

Burlington Development Review Board

Department of Permitting & Inspections
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BURLINGTON DEVELOPMENT REVIEW BOARD Tuesday, November 17th, 2020, 5:00 PM PUBLIC HEARING NOTICE

REMOTE MEETING

Zoom: <https://us02web.zoom.us/j/84529354697?pwd=SFRsdTdjatNVcHBCcplLMndZdHN3UT09>

Webinar ID: 845 2935 4697

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or +1 253 215 8782

- 1. 21-0329CA; 323-325 College St (RH, Ward 8E) 323 Green Castle LLC, Alpha Porperties LLC, Elizabeth Demas, Peter Potts, Mary Lee, Carol Bedard potts**
Construction of 4-unit building addition with associated utility work and minor grading
- 2. 2020-2025 Joint Institutional Parking Management Plan**
On behalf of the University of Vermont, Champlain College, and UVM Medical Center, CATMA will attend present the revised JIPMP 2020-2025

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status, crime victim status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at (802) 540-2505.



2020 - 2025

Institutional Parking Management Plan

Institutional Supplement



Submitted on: October 13, 2020

Prepared for: City of Burlington
Planning Commission

Submitted by: Chittenden Area
Transportation Management
Association

In Cooperation with: Champlain
College, University of Vermont,
and University of Vermont Medical
Center

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I. Purpose

This document serves as a supplement to the 2020-2025 Joint Institutional Parking Management Plan (JIPMP). Historically, the data in this document has been provided within the JIPMP, but in an effort to streamline the JIPMP, the supplement holds data that is not required by the JIPMP but is useful and informative for the institutions' sustainable planning purposes.

2. Champlain College

Table 2-1. Champlain College parking lot counts.

	10:00 AM	12:00 PM	2:00 PM
10/22/2019	489	-	599
10/24/2019	492	-	532
2/18/2020	494	518	501
2/19/2020	502	500	501
2/20/2020	523	533	528
Average	517		73%
Maximum	599		84%

Table 2-2. All infrastructure included in Champlain College's GSF calculation and parking supply.

Name	Primary Use	GSF	Residential Beds	Parking Spaces
194 St Paul Street	Residential/Retail (4,455 GSF Retail)	175,000	314	0
308 Maple	Residential	5,223	14	0
396 Main	Residential	8,801	39	20
Adirondack House	Residential	4,631	20	0
Aiken Hall	Administrative/Academic	13,701	0	0
Bader Hall	Residential	8,140	22	0
Bankus Hall	Residential	10,432	50	0
Butler Hall	Residential	26,730	89	0
Carriage House	Residential	2,376	15	0

Center for Communications and Creative Media (formerly Hauke/Alumni)	Administrative/Academic	87,187	0	0
Cushing Hall	Residential	9,095	30	7
Durick Hall	Administrative	4,036	0	3
Foster Hall	Administrative/Academic	7,008	0	0
Freeman Hall	Administrative/Academic	11,992	0	0
Garden House (ARC)	Administrative	4,371	0	0
Goodhue Coolidge House	Administrative/Academic	4,054	0	0
Hill Hall	Residential	9,203	40	0
IDX Student Life Center	Administrative/Athletic/	49,939	0	5
	Dining			
Jensen Hall	Residential	9,972	41	9
Joyce Learning Center	Academic	20,483	0	0
Juniper	Residential	28,732	90	0
Lakeside Campus	Administrative	39,552	0	267
(Miller Center at Lakeside)				
Lakeview Hall	Residential	18,033	81	0
Lyman Hall	Residential	8,550	44	0
Boardman Hall	Residential	31,932	59	28
McDonald Hall	Residential	10,922	50	0
Miller Information Commons	Academic	29,860	0	42
North House	Residential	5,402	21	10
Pearl Hall	Residential	10,874	50	0
Perry Caretaker's Cottage	Residential	444	1	0
Perry Carriage Barn	Academic	5,546	0	0

Perry Hall	Administrative/Academic	27,847	0	16
Rowell Annex	Administrative	2,882	0	0
Rowell Hall	Residential	9,954	52	33
Sanders Hall	Residential	9,716	37	8
Schillhammer Hall	Residential	7,836	27	0
SD Ireland Family Center for Global Bus & Tech	Administrative/Academic	24,390	0	0
Skiff Hall	Administrative	12,493	0	15
Skiff	Administrative/Academic	3,354	0	0
South House	Residential	12,608	51	12
Summit Hall	Residential	15,271	51	28
The Gallery	Academic	633	0	0
Valcour Hall	Residential	30,028	91	0
West House	Administrative	3,718	0	0
Whiting Hall	Residential	9,975	44	0
Wick Hall	Administrative/Academic	5,265	0	0
Subtotal		838,191	1,453	503
Leased Facilities¹/Lots				
115 Lakeside Lot				175
371 Main	Residential (temporary)	13,326	30	21
158 South Willard	Residential (temporary)	10,900	29	11
Total Campus Parking Spaces				710

Table 2-3. Additional Champlain College infrastructure that is not included in GSF calculation or parking supply.

Name	Primary Use	GSF	Parking Spaces
194 St Paul St	Retail	N/A	67
390 Maple St	Residential	3,768	2
436 Maple St	Residential	4,297	2
115 Summit St (President's House)	Residential	3,487	2
270 South Willard St (Provost's House)	Residential	7,478	2
Total		19,030	75

Table 2-4. Current & Future Employment and Enrollment for Champlain College.

	Current (2020)	Future (2025)
Employment		
On-Campus		
Full-time	377	380
Part-time	415	350
Contracted	88	100
<i>Subtotal</i>	<i>880</i>	<i>830</i>
Off-Campus		
Full-time	2	380
Part-time	244	350
Dublin and Montreal Campuses	68	100
Total	1,194	1,660
Enrollment		
On-Campus		
Full-time Undergraduates	2,024	2,020
Part-time Undergraduates	54	60
Full-time Graduates	4	0
Part-time Graduates	5	0
<i>Subtotal</i>	<i>2,087</i>	<i>2,080</i>
Off-Campus		
Full-Time Graduates	543	590
Part-Time Graduates	85	100
Full-time Undergraduate Continuing Professional Studies	451	410
Part-time Undergraduate Continuing Professional Students	1,253	1250
Total	4,419	4,430

Table 2-5. Champlain College permit types, cost, and number of permits issues (December 2019).

Type	Users	Cost Per Semester	Permits Issued
Zone 1	Employees	Free	264
	Off-Campus Students		165

Zone 2	On Campus Students	\$150	233
Zone 3	Full-Time Off Campus Students		27
	Full-Time Employee	\$170	61
	Part-Time Off Campus Student		2
	Part-Time Employee	\$75	12
Zone 4	Full-Time Off Campus Students		14
	Full-Time Employee	\$200	50
	Part-Time Off Campus Student		2
	Part-Time Employee	\$90	5
Zone 5	Education majors & other students with work requirements	\$225	23

Table 2-6. Citations given by Champlain College Transportation.

Year/Semester	# of Valid Citations Issued	Funds Collected	Cumulative Funds (Since 2004)
2006-2007	-	\$ 57,390	\$ 113,390
2007-2008	-	\$ 44,175	\$ 157,565
2008-2009	-	\$ 57,195	\$ 214,760
2009-2010	-	\$ 42,165	\$ 256,925
2010-2011	-	\$ 38,550	\$ 295,475
2011-2012	-	\$ 51,065	\$ 346,540
2012-2013	1,574	\$ 43,840	\$ 390,380
2013-2014	1,519	\$ 41,680	\$ 432,060
2014-2015	1,069	\$ 30,600	\$ 462,660
Summer 2015	111	\$ 5,585	\$ 468,245
2015-2016	1,326 105 warnings	\$ 31,475	\$ 499,720
Summer 2016	32	\$ 2,300	\$ 502,020
2016-2017	1,935 467 warnings	\$ 26,481	\$ 528,501
Summer 2017	156 46 warnings	\$ 995	\$ 529,496
2017-2018	2,073	\$ 28,502	\$ 557,998

	274 warnings		
	261		
Summer 2018	44 warnings	\$ 2,795	\$ 560,793
2018-2019	1,435	\$ 20,625	\$ 581,418
Summer 2019	245	\$ 2,575	\$ 583,993

3. University of Vermont

Table 3-1. University of Vermont parking lot counts.

	10:00 AM	12:00 PM	2:00 PM
10/22/2019	3799	-	3706
10/24/2019	3696	-	3651
2/18/2020	3831	3893	3795
2/19/2020	3888	3942	3833
2/20/2020	3846	3958	3819
Average	3820		80%
Maximum	3958		83%

Table 3-2. Infrastructure (by building use) included in UVM's GSF calculation.

Building Use	Accessory Buildings	Total Buildings	GSF	Residential Beds
Mixed Uses				
Academic/Administrative/Student Support	0	3	242,857	0
Academic/Research	9	71	1,927,762	
UVM/UVMMC Academic Research	1	7	253,458	
Administration	8	31	509,030	
Athletics	8	17	406,252	
Student Support	3	20	507,179	
Residential				
Residential Academic	0	3	110,961	5,906
Residential Dining	0	4	260,062	
Residential Central Campus	2	8	212,341	
Residential Redstone Campus	0	14	409,117	
Residential Trinity Campus	0	12	147,174	
Residential University Heights Campus	0	11	592,343	

Total	31	201	5,578,536	5,906
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Table 3-3. UVM's parking supply by campus.

Parking Lot	Capacity	Leased Spaces	Usable Spaces
Athletic Commuter	1,674	0	1,674
Core Central	56	0	56
Core East	884	-100	784
Core North	369	0	369
Core South	193	0	193
Core West	434	-47	387
Commuter Lots	808	-485	323
Redstone Campus	619	0	619
Trinity	314	20	334
Off-Site	200	0	200
Total	5,551	-612	4,939

Table 3-4. Current & Future Employment and Enrollment for UVM.

	Current (2020)	Future (2025)
Employment		
Staff		
Full-time	2,218	2,335
Part-time	158	170
Faculty		
Full-time	1,352	1,375
Part-time	411	420
<i>Non-Burlington Employees¹</i>	219	219
<i>Subtotal</i>	<i>3,920</i>	<i>4,081</i>
Enrollment		
Undergraduate	10,700	10,800
Graduate and Certificate	1,627	1,800
Medical Student	478	500
Non-Degree Continuing Education	743	750
<i>Subtotal</i>	<i>13,548</i>	<i>13,850</i>
Total	17,468	17,931

¹These employees are subtracted when determining the subtotal of employees because it is unknown whether these employees are faculty/staff or part-time/full-time.

Table 3-5. UVM permit types, cost, and number of permits issues (December 2019).

Category	Type	Cost	Permits Issued
Employee Permits			
Green	Pre-Tax Payroll Deduction	0.64%	2,848
	Affiliate	\$ 329	
	Affiliate 30-Day	\$ 41	
White	Pre-Tax Payroll Deduction	0.48%	
	Affiliate	\$ 247	
	Affiliate 30-Day	\$ 31	
Brown	Pre-Tax Payroll Deduction	0.32%	
	Affiliate	\$ 165	
	Affiliate 30-Day	\$ 21	
Silver (Off-Site)	Pre-Tax Payroll Deduction	Free	
	Affiliate		
	Affiliate 30-Day		
Occasional Use	Permit 6-12 Days	Free	872
	Brown (Peripheral)	\$ 2	
	White (Proximate)	\$ 3	
	Green (Main)	\$ 4	
Student Permits			
Residential	30-Day Black, Blue, Purple, and Red	\$ 55	1,442
	Temporary (1 Semester)	\$ 180	
	Black, Blue, Purple, and Red	\$ 330	
Commuter and Graduate Students/Medical Students (1st & 2nd Year)	30-Day Brown	\$ 19	1,540
	30-Day Gold	\$ 12	
	Gold - Evening	\$ 69	
	Gold - Evening (1 Semester)	\$ 45	
	Brown - Day & Evening	\$ 115	
	Brown - Day & Evening (1 Semester)	\$ 73	
Medical Students (3rd & 4th Year)	Yellow - Day & Evening	\$ 329	67
	30-Day Yellow	\$ 27	
Occasional Use			174
Carpool	Green		26
	White		6

Table 3-6. Citations given by UVM Transportation & Parking Services.

