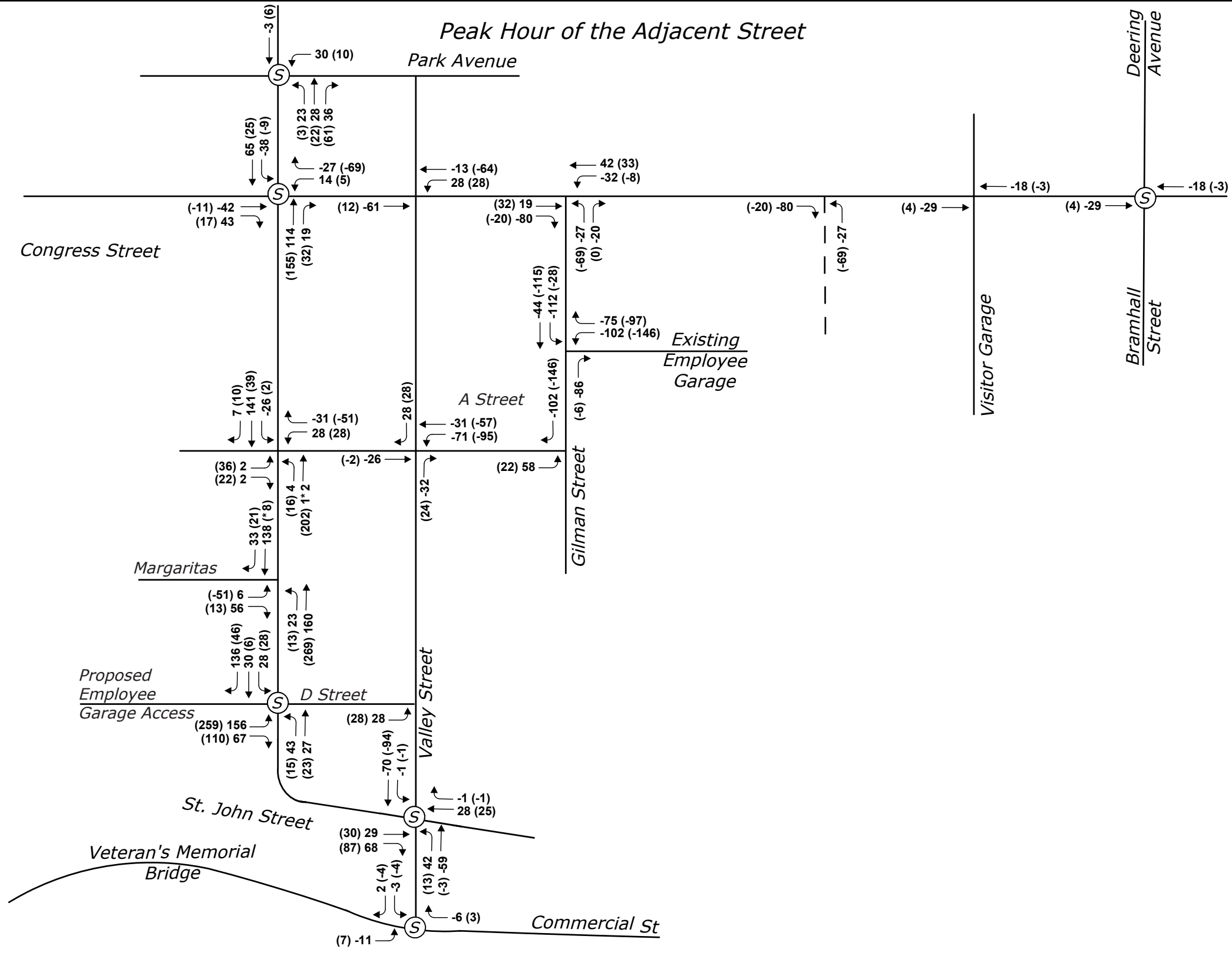


**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

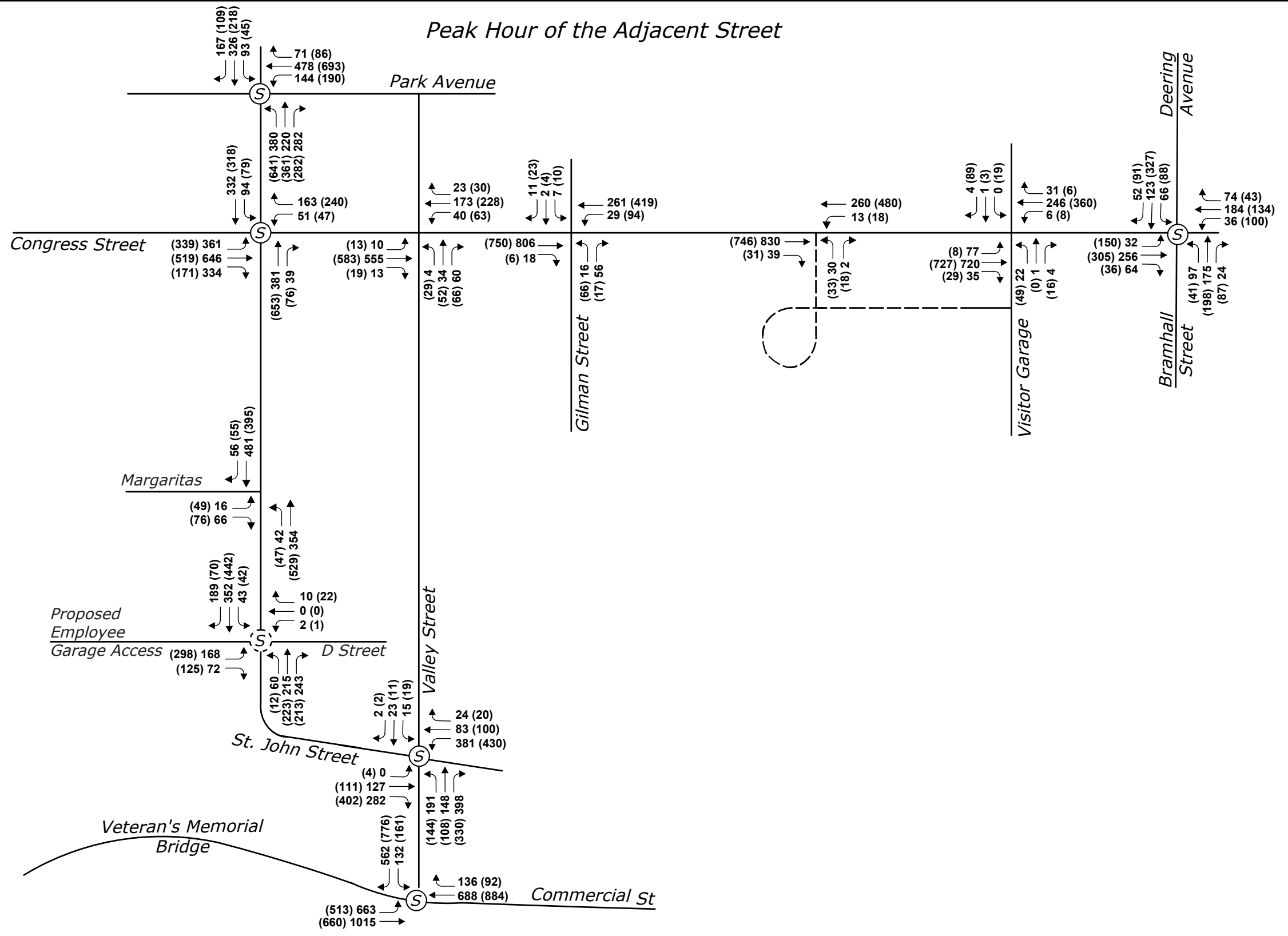


**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

Net Impact Due to Proposed Employee Garage



**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

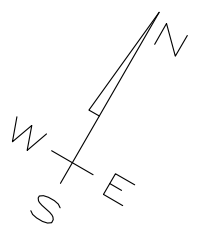
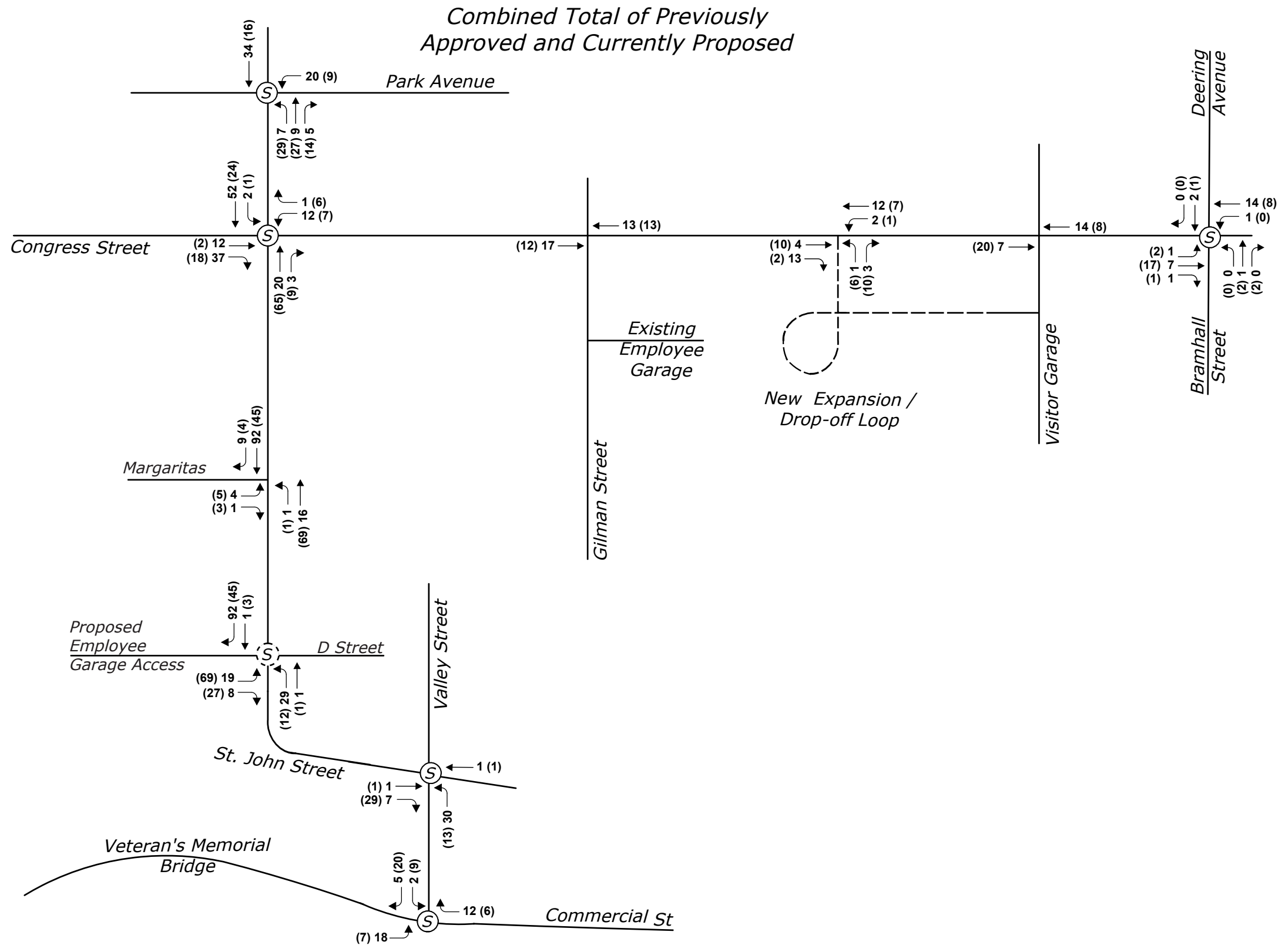


* Through volumes based on volumes at adjacent intersections.

⊙ Proposed Signalized Intersection
