

## Maine Medical Center Campus-Wide Parking Study

### Overview

Maine Medical Center (MMC) retained VHB to conduct a campus-wide parking study that includes an analysis of demand and supply for patient, visitor, and employee parking on MMC’s Bramhall Campus. This parking study incorporates the targeted impact of MMC’s Transportation Demand Management program.

This study quantifies the existing and future parking conditions, with a focus on peak period demand requirements, to help quantify and formulate sound parking strategies to adequately support MMC’s patients, visitors, staff, and physicians into the future. The study took into consideration the assessment of two distinct user groups on-campus: patients/visitors and employees (all staff including physicians, nurses, administration, etc.). It also looked at all MMC-controlled parking, including both the on-campus parking as well as off-site, remote staff parking.

### Existing Parking Supply

Table 1: Existing MMC Bramhall Campus Parking Supply Summary provides a summary of existing MMC parking spaces. Currently, there are 850 patient/visitor parking spaces. All patient/visitor parking spaces are located on-campus. There are 2,027 employee parking spaces.

**Table 1: Existing MMC Bramhall Campus Parking Supply Summary**

		Patient / Visitor	Employee	Total at Facility	Ownership
<b><u>ON-CAMPUS</u></b>	Employee Garage	0	1,274	1,274	<i>Owned</i>
<i>850 patient/visitor spaces</i>	Patient/Visitor Garage	480	0	480	<i>Owned</i>
<i>1,538 employee spaces</i>	South Lot	370	0	370	<i>Owned</i>
	887 Congress (Forest St Garage)	0	178	178	<i>Owned</i>
	7 Bramhall St	0	26	26	<i>Leased</i>
	905 Congress St (Sportsman Lot)	0	60	60	<i>Leased</i>
<b><u>OFF-CAMPUS</u></b>	222 St John St (First Atlantic Lot)	0	283	283	<i>Leased</i>
<i>489 employee spaces</i>	181 High St (Gateway Garage)	0	100	100	<i>Leased</i>
	993 Congress St (Classic Lot)	0	97	97	<i>Owned</i>
	321 Brackett St	0	9	9	<i>Leased</i>
	<b>Total Parking Spaces</b>	<b>850</b>	<b>2,027</b>	<b>2,877</b>	

### Existing Parking Demand

MMC has continued to witness intensifying demands on the existing parking supply due to increased patient volumes and higher acuity patients with longer lengths of stay. Under current conditions, MMC’s staff parking system typically operates at capacity during the weekday daytime hours. When off-site, remote staff parking facilities reach capacity, staff is directed to park on-campus in the Congress Visitor Garage. Some staff members independently choose to park nearby utilizing neighborhood on-street parking, although this is discouraged by MMC.

Patients, visitors, and staff at MMC often comment on the lack of adequate and predictable parking. MMC parking facilities do not have integrated technologies to accurately report parking utilization. Therefore, current demand was estimated using a combination of observed data and comparisons to facilities similar to MMC’s Bramhall Campus.

Observations:

## Maine Medical Center Campus-Wide Parking Study

On behalf of MMC, VHB conducted on-site parking usage observations in January and March 2017. These months were ideal for parking observations because of the poor weather resulting in increased parking utilization. VHB collected parking count data during peak hours, which included late afternoon, evening, and overnight occupancy and turnover. Parking observations were completed during weekdays when MMC typically sees its biggest parking challenges – Tuesday – Friday. Historically, the highest patient volumes at MMC are on Thursdays and Fridays according to the MMC team responsible for managing parking. High patient volumes coincide with higher volumes of staff. The counts indicate that the parking system typically operates at or above capacity during weekday daytime hours. During the observations, it was difficult for VHB to differentiate staff from patients and visitors. Therefore, a total demand estimate is provided.

The observed data reveals that parking demand at the Bramhall campus among patients, visitors, physicians, and staff total roughly 3,125. MMC parking facilities have capacity of 2,877. The observed parking demand is almost 110% of supply. The observed parking demand is 4.4% below the expected parking demand (3,264) for a suburban hospital of MMC's size, according to Institute of Transportation Engineers (ITE) parking demand projections.<sup>1</sup> The difference equates to a shortage of 139 parking spaces.

In addition to VHB's observations, the MMC staff responsible for managing parking has estimated the employee parking deficit to be between 200 and 300 spaces.

### Comparison to Peer Group:

VHB compared MMC's parking ratio per licensed bed to other hospitals in New England and nationally. MMC's 850 patient/visitor parking spaces equate to 1.33 parking spaces per bed which is low compared to peers. The midpoint patient and visitor parking space/licensed bed ratio among MMC peers is 1.87. It is important to note that based on a review of peer institutions, MMC would need to increase its patient/visitor allocation by 341 spaces, or 40%, to achieve a similar beds-to-spaces ratio as its peers. MMC's 2,027 staff parking spaces equate to 3.18 parking spaces per bed which is also low when compared to other peer institutions. The midpoint employee parking space/licensed bed ratio among MMC peers is 4.38. MMC has 637 licensed beds.