Violation	Fine	Citations Issued	Funds Collected
No Valid Permit	\$ 50	2,460	\$ 123,000
Habitual/Warning-No Permit	\$ 50	309	\$ 15,450
Habitual Offender-No Permit	\$ 110	360	\$ 39,600
Restricted Area	\$ 30	1,825	\$ 54,750
Habitual/Warning Restricted Area	\$ 30	266	\$ 7,980
Habitual Offender- Restricted Area	\$ 90	373	\$ 33,570
Expired Space	\$ 25	1,020	\$ 25,500
Habitual/Warning-Expired Space	\$ 25	166	\$ 4,150
Habitual Offender-Expired Space	\$ 85	231	\$ 19,635
Unauthorized Permit	\$ 80	42	\$ 3,360
Habitual Offender Unauthorized Permit	\$ 140	2	\$ 280
Falsified Information	\$ 80	1	\$ 80
Handicap Space	\$ 80	35	\$ 2,800
Permit Not Displayed	\$ 30	39	\$ 1,170
Relocating at Owner's Expense	\$ 55	2	\$ 110
Roadway	\$ 80	2	\$ 160
Total		7,133	\$ 331,595

4. University of Vermont Medical Center

Table 4-1. UVM Medical Center parking lot counts.

Medical Center Campus			
	10:00 AM	12:00 PM	2:00 PM
10/22/2019	1,983	-	1,121
10/24/2019	1,970	-	1,169
2/18/2020	1,549	1,590	1,608
2/19/2020	1,560	1,575	1,633
2/20/2020	1,540	1,601	1,636
Average		1,580	77%
Maximum		1,983	97%
1 South Prospect			
10/22/2019	425	-	432
10/24/2019	412	-	403
2/18/2020	414	422	434
2/19/2020	433	423	410
2/20/2020	393	375	411
Average		415	91%
Maximum		434	95%
Both Campuses			
Average		2,043	81%
Maximum		2,408	96%

Table 4-2. Maximum and average lot utilization for UVM Medical Center off-site lots (November 2019 – February 2020).

Lot Name ¹	Maximum Utilization	Average Utilization
UVM Catamount East	100%	90%
UVM Centennial	92%	77%
UVM Jeffords Lot	100%	93%
Technology Park	100%	84%
115 Lakeside Lot	92%	80%
Fanny Allen	100%	96%
Daily Aggregate of All Satellite Lots	89%	84%

¹Counts for the UVM Commuter West could not be provided. These lots are counted in UVM Medical Center's supply but are not used in lot utilization due to lack of data.

²These lot counts were not a part of the formalized process instituted by CATMA in October 2019. These counts reflect the average and maximum lot counts from November 2019 to February 2020. In the future, satellite lots will follow the same lot count process as on-site lots.

Table 4-3. GSF of UVM Medical Center buildings.

Building Use	GSF
Medical Center Campus	
Hospital (In-Patient)	786,057
Education	35,597
Other	877,085

<i>Subtotal</i>	1,698,739
1 South Prospect	
Other	149,404
Other Burlington Sites¹	
Other	58,477
Total	1,906,620

¹Other building sites are not included in GSF for JIPMP calculations.

Table 4-4. UVM Medical Center parking supply included in JIPMP.

Location	Number of Spaces
Medical Center Campus	
ACC Garage	1,224
ACC Loading Dock	21
ER Lot	47
ED Ambulance Bay	5
ED Ambulance Parking	4
McClure Parking Garage	317
Patrick Loading Dock	9
South Lot	425
<i>Subtotal</i>	<i>2,052</i>
1 South Prospect	
Lot A	47
Lot B	178
Lot D	197
Pearl Street Lot	35
<i>Subtotal</i>	<i>457</i>
On-Site Total	2,509

Table 4-5. UVM Medical Center parking supply not included in JIPMP.

Location	Number of Spaces
Other Burlington Sites	
95 St. Paul Street	18
112 Colchester Avenue	8
128 Lakeside Avenue	38
184 Pearl Street	12
195 Colchester Ave	40
199 Main Street	24
<i>Subtotal</i>	<i>140</i>
Off-Site Lots	

UVM Catamount East	285
UVM Centennial	200
UVM Jeffords Lot	100
UVM Core West	47
Fanny Allen Campus	155
Technology Park	200
115 Lakeside Ave	250
<i>Subtotal</i>	<i>1,237</i>
Off-Site Total	1,377

Table 4-6. Current & Future employment and patient/visitor for UVM Medical Center.

	Main Campus	1 South Prospect	Other Burlington Sites	Total
Current (2020)				
Full-time				
Day Shift	2,382	423	113	2,918
Evening Shift	300	9	0	309
Night Shift	595	8	0	603
Rotating Shift	794	39	7	840
Part-time				
Day Shift	492	68	10	570
Evening Shift	63	3	0	66
Night Shift	76	0	0	76
Rotating Shift	139	14	3	156
Other				
Per Diem Employees	726	66	8	800
<i>Employee Subtotal</i>	<i>5,567</i>	<i>630</i>	<i>141</i>	<i>6,338</i>
Non-Employee Users				
Out-patients	1,381	460		
In-Patients	500			
Visitors	360			
Current Total	7,808	1,090	141	9,039
Future (2025)				
Full-time				
Day Shift	2,382	423	113	2,918
Evening Shift	300	9	0	309
Night Shift	595	8	0	603
Rotating Shift	794	39	7	840
Part-time				

Day Shift	492	68	10	570
Evening Shift	63	3	0	66
Night Shift	76	0	0	76
Rotating Shift	139	14	3	156
Other				
Per Diem Employees	726	66	8	800
<i>Employee Subtotal</i>	<i>5,567</i>	<i>630</i>	<i>141</i>	<i>6,338</i>
Non-Employee Users				
Out-patients	1,381	460	0	1,841
In-Patients	500	0	0	500
Visitors	360	0	0	360
Future Total	7,808	1,090	141	9,039

Table 4-7. Total permits issued by UVM Medical Center (December 2019).

Location	Permits Issued
Medical Center Campus	
ACC permits	481
McClure Residents, Nurse practitioners, Phys Assistants, Midwives	564
Physicians (ACC permits)	1,458
Carpools (956 participants)	478
Business Needs	347
115 Lakeside, day shift	790
115 Lakeside, rotator	492
Fanny Allen Shuttle Lot	467
Fanny Allen/Rotators	163
Centennial/Day	106
Centennial/Rotators	36
South Lot	443
UVM Catamount East/Day	505
UVM Catamount East/Rotators	125
UVM Jeffords Lot/Day	184
UVM Jeffords Lot/Rotators	18
Evening/Night	1,417
1 South Prospect	
Centennial Day	512
Centennial Rotator	81
Pearl	17
Taft	70

Burlington Development Review Board

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BURLINGTON DEVELOPMENT REVIEW BOARD

Tuesday, November 17, 2020, 5:00 PM

REMOTE MEETING

Zoom: <https://us02web.zoom.us/j/84529354697?pwd=SFRsdTdjaTNVcHBCcplMndZdHN3UT09>

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Agenda

- I. Agenda
- II. Communications
- III. Minutes
- IV. Consent
 1. **21-0396CA; 219 North Winooski Ave (NMU, Ward 2C) Jade Age LLC, Steven Schenker**
Construct new 3-unit apartment building and related site work.
- V. Public Hearing
 1. **20-0522CU; 75 Cherry Street (FD6, Ward 3C) BTC Mall Associates, LLC**
Amend ZP 17-0662CA/MA phasing schedule.
 2. **Review of 2020-2025 Joint Institutional Parking Management Plan**
- VI. Adjournment

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

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Burlington Planning Commission

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Andy Montroll, Chair
Bruce Baker, Vice-Chair
Yves Bradley
Alexander Friend
Emily Lee
Harris Roen
Jennifer Wallace-Brodeur

TO: Burlington Development Review Board
CC: Department of Public Works, Public Works Commission
FROM: Burlington Planning Commission
DATE: November 11, 2020
RE: Consideration of 2020-2025 Joint Institutional Parking Management Plan

The Joint Institutional Parking Management Plan (JIPMP) is prepared by CATMA on behalf of the University of Vermont (UVM), Champlain College (CC), and the UVM Medical Center (UVMHC). It is a parking supply and demand planning tool, enabled by the *Burlington Comprehensive Development Ordinance (CDO)*, for the purpose of ensuring that streets in nearby neighborhoods are not unfairly burdened by the parking demands of the institutions, and to recognize the ability for the institutions to manage parking in a comprehensive and creative way. This report allows the institutions to demonstrate parking demand and, when lower than requirements outlined in the *CDO*, receive what amounts to a parking waiver from those standards when apply for zoning permits for projects listed in the report. The Commission further sees this plan as an important tool for the institutions to identify and commit to strategies which will reduce parking demand. This report may be approved by the DRB for a period of up to five years, and annual updates are provided to the City.

The Planning Commission first received a presentation on the 2019-2024 JIPMP in March 2019, where future parking deficits were projected for both UVM and CC. During the spring and summer 2019, City staff and the Commission provided feedback that informed a number of revisions to this plan. However, based on concerns about applicability of survey data and outstanding planning and data collection efforts by CATMA and the institutions, the 2019-2014 report was withdrawn and substantially revised.

On October 13 and November 10, CATMA presented a comprehensively revised 2020-2025 JIPMP and addressed the Commission's questions and concerns. Most notably, an updated survey instrument and new survey data, a coordinated process for collecting parking utilization counts, and refinements to methodologies for calculating peak demand have improved the clarity and foundation of the future demand projections. On the supply side, the scope of off-site parking facilities for UVMHC better reflects Hill-area conditions, Redstone campus parking supply (and demand) has been defined as a distinct user group, and additional parking satellite parking supply has been identified by UVM. With these updates, all institutions project that they will be able to meet future parking demand.

However, it is noted that UVM is still in the process of updating both its campus transportation and housing plans. Further, while the report does address strategies for managing UVMHC staff demand, it does not estimate or project any change to the number or behaviors of patients and visitors. These are incredibly important pieces of information to answer key questions about future parking supply and demand. CATMA also noted that this report is based on pre-COVID-19 conditions. CATMA remains committed to providing an update in the spring of 2021, but the Planning Commission recognizes that this may not fully represent a permanent future condition. The 2021 report will provide a snapshot of any COVID-related impacts to enrollment, employment, parking demand, and telehealth, telework, and

remote learning. However, it may be several years before the lasting impacts of any changes to these factors are fully understood.

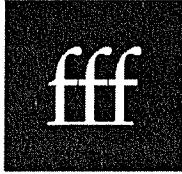
As such, the Commission is particularly interested in the annual monitoring and reporting to the City, which is an important tool for evaluating the actual conditions against the report's projections. If monitoring demonstrates that demand exceeds these projections or the available supply, CATMA and the institutions should offer specific responses. Conversely, if COVID-19 has long-term impacts on the institutions enrollment or employment projections, on-campus activities, or travel behaviors, the annual reports should update the plan's assumptions and any impact on parking management strategies. The Commission requests updates from staff if the annual updates from CATMA indicate that ongoing performance differs significantly from the plan.

In general, the institutions should prioritize strategies that reduce parking demand and offer robust alternative modes of transportation over strategies that create more parking. For example, because campus planning efforts remain underway, if the institutions pursue any additional on-campus housing that is not planned for in the 2020-2025 JIPMP that will generate additional parking demand, the institutions should offer new or expanded TDM measures to offset this demand. If new parking supply is warranted, it should be provided through satellite parking facilities.

More specifically, while the updated report indicates that UVM expects it will be able to meet future demand, the Commission continues to recommend that it consider implementing a policy that either prohibits sophomores from bringing cars to campus, or requires their storage in new/expanded satellite parking areas, and consider changes to staff parking areas to maximize capacity (such as through valet or tandem parking).

Finally, the Commission urges greater coordination between City departments, commissions, and the institutions with regard to managing on-street parking in neighborhoods surrounding the institutions. Specifically, the Commission would like to see more and better data included in future reports regarding on-street parking utilization by the institutions' user groups, and consideration of streets that could be further regulated to reduce driving and parking demand by these users.

With these specific points for your consideration, the Planning Commission recommends that the Development Review Board approve the 2020-2025 JIPMP.



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MEMORANDUM

Freeman French Freeman Inc. | Architecture · Planning · Interiors
81 Maple Street · Burlington Vermont 05401
802-864-6844 · www.fffinc.com

Project Name: **CityPlace**
Project Number: A1947.00
Date: **16 July 2020**

To: P&Z Department- Scott Gustin
From: Jesse Beck, FFF
Re: Construction Phasing/TCO Plan

RECEIVED
JUL 16 2020
BURLINGTON
PERMITTING & INSPECTIONS

Phased occupancy based on the following:
Construction Start – September 30, 2021
Completion (Phase 1, 27 months) – December 31, 2023

North Block- Phase1/TCO1 (27mos.)December31,2023

Basement level- Mech./Utilities/Storage/Parking
Garage Floors L1-L4 North of Hotel Garage Break line
Residential floors L1, 2, 3.
Retail – Cherry Street.