 ⊙ Denotes Signalized Intersection

XX = AM Peak Hour of Adjacent Street
 (XX) = PM Peak Hour of Adjacent Street

**Bramhall St. - 22; MMC Congress Street Building
 PORTLAND, MAINE**

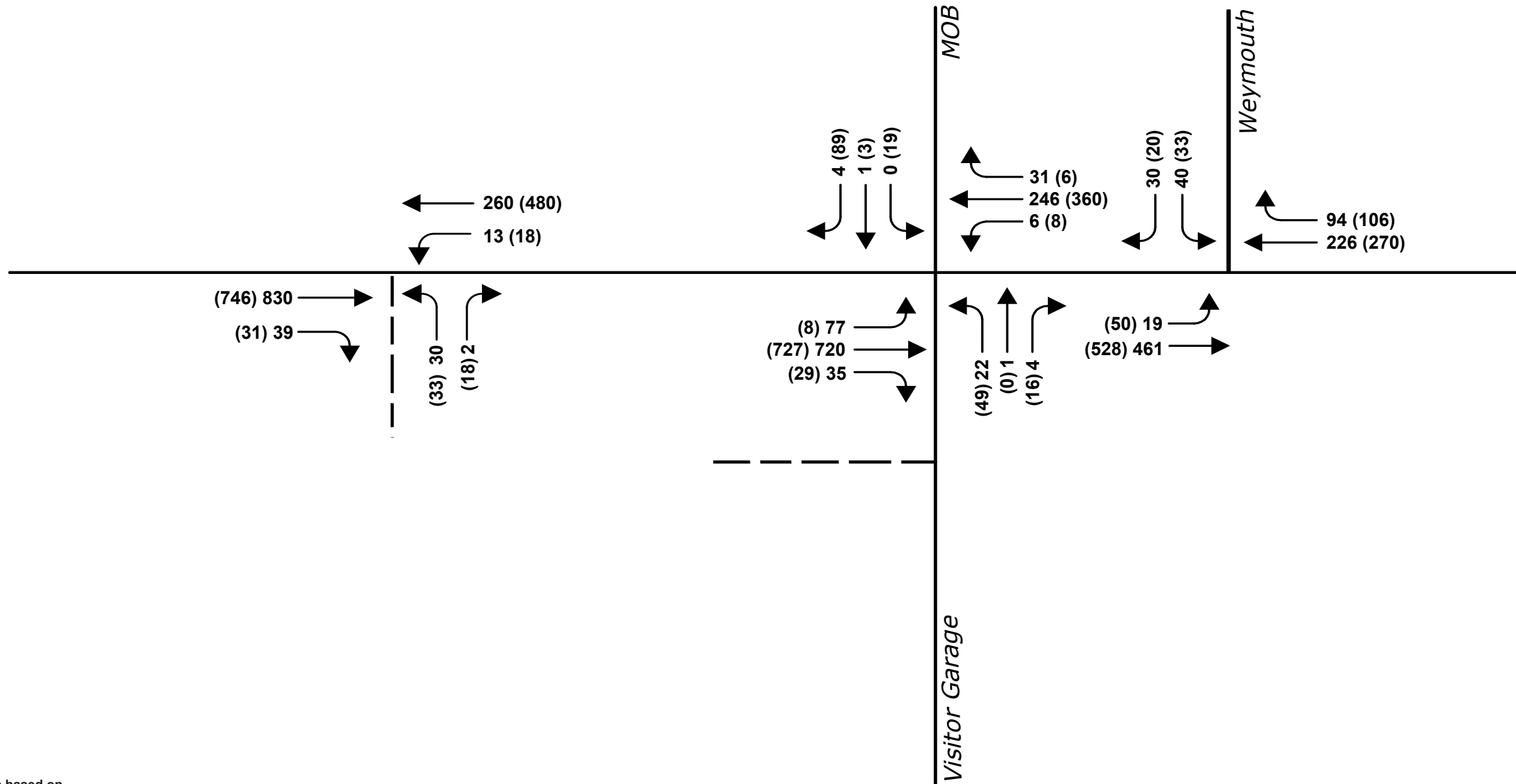
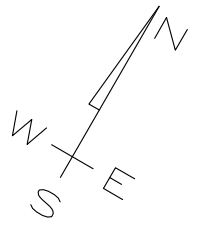


	AM	PM
IN	150	67
OUT	37	124
TOTAL	187	191

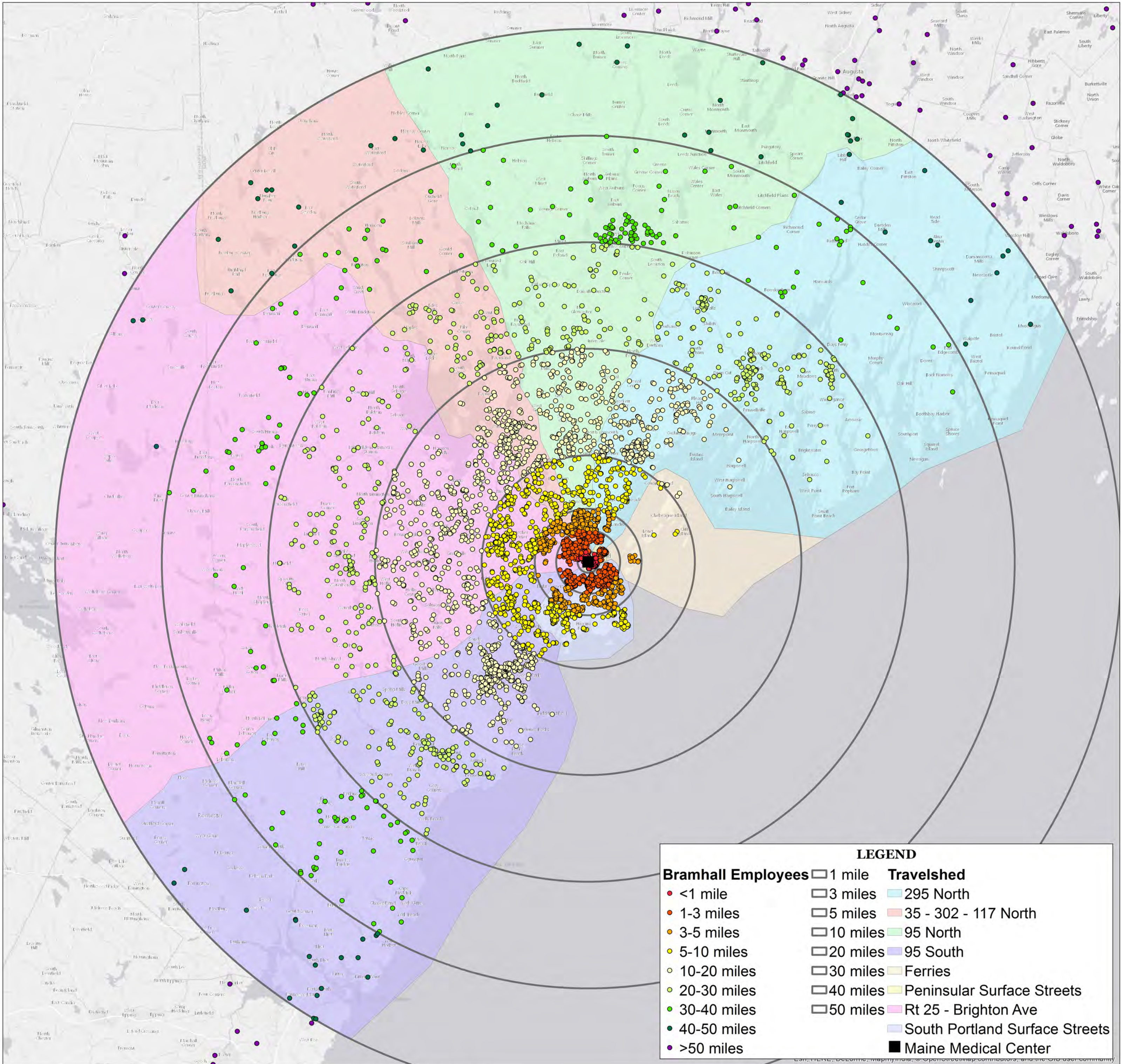
Proposed Signalized Intersection
 Denotes Signalized Intersection
 XX = AM Peak Hour of Adjacent Street
 (XX) = PM Peak Hour of Adjacent Street