When compared to peers, MMC has a shortage of 341 patient and visitor parking spaces and 763 staff parking spaces.

*MMC Licensed Beds (637) \* Comparison Group Patient & Visitor Parking Space per Bed (1.87)*  
= *Peer Equivalent Patient & Visitor Parking Spaces (1,191)*  
– *MMC Patient & Visitor Parking Space (850)*  
= ***Patient & Visitor Parking Space Deficit at MMC (341)***

*MMC Licensed Beds (637) \* Peer Group Staff Parking Spaces per Bed (4.38)*  
= *Peer Group Equivalent Staff Parking Spaces (2,790) – MMC Staff Parking Spaces (2,027)*  
= ***Staff Parking Space Deficit at MMC (763)***

### Current Demand:

MMC used the observed and peer group data to determine the estimated parking demand.

Based on data available, the estimated current MMC parking demand exceeds patient and visitor supply by approximately 25 parking spaces and exceeds employee parking supply by approximately 220 parking spaces. Therefore, the estimated parking demand in 2017 is:

**Table 2: 2017 Estimated Parking Demand**

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| <ul style="list-style-type: none"><li>- 875 for patient and visitor parking (875 = <i>Current Patient Visitor Parking Supply (850) + 25</i>)</li><li>- 2,250 for employees (2,250 = <i>Current Employee Parking Supply (2,027) + 220</i>)</li><li>- 3,125 total estimated parking demand</li></ul> |
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The current parking demand for MMC's Bramhall campus is approximately 3,125 parking spaces.

<sup>1</sup> This approach is consistent with the City of Portland's Technical Manual, which recommends using ITE for parking demand projections. <https://www.portlandmaine.gov/2148/TDM-Parking>

## Maine Medical Center Campus-Wide Parking Study

MMC feels that the appropriate metric to measure parking utilization is parking demand per Bramhall campus employee. This metric is ideal because the number of employees will change over time. Other metrics such as parking space per bed or parking space per square foot would not accurately account for all factors impacting parking demand on campus. This metric allows for changes in both factors – the number of employees and parking demand. In addition, this metric focuses on MMC employees who are the target population of this transportation demand management plan.

MMC's Bramhall campus has roughly 6,000 employees as of 2017. Therefore the current employee parking demand per Bramhall campus employee is 0.375.

$$\frac{\text{Estimated Employee Parking Demand (2,250)}}{\text{MMC Bramhall Employees (6,000)}} = \text{Employee Parking per Bramhall Employee (0.375)}$$

### Future MMC Parking Actions

MMC has proposed multiple capital projects and programs in connection with the Master Facility Plan outlined in MMC's IDP. Near-term (completed by 2021) projects to expand parking supply include:

1. Patient / Visitor Garage Addition: Expand the existing 480-space Patient/Visitor Garage by three levels to accommodate an additional 225 spaces; and
2. New St John St Garage: Construct a new 2,450 space parking garage on the nearby St. John Street and demolish the existing 1,274-space Employee Garage.

The resultant 2021 parking supply upon completion of these near-term projects is summarized in **Table 3: Expected 2021 MMC Bramhall Campus Parking Supply Summary**.

**Table 3: Expected 2021 MMC Bramhall Campus Parking Supply Summary**

		Patient / Visitor	Employee	Total at Facility	Ownership
<b>ON-CAMPUS</b>	Patient/Visitor Garage	705	0	705	<i>Owned</i>
<i>1,075 patient/ visitor spaces</i>	South Lot	370	0	370	<i>Owned</i>
<i>264 employee spaces</i>	887 Congress (Forest St Garage)	0	178	178	<i>Owned</i>
	7 Bramhall St	0	26	26	<i>Leased</i>
<b>OFF-CAMPUS</b>	New Employee Garage	0	2,450	2,450	<i>Owned</i>
<i>2,459 employee spaces</i>	321 Brackett St	0	9	9	<i>Leased</i>
	<b>Total Parking Spaces</b>	<b>1,075</b>	<b>2,654</b>	<b>3,729</b>	

*Per September 22, 2017 Institutional Development Plan*

As shown in **Table 3**, the patient parking supply by 2021 will increase by 225 spaces and the employee parking supply will increase by 627 spaces with these two parking projects completed. With the new Employee Parking Garage located off-campus, the amount of employees who park remotely will increase from about 25 percent to 90 percent.

MMC anticipates consolidating the Gateway Garage and Classic Lot parking spaces into the new employee garage following the opening of the new parking garage.