North Block- Phase2/TCO 2 (+6mos.)July1,2024

Residential Floors L4 to L8
Res. Amenities L9
Mechanical L9

South Block- Phase3/TCO3 (+3mos.) October1,2024

Retail on Bank and hotel lobby.
Parking Garage - South Section under Hotel.
Hotel Amenity L1

South Block- Phase4/TCO4 October31,2026

Construction start October 31, 2024
Completion (24 months) October 31, 2026
Hotel L2 to L7
Restaurant and Observation Deck on L8; Mechanical L9.
New St. Paul and NE Pine Ground Level Spaces.

CC

File A1947.00			

LAW OFFICES
OF
JOHN L. FRANCO, JR.

110 Main Street, Suite 208
Burlington, Vermont 05401-8451
Telephone (802) 864-7207 FAX (802) 859-1876
email: johnfrancolaw@aol.com

RECEIVED
DEC 23 2019
BURLINGTON
PERMITTING & ZONING

December 16, 2019

City of Burlington, Vermont
Development Review Board and
Department of Planning and Zoning
City Hall
149 Church Street
Burlington, VT. 05401

Re: *Permit Amendment Application #17-0662CA/MA*
Folder RSN378766, ZP Number20-0522CU
75 Cherry Street

To Whom It May Concern:

Barbara McGrew of 76 St. Paul Street, Apt. 8 NW, Burlington, Steven Goodkind of 260 Ethan Allen Parkway, Burlington, Michael Long of 55 Henry Street Burlington, and Lynn Martin of 101 College Street #211, Burlington hereby enter their appearances as interested persons in the proceedings before the Development Review Board in the above captioned matter. They had brought a series of legal challenges to the redevelopment being proposed for the former Burlington Square Mall at 75 Cherry Street.

- Barbara McGrew individually and Steven Goodkind on his own behalf and on behalf of a group of individuals had brought an appeal in *Devonwood Investors, LLC (75 Cherry Street)*, Vermont Superior Court, Environmental Division, Docket Number 39-4-17 Vtec regarding the local land use approval issued by the Burlington Development Review Board (DRB) on March 17, 2017 to Devonwood Investors, LLC on behalf of the property owner BTC Mall Associates, LLC.
- Barbara McGrew individually brought the appeal *Devonwood Investors, LLC JO 4-255*, Vermont Superior Court, Environmental Division, Docket Number 63-5-17 Vtec claiming that Act 250 had jurisdiction to also review the proposal.
- Steven Goodkind, Michael Long and Lynn Martin in Counts I, II, and III of *Long et. al. v. City of Burlington et. al.* Vermont Superior Court, Civil Division, Docket No. 996-11-16 Cncv brought a taxpayer challenge to \$22 million in Tax Increment Financing (TIF) provided by State and City property taxpayers to BTC Mall Associates to subsidize the project, and in Count IV of that action also as individual plaintiffs challenged a denial of a request for public records regarding that subsidy.

The claims were all settled and compromised in a global *Settlement Agreement* between the plaintiffs and the developer mediated by former Burlington Mayor Peter Clavelle. These actions were each dismissed by the plaintiffs with prejudice and/or they individually withdrew as per the *Settlement Agreement* in exchange for the conditions in that *Settlement Agreement*. Paragraph 3 of that *Settlement Agreement* incorporated by reference a *Stipulation for Final Judgment* along with a *Proposed Judgement Order*. The *Stipulated Findings of Fact Supporting Final Judgment* were approved and signed by the plaintiffs, the developer and the City. The *Proposed Judgment Order* was adopted by the Vermont Superior Court Environmental Division as a *Judgment Order* on July 17, 2017 in Docket 35-4-17 Vtec.

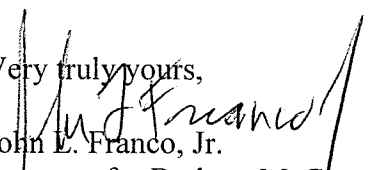
This gives them both contract rights and *res judicata* rights in any proposed changes to the project. They contend that the proposed project amendment(s) violate those rights.

- This is bait and switch permitting. The developer acted on this *Settlement Agreement* and the zoning permit issued by the Environmental Division thereunder to proceed with construction of the project in November of 2017. That construction commenced with demolition including of the former 567 space public parking garage. Now that that parking has been demolished and is a *fait accompli*, the amendments propose to make a 45% reduction in the gross floor area devoted to off-street parking, but only a 15% reduction in the floor area of the other elements. The developer is equitably estopped from doing this.
- The amendments are premature because according to ¶9 the *Settlement Agreement* “may not be amended, modified, or terminated except by written consent signed by all the parties hereto.” No such written consent has been obtained from my clients for these amendments.
- These amendments consequently violate the finality requirements of *res judicata* because they fail to qualify for a zoning permit amendment under Vermont case law which require a showing that the permit amendments are justified by either (a) changes in factual or regulatory circumstances beyond the control of the permittee; (b) changes in the construction or operation of the permittee’s project not reasonably foreseeable at the time the permit was issued; or (c) changes in technology. If approved the amendments will not be in accord with the applicable policies, purposes, or terms of the plan and/or bylaws of the City of Burlington.

Please provide us with actual notice of any and all actions taken on this application, including but not limited to advance notice of the dates and times of all hearings before the DRB.

Thank you for your attention to this matter.

Very truly yours,


John L. Franco, Jr.

Attorney for Barbara McGrew,
Michael Long, Lynn Martin, and
Steven Goodkind

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DEC 23 2019

BURLINGTON
PERMITTING & INSPECTIONS

Phased occupancy based on the following:

Construction Start – August 2020

Completion (30 months) – February 2023

Phase 1 /TCO 1 (18 mos.) February 2022

Basement level- Mech./Utilities/Storage/Parking
Garage Floors L1-L4 North of Hotel Garage Break line
Residential floors L1, 2, 3.

Phase 2 / TCO 2 (+6 mos.) August 2022

Residential Floors L4 to L8
Res. Amenities L9
Mechanical L9

Phase 3/TCO 3 (+3mos.) November 2022

Retail on Bank
Parking Garage - South section for Hotel.
Hotel Amenity L1

Phase 4/ TCO 4 (+3 mos.) February 2023

Hotel L2 to L7
Mechanical, Community, restaurant L8, L9.

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NOV 20 2019

BURLINGTON
PERMITTING & INSPECTION

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Alison Davis, Zoning Clerk
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



MEMORANDUM

To: Development Review Board
From: Ryan Morrison, Associate Planner
Date: November 17, 2020
RE: 21-0396CA; 217-219 North Winooski Avenue

=====

This application for a new 3-unit building at the above referenced property was heard at the November 10, 2020 Design Advisory Board meeting. The DAB tabled the application for several recommended changes to more closely comply with various requirements of Article 6. The applicant is expected to return to the DAB at a later meeting date when the recommended changes have been addressed.

As a result, the application is not ready for Development Review Board consideration, and should be deferred to a future DRB meeting, no date certain since the application is not a public hearing item.



MEMORANDUM

November 12, 2020

To: Burlington Development Review Board
Cc: Scott Gustin, Principal Planner for Development Review, Zoning Division of the Department of Permitting & Inspections
From: Sandy Thibault, Executive Director, CATMA
Kim Furtado, Transportation Analyst, CATMA
Re: 2020-2025 Joint Institutional Parking Management Plan

CATMA, on behalf of the University of Vermont (UVM), Champlain College (CC), and UVM Medical Center (UVMC), presented the 2020-2025 Joint Institutional Parking Management Plan (JIPMP) to the Burlington Planning Commission at their October 13th and November 10th, 2020 meetings. We addressed some questions, clarifications and feedback from the Planning Commission at these meetings. As a result, the following updates will be made to the 2020-2025 Joint Institutional Parking Management Plan prior to CATMA's presentation to the Development Review Board on November 17, 2020.

UPDATE 1

Clarifying demand for campus-affiliated housing (i.e. Redstone Lofts/Commons).

Students living in the Redstone Lofts & Commons (formerly Apartments) have been an atypical user group to incorporate within this report. Though they are technically considered off-campus students, their travel behavior most reflects on-campus students who live in UVM residence halls. For this reason, our student survey asks students who identify themselves as an on-campus student to then select their "residence hall" which includes Redstone Lofts or Redstone Commons as options.

Upon further discussion of this user group at our recent Planning Commission meetings and in order to better depict parking demand estimates, we have updated Table 4-4 (pg 19) and 4-8 (pg 21-22) to include Redstone Lofts & Commons students as their own user group as well as added Redstone's parking supply to the total supply.



Table 4-4, Current Parking Demand Calculation for UVM

University of Vermont			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees ²	3,920	60.6%	2,376
On-Campus Students	5,366	11.1%	596
Redstone Lofts & Apartments	605	64.6%	391
Off-Campus Students	7,577	15.4%	1,167
Visitors			185
Fleet			218
Total Peak Parking Demand³			4,933
Total Parking Supply			5,301
<i>UVM Affiliated Parking Supply</i>			4,939
<i>Redstone Parking Supply</i>			362
Net Spaces (UVM Supply Only)			+6
Net Spaces (Total Supply)			+368

Table 4-8, Estimated Future Parking Demand for UVM

University of Vermont			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees ²	4,081	60.6%	2,474
On-Campus Students	5,516	11.1%	613
Redstone Lofts & Apartments	605	64.6%	391
Off-Campus Students	7,729	15.4%	1,191
Visitors			185
Fleet			190
Total Peak Parking Demand³			5,044
Total Parking Supply			5,429

Chittenden Area Transportation Management Association

20 West Canal Street, Suite C-9 Winooski, VT 05404

802.656-RIDE (7433) • info@catmavt.org • catmavt.org

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<i>UVM Affiliated Parking Supply</i>	5,067
<i>Redstone Parking Supply</i>	362
Estimated TDM Effects⁴	-77
Net Spaces (UVM Supply Only)	+100
Net Spaces (Total Supply)	+462

UPDATE 2

Including off-site satellite parking supply to UVM's Medical Center Campus and One South Prospect.

Originally in this 5-year update, we provided data that only included UVM's on-site parking supply in an effort to depict a realistic picture of parking at its main campus (although off-site parking had been included in previous 5-year plans). Again, upon discussion with the Planning Commission and recognizing the importance of off-site parking & shuttles as an effective TDM strategy for UVM, we included the following chart with off-site supply and demand to supplement Table 5-2 (pg 28-29) and Table 5-4 (pg 30-31).

Current and Future Demand Calculations for UVM Medical Center (Medical Center Campus and One South Prospect)

UVM Medical Center			
User Group	Number of Users	Peak Parking Demand¹	
		% of Users	Spaces
Medical Center Campus			
Employees	5,567	34%	1,893
Out-Patients			708
In-Patients			75
Visitors ²			250
Fleet			38
<i>Subtotal</i>			<i>2,964</i>
1 South Prospect			
Employees	630	6%	38
Out-Patients			236
Fleet			8
<i>Subtotal</i>			<i>282</i>
Total Peak Parking Demand³			3,246

Chittenden Area Transportation Management Association

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Parking Supply on campus			2,509
Parking Supply off-site			1,237
Total parking supply			3,746
Net spaces			+500

UPDATE 3

Refining on-street parking data to show those who habitually park on-street at peak time

For the first time in CATMA's surveying, we attempted to better collect on-street parking data in our Spring 2019 surveys. Upon our recent discussions, we realized a correction was needed in Tables 2-3, 3-4, 4-5 and page 28 relative to on-street parking data. The chart below will be used to update these tables mentioned as it represents people who habitually park on the street at peak time versus the number of people who sometimes park on the street at any time of day.

	Number of People Driving to Campus at Peak Time & Parking on Street	Percentage of People Driving to Campus at Peak Time & Parking on Street
UNIVERSITY OF VERMONT		
Off-Campus Students (w/in ½ mi)	2	1%
Off-Campus Students (outside ½ mi)	25	7%
Employees	35	4%
CHAMPLAIN COLLEGE		
Off-Campus Students (w/in ½ mi)	0	0%
Off-Campus Students (outside ½ mi)	0	0%
Employees	5	7%
UVM MEDICAL CENTER		
Employees (Medical Center Campus)	30	4%
Employees (1 South Prospect)	2	3%

Other than these few updates, the report as posted in your packet remains. We will provide a full report with these updates by the end of day Friday, Nov 13th.