**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

Peak Hour of the Adjacent Street



Bramhall St. - 22; MMC Congress Street Building PORTLAND, MAINE



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**

Attachment 7B

Trip Generation Calculations
May 2013 Traffic Impact Study

JN: 2866.01
 Project Description: Maine Medical Center Phase 3
 Project Location: Portland, ME
 Date: 08/14/18

Gorrill Palmer
 707 Sable Oaks Drive
 Suite 30
 South Portland, Maine 04106

**Hospital
 Land Use Code (LUC) 610**

Employees 324

Fitted Curve:

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution		Sample Size/R2
			IN	OUT	IN	OUT	
Weekday	$T = 4.40 (X) + 711.46$	2137	50%	50%	1069	1068	19/.77
AM Peak Adjacent Street	$T = 0.32 (X) + 35.15$	139	80%	20%	111	28	9/.77
PM Peak Adjacent Street	$T = 0.28 (X) + 75.75$	166	35%	65%	58	108	8/.69
AM Peak of Generator	$T = 0.33 (X) + 66.57$	173	65%	35%	112	61	8/.83
PM Peak of Generator	$T = 0.36 (X) + 97.41$	214	40%	60%	86	128	15/.73
Saturday	$T = 2.95 (X) + 691.43$	1647	50%	50%	824	823	15/.84
Saturday Peak of Generator	Not given	-	55%	45%	-	-	4

* Percentages rounded to nearest 5%

Average Rate:

Time Period	ITE Trip Rate	Trip Ends	Directional Split*		Directional Distribution		Sample Size
			IN	OUT	IN	OUT	
Weekday	$T = 5.2 (X)$	1685	50%	50%	843	842	19
AM Peak Adjacent Street	$T = 0.34 (X)$	110	80%	20%	88	22	9
PM Peak Adjacent Street	$T = 0.33 (X)$	107	35%	65%	37	70	8
AM Peak of Generator	$T = 0.39 (X)$	126	65%	35%	82	44	8
PM Peak of Generator	$T = 0.47 (X)$	152	40%	60%	61	91	15
Saturday	$T = 3.78 (X)$	1225	50%	50%	613	612	15
Saturday Peak of Generator	$T = 0.53 (X)$	172	55%	45%	95	77	4

* Percentages rounded to nearest 5%

Attachment E.1

**Traffic Impact Study; Parking Study
and Transportation Demand
Management Plan
Proposed Bean 2 Roof Addition
Maine Medical Center - Bramhall Campus
Portland, Maine**

Prepared for:

**Maine Medical Center
22 Bramhall Street
Portland, Maine 04102**

May 2013

Prepared by:



Gorrill-Palmer Consulting Engineers, Inc.

Engineering Excellence Since 1998

PO Box 1237
15 Shaker Road
Gray, ME 04039

(207) 637-6910
Fax: (207) 657-6912
E-mail: mailbox@gorrillpalmer.com

Traffic Impact, Parking Study and Transportation Demand Management Plan
Bean 2 Roof Addition
Maine Medical Center Bramhall Campus
Portland, Maine

Index

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III.	Trip Generation	3
IV.	Crash Data	7-8
V.	Parking Evaluation	8
VI.	Transportation Demand Management Plan	9

Appendix

Maine DOT Crash Data
Trip Generation Calculations

Executive Summary

The following Executive Summary is prepared for the reader's convenience, but is not intended to be a substitute for reading the full report.

Gorrill-Palmer Consulting Engineers, Inc. was retained by Maine Medical Center (MMC) to prepare this traffic and parking assessment as well as a Transportation Demand Management Plan Review for the proposed addition to the Bean 2 building at their Bramhall campus in Portland, Maine. Proposed for the site is a 18,758 square foot addition on top of the Bean 2 building. A total of 49 staff will be added as a result of the project. Based on MMC records, a total of 184 staff have been added since the previous expansion of the Bramhall campus. The additional parking demand for the 49 employees is forecast to be 41 spaces and MMC plans to accommodate them at their parking facilities at 887 Congress Street and at 995 Congress Street.

Based on this study, our office has determined the following:

1. The proposed development is forecast to generate 28 and 30 trip ends in the weekday AM and PM peak hours respectively. The increase since the previous project is estimated to be 77 and 84 trip ends in the weekday AM and PM peak hours respectively (Note: A trip end is either a trip in or out of the site. Thus a round trip would equal two trip ends). At this level of trip generation, this project does not require a traffic permit from the Maine Department of Transportation.
2. Gorrill-Palmer Consulting Engineers, Inc. referenced the Maine DOT collision records to determine that are five high crash locations in the vicinity of the project.
3. Gorrill-Palmer Consulting Engineers, Inc. estimates that the additional 49 employees will generate a demand for 41 parking spaces. It is our understanding from MMC that this additional demand can be accommodated at 887 Congress Street and at 995 Congress Street.
4. Maine Medical Center has a comprehensive Demand Management Plan for their Bramhall campus which supports the City's transportation and environmental sustainability goals by encouraging and promoting bicycling, walking, and use of transit. MMC is planning to add two additional bike racks which will accommodate up to 36 bikes as well as a parking space for a U-Share car on the Bramhall campus.

Based on these findings, it is the opinion of Gorrill-Palmer Consulting Engineers, Inc. that the proposed project can be accommodated by the City's transportation system.

I. *Existing and Proposed Site*

The proposed project consists of an addition to the top of the existing Bean 2 building at Maine Medical Center's (MMC) Bramhall campus in Portland, Maine.

Proposed for the site is a 18,758 sf addition which is forecast by MMC to add 49 employees. MMC estimates that they have added approximately 184 employees since the last major addition to the Bramhall Campus.

II. *Background Conditions*

Gorrill-Palmer Consulting Engineers, Inc. based the study on the following information:

- A site plan, Sheet A01-01 prepared by Perkins + Will dated April 3, 2013.
- Crash data for 2009-2011 provided by the Maine Department of Transportation.

III. *Trip Generation*

Gorrill-Palmer Consulting Engineers, Inc. used the Institute of Transportation Engineers (ITE) publication *Trip Generation*, 7th Edition, to estimate the potential trip generation for the proposed expansion. Based on MMC records, a total of 184 staff have been added since the previous expansion of the Bramhall campus. With the planned staff addition of 49 employees associated with this project, the total additional staff is 233 since the previous expansion resulting in a total staff level of 4,804 following the expansion. Based on Land Use Code (LUC) 610, Hospital, Gorrill-Palmer Consulting Engineers, Inc. has estimated the difference in trip ends using the prior employee level of 4,571 and the post development level of 4804 (Note a trip end is either a trip in or out of the site; thus one round trip is equal to two trip ends):

AM Peak Hour of MMC	77 trip ends
PM Peak Hour of MMC	84 trip ends

Maine Medical received a traffic movement permit for their previous expansion. The level of forecast traffic increase associated with the employee increase since that time does not require a traffic movement permit from the MaineDOT since the peak hour traffic increase is less than 100 trip ends.

IV. *Crash Data*

In order to evaluate whether a location has a crash problem, Maine DOT uses two criteria to define High Crash Locations (HCL). Both criteria must be met in order to be classified as an HCL.

E. S

1. A critical rate factor of 1.00 or more for a three-year period. (A Critical Rate Factor {CRF} compares the actual accident rate to the rate for similar intersections in the State. A CRF of less than 1.00 indicates a rate less than average) and:
2. A minimum of 8 crashes over a three-year period.