These efforts are intended to enable MMC to continue with their primary Master Plan goals, which include the expansion of important clinical programs and the de-coupling of semi-private patient rooms to fully private rooms. The proposed new hospital building will be located on the site of the former Employee Garage. As defined in the MMC IDP, the hospital anticipates that the overall patient load will grow by approximately eight percent over the next ten years (or about 0.75 percent per year). Similarly, employment at MMC is expected to grow by approximately 7 percent over the next ten years (or about 0.70 percent per year). The growth rates were applied to the 2017 MMC parking demands to reflect overall anticipated institutional parking growth. **Tables 4 and 5** summarize how the new construction will affect the occupancies over time.

**Maine Medical Center Campus-Wide Parking Study**

**Table 4: Future MMC Bramhall Campus Employee Parking Supply/Demand Summary**

	2020	2022	2026
<b>Parking Spaces</b>	2,654	2,723	2,723
<b>Effective Parking Capacity</b>	2,521	2,521	2,521
<b>Parking Demand</b>	2,465	2,500	2,570

For employee parking garages, the effective parking capacity is 95% of striped parking spaces, shown in **Table 4**. This is due to the user group familiarity of the parking garage layout, circulation and general trends of the garage availability due to their daily use of the facility and the low space turnover. Effective capacity for the employee parking spaces is not 100% because of anticipated user compliance with lined spaces (i.e. parking in a way that limits the use of the adjacent parking space).

**Table 5: Future MMC Bramhall Campus Patient/Visitor Parking Supply/Demand Summary**

	2020	2022	2026
<b>Parking Spaces</b>	1,075	1,075	1,075
<b>Effective Parking Capacity</b>	970	970	970
<b>Parking Demand</b>	892	905	933

For patient/visitor garages, the effective parking capacity is 90% of striped parking spaces, shown in **Table 5**. Patients and visitors are often unfamiliar with the garage layout and operations. Planning to accommodate this targeted utilization will ensure arriving patients and visitors have convenient and available parking.

To help alleviate existing and future parking demands, and to support use of other alternative, sustainable modes of transportation, MMC continues to pursue and bolster its Transportation Demand Management (TDM). The purpose of the TDM Plan, called the Commuter Choice Program, is to reduce the amount of single-occupancy vehicles by enabling and promoting alternative modes of transportation to and from MMC's Bramhall Campus for MMC employees.

In the 2017 Transportation Demand Management plan, MMC established the following short-term, mid-term, and long-term single-occupancy vehicle reduction goals shown in **Table 6** below:

**Table 6: 2017 TDM Trip Reduction Goals**

	Short-Term (0-2 years)	Mid-Term (2-5 years)	Long-Term (5+ years)
<b>Trip Reduction Target</b>	2%	4%	5%

MMC will continue to monitor parking demand and needs at the Bramhall campus and re-evaluate its program goals. The estimated impacts of the TDM program's reduction goals are summarized in **Table 7**.

**Table 7: Employee Parking Demand Reduction Due to TDM Efforts Summary**

	2020	2022	2026
<b>Parking Demand</b>	2,465	2,500	2,570
<b>Estimated TDM Reduction</b>	-60	-100	-120
<b>TDM Influenced Demand</b>	2,405	2,400	2,420

If TDM targets are met, parking demand will reduce by approximately 60 in the short term (2020), 90 in the mid-term (2022) and 120 forecasting out to longer-term (2026). Such reductions strive to follow with less single-occupancy vehicles travelling to and from the Bramhall campus as intended by the Transportation Demand Management plan and programs.

## Maine Medical Center Campus-Wide Parking Study

**Table 8: Employee Parking Demand Reduction Due to TDM Efforts  
Compared to Effective Employee Parking Capacity**

	2020	2022	2026
<b>Effective Employee Parking Capacity</b>	2,521	2,521	2,521
<b>TDM Influenced Demand</b>	2,405	2,399	2,420
<b>Estimated Parking Surplus</b>	116	122	101

**Table 8** compares the TDM influenced parking demand to the effective parking capacity for employee parking spaces. The amount of parking surplus fluctuates between 2020 and 2026 because of the time it will take for MMC to enhance the existing TDM program.

This analysis projects parking demand for 2026. The lifespan of the parking garage is expected to exceed 30 years. The estimated 2026 parking surplus in **Table 8** is roughly 4% of the total employee parking spaces shown in **Table 3** and is within a reasonable margin of error.

### Conclusion

This study quantifies the existing and future parking conditions, with a focus on peak period demand requirements, to help quantify and formulate sound parking strategies to adequately support MMC's patients, visitors, staff, and physicians into the future. VHB determined that existing estimated parking demand at the Bramhall campus exceeds existing supply. The demand for complex healthcare in Maine is growing. As a result, MMC is growing to meet that demand. MMC's forecasts an increase in patient activity at the Bramhall campus by 2026. Using this forecast, VHB estimated a parking demand that will be accommodated only through investments in parking facilities and MMC's Transportation Demand Management program.