Thank you for your time, and look forward to presenting our 2020-2025 Joint Institutional Parking Management Plan.

Chittenden Area Transportation Management Association

20 West Canal Street, Suite C-9 Winooski, VT 05404

802.656-RIDE (7433) • info@catmavt.org • catmavt.org

We'll help you get there

Scott Gustin

From: Jesse Beck <jbeck@fffinc.com>
Sent: Friday, November 13, 2020 3:18 PM
To: Scott Gustin
Subject: RE: CPB DRB

[WARNING] External Message

Scott,

This email requests a 3 month deferral for the Phasing timeline submittal scheduled for a DRB hearing Nov. 17th. We request that the DRB be informed that a new application and submittal has been submitted for P&Z review and approval.

Thank you,
Jesse

From: Scott Gustin [mailto:SGustin@burlingtonvt.gov]
Sent: Friday, November 13, 2020 2:57 PM
To: Jesse Beck
Subject: RE: CPB DRB

Hi Jesse,

A second and final 3-month deferral is possible. If you want to do that, send me a request ASAP.
Scott

Scott Gustin, AICP, CFM
Principal Planner & Asst. Administrative Officer
Dept. of Permitting & Inspections
645 Pine Street
Burlington, VT 05401
(802) 865-7189

From: Jesse Beck [mailto:jbeck@fffinc.com]
Sent: Friday, November 13, 2020 1:53 PM
To: Scott Gustin <SGustin@burlingtonvt.gov>
Subject: re: CPB DRB

[WARNING] External Message

Hi Scott,

Looks like you've scheduled us on Nov. 17th DRB to approve the revised Phasing schedule?

What are our options knowing the new project has been submitted for review?
Can we ask for another 3 month extension?

Thanks,
Jesse

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
Telephone: (802) 865-7188

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
Ted Miles, Zoning Specialist
Charlene Orton, Permitting & Inspections Administrator



TO: Development Review Board
FROM: Scott Gustin
DATE: November 17, 2020
RE: 20-0522CA; 75 Cherry Street

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: FD6 Ward: 3C

Owner/Applicant: BTC Mall Associates, LLC / FFF, Inc.

Request: Amend zoning permit 17-0662CA/MA phasing schedule.

Applicable Regulations:

Article 3 (Applications, Permits, & Project Reviews)

Background Information:

This application has been pending since November 20, 2019. The applicants requested deferral of Development Review Board review in January, 2020. Since then, the COVID-19 pandemic and related state of emergency have taken place. The applicants requested and received a 3-month deferral August 4, 2020. The applicants have since filed a new zoning application for redevelopment of the property. As a result, the applicants are seeking a second 3-month deferral of this pending phasing application. Presumably, it will become moot if the new zoning application is approved.

Per Sec. 3.2.5, *Completeness of Submission, Administrator's Action*, action may be deferred for up to 6 months. Up to two 3-month extensions may be granted by the Development Review Board. The Coronavirus pandemic led to a declared state of emergency that suspended permit timelines for 90-days. Between the original 6 months, the additional 3 months associated with the state of emergency, and the initial 3-month extension, this application will expire this month unless a second 3-month extension is granted by the Development Review Board.

As noted above, a second (and final) 3-month extension may be granted by the Development Review Board. If the application lay dormant for the initial 3-month extension, a second extension may not be granted. Such is not the case here. The applicants have worked to assemble project plans for redevelopment of the project site and have submitted an application for review. A second and final 3-month extension may be granted by the Development Review Board.

November 16, 2020

Members of the Development Review Board,

As a proud partner of CATMA, UVM and Champlain, and a committed sustainable transportation provider, CarShare Vermont respectfully offers the following comments on the proposed Joint Institutional Parking Management Plan:

- **It should be recognized that the intent of the JIPMP is to encourage the institutions to better manage parking demand, not simply build more parking supply.** Increasing parking supply has serious environmental consequences--from increased stormwater runoff to higher emissions from induced vehicle ownership and VMT--as well as financial and opportunity costs for the institutions, surrounding neighborhoods and the city. In fact, changes to our comprehensive development ordinance were passed this fall in recognition of the high costs of parking. Yet the JIPMP states on page 20 that "wherever possible UVM will attempt to reallocate space to create more parking." The plan further affirms this approach by relying heavily on remote parking and shuttle systems to address projected parking gaps. This is not a long-term solution, and should not rightly be considered a "TDM measure," as it simply moves the problem somewhere else. This is in direct conflict with city goals articulated in other various plans, including the most recent Net Zero Energy roadmap.
- **The JIPMP should emphasize the "joint" aspect of the parking management plan.** Trends for vehicle ownership and drive-alone rates are very different for each institution, with Champlain demonstrating the most success, and UVM experiencing lost gains in student vehicle ownership on campus and drive alone rates for staff and students living more than a ½ mile away. While transportation patterns for UVM Medical will naturally differ from UVM or Champlain, this may also reflect different policies and (lesser) TDM options available to affiliates of each institution. Regardless of the availability of parking, it should be concerning that drive-alone trends for two of three institutions are headed in the wrong direction, and the city ought to be able to see a joint plan for how the institutions will address that issue.
- **The city could require that UVM and Champlain include second-year students in its parking prohibition.** It is likely not enough for the Planning Commission to keep recommending something that could be required as a matter of policy. Approval of this plan gives the institutions a 5-year timeframe to follow a recommendation or not, and a significant development benefit without a guarantee that some of these trends will change. Disallowing permits for sophomores/second-year students, as is currently done for first-year students (and done elsewhere in the country), can provide a tangible change in return for approval. Indeed, one of the UVM plans referenced is the Nelson\Nygaard Parking & Transportation Plan. Among the many recommendations by its own consultant: "Undergraduate Parking Restrictions: This is a common practice among universities actively engaged in TDM. Among these schools, there are several precedents for extending parking restrictions to 2nd Year students, and even all undergraduate students."



- **The current plan could be updated.** On page 11, the JIPMP references an earlier plan with the company formerly known as Gotcha to bring 200 e-bikes to Burlington, with projected reductions in drive-alone rates. That company has been bought out by Last Mile Holdings and the plan to bring e-bikes, as we understand it, is now defunct. On page 15, the JIPMP references the subsidy level of Champlain College for its carsharing program as \$7,500-\$10,000. The level has been \$7,500 annually starting July 1, 2019 through our current agreement which expires July 1, 2021. We would expect some preliminary data on impacts of the pandemic, but understand some of the difficulties in obtaining it. While teleworking ought to become more institutionalized in the aftermath of COVID-19, we are not sure what the long-term effects will really be. The institutions should be able to present longer-term shifts in policy so that their impacts might be projected and then measured over the next five years. Concern over virus transmission on public transit may have long-term implications in the opposite direction. There should be a plan for tracking all of these impacts that does not rest on the easy assumption that things will just get better. Perhaps a shorter approval period (1 to 2 years) is in order so that there is time to better understand various trends, and more accountability for how this plan will address them.
- **Price parking appropriately.** The Nelson\Nygaard plan also notes “below-market parking rates” as a “key issue.” Parking prices impact the effectiveness of existing TDM programs and can be an effective TDM measure if set high enough. Likewise, the city, through the Public Works Commission, ought to look at a more effective residential parking permit plan to discourage spillover demand into on-street parking spaces in the adjacent neighborhoods. The JIPMP gives some indication that rather than using remote lots and shuttling in, some staff and students find on-street spaces in nearby neighborhoods. There was also the suggestion that parking counts for those areas is difficult because of the inability to discern whether a vehicle is campus-affiliated or not. A residential parking permit plan could better account for these parking impacts.

Many thanks for your consideration of our thoughts. Please feel free to reach out with any questions.

All the best,



Patrick Murphy

Director of Planning & Operations



Exhibits regarding UVM's JIPMP 2020-2025 dated 10/13/2020

B. Headrick 11/16/2020

Exhibit 1: UVM's data indicates a (556) parking space daytime peak parking deficit

UVM's parking supply (JIPMP, page 16)	4,939 (includes 200 spaces on Pine Street that have been subleased to auto-dealer until August 2021.
UVM's on-campus parking reaches effective capacity at 85%. (JIPMP, Appendix B, page 42, 2 nd paragraph)	X 85%
UVM's effective parking capacity	4939 X 85% = 4,198 parking spaces
Minus UVM's parking demand (JIPMP page 19, Table 4-4)	(4,754)
UVM's parking deficit = the additional number of parking spaces that UVM needs before reaching its effective parking capacity	4198 – 4754 = - 556 UVM has a (556) parking space deficit. UVM needs an additional 556 parking spaces in order to not exceed its effective parking capacity.
Total number of Off-Campus parking spaces that UVM needs in order to not exceed its effective Parking Capacity	200 spaces on Pine Street + 556 additional spaces needed = UVM needs a total of 756 parking spaces off-campus when students return to campus in Fall 2021.

Exhibit 2: UVM's data indicates a (494) parking space deficit in Year 2025

UVM's parking supply (JIPMP, page 21)	5,045 (includes 200 spaces on Pine Street and 200 spaces in Colchester.
UVM's on-campus parking reaches effective capacity at 85%. (JIPMP, Appendix B, page 42, 2 nd paragraph)	X 85%
UVM's effective parking capacity	5,145 X 85% = 4,237 parking spaces
Minus UVM's parking demand (JIPMP page 21, Table 4-8)	(4,867)
UVM's parking deficit = the additional number of parking spaces that UVM needs before reaching its effective parking capacity	$4,237 - 4,867 = - 494$ UVM has a (494) parking space deficit. UVM needs an additional 494 parking spaces in order to not exceed its effective parking capacity.
Total number of Off-Campus parking spaces that UVM needs in order to not exceed its effective Parking Capacity	400 spaces on Pine Street + 494 additional spaces needed = UVM needs a total of 894 parking spaces off-campus no later than Fall 2025.

Exhibit 3A: UVM's data indicates that UVM already has an evening parking deficit of -256 spaces for sold-out basketball games with 3000 spectators and a parking deficit of -536 spaces when it hosts sold-out men's hockey games with 4,000 spectators.

UVM told Act 250 Commission in October 2018 that it had this many parking spaces available in the evening when there are no PFG events (Exhibit 5)	800 to 1100
My count of available parking spaces with no PFG event, Fall 2008 evening	551 Footnote (a)
Patrick Gym's game seating capacity	3,228 (Tarrant Center Multipurpose will be used for basketball games after the PFG project is completed and its game seating capacity will be 3,241)
Method A: CDO Article 8 requires 4 parking spaces per seat. 3,228 divided by 4 = 807 parking spaces required for Patrick Gym.	807 parking spaces needed
Parking Space deficit based on CDO	-256 parking space deficit
OR Method B: based on UVM ticket sales	
Number of non-student event attendees	2,130
+ # of off-campus students who arrive by car	329
Total number of attendees arriving by car	2,469
CDO ratio of 4 passengers/car (unlikely) 2469 divided by 4 = 617 spaces needed.	617 parking spaces needed. (or 1,234 if off-campus attendees arrive 2/car)
Parking space deficit (551 available – 617 spaces needed = 66 parking space deficit)	(66) parking space deficit is conservative. Could be as much as -683 spaces (551-1,234)

(a) In Fall 2018, UVM told the Act 250 Commission that based on its 2014-2019 JIPMP it had a 748 parking space surplus for Fall 2019.

In March 2019, UVM estimated that it had a -533 daytime parking space deficit for Fall 2019. In May 2019, UVM revised this to a -414 daytime parking space deficit. In October 2020, UVM estimates that its Fall 2019 daytime peak parking deficit is 185 +/-210 parking spaces.

By October 2020 UVM's daytime parking space availability was as much as -773 parking spaces less than what UVM told the Act 250 Commission in Fall 2018. (185-210) -748= -773 adjustment to what UVM told the Act 250 Commission for daytime parking net space availability.

Therefore, UVM's evening parking space availability of 800 to 1100 spaces also needs to be reduced by some factor of the 773 parking space forecasting error. My count of 551 empty parking spaces in the evening in Fall 2018 seems about right.

Exhibit 3B: UVM's (536) parking space deficit for sold-out men's hockey games with 4,000 spectators.