Our office reviewed the 2009-2011 crash data in this area and has summarized the high crash locations or areas which are close to meeting that definition below:

Intersections with Significant Collision History

Location	No. of Collisions	Critical Rate Factor
Congress/Gilman	10	1.89
Bramhall/Congress/Deering	17	0.64
Congress/Valley	23	1.31
Congress/St. Jolin	24	0.75

Roadway Segment with Significant Collision History

Location	No. of Collisions	Critical Rate Factor
Congress between Ellsworth and Weymouth	10	1.52
Congress between Weymouth and Forest St	10	1.50
St. John between C St and A St	11	2.68

This information shows that there are five high crash locations in the vicinity of the site. The MaineDOT furnished the collision reports for these locations and our office is preparing the collision diagrams which will be furnished to the City upon completion.

A copy of the collision history is included in the appendix.

V. *Parking Demand*

Gorrill-Palmer Consulting Engineers, Inc. used the Institute of Transportation Engineers (ITE) publication *Parking Generation*, 3rd Edition, to estimate the potential parking demand for the proposed expansion. Land Use Code 610, Hospital, estimates an average demand of 0.83 spaces per employee. Based on the estimated 49 employees to be added with the planned addition, the project will create a demand for 41 additional parking spaces. It is our understanding from MMC that this additional demand can be accommodated at 887 Congress Street and at 995 Congress Street.

It is our understanding from John Peverada of the City's parking department staff that, they have done periodic checking of MMC's parking garages at the corner of Gilman Road and Congress Street and has seen vacancies. He also observed that the parking meeting on the Eastern Promenade were underutilized.

Attachment 7C

Capacity and Queuing Analysis Results

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	6740	6752	6658	6699	6614	6691
Vehs Exited	6727	6685	6605	6628	6589	6646
Starting Vehs	251	220	223	227	223	224
Ending Vehs	264	287	276	298	248	268
Denied Entry Before	1	2	2	2	2	1
Denied Entry After	3	3	3	3	0	0
Travel Distance (mi)	5093	5125	5012	5064	5000	5059
Travel Time (hr)	259.0	290.9	255.4	264.1	258.5	265.6
Total Delay (hr)	75.8	106.4	75.1	82.0	78.5	83.5
Total Stops	7849	8817	7746	8126	7889	8085
Fuel Used (gal)	182.8	190.0	179.6	182.9	180.3	183.1

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	6740	6752	6658	6699	6614	6691
Vehs Exited	6727	6685	6605	6628	6589	6646
Starting Vehs	251	220	223	227	223	224
Ending Vehs	264	287	276	298	248	268
Denied Entry Before	1	2	2	2	2	1
Denied Entry After	3	3	3	3	0	0
Travel Distance (mi)	5093	5125	5012	5064	5000	5059
Travel Time (hr)	259.0	290.9	255.4	264.1	258.5	265.6
Total Delay (hr)	75.8	106.4	75.1	82.0	78.5	83.5
Total Stops	7849	8817	7746	8126	7889	8085
Fuel Used (gal)	182.8	190.0	179.6	182.9	180.3	183.1

1: St. John Street & Margaritas Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	2.4	0.0	0.0	0.1
Total Del/Veh (s)	5.3	1.1	1.6	1.6
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: St. John Street & Garage Access/D St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.2	4.1	1.9	0.9	1.4
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: Valley & St. John Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	2.8	0.0	2.3	0.9
Total Del/Veh (s)	12.8	16.6	14.4	15.7	14.7
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

7: St. John Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	0.0	0.8	0.0	0.4
Total Del/Veh (s)	16.2	9.5	30.1	22.3	18.2
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

13: Fore River Pkwy & Valley Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.4	0.0	0.3
Total Del/Veh (s)	53.8	18.3	11.6	35.7
Denied Entry Before	0	1	0	1
Denied Entry After	0	0	0	0

19: St. John Street & Park Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	1.0	0.0	0.9	0.6
Total Del/Veh (s)	29.1	22.0	54.0	33.2
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

24: Gilman Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.0	0.2	0.1	0.2
Total Del/Veh (s)	3.5	3.1	20.0	9.6	5.1
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

29: Bramhall Street/Deering Avenue & Congress Street Performance by approach

Approach	EB	WB	NE	SW	All
Denied Del/Veh (s)	0.0	1.9	2.2	2.9	1.2
Total Del/Veh (s)	8.3	13.0	13.9	11.3	10.7
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

35: Visitor Garage/Forest Street Garage & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.0	2.1	20.6	9.9	3.2
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	42.5
Denied Entry Before	1
Denied Entry After	0

Intersection: 1: St. John Street & Margaritas

Movement	EB	EB	NB
Directions Served	L	R	LT
Maximum Queue (ft)	30	30	40
Average Queue (ft)	5	7	5
95th Queue (ft)	24	27	25
Link Distance (ft)	626		678
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		125	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: St. John Street & Garage Access/D St

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	39	48
Average Queue (ft)	3	11	2
95th Queue (ft)	18	35	22
Link Distance (ft)	570	495	678
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Valley & St. John Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	TR	L	TR	LT	TR
Maximum Queue (ft)	126	124	292	67	155	274	74	91
Average Queue (ft)	52	62	131	16	57	153	25	35
95th Queue (ft)	97	105	224	45	117	242	60	73
Link Distance (ft)	1618			1012	268	268	937	
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						1		
Storage Bay Dist (ft)		110	335					265
Storage Blk Time (%)	1	1	0					
Queuing Penalty (veh)	1	1	0					

Intersection: 7: St. John Street & Congress Street

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	T	TR	L	T
Maximum Queue (ft)	249	380	314	87	129	121	137	159	207
Average Queue (ft)	125	214	57	24	62	50	66	72	93
95th Queue (ft)	206	336	174	63	109	94	119	131	174
Link Distance (ft)	1767	1767			367	670		794	794
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			290	80			175		
Storage Blk Time (%)		2	0	0	4		0		
Queuing Penalty (veh)		3	0	1	1		0		

Intersection: 13: Fore River Pkwy & Valley

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	R	R
Maximum Queue (ft)	480	527	942	885	196	188	100	137	126	131
Average Queue (ft)	356	420	443	352	132	118	40	64	70	70
95th Queue (ft)	605	620	1249	1122	183	177	82	116	113	111
Link Distance (ft)			2719	2719	1454	1454		268	268	268
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	430	430					415			
Storage Blk Time (%)	7	37	2							
Queuing Penalty (veh)	35	190	14							

Intersection: 19: St. John Street & Park Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	LT	R	LT	R
Maximum Queue (ft)	155	219	251	188	353	135	655	80
Average Queue (ft)	52	112	141	108	176	105	325	63
95th Queue (ft)	111	187	207	175	285	172	571	106
Link Distance (ft)			1678	794	794		2255	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	95	95				110		55
Storage Blk Time (%)	2	8	24		21	0	55	7
Queuing Penalty (veh)	6	26	83		52	1	92	27

Intersection: 24: Gilman Street & Congress Street

Movement	EB	WB	NB	SB
Directions Served	TR	L	LTR	LTR
Maximum Queue (ft)	28	68	153	55
Average Queue (ft)	2	30	59	15
95th Queue (ft)	15	64	109	44
Link Distance (ft)	367		1063	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		65		
Storage Blk Time (%)		1		
Queuing Penalty (veh)		2		

Intersection: 29: Bramhall Street/Deering Avenue & Congress Street

Movement	EB	EB	WB	WB	NE	NE	SW	SW
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	55	220	176	90	140	142	132	74
Average Queue (ft)	18	116	48	70	54	61	42	47
95th Queue (ft)	47	187	132	101	106	113	97	78
Link Distance (ft)	965		1272		1186		795	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		400		65		135		50
Storage Blk Time (%)			0	11	0	0	3	9
Queuing Penalty (veh)			1	4	1	0	5	6

Intersection: 35: Visitor Garage/Forest Street Garage & Congress Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	163	35	47	30
Average Queue (ft)	30	2	22	5
95th Queue (ft)	100	16	50	23
Link Distance (ft)	425	965	508	434
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 553

Intersection: 5: Valley & St. John Street

Phase	2	3	4	6	8
Movement(s) Served	NBTL	WBL	EBTL	SBTL	WBT
Maximum Green (s)	34.0	23.0	18.0	34.0	46.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	None	None	None	None	None
Avg. Green (s)	15.3	15.8	10.0	15.3	27.6
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	6	7	20	6	4
Cycles @ Minimum (%)	0	0	4	0	0
Cycles Maxed Out (%)	1	21	8	1	4
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 7: St. John Street & Congress Street

Phase	1	2	3	4	5	6	8
Movement(s) Served	EBL	WBL	SBL	NBT	WBL	EBTL	SBT
Maximum Green (s)	15.3	27.2	6.7	8.0	5.0	37.5	21.5
Minimum Green (s)	8.0	8.0	3.0	8.0	5.0	8.0	5.0
Recall	None	Min	None	None	None	Min	None
Avg. Green (s)	13.0	15.9	6.7	8.4	5.5	31.3	20.1
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA
Cycles Skipped (%)	2	0	9	4	73	0	0
Cycles @ Minimum (%)	15	34	0	91	24	0	0
Cycles Maxed Out (%)	47	16	78	96	27	36	76
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 13: Fore River Pkwy & Valley