UVM told Act 250 Commission in October 2018 that it had this many parking spaces available in the evening when there are no PFG events (Exhibit 5)	800 to 1100
My count of available parking spaces with no PFG event, Fall 2008 evening	551 (See exhibit 3A footnote)
Gutterson's game seating capacity before the PFG project	4,035 (When PFG project is completed, Gutterson's game layout seating capacity will be 4,350. Non-game seating capacity will be 6,300)
Method A: CDO Article 8 requires 4 parking spaces per seat. 4,350 divided by 4 = 1807 parking spaces required for Patrick Gym.	1808 parking spaces needed for renovated Gutterson facility
Parking Space deficit based on CDO	-536 parking space deficit
OR Method B: based on UVM ticket sales	
Number of non-student event attendees	3,316
+ # of off-campus students who arrive by car	719
Total number of attendees arriving by car	3,807
CDO ratio of 4 passengers/car (unlikely) 3807 divided by 4 = 952 spaces needed.	952 parking spaces needed. (or 1,904 if off-campus attendees arrive 2/car)
Parking space deficit (551 available – 952 spaces needed = 401 parking space deficit	(401) parking space deficit is conservative. Could be as much as -1,353 spaces (551-1904)

Exhibit 4: UVM's 2/7/2019 memo to Act 250 Commission regarding UVM plans to : (1) host events of 5,000 persons or more; and (2) use of Gutterson and Tarrant Multipurpose event center concurrently for singular events (1 event using 2 venues).

UVM wrote: "With the exception of commencement and other rare and unusually large events such as Presidential visits, for which we need to have as much flexibility as possible, UVM Athletics is comfortable committing to a combined spectator maximum of 5,000 at one time between Gutterson and Tarrant."



To:
Rachel Lomonaco, Act 250 Coordinator, District 4
111 West Street
Essex Junction, VT 05452

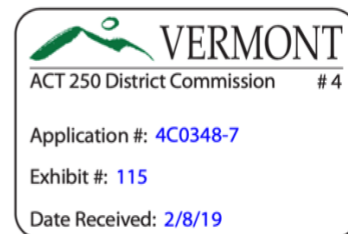
February 7, 2019

Re: Application #4C0348-7, Supplemental Evidence Submittal

Dear Rachel,

As per previous requests, and more recent communication with you, the University would like to submit the following supplemental evidence for this project.

1. The University received the Wastewater System and Potable Water Supply Permit, Exhibit 112: WW-4-0079-2.
2. The University understands the concern from the Act 250 Commission about large spectator events taking place in Gutterson and Tarrant simultaneously. With the exception of commencement and other rare and unusually large events such as Presidential visits, for which we need to have as much flexibility as possible, UVM/Athletics is comfortable committing to a combined spectator maximum of 5,000 at any one time between Gutterson and Tarrant. As the UVM Director of Athletics testified to the Commission, it is not the University's intention to have two large spectator events happening at the same time, but we would want the flexibility to have multiple events going on with smaller capacities, or a large crowd event taking place in



Based on the wording in this letter, 5000 person events will be normal business after the PFG project is completed and events larger than 5,000 persons will occur. A close reading of the sentence indicates that some of the events with more than 5,000 persons will be rare and other events with more than 5,000 persons will just be unusually large.

Exhibit 5: In the Act 250 Commission permit #4C0348-7 for PFG project Finding of Fact #54, the Act 250 Commission finds that UVM will have evening parking deficits when it hosts 5,000 person events at the PFG Complex.

UVM indicated that it will typically have max of 5,000 attendees between Tarrant and Gutterson	5,000 attendees
CDO required number of parking spaces $5000/4 = 1250$	1,250 CDO required parking spaces
UVM said it has 850 to 1100 parking spaces available in the evening	850 to 1100 parking spaces available
Act 250 finds a parking deficit for 5,000 persons events in evening at PFG Complex	Deficit is between -150 and -400 parking spaces

Findings of Fact, Conclusions of Law, and Order #4C0348-7
Page 10 of 17

50. The Jeffords Center parking lot contains approximately 400 parking spaces. However, 100 of those spaces are leased to the UVM Medical Center. Exhibit #093. On average, 250 - 300 parking spaces are available at the Jeffords Center parking lot during evening events. Exhibits #094 and 095.
51. The Applicant has stated that the number and size of events are limited by existing schedules for the PFG complex, availability of parking and availability of space at the PFG complex. Exhibit #087. The Applicant has stated that they do not anticipate or propose an increase in the scope of events that can be held at the PFG complex as a result of the Project. Exhibit #087.
52. The Applicant has stated that with the exception of a one-day undergraduate commencement ceremony held each year, the maximum capacity of the PFG complex is 7,300 people at any one time, based on building egress capabilities. Exhibits #056 and 085.
53. The Applicant has stated that the Multipurpose Center and Gutterson Field House shall not be used simultaneously for spectator events where the combined attendance exceeds 5,000 persons. Exhibit #115. In addition, the Applicant has stated that the Patrick Gymnasium will no longer be used for spectator events but will be used only as a practice space. Exhibit #056.
54. The *Burlington Comprehensive Development Ordinance* (2018) requires off-street parking for indoor recreational facilities using a ratio of one parking space per four seats.⁶ Exhibits #089 and 093. Using this ratio and a maximum capacity of 5,000 the parking demand would be 1,250 parking spaces. On average, however, between 850 - 1,100 parking spaces are available at the PFG parking area and the Jeffords parking lot for evening events if the *UVM Special Events Circulation Procedures* are implemented.

Exhibit 6A: My estimate, based on my evening parking counts, is that UVM will have a (699) parking deficit when it hosts 5,000 persons at one time on the Athletic Campus.

My count of available parking spaces with no PFG event, Fall 2008 evening	551 (See exhibit 3A footnote)
When UVM starts hosting 5,000 event attendees at one time between Tarrant Multipurpose Event Center and Gutterson on the Athletic Campus	5,000 attendees
CDO Article 8 requires 4 parking spaces per seat. 5,000 divided by 4 = 1,250 parking spaces needed	1,250 parking spaces needed for a 5000 person event
Parking Space deficit based on CDO	-699 parking space deficit
551-1250 = 699 parking space deficit	

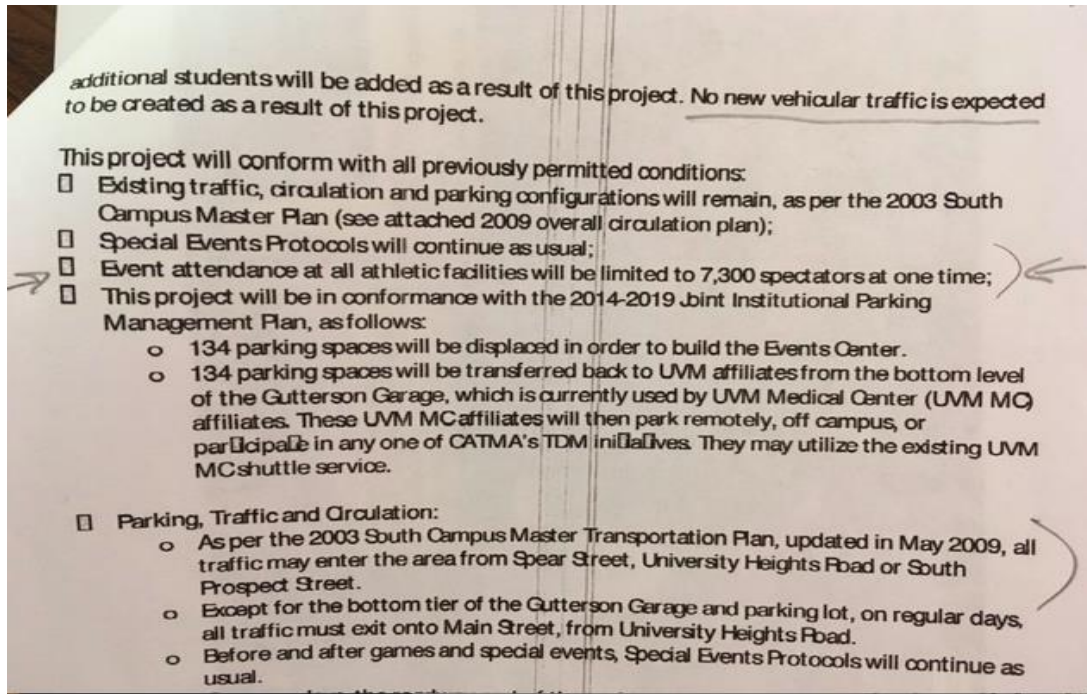
Exhibit 6B: UVM will have a 1,024 parking space deficit when hosting 6,300 persons in Gutterson

My count of available parking spaces with no PFG event, Fall 2008 evening	551 (See exhibit 3A footnote)
When UVM starts hosting 6,300 event attendees at one time in Gutterson	6,300 attendees
CDO Article 8 requires 4 parking spaces per seat. 6,300 divided by 4 = 1,575 parking spaces needed	1,575 parking spaces needed for a 6,300 person event
Parking Space deficit based on CDO	-1,024 parking space deficit
551 – 1575 = -1,024 parking space deficit	

Exhibit 6C: UVM will have a 1,274 parking space deficit when hosting 7,300 spectators on the Athletic Campus

My count of available parking spaces with no PFG event, Fall 2008 evening	551 (See exhibit 3A footnote)
When UVM starts hosting 7,300 spectators at one time on the Athletic Campus	7,300 spectators
CDO Article 8 requires 4 parking spaces per seat. 7,300 divided by 4 = 1,825 parking spaces needed	1,825 parking spaces needed for 7,300 spectators
Parking Space deficit based on CDO	-1,274 parking space deficit
551 – 1,825 = -1,274 parking space deficit	

Exhibit 7: UVM provided a Project Description to the DRB on 7/5/2018 when requesting a permit for the PFG Complex. On the 4th page of this project description UVM states: “Event attendance at all athletic facilities will be limited to 7,300 spectators at one time.”



Note: To host 7,300 spectators at one time, UVM might be signaling that it wants to use indoor and outdoor venues concurrently. This would violate promises UVM made in 2012 when requesting a permit and parking waiver for Virtue Field Phase II.

The focus of that 2012 permit application was UVM's request to add a 2,500 seat stadium to Virtue Field. During the DRB review, UVM said that it will never host indoor and outdoor events concurrently on the Athletic Campus. The Athletic Director, Bob Corran said: “Indoor and outdoor concurrent events would never happen. Firm commitment. I guarantee it. We would never schedule a game on Virtue Field and a game in Gutterson or Patrick Gym. UVM controls.”

Evidence: DRB Meeting, 5/15/12, Virtue Field Phase II Stadium application, Minute 1:37
<https://www.cctv.org/watch-tv/programs/burlington-development-review-board-part-2-1>

Exhibit 8: Other large events to be hosted at the PFG Complex.

Average Attendance	
UVM Men's Basketball	3,000
UVM Women's Hockey	1,250
UVM Men's Hockey	6,000
Commencement	8,000
Concerts (Large)	5,500
Concerts (Small)	2,500
Family Events	4,000
Speaking Events	2,000
Amateur / Exhibition Sports	3,000
Conference/Regional Tournaments	5,000
High School Graduations	3,000
High School Basketball Tournament	1,500

B&D estimates that attendance from these events will be approximately 248,000 annually.

EVENT TYPE	Aggressive
UVM Men's Basketball	6
UVM Women's Hockey	8
UVM Men's Hockey	18
Commencement	3
Concerts (Large)	6
Concerts (Small)	6
Family Events	6
Speaking Events	10
Amateur / Exhibition Sports	4
Conference/Regional Tournaments	4
High School Graduations	5
High School Basketball Tournament	5
Conventions / Tradeshow	4
Consumer Shows	4
Meetings	6
Banquets	8
Other	8
Total Events	111

UVM's May 2009 Campus Life Strategy document, page 8 lists 111 indoor events. This number was a low estimate because UVM men's basketball typically has at least 13 home games and not just 6 home games shown above. In addition there are 38 outdoor UVM team games, and some kinds of events (listed above) are take place over multiple days.

https://trustees.w3.uvm.edu/trustees/cltfl/Final_Report_May-2009.pdf

Exhibit 9: Events will occur frequently. Average 4 per week.

209 days of event traffic per year / 52 weeks per year = average of 4 event days per year

UVM May 2009 Forecasted Data for Proposed Project: # of events, #attendees/event				
Updated 11/3/2018	Number of PFG Events		Number of Days with Event Traffic	Average Attendance per Event
	2017 (a)	Aggressive	Aggressive	Forecast
NON-SCHOOL USES				
Conventions/Tradeshows	0	4	14	1300
Consumer Shows	0	4	4	2800
Meetings	0	6	9	300
Banquets	0	8	8	1500
Other	0	8	12	3000
Subtotal: Non-School Events	0	30	47	
SCHOOL-USES				
UVM Men's Basketball	18	18	18	3318
UVM Women's Basketball (b)	16	16	16	769
UVM Men's Hockey	18	18	18	3705
UVM Women's Hockey	18	18	18	1250
Women's Swimming	4	4	4	
Commencement	2	3	6	8000
Concerts (L)	0	6	6	5500
Concerts (S)	0	6	6	2500
Family Events	0	6	6	4500
Speaking Events	0	10	10	2000
Amateur/Exhibition Sports	1	4	4	3000
Conference/Regional Tournaments	4	4	4	5000
High School Graduations	2	5	5	3000
High School Sports	7	5	5	2000
Subtotal: Number of Indoor Events	90	123	126	
TOTAL NUMBER for PFG EVENTS	90	153	173	
ARCHIE COMPLEX Events	36	36	36	
TOTAL ATHLETIC CAMPUS	126	189	209	

People should not dismiss the impacts of parking and traffic that will result from events that will be hosted on the Athletic Campus. 4 event days per week is very significant.

Exhibit 10: Email from Jonathan Dowds of UVM Transportation Center (he helped with the preparation of the JIPMP). He brings up the topic of on-street parking when I asked if UVM has a parking deficit

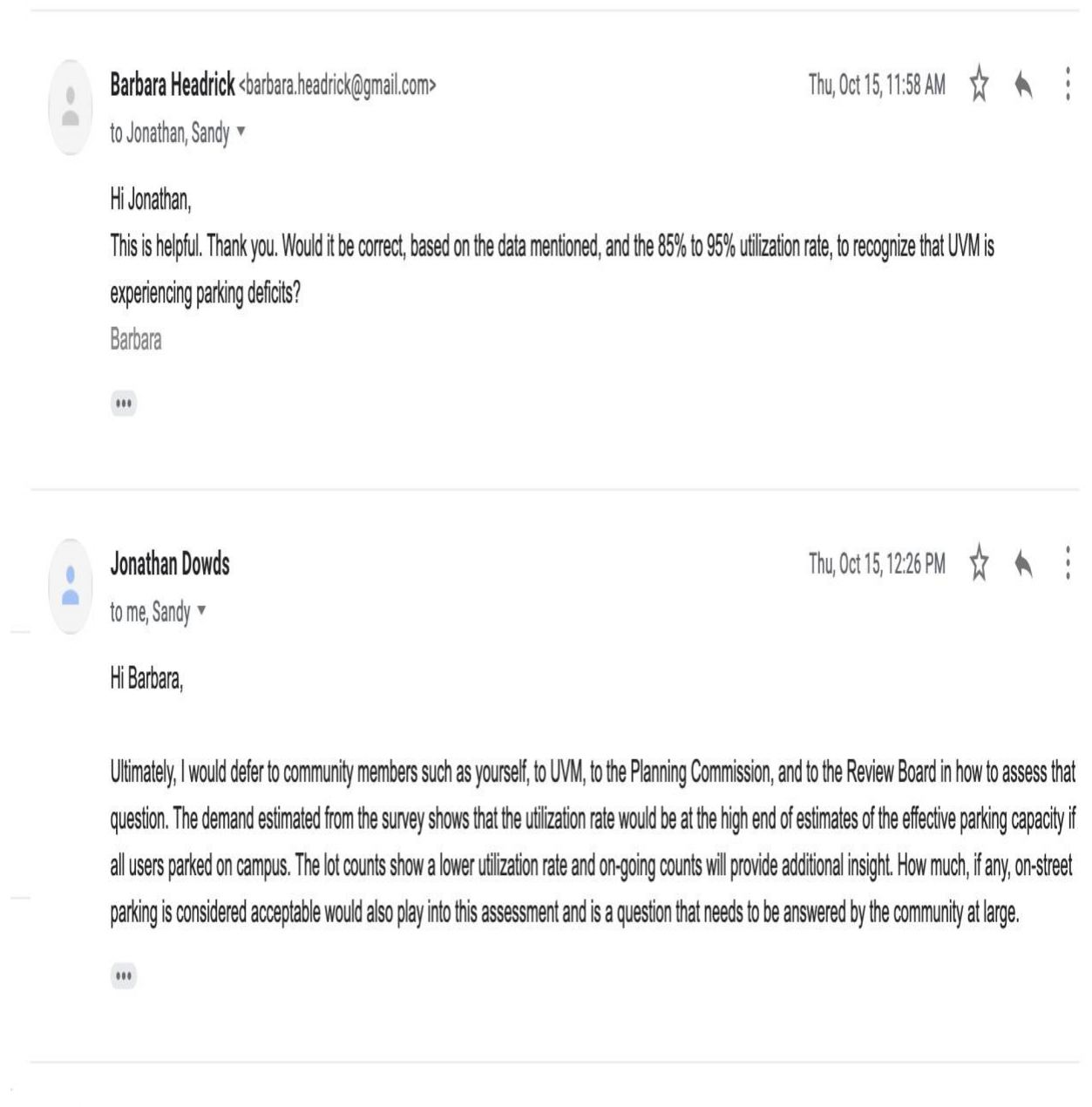


Exhibit 11: email exchange with Jonathan Dowds in which I asked if the net parking range of 184 +/- 210 spaces reflects variability. His response is that it does not. He explained that the range reflects sampling error in the estimate that is implicit when using collected survey data. The sampling error reflects that there is uncertainty regarding the survey data's accuracy (i.e. voter polling data). The margin of error range is used to show that one can have confidence that the result is somewhere inside that range.

Hence, UVM's current net peak parking supply might be -15 spaces (zero because one can't have negative number of parking spaces) or it might be $185+210=395$ spaces, or some number in between. However, UVM's effective parking capacity is reached when 85% of the spaces are full. So by the time UVM has zero to 395 parking spaces remaining, there probably are drivers who are not able to find parking on-campus. That is the latent (hidden) demand that UVM refers to in Appendix B, page 42. This hidden demand is not included in UVM's estimate of its parking demand.

Jonathan Dowds

Thu, Oct 15, 11:50 AM



to Sandy, me ▾

Hello Barbara,

Thanks for reaching out with your questions. I've added Sandy to this email chain as well in case she is able to fill in any additional information.

With regards to the specific points you asked about below:

- a. The margin of error that you reference is the margin of sampling error associated with the CATMA survey rather than day-to-day variability. Because only a subset of users responded to the survey, it is possible – or more accurately *expected* – that the parking demand rate calculated based on that sample will not perfectly match the parking demand rate of the full set of users. This margin of error is primarily a function of sample size. Pew has a nice margin of error explainer in the context of political polling available here: <https://www.pewresearch.org/fact-tank/2016/09/08/understanding-the-margin-of-error-in-election-polls/>

Exhibit 12:

In 2018-2019 there were numerous Front Porch Forum posts by UVM people looking for parking spots near campus. Here is one example:

Seeking Parking Spot for Rent

MICHAEL HOOLEY, HOOLEYS@COMCAST.NET, UNIVERSITY HEIGHTS, BURLINGTON

HOUSING AND REAL ESTATE

I am in search of a parking space for a responsible UVM student. Does anyone have a space available? Thanks, Michael

[EMAIL AUTHOR](#) [REPLY TO](#) [FORUM](#)

A student also knocked on my front door to ask if he could rent a space in my driveway.

Exhibit 13: UVM Board of Trustees discussed employee concerns regarding UVM's parking situation.

University of Vermont Board of Trustees

FEB 1–3, 2018

Staff Council President Karmen Swim reported on the following, of which her written report includes more details: a successful Fiscal Year 2017 staff performance appraisal process and subsequent process feedback; continued work on **parking** and commuting concerns; and an outline of future projects that address staff wellbeing and resources.

Lastly, Staff Council recently submitted recommendations to administrators regarding the parking and commuting needs of the university community. We deeply appreciate the efforts of Transportation and Parking to balance the need for sustainable, environmentally responsible solutions with the needs of our commuting population, including the electric bike program that will be starting soon. However, aside from parking infrastructure improvements, we intend to continue to stress the need to reassess and publicize policies that support alternative commuting and public transit, such as the ability to arrange a flexible schedule. With the continual growth and exciting changes of our campus, we hope commuting is something that can be included in the strategic plan soon.

Exhibit 14:

Between Fall 2016 and fall 2019, UVM's net ON-CAMPUS parking supply increased by 306 spaces. But during the same time frame, it's parking demand increase by 535 spaces.

DAYTIME ON-CAMPUS PARKING SUPPLY AND DEMAND			
	DAYTIME PEAK PARKING DEMAND & SUPPLY ANALYSIS		
	UVM JIPMP data		
EXCLUDING PFG EVENTS	ACTUAL per UVM		
	Fall 2016	Fall 2019	Change
UVM's ON-CAMPUS parking inventory	5,194	5,351	
Spaces Leased to UVMCC	(761)	(612)	
UVM's Net Parking Supply	4,433	4,739	306
<i>UVM Peak Parking Demand:</i>			
On-campus students		714	
Off-campus students		1,261	
Total student parking demand		1,975	
Faculty and Staff		2,376	
Visitors		185	
Fleet		218	
Total Parking Demand	4,219	4,754	535
Net on-campus Parking Supply or (Deficit)	214	(15)	
		because effective parking capacity, is eaced at 85% the deficit is actually (556) spaces after including 200 Pine street spaces	

Exhibit 15: Over the past 3 years (2017-2020), UVM has significantly increased the number of permits it has issued to students and employees.

UVM data. BAH aggregated.								
JIPMP data		Number of Parking Permits Issued by UVM						
		Resident	Off-Campus	To students	To	To car-poolers	Total # Permits	Change from
	Fall actuals	Students	Stdents	in Total	Employees	(employees)	Issued	Prior Year
	2020							
	Fall 2019 actual per 3/11/2020 JIPMP	1,442	1,781	3,223	3,720	32	6,975	19%
	Fall 2018 actual per revised May 2019 JIPMP	1,451	1,358	2,809	2,963	74	5,846	9%
	Fall 2018 actual per 3/12/2019 JIPMP	1,451	1,358	2,809	2,963	74	5,846	
	Fall 2017 actual per 3/12/2018 JIPMP update	1,291	1,558	2,849	2,511		5,360	

Exhibit 16: In Fall 2019, UVM enrolled 1,505 more students than it had forecasted in the 2014-2019 JIPMP

UVM data. BAH aggregated.									
JIPMP data		UVM							
		Number of Students					Change		
	Fall actuals	Undergrad	Graduate/Cert.	Medical	Contin. Ed	Total	vs. Prior Year	vs 5 yr forecast	Since Year 2000
	2020								
	Fall 2019 actual per 3/11/2020 JIPMP	10,700	1,627	478	743	13,548	+202	+1505	
	2019 forecast from 2014- 2019 forecast	10,065	1,524	454	N/A	12,043			

Exhibit 17: March 2019 version of JIPMP for 2019-2024 showed deficits for 2019 and 2024

The parking demand calculation uses the results from the most recent 2018 CATMA student and employee surveys. The results, shown below in Table 4-16 suggests a current parking deficit of 533 spaces.

TABLE 4-16: EXISTING UVM PEAK PARKING DEMAND BY USER GROUP

USER GROUP	NUMBER IN CATEGORY	PEAK % ON CAMPUS ¹	AUTO OWNERSHIP/ MODE SHARE ²	PARKING DEMAND (SPACES)
Residents long-term vehicle storage ³	5,906	100%	25% ³	1,451
Commuters outside 0.5 miles of campus	4,266	20%	43%	369
Commuters within 0.5 miles of campus	3,174	100%	21%	658
			<i>Subtotal</i>	<i>2,425</i>
Full-time faculty/staff	3,606	93%	63%	2,117
Part-time faculty/staff	580	81%	63%	297
			<i>Subtotal</i>	<i>2,414</i>
Visitors				185
UVM fleet vehicles				234
			<i>Subtotal</i>	<i>419</i>
Total peak parking demand				5,311
Off-street parking supply ⁴				4,778
Net shortage				-533

¹The peak hour is assumed to occur on weekdays between 12:00pm and 1:00pm. % peak on campus comes from most recent data survey. 2012 Biennial CATMA Transportation Survey responses.

²Per 2018 CATMA survey, "Auto Mode Share" includes the following modes: "drive alone", one-half of the "carpool", and "shuttle/drive".