Phase	4	6	7	8
Movement(s) Served	EBT	SBL	EBL	WBT
Maximum Green (s)	39.0	11.0	17.0	17.0
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	None	None	None	None
Avg. Green (s)	39.0	10.3	17.0	16.1
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	68	74	98	69
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 19: St. John Street & Park Avenue

Phase	2	6	8
Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	40.0	25.0	40.0
Minimum Green (s)	3.0	3.0	3.0
Recall	Min	Min	Min
Avg. Green (s)	27.2	24.5	24.6
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	21	82	5
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 29: Bramhall Street/Deering Avenue & Congress Street

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SWL	NETL	WBL	EBTL	NEL	SWTL	EBL	WBTL
Maximum Green (s)	5.5	13.5	5.5	17.5	5.5	13.5	5.5	17.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	5.5	14.9	5.7	14.9	5.5	16.7	7.1	15.2
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	50	0	76	3	65	1	79	4
Cycles @ Minimum (%)	0	0	13	0	9	0	0	0
Cycles Maxed Out (%)	45	100	10	41	25	99	19	38
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7366	7440	7423	7329	7474	7405
Vehs Exited	7310	7424	7376	7305	7450	7372
Starting Vehs	220	237	220	225	249	227
Ending Vehs	276	253	267	249	273	263
Denied Entry Before	3	2	2	1	2	1
Denied Entry After	1	1	0	2	4	0
Travel Distance (mi)	5356	5472	5415	5335	5458	5407
Travel Time (hr)	262.5	270.7	271.1	259.9	269.4	266.7
Total Delay (hr)	69.2	73.4	75.9	67.7	72.1	71.7
Total Stops	8551	8779	8794	8373	8667	8630
Fuel Used (gal)	191.5	196.1	194.8	189.2	194.4	193.2

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	7366	7440	7423	7329	7474	7405
Vehs Exited	7310	7424	7376	7305	7450	7372
Starting Vehs	220	237	220	225	249	227
Ending Vehs	276	253	267	249	273	263
Denied Entry Before	3	2	2	1	2	1
Denied Entry After	1	1	0	2	4	0
Travel Distance (mi)	5356	5472	5415	5335	5458	5407
Travel Time (hr)	262.5	270.7	271.1	259.9	269.4	266.7
Total Delay (hr)	69.2	73.4	75.9	67.7	72.1	71.7
Total Stops	8551	8779	8794	8373	8667	8630
Fuel Used (gal)	191.5	196.1	194.8	189.2	194.4	193.2

1: St. John Street & Margaritas Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	3.4	0.0	0.0	0.3
Total Del/Veh (s)	5.6	2.3	2.0	2.4
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: St. John Street & Garage Access/D St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.4	0.1	0.5	0.2	0.5
Total Del/Veh (s)	13.7	5.4	5.8	6.8	7.6
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: Valley & St. John Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	2.7	0.0	1.7	0.8
Total Del/Veh (s)	12.9	16.7	13.4	18.1	14.3
Denied Entry Before	0	1	0	0	1
Denied Entry After	0	0	0	0	0

7: St. John Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	0.0	0.3	0.0	0.3
Total Del/Veh (s)	18.7	9.8	30.6	22.8	20.6
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

12: Congress Street Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.3	1.5	19.2	1.8
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

13: Fore River Pkwy & Valley Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.5	0.0	0.3
Total Del/Veh (s)	25.3	18.7	11.7	20.7
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

19: St. John Street & Park Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	1.2	0.0	0.6	0.6
Total Del/Veh (s)	31.5	18.2	22.0	23.5
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

24: Gilman Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.2
Total Del/Veh (s)	2.4	1.2	13.4	8.9	2.9
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

29: Bramhall Street/Deering Avenue & Congress Street Performance by approach

Approach	EB	WB	NE	SW	All
Denied Del/Veh (s)	0.0	1.9	2.2	2.8	1.2
Total Del/Veh (s)	7.3	13.0	13.1	11.1	10.0
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

35: Visitor Garage/Forest Street Garage & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1	0.1
Total Del/Veh (s)	2.2	2.1	16.4	8.6	2.5
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	32.8
Denied Entry Before	1
Denied Entry After	0

Intersection: 1: St. John Street & Margaritas

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (ft)	34	64	95	9
Average Queue (ft)	11	29	21	0
95th Queue (ft)	34	49	68	4
Link Distance (ft)	620		678	670
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: St. John Street & Garage Access/D St

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	126	65	39	61	114	91	169
Average Queue (ft)	63	29	11	19	52	24	83
95th Queue (ft)	105	53	36	46	98	63	145
Link Distance (ft)	564		489		1605		678
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	150		100		75		
Storage Blk Time (%)	0				0	0	5
Queuing Penalty (veh)	0				0	1	2

Intersection: 5: Valley & St. John Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	TR	L	TR	LT	TR
Maximum Queue (ft)	164	133	270	70	154	247	40	56
Average Queue (ft)	58	70	138	23	74	141	14	10
95th Queue (ft)	114	118	228	54	131	224	39	37
Link Distance (ft)	1605			1012	268	268	937	
Upstream Blk Time (%)							0	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)	110		335		265			
Storage Blk Time (%)	0	1						
Queuing Penalty (veh)	1	2						

Intersection: 7: St. John Street & Congress Street

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	T	TR	L	T
Maximum Queue (ft)	377	552	315	89	106	261	197	146	203
Average Queue (ft)	138	229	82	36	49	92	105	61	109
95th Queue (ft)	266	403	221	76	88	193	174	117	181
Link Distance (ft)	1767	1767			367	670		794	794
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			290	80			175		
Storage Blk Time (%)		3	0	1	1	1	2		
Queuing Penalty (veh)		7	0	1	1	3	3		

Intersection: 12: Congress Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	44	111	71
Average Queue (ft)	2	14	27
95th Queue (ft)	20	62	63
Link Distance (ft)	169	202	174
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Fore River Pkwy & Valley

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	R	R
Maximum Queue (ft)	377	428	335	325	238	238	98	128	140	148
Average Queue (ft)	177	267	86	98	136	126	40	62	72	73
95th Queue (ft)	372	419	243	199	202	198	79	112	118	120
Link Distance (ft)			2719	2719	1454	1454		268	268	268
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	430	430					415			
Storage Blk Time (%)	0	2								
Queuing Penalty (veh)	2	10								

Intersection: 19: St. John Street & Park Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	LT	R	LT	R
Maximum Queue (ft)	162	228	255	194	286	135	326	80
Average Queue (ft)	71	114	139	92	151	100	169	64
95th Queue (ft)	128	197	214	157	253	168	290	102
Link Distance (ft)			1678	794	794		2255	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	95	95				110		55
Storage Blk Time (%)	4	9	29		14	1	33	4
Queuing Penalty (veh)	13	29	108		38	3	55	16

Intersection: 24: Gilman Street & Congress Street

Movement	EB	WB	NB	SB
Directions Served	TR	L	LTR	LTR
Maximum Queue (ft)	10	57	88	68
Average Queue (ft)	1	13	38	17
95th Queue (ft)	8	40	71	49
Link Distance (ft)	367		1063	624
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		65		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		1		

Intersection: 29: Bramhall Street/Deering Avenue & Congress Street

Movement	EB	EB	WB	WB	NE	NE	SW	SW
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	61	213	190	90	140	140	143	75
Average Queue (ft)	18	102	43	68	51	62	39	49
95th Queue (ft)	46	173	122	98	105	116	96	80
Link Distance (ft)	965		1272		1186		795	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		400		65		135		50
Storage Blk Time (%)			1	10	0	0	4	8
Queuing Penalty (veh)			1	4	0	0	6	6

Intersection: 35: Visitor Garage/Forest Street Garage & Congress Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	163	103	58	34
Average Queue (ft)	35	7	21	6
95th Queue (ft)	108	45	49	27
Link Distance (ft)	202	965	508	434
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 314

Intersection: 3: St. John Street & Garage Access/D St

Phase	2	4	5	6	8
Movement(s) Served	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	45.0	5.0	6.5	34.0	5.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	Min	None	None	Min	None
Avg. Green (s)	26.1	5.0	5.7	22.0	5.0
g/C Ratio	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	5	5	76	0	5
Cycles @ Minimum (%)	0	95	5	1	95
Cycles Maxed Out (%)	8	95	4	17	95
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 5: Valley & St. John Street

Phase	2	3	4	6	8
Movement(s) Served	NBTL	WBL	EBTL	SBTL	WBT
Maximum Green (s)	26.0	21.0	18.0	26.0	44.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	None	None	None	None	None
Avg. Green (s)	13.9	15.7	11.5	13.9	30.6
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	11	7	14	11	6
Cycles @ Minimum (%)	0	0	1	0	0
Cycles Maxed Out (%)	4	32	17	4	10
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 7: St. John Street & Congress Street

Phase	1	2	3	4	5	6	8
Movement(s) Served	EBL	WBL	SBL	NBT	WBL	EBTL	SBT
Maximum Green (s)	15.6	24.4	5.7	11.5	5.0	35.0	24.0
Minimum Green (s)	8.0	8.0	3.0	8.0	5.0	8.0	5.0
Recall	None	Min	None	None	None	Min	None
Avg. Green (s)	13.7	15.5	5.9	11.9	5.6	29.8	22.6
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA
Cycles Skipped (%)	2	0	12	0	54	0	0
Cycles @ Minimum (%)	8	28	0	2	40	0	0
Cycles Maxed Out (%)	57	25	85	85	46	37	68
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 13: Fore River Pkwy & Valley