³Portion of residential students with a residential parking permit.

⁴See UVM has a total inventory of 5,410 spaces, 632 of which are leased to UVM MC

Comparing these results to the most recent JIPMP, the number of commuter students living within a half mile from campus indicating that they drive or carpool increased from just under 4% to 21%. The associated parking demand increased from 106 spaces in the last JIPMP to 658 spaces today.

TABLE 4-24: FUTURE (2024) PARKING DEMAND AND SUPPLY

USER GROUP	NUMBER IN CATEGORY	PEAK % ON CAMPUS ¹	AUTO OWNERSHIP/ MODE SHARE	PARKING DEMAND (SPACES)
Residential students (long-term vehicle storage)	6,016	100%	25%	1,478
Commuters outside 0.5 miles of campus	4,148	20%	43%	359
Commuters within 0.5 miles of campus	3,086	100%	21%	640
<i>Subtotal</i>				<i>2,477</i>
Full-time faculty/staff	3,606	93%	63%	2,117
Part-time faculty/staff	580	81%	63%	297
			<i>Subtotal</i>	<i>2,414</i>
			Visitors	185
			UVM vehicle fleet	234
			<i>Subtotal</i>	<i>419</i>
			Total peak parking demand	5,310
			Off-street parking supply ²	4,610
			Net Deficit	-700

¹Values for peak % on campus were carried forward from the 2009-2014 JIPMP. The peak hour is assumed to occur on weekdays between 12:00pm and 1:00pm.

²Assumes no change in the current lease of 632 spaces to UVM MC.

Exhibit 18: May 2019 revised version of JIPMP for 2019-2024 also showed deficits for 2019 and 2024

TABLE 4-15: UVM CURRENT ESTIMATED PEAK PERIOD PARKING DEMAND BY USER GROUP

User Group	Number in Category	Peak % on Campus	Demand Generator	Parking Demand (spaces)
Students				
Residential Students			<i>Auto Ownership</i>	
First Year	2,512	81.6%	1.7%	34
Non-First-Year	3,394	90.7%	39.0%	1,200
Subtotal	5,906			1,234
Commuting Students			<i>Mode Share</i>	
Commuting students (inside 0.5 miles)	3,174	89.1%	4.1%	116
Commuting students (outside 0.5 miles)	4,266	91.2%	28.8%	1,122
Subtotal	7,440			1,238
Employees			<i>Mode Share</i>	
Full-time	3,606	90.7%	59.0%	1,929
Part-time	580	53.7%	59.0%	184
Subtotal	4,186			2,113
Other Users				
Visitors				185
Fleet vehicles				234
Total peak parking demand				5,004
Total parking supply				4,590
Net spaces				-414

Sources: Calculated by CATMA Staff using the 2016 and 2018 CATMA Student and Employee Transportation Surveys, as well as information provided by institutional staff.

TABLE 4-23: UVM FUTURE ESTIMATED PEAK PERIOD PARKING DEMAND BY USER GROUP (2024)

User Group	Number in Category	Peak % on Campus	Demand Generator	Parking Demand (spaces)
Students				
Residential Students			<i>Auto Ownership</i>	
First Year	2,558	81.6%	1.7%	35
Non-First-Year	3,458	90.7%	39.0%	1,223
Subtotal	6,016			1,258
Commuting Students			<i>Mode Share</i>	
Commuting students (inside 0.5 miles)	3,086	89.1%	4.1%	113
Commuting students (outside 0.5 miles)	4,148	91.2%	28.8%	1,091
Subtotal	7,234			1,204
Employees			<i>Mode Share</i>	
Full-time	3,620	90.7%	59.0%	1,936
Part-time	585	53.7%	59.0%	185
Subtotal	4,205			2,122
Other Users				
Visitors				185
Fleet vehicles				234
Total peak parking demand				5,003
Total parking supply				4,534
Net spaces				-469

Sources: Calculated by CATMA Staff using the 2016 and 2018 CATMA Student and Employee Transportation Surveys, as well as information provided by institutional staff.

Exhibit 19: UVM needs a total of 756 off-site spaces by Fall 2019 and a total of 894 off-site spaces by Year 2025.

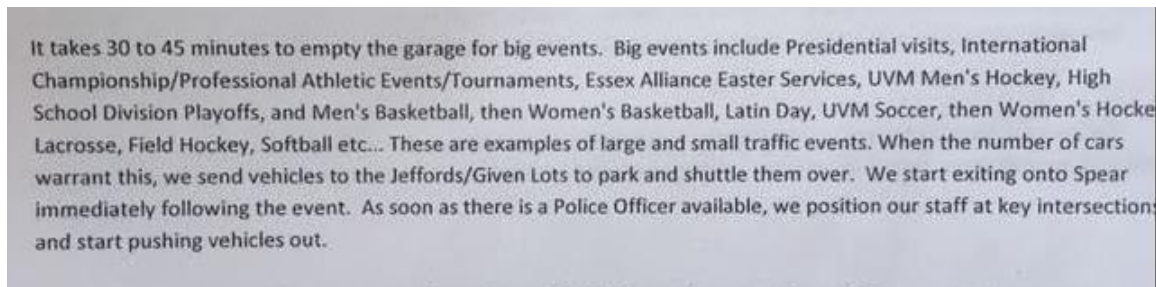
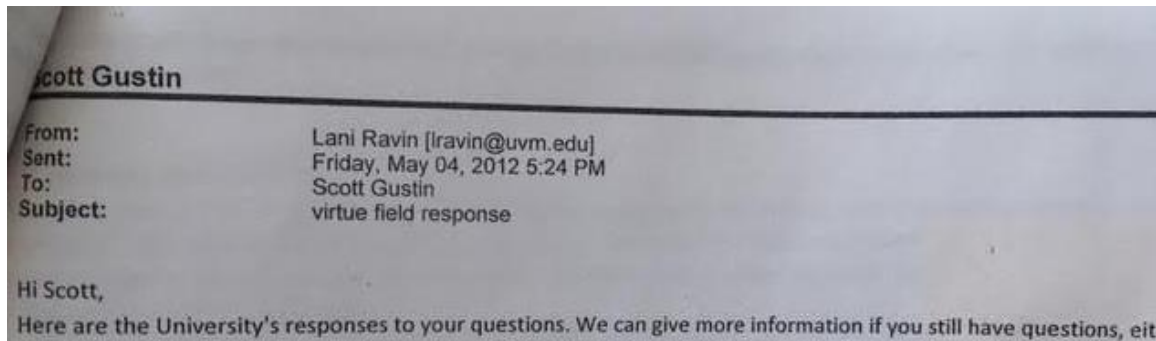
UVM reaches effective capacity when lots are 85% full. UVM needs 595 off-site parking spaces now and 894 in Year 2025.

	UVM's Parking Supply (net of 612 spaces it leases to UVMCMC)	To achieve 84% utilization rate, this would be the max number of cars parked in all UVM on- and off campus lots.	Estimated parking demand per JIPMP	Number of parking spaces that UVM needs to lease to satisfy its parking demand estimates.
Year 2020 (page 16)	4,939 includes 200 spaces that UVM has leased on Pine Street	4,198 = (4,939 x 85%) Parking supply x 85% utilization rate goal	4,754 From JIPMP page 19, Table 4-4.	4,754 – 4,198 = 556 parking spaces need to be leased in addition to the 200 parking spaces that UVM current leases on Pine Street = 756 leased parking spaces needed
Forecast 2025 (page 21)	5,045 includes 200 spaces on Pine Street and 200 spaces in Colchester	4,373 = (5,145 x 85%) Forecasted parking supply X 85% utilization rate goal	4,867 From JIPMP, page 21, Table 4-8.	4,867 – 4,373 = 494 parking spaces need to be leased in addition to the 200 parking spaces that UVM current leases on Pine Street and the 200 spaces that it will lease in the future in Colchester. In total UVM will need to lease 494+400 = 894 parking spaces by Year 2025.

If the city increases public access to parking on streets near UVM, these 756 and 894 UVM cars will be clogging our residential streets.

Exhibit 20: Prior to the PFG expansion / renovation project (2019-2020), UVM's largest event on the Athletic Campus was Obama's visit in 2012. A total of 4,500 persons attended.

In a May 4, 2012 email to the Planning Department, UVM's Lani Ravin lists events in sequential order by size. This list indicates that Obama's recent presidential visit was largest event hosted on the Athletic Campus. *"Big events include Presidential visits, International Championship/Professional Athletic Events/Tournaments, Essex Easter Alliance Services, UVM Men's Hockey, High School Division Playoffs, and Men's Basketball, then Women's Basketball, Latin Day, UVM Soccer, then Women's Hockey, Lacrosse, Field Hockey, Softball, etc. These are examples of large and small traffic events."*



Obama spoke to 4,500 spectators in the Gutterson Field House on May 30, 2012.

Fri, 03/30/2012 - 8:42am —



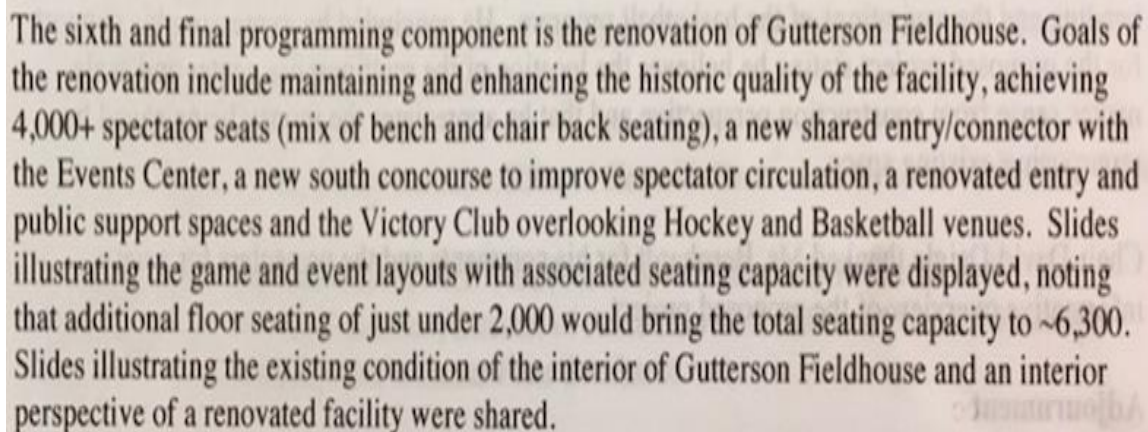
by Sam Hemingway President Barack Obama paid a four-hour campaign visit to Vermont on Friday, telling 4,500 people crammed inside a University of Vermont athletic complex that he is "not a perfect man" but the efforts of his

<https://vermontbiz.com/news/march/president-obama-visits-vermont>

Exhibit 21: March 2017 UVM Board of Trustee's minutes capture information presented by UVM's Athletic Director about Gutterson's total seating capacity increasing by 2,000 seats as a result of the PFG expansion / renovation project. Gutterson's new seating capacity, using floor space, will accommodate 6,300 event attendees.

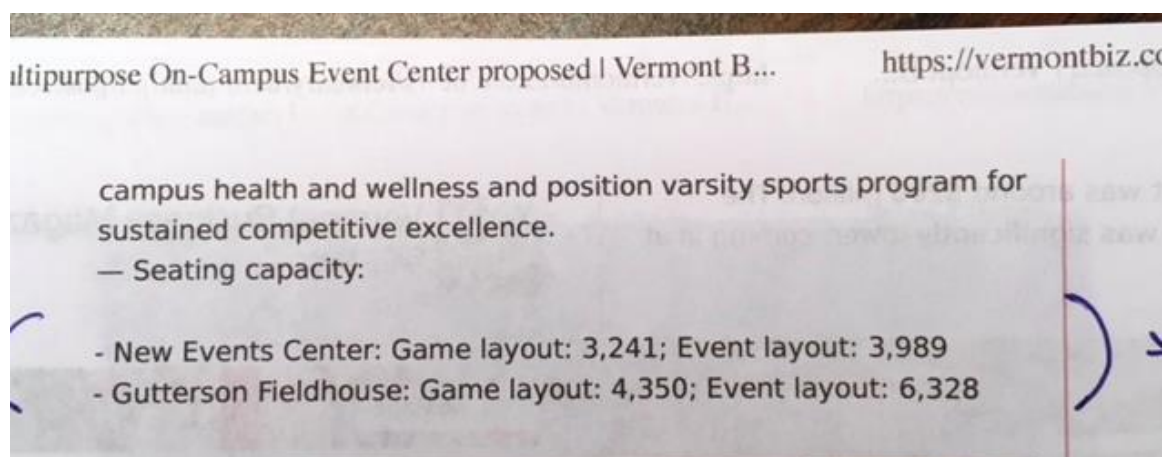
(A) UVM Trustees subcommittee minutes EPIR/BFI 2/3/2017, page 5

https://www.uvm.edu/trustees/standing_com/bfi/meetings/2017_feb3jointminutes.pdf



The sixth and final programming component is the renovation of Gutterson Fieldhouse. Goals of the renovation include maintaining and enhancing the historic quality of the facility, achieving 4,000+ spectator seats (mix of bench and chair back seating), a new shared entry/connector with the Events Center, a new south concourse to improve spectator circulation, a renovated entry and public support spaces and the Victory Club overlooking Hockey and Basketball venues. Slides illustrating the game and event layouts with associated seating capacity were displayed, noting that additional floor seating of just under 2,000 would bring the total seating capacity to ~6,300. Slides illustrating the existing condition of the interior of Gutterson Fieldhouse and an interior perspective of a renovated facility were shared.