Phase	4	6	7	8
Movement(s) Served	EBT	SBL	EBL	WBT
Maximum Green (s)	39.0	11.0	17.0	17.0
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	None	None	None	None
Avg. Green (s)	38.8	10.2	16.9	16.4
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	70	70	95	74
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 19: St. John Street & Park Avenue

Phase	2	6	8
Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	15.0	20.0	10.0
Minimum Green (s)	3.0	3.0	3.0
Recall	Min	Min	Min
Avg. Green (s)	14.5	17.3	10.0
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	2	0
Cycles Maxed Out (%)	86	59	97
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 29: Bramhall Street/Deering Avenue & Congress Street

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SWL	NETL	WBL	EBTL	NEL	SWTL	EBL	WBTL
Maximum Green (s)	5.5	13.5	5.5	17.5	5.5	13.5	5.5	17.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	5.6	15.0	6.6	13.9	5.5	16.4	7.6	14.3
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	58	0	74	6	72	1	81	5
Cycles @ Minimum (%)	1	0	12	0	6	0	0	0
Cycles Maxed Out (%)	38	100	11	30	21	99	17	30
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7331	7512	7399	7678	7334	7453
Vehs Exited	7265	7409	7298	7540	7291	7361
Starting Vehs	213	198	216	165	200	193
Ending Vehs	279	301	317	303	243	286
Denied Entry Before	4	2	3	3	0	2
Denied Entry After	2	1	5	1	3	1
Travel Distance (mi)	4625	4680	4600	4791	4585	4656
Travel Time (hr)	253.6	269.0	270.0	266.4	243.9	260.6
Total Delay (hr)	85.3	99.0	102.8	92.3	77.0	91.3
Total Stops	9003	9407	9298	9280	8484	9093
Fuel Used (gal)	173.1	178.4	176.6	180.5	169.3	175.6

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	7331	7512	7399	7678	7334	7453
Vehs Exited	7265	7409	7298	7540	7291	7361
Starting Vehs	213	198	216	165	200	193
Ending Vehs	279	301	317	303	243	286
Denied Entry Before	4	2	3	3	0	2
Denied Entry After	2	1	5	1	3	1
Travel Distance (mi)	4625	4680	4600	4791	4585	4656
Travel Time (hr)	253.6	269.0	270.0	266.4	243.9	260.6
Total Delay (hr)	85.3	99.0	102.8	92.3	77.0	91.3
Total Stops	9003	9407	9298	9280	8484	9093
Fuel Used (gal)	173.1	178.4	176.6	180.5	169.3	175.6

1: St. John Street & Margaritas Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	1.7	0.0	0.0	0.3
Total Del/Veh (s)	7.3	1.5	1.9	2.7
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: St. John Street & Garage Access/D St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1	0.1
Total Del/Veh (s)	7.3	3.3	2.1	0.8	1.3
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: Valley & St. John Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	2.8	0.0	2.3	1.1
Total Del/Veh (s)	10.7	19.6	14.0	16.4	15.2
Denied Entry Before	0	1	0	0	1
Denied Entry After	0	0	0	0	0

7: St. John Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.9	0.0	0.4
Total Del/Veh (s)	16.6	9.0	26.8	21.7	17.8
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

12: Gilman Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.0	0.2	0.1	0.2
Total Del/Veh (s)	2.4	2.4	37.2	12.8	6.5
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

13: Fore River Pkwy & Valley Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.9	0.3	0.0	0.5
Total Del/Veh (s)	53.1	18.4	12.4	29.5
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

18: Bramhall Street/Deering Avenue & Congress Street Performance by approach

Approach	EB	WB	NE	SW	All
Denied Del/Veh (s)	0.0	1.4	2.7	3.0	1.6
Total Del/Veh (s)	16.3	23.5	14.4	16.5	17.1
Denied Entry Before	0	0	0	1	1
Denied Entry After	0	0	0	1	1

19: St. John Street & Park Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	1.6	0.1	0.8	0.8
Total Del/Veh (s)	37.4	34.8	39.6	36.5
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

32: Visitor Garage/Forest Street Garage & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.2	0.1
Total Del/Veh (s)	1.8	1.7	17.2	9.0	3.2
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	41.7
Denied Entry Before	2
Denied Entry After	1

Intersection: 1: St. John Street & Margaritas

Movement	EB	EB	NB
Directions Served	L	R	LT
Maximum Queue (ft)	77	59	80
Average Queue (ft)	37	27	11
95th Queue (ft)	63	50	47
Link Distance (ft)	424		678
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		125	
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 3: St. John Street & Garage Access/D St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	36	41	29
Average Queue (ft)	4	15	3	2
95th Queue (ft)	21	40	23	15
Link Distance (ft)	436	550	1618	678
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Valley & St. John Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	TR	L	TR	LT	TR
Maximum Queue (ft)	163	133	274	152	144	175	102	135
Average Queue (ft)	44	76	156	27	58	83	36	62
95th Queue (ft)	106	117	258	100	110	154	77	110
Link Distance (ft)	1618			988	263	263	1083	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		110	335					265
Storage Blk Time (%)	0	1	1					
Queuing Penalty (veh)	0	1	1					

Intersection: 7: St. John Street & Congress Street

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	T	TR	L	T
Maximum Queue (ft)	240	339	232	104	166	234	188	121	255
Average Queue (ft)	110	186	59	32	85	98	109	52	120
95th Queue (ft)	192	293	145	81	141	177	177	103	212
Link Distance (ft)	1767	1767			367	671		792	792
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			290	80			175		
Storage Blk Time (%)		1	0	1	9	1	1		
Queuing Penalty (veh)		2	0	2	4	2	3		

Intersection: 12: Gilman Street & Congress Street

Movement	EB	WB	WB	NB	SB
Directions Served	TR	L	T	LTR	LTR
Maximum Queue (ft)	4	73	49	177	76
Average Queue (ft)	0	34	2	83	26
95th Queue (ft)	4	65	29	155	59
Link Distance (ft)	367		425	1063	624
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		65			
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		5	0		

Intersection: 13: Fore River Pkwy & Valley

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	R	R
Maximum Queue (ft)	446	491	725	696	229	230	60	146	145	151
Average Queue (ft)	255	323	279	244	153	142	23	64	89	94
95th Queue (ft)	530	561	903	828	216	213	53	116	133	141
Link Distance (ft)			1529	1529	1274	1274		263	263	263
Upstream Blk Time (%)			1	0						
Queuing Penalty (veh)			0	0						
Storage Bay Dist (ft)	430	430					415			
Storage Blk Time (%)	7	23	2							
Queuing Penalty (veh)	22	76	10							

Intersection: 18: Bramhall Street/Deering Avenue & Congress Street

Movement	EB	EB	WB	WB	NE	NE	SW	SW
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	225	285	217	90	140	156	284	75
Average Queue (ft)	75	136	77	68	33	87	119	69
95th Queue (ft)	156	240	167	102	101	147	241	84
Link Distance (ft)	965		1272		1186		795	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		400		65		135		50
Storage Blk Time (%)		0	7	13	0	2	6	29
Queuing Penalty (veh)		0	11	14	0	1	24	25

Intersection: 19: St. John Street & Park Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	LT	R	LT	R
Maximum Queue (ft)	164	235	596	406	520	135	365	80
Average Queue (ft)	101	189	262	228	324	106	183	54
95th Queue (ft)	178	269	481	357	492	179	310	105
Link Distance (ft)			1640	792	792		1989	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	95	95				110		55
Storage Blk Time (%)	10	26	42		44	0	47	4
Queuing Penalty (veh)	45	112	217		94	2	51	10

Intersection: 32: Visitor Garage/Forest Street Garage & Congress Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	123	81	82	87
Average Queue (ft)	8	6	37	40
95th Queue (ft)	59	43	69	67
Link Distance (ft)	425	965	508	434
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 734

Intersection: 5: Valley & St. John Street

Phase	2	3	4	6	8
Movement(s) Served	NBTL	WBL	EBTL	SBTL	WBT
Maximum Green (s)	18.0	19.0	18.0	18.0	42.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	None	None	None	None	None
Avg. Green (s)	14.6	16.3	11.2	14.6	30.4
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	3	1	16	3	2
Cycles @ Minimum (%)	0	0	4	0	0
Cycles Maxed Out (%)	39	51	12	39	9
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 7: St. John Street & Congress Street

Phase	1	2	3	4	5	6	8
Movement(s) Served	EBL	WBL	SBL	NBT	WBL	EBTL	SBT
Maximum Green (s)	13.7	33.2	5.7	14.6	4.5	42.4	27.1
Minimum Green (s)	8.0	8.0	3.0	8.0	4.5	8.0	5.0
Recall	None	Min	None	None	None	Min	None
Avg. Green (s)	12.3	14.5	5.7	13.8	5.8	27.8	24.5
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA
Cycles Skipped (%)	4	0	15	0	66	0	0
Cycles @ Minimum (%)	7	41	0	4	25	0	0
Cycles Maxed Out (%)	56	6	80	64	34	9	55
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 13: Fore River Pkwy & Valley

Phase	4	6	7	8
Movement(s) Served	EBT	SBL	EBL	WBT
Maximum Green (s)	34.0	11.0	11.0	18.0
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	None	None	None	None
Avg. Green (s)	33.8	11.0	11.0	17.6
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	88	94	98	88
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 18: Bramhall Street/Deering Avenue & Congress Street

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SWL	NETL	WBL	EBTL	NEL	SWTL	EBL	WBTL
Maximum Green (s)	5.5	18.5	5.5	12.5	5.5	18.5	7.5	10.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	5.5	19.5	6.2	13.5	5.5	22.9	9.8	12.1
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	44	0	31	3	78	0	23	17
Cycles @ Minimum (%)	0	0	15	0	3	0	0	0
Cycles Maxed Out (%)	55	100	51	74	17	100	63	61
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 19: St. John Street & Park Avenue

Phase	2	6	8
Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	40.0	25.0	40.0
Minimum Green (s)	3.0	3.0	3.0
Recall	Min	Min	Min
Avg. Green (s)	37.9	21.1	35.2
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	79	47	48
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7831	7966	7847	8076	7814	7904
Vehs Exited	7813	7849	7783	8055	7757	7851
Starting Vehs	252	221	215	251	225	229
Ending Vehs	270	338	279	272	282	281
Denied Entry Before	0	3	2	4	4	1
Denied Entry After	3	3	3	2	5	1
Travel Distance (mi)	4829	4926	4831	4966	4830	4876
Travel Time (hr)	261.7	290.4	275.9	276.3	277.5	276.4
Total Delay (hr)	85.7	110.7	99.9	95.0	101.5	98.6
Total Stops	9846	11329	10407	10601	10702	10579
Fuel Used (gal)	181.4	191.5	185.7	189.1	186.0	186.7

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	7831	7966	7847	8076	7814	7904
Vehs Exited	7813	7849	7783	8055	7757	7851
Starting Vehs	252	221	215	251	225	229
Ending Vehs	270	338	279	272	282	281
Denied Entry Before	0	3	2	4	4	1
Denied Entry After	3	3	3	2	5	1
Travel Distance (mi)	4829	4926	4831	4966	4830	4876
Travel Time (hr)	261.7	290.4	275.9	276.3	277.5	276.4
Total Delay (hr)	85.7	110.7	99.9	95.0	101.5	98.6
Total Stops	9846	11329	10407	10601	10702	10579
Fuel Used (gal)	181.4	191.5	185.7	189.1	186.0	186.7

1: St. John Street & Margaritas Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	2.6	0.0	0.0	0.3
Total Del/Veh (s)	10.0	2.9	2.2	3.3
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

3: St. John Street & Garage Access/D St Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.4	0.1	0.4	0.1	0.6
Total Del/Veh (s)	12.0	4.9	8.9	12.7	11.2
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

5: Valley & St. John Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	2.7	0.0	1.3	0.9
Total Del/Veh (s)	13.3	18.1	14.4	19.2	15.3
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	1	0	0	1

7: St. John Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.7	0.0	0.4
Total Del/Veh (s)	21.6	9.0	29.1	21.5	21.2
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

12: Gilman Street & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.1
Total Del/Veh (s)	2.3	1.8	25.4	10.9	3.6
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

13: Fore River Pkwy & Valley Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.9	0.3	0.0	0.4
Total Del/Veh (s)	56.9	18.3	12.8	31.6
Denied Entry Before	1	0	0	1
Denied Entry After	0	0	0	0

18: Bramhall Street/Deering Avenue & Congress Street Performance by approach

Approach	EB	WB	NE	SW	All
Denied Del/Veh (s)	0.0	1.4	2.7	3.1	1.5
Total Del/Veh (s)	16.5	21.5	13.4	15.2	16.4
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

19: St. John Street & Park Avenue Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	1.6	0.1	1.0	0.8
Total Del/Veh (s)	42.8	23.3	28.5	31.5
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

22: Proposed Drop Off & Congress Street Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.0	1.2	16.3	1.6
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

32: Visitor Garage/Forest Street Garage & Congress Street Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.2	0.1
Total Del/Veh (s)	1.2	1.8	17.3	8.6	2.8
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	42.4
Denied Entry Before	1
Denied Entry After	1

Intersection: 1: St. John Street & Margaritas

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (ft)	76	65	158	17
Average Queue (ft)	30	32	31	1
95th Queue (ft)	63	55	98	6
Link Distance (ft)	549		677	671
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		125		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: St. John Street & Garage Access/D St

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	168	103	35	73	193	100	293
Average Queue (ft)	89	42	14	13	83	33	133
95th Queue (ft)	147	81	37	44	157	84	239
Link Distance (ft)	559		663		1605		677
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		150		100		75	
Storage Blk Time (%)	0	0			3	0	16
Queuing Penalty (veh)	1	0			1	2	7

Intersection: 5: Valley & St. John Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	L	TR	L	TR	LT	TR
Maximum Queue (ft)	192	135	276	97	146	203	42	50
Average Queue (ft)	66	97	154	24	66	100	13	8
95th Queue (ft)	148	143	240	67	121	167	39	31
Link Distance (ft)	1605			988	270	270	1083	
Upstream Blk Time (%)							0	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)		110	335					265
Storage Blk Time (%)	1	4						
Queuing Penalty (veh)	3	5						

Intersection: 7: St. John Street & Congress Street

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	T	TR	L	T
Maximum Queue (ft)	237	372	313	104	159	439	200	103	240
Average Queue (ft)	136	222	71	40	74	168	156	50	109
95th Queue (ft)	217	340	199	87	130	330	214	93	211
Link Distance (ft)	1767	1767			367	671		792	792
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			290	80			175		
Storage Blk Time (%)		2	0	1	6	3	5		
Queuing Penalty (veh)		4	0	2	3	12	17		

Intersection: 12: Gilman Street & Congress Street

Movement	EB	WB	WB	NB	SB
Directions Served	TR	L	T	LTR	LTR
Maximum Queue (ft)	10	69	20	105	66
Average Queue (ft)	0	30	1	46	27
95th Queue (ft)	7	59	14	81	57
Link Distance (ft)	367		170	1063	624
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		65			
Storage Blk Time (%)		1			
Queuing Penalty (veh)		3			

Intersection: 13: Fore River Pkwy & Valley

Movement	EB	EB	EB	EB	WB	WB	WB	SB	SB	SB
Directions Served	L	L	T	T	T	T	R	L	R	R
Maximum Queue (ft)	453	500	777	722	227	206	65	123	170	170
Average Queue (ft)	321	372	309	245	151	137	25	65	100	103
95th Queue (ft)	573	595	820	715	207	201	55	106	151	151
Link Distance (ft)			1519	1519	1275	1275		270	270	270
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	430	430					415			
Storage Blk Time (%)	9	28	3							
Queuing Penalty (veh)	29	91	14							

Intersection: 18: Bramhall Street/Deering Avenue & Congress Street

Movement	EB	EB	WB	WB	NE	NE	SW	SW
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	148	273	196	90	114	151	267	75
Average Queue (ft)	69	139	74	69	28	76	117	69
95th Queue (ft)	123	234	153	99	74	130	231	86
Link Distance (ft)	966		1272		1186		795	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		400		65		135		50
Storage Blk Time (%)			5	11		1	5	27
Queuing Penalty (veh)			9	11		0	22	24

Intersection: 19: St. John Street & Park Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	LT	R	LT	R
Maximum Queue (ft)	164	235	590	281	447	135	283	80
Average Queue (ft)	115	184	270	157	258	112	137	56
95th Queue (ft)	193	265	581	248	397	175	239	101
Link Distance (ft)			1640	792	792		1376	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	95	95				110		55
Storage Blk Time (%)	10	30	49		31	1	36	3
Queuing Penalty (veh)	44	128	260		87	6	39	8

Intersection: 22: Proposed Drop Off & Congress Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	19	147	74
Average Queue (ft)	1	18	30
95th Queue (ft)	8	79	61
Link Distance (ft)	170	201	194
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 32: Visitor Garage/Forest Street Garage & Congress Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	72	97	99	83
Average Queue (ft)	5	9	41	41
95th Queue (ft)	35	49	77	69
Link Distance (ft)	201	966	624	434
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 831

Intersection: 3: St. John Street & Garage Access/D St

Phase	2	4	5	6	8
Movement(s) Served	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	31.0	19.0	5.5	21.0	19.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	Min	None	None	Min	None
Avg. Green (s)	21.1	12.6	5.8	19.5	12.6
g/C Ratio	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	1	1	88	0	1
Cycles @ Minimum (%)	0	2	1	0	2
Cycles Maxed Out (%)	16	20	9	53	20
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 5: Valley & St. John Street

Phase	2	3	4	6	8
Movement(s) Served	NBTL	WBL	EBTL	SBTL	WBT
Maximum Green (s)	18.0	19.0	18.0	18.0	42.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0
Recall	None	None	None	None	None
Avg. Green (s)	12.1	16.4	13.6	12.1	35.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	8	1	9	8	5
Cycles @ Minimum (%)	0	0	1	0	0
Cycles Maxed Out (%)	20	52	34	20	24
Cycles with Peds (%)	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 7: St. John Street & Congress Street

Phase	1	2	3	4	5	6	8
Movement(s) Served	EBL	WBL	SBL	NBT	WBL	EBTL	SBT
Maximum Green (s)	16.3	22.7	5.7	22.5	4.5	34.5	35.0
Minimum Green (s)	8.0	8.0	3.0	8.0	4.5	8.0	5.0
Recall	None	Min	None	None	None	Min	None
Avg. Green (s)	14.2	15.6	5.7	22.0	5.0	30.0	33.3
g/C Ratio	NA	NA	-0.01	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	11	0	49	0	0
Cycles @ Minimum (%)	7	24	0	0	44	0	0
Cycles Maxed Out (%)	56	26	82	73	51	36	62
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 13: Fore River Pkwy & Valley

Phase	4	6	7	8
Movement(s) Served	EBT	SBL	EBL	WBT
Maximum Green (s)	34.0	11.0	11.0	18.0
Minimum Green (s)	5.0	5.0	5.0	5.0
Recall	None	None	None	None
Avg. Green (s)	33.8	10.8	11.0	17.5
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	89	91	98	89
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 18: Bramhall Street/Deering Avenue & Congress Street

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SWL	NETL	WBL	EBTL	NEL	SWTL	EBL	WBTL
Maximum Green (s)	5.5	18.5	5.5	12.5	5.5	18.5	5.5	12.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	5.6	19.4	6.1	12.9	5.7	22.8	8.1	12.8
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	45	0	30	2	80	0	23	15
Cycles @ Minimum (%)	0	0	15	0	5	0	0	0
Cycles Maxed Out (%)	52	100	53	73	14	100	77	48
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Intersection: 19: St. John Street & Park Avenue

Phase	2	6	8
Movement(s) Served	NBTL	SBTL	WBTL
Maximum Green (s)	29.0	17.0	19.0
Minimum Green (s)	3.0	3.0	3.0
Recall	Min	Min	Min
Avg. Green (s)	28.5	14.8	19.2
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	89	52	96
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): NA
 Number of Complete Cycles : 0

Attachment 7D

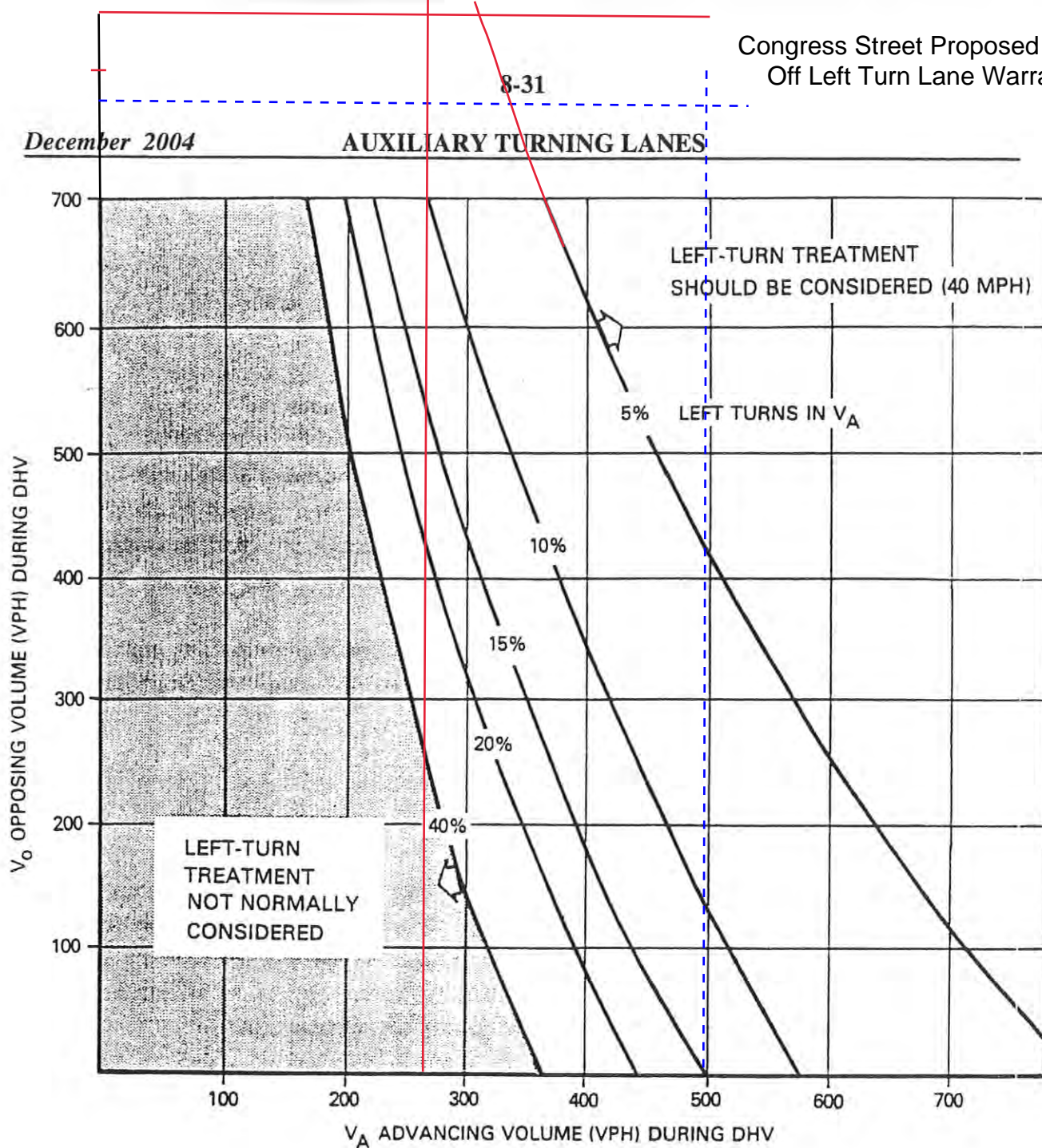
Pedestrian and Bicycle Collision Locations
Left Turn Lane Warrants

Pedestrian and Bicycle Collisions



**Bramhall St. - 22; MMC Congress Street Building
PORTLAND, MAINE**

867



Instructions:

1. The family of curves represent the percent of left turns in the advancing volume (V_A). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of 5, the designer should estimate where the curve lies.
4. Read V_A and V_O into the chart and locate the intersection of the two volumes.
5. Note the location of the point in #2 relative to the line in #1. If the point is to the right of the line, then a left-turn lane is warranted. If the point is to the left of the line, then a left-turn lane is not warranted based on traffic volumes.

AM Peak Hour
 $V_A = 269$
 $V_O = 867$
 $\%L = 4.5\%$

PM Peak Hour
 $V_A = 496$
 $V_O = 774$
 $\%L = 3.4\%$

**VOLUME WARRANTS FOR LEFT-TURN LANES
 AT UNSIGNALIZED INTERSECTIONS ON 2-LANE HIGHWAYS
 (40 mph)**

Figure 8-19

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

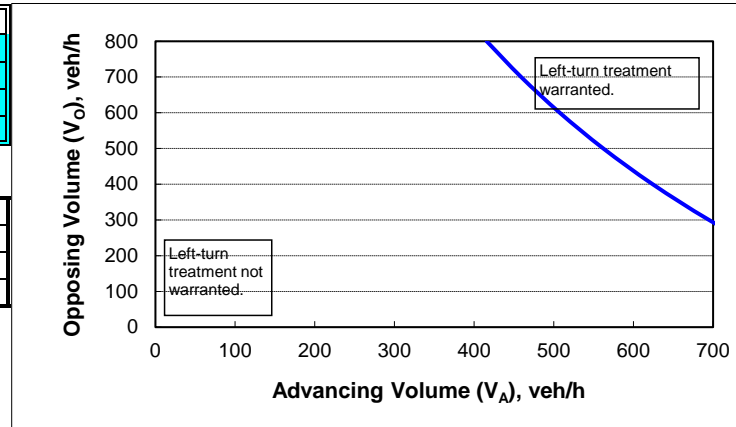
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	269
Opposing volume (V_O), veh/h:	867

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	389
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

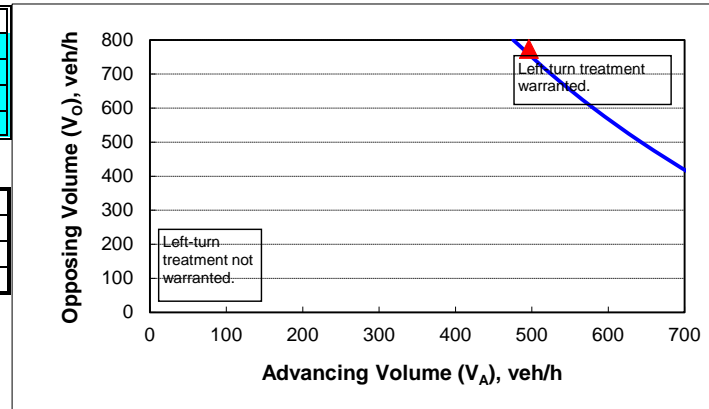
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	496
Opposing volume (V_O), veh/h:	774

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	488
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9