(B) VT Biz Press Release 2/3/2017



Multipurpose On-Campus Event Center proposed | Vermont B... <https://vermontbiz.co>

campus health and wellness and position varsity sports program for sustained competitive excellence.

— Seating capacity:

- New Events Center: Game layout: 3,241; Event layout: 3,989
- Gutterson Fieldhouse: Game layout: 4,350; Event layout: 6,328

<https://vermontbiz.com/news/february/uvm-multipurpose-campus-event-center-proposed>

Exhibit 22:

Even when 100% of on-campus students attend the event (an unlikely scenario but used to minimize the forecast of number of people driving to the event) UVM's parking demand will exceed its effective capacity – which is when lots are 85% full.

Assuming 100% of on-campus students attend event	Parking Space Net supply before any PFG events	# of parking spaces needed for the event	Net # of parking spaces available during event	Parking lot utilization rate
1. Sold out Basketball games	551	0	551	87%
2. Sold out Hockey games	551	0	551	87%
3. 5,000 max if event uses Gutterson & Tarrant	551	0	551	87%
4. Gutterson's 6300 max seating capacity	551	234	318	93%
5. Max of 7,300 visitors on Athletic Campus	551	484	68	98%

In Fall 2018, 5,396 students lived on UVM's campus. In Fall 2019, 5,366 lived on-campus.

Exhibit 23: In the 2016 final version of the city’s Residential Parking Strategy, a top recommendation was that UVM needs make it a high priority to start and grow a remote (outside of Burlington) park and ride program. That recommendation was adopted into planBTV.

EXPAND SATELLITE PARKING AND INCENTIVIZE PARKING IN REMOTE LOTS

Incentivize use of satellite parking, including park-and ride and intercept lots, as part of a long-term transportation demand management strategy for commuters, students, and visitors during special events. This strategy is especially important for managing student parking demand and is increasingly important for managing commuter parking and heavy traffic during special events. This should be a priority for the City, major institutions, CATMA, and CCTA.

Primary Goals

- Balance Parking Needs
- Consider Limited Land Resources

Discussion

In addition to being an employment center drawing significant commuting traffic, Burlington has a significant college/university presence, with major institutions including Champlain College, University of Vermont (UVM), and UVM Medical Center. UVM has 3,650 undergraduate students who live off-campus, with an estimated 2,200 of those students living in Burlington.^v

While student renters have the same residential parking rights as any other renter living in the City, one key way to manage on-street residential parking, particularly in densely populated student areas, is to discourage students from bringing their cars in the first place. Students tend to use their cars less frequently than residents who drive for work on a daily basis, so their cars end up sitting on neighborhood blocks for long periods at a time, preventing needed turnover of spaces for other users. To this end, the City should continue

to coordinate with CCTA and the institutions to provide convenient satellite parking options, free transit service to downtown or campus, and financial incentives (such as gift certificates to the campus store) to encourage student participation. CCTA's "Unlimited Access" program provides transit passes for students, staff, and employees and is a successful example of coordination with area universities to encourage transit use and limit parking pressures adjacent to the institutions.

UVM, UVM Medical Center, and Champlain College currently all provide park and ride facilities at Lakeside Ave Lot (formerly the Gilbane Lot). All three campuses provide free off-site parking for their employees, staff, and students and CATMA coordinates with CCTA on its satellite commuter routes.^{vi} UVM currently prohibits all first-year students from bringing a car to campus, with the exception of a proven medical need. Parking on the University campus, with the exception of handicapped parking, is available through a permit/fee structure, with more distant spaces (Brown permit) priced at \$165/year and the closest spaces (Green permit) priced at \$329/year. UVM has developed an integrated policy to encourage use of alternative transportation. The University and colleges provide free transit passes, CATMA memberships, car share privileges, and up to eight emergency taxi rides home. It is important to keep these practices in place.

According to Association for the Advancement of Sustainability in Higher Education, one of the most popular ways to cut down on congestion is to close off central areas of campus to cars. This isolates traffic flow around the perimeter of the campus, where satellite parking lots are located. An investment must be made in alternative parking areas, and larger schools may need a public transit option, which UVM currently has. In the long term, there are likely significant savings in reducing the need for road maintenance within the campus.^{vii}

The CCRPC completed a Regional Park and Ride Plan in 2011, which presented a prioritized list of new Park & Ride and Intercept Facilities; and evaluated and recommended upgrades to existing facilities. A park and ride study was completed in 2014 considering a facility proximate to Exit 14. The construction of new park and ride lots, and the improvements to existing park and ride lots, as outlined in the forthcoming State of Vermont Park and Ride Plan, can help to meet the commuter parking demand of downtown businesses. Shuttles from these lots or free transit passes would likely be needed to bring people the last mile.

https://www.burlingtonvt.gov/sites/default/files/DPW/Publications/ResidentialParkingPlan_fina.pdf

Exhibit 24: UVM's strategy is to reduce traffic on-campus by reducing parking on-campus and building or expanding parking facilities on the periphery of campus. UVM wants to disperse these peripheral parking facilities so that the parking and traffic is spread all around campus. This is mentioned in the UVM Master Plan and also in 2019 Board of Trustee minutes.

This will increase traffic and reduce safety on residential streets that border campus. It is a cost and burden shift from UVM to city residents.

FUTURE PARKING INVENTORY BY CAMPUS ARCHITECTURAL DISTRICTS

The proposed parking distribution for the future pedestrian campus reflects the full envisioned build out of the campus based on the 2005 Paulien Study projections. The University has sufficient parking for all anticipated build out, enrollment and faculty/staff growth through 2015, and the projects on the Capital Project list.

The majority of parking demand in the future will be served by the existing and proposed Peripheral Lots.

Future parking spaces that will need to be retained within the campus core will be accommodated in structured parking and limited smaller surface lots, where possible and appropriate. Co-locating service spaces is desirable to reduce future spaces, while visitor and handicapped parking will be retained in the core parking areas. The overall intention will be to move the parking spaces removed from each District into the peripheral parking area nearest to that District.

In order to achieve the goal of a pedestrian campus and accommodate the future parking to parking, the University needs to consider the following potential strategies:

- Decreasing core parking numbers in applicable districts through the following methods:
 1. revisiting student parking policy and numbers by district;
 2. adding in new parking in small scale lots where possible or appropriate within the district or at the edge of the district;
 3. placing the shortfall in peripheral lots; and/or
 4. reconsidering visitor/service handicapped parking locations and numbers.

- The University will continue to use and expand as intensively as possible Transportation Demand Management (TDM) approaches.

- The University will need to further develop and expand the peripheral lots. This is the critical core element of the future parking distribution and location strategy. The future shuttle system routes will need to be modified to serve the peripheral lots.

- Work with the appropriate local, state and regional entities to continue to use and further develop the regional intercept lots similar to what is currently occurring at the Lakeside facility (Gilbane). Regional transit in the long term should serve these lots and the University in a coordinated manner.

- Support and work through Campus Area Transportation Management Association (CATMA) with Chittenden County Transportation Authority (CCTA) and others as appropriate to improve regional transit service and continue to provide incentives for ridership. All CCTA routes are available to University faculty, staff, and students free. Bus rapid transit along the Route 2 corridor is one future possibility that might be effective and in the future the critical mass may warrant reviving the commuter rail system regionally.

- The LINK Express is another CATMA unlimited access program that the University participates in that is operated by CCTA is already exhibiting signs of success. LINK Express routes currently from St. Albans, Montpelier, and Middlebury provide an alternative to driving into Burlington alone with a direct bus connection. The LINK Express is free to University faculty, staff and students.

- Further develop faculty staff housing (through public/private partnerships) close to campus so that these residents can walk/bike/shuttle to their workplace, thus reducing parking demand on campus.

- Address how to best manage student parking to include:

1. identify which students are allowed to have cars;
2. consideration of long term car storage options; and
3. placement of student cars in peripheral lots.

- It is also important to note that as the University expands into external campuses or leased spaces elsewhere in Greater Burlington area or regionally, parking demand on Main Campus may be consequently reduced.

This is the long term vision for the University's parking system and realization of a pedestrian campus. The University will continue to explore innovative approaches and solutions to effectively address the needs for campus parking while relocating parking from the core campus to the periphery and/or off-campus.

Larner College of Medicine and College of Arts & Sciences Psychological Science Medical Research Complex Project Update

Larner College of Medicine Dean Richard Page discussed his first month on campus and shared that his time has been spent learning about the organization of the College, mission areas and its relationship to the University of Vermont Medical Center. Director of Capital Planning & Management Robert Vaughan previewed that the Budget, Finance and Investment Committee will be presented with a resolution, later today, to approve \$6 million to continue the project's design and pre-construction process and cost estimate, which will cover renovation of existing buildings, deferred maintenance and a new structure.

Chair Daigle noted that **parking** spots will be lost as a result of this project, for which a solution will need to be created. Dean Page agreed that parking would need to be addressed and he stated that the College has a vision to develop a Green in the place of parking.

Trustee Curt McCormack stated that he sees the reduction of parking as a positive and encouraged a move to perimeter parking. Chair Daigle and Dean Page agreed that perimeter parking and campus green engagement would be positive.

Exhibit 25: **Off-site Parking at Pine Street (Fall 2019) and in Colchester (Year 2025)**

A) PINE STREET: Due to the limited hours of access, and limited shuttle services, the Pine Street lot is more of a Warehousing option rather than a park and ride program

www.uvm.edu › [Transportation-and-Parking-Services](#) ▼ PDF

351 Pine Street- Zoom In

Page 1. 351 PINE ST. PARKING LOT: OPEN DAILY. 7am - 5pm. MON to FRI.

My question is in Blue. CATMA's response is in Red: "UVM had plans to warehouse residential student vehicles this fall at their new leased lot at 351 Pine Street"

6. Given the high average utilization rates, the 5 year plan ought to include details for how UVM would implement and operate a remote (outside of Burlington) satellite parking program to manage parking space deficits. It would be very helpful to have this plan ready and blessed ahead of time so it can be implemented when it looks like UVM parking demand threatens to overflow onto city streets. Is there a plan that is ready to implement and has all the necessary approvals? What needs to happen to get to this level of preparedness?

UVM had plans to warehouse residential student vehicles this fall at their new leased lot at 351 Pine Street. Due to the impacts of COVID-19 pandemic w/ more employees continuing to work from home and students learning remotely, UVM has been able to house everyone on main campus lots at this time. UVM plans to utilize the Colchester Research Facility by 2025, and they have a plan in place to move this site option forward. UVM recently underwent a planning study with Nelson & Nygaard which will help inform that plan.

B) COLCHESTER SPACES PLANNED FOR 2025

CATMA: “ UVM is in the assessment phase for this CRF parking lot (Colchester) and does not have detailed info yet on who would park there or the availability, and/or frequency of potential shuttle service.”

9. During the presentation I heard mention of 200 parking spaces that UVM is leasing in Colchester. Where is this detailed in the JIPMP? How many spaces in total are leased by UVM? How many are sub-leased to students ? To Faculty? How do users get from that lot to campus? Does this lot provide users 24/7 access to their car?

UVM currently holds a lease for 200 parking spaces at Pine Street lot. There are plans to acquire an additional 200 spaces by 2025 at the Colchester Research Facility (CRF) site. UVM is in the assessment phase for this CRF parking lot and does not have detailed info yet on who would park there or the availability and/or frequency of potential shuttle service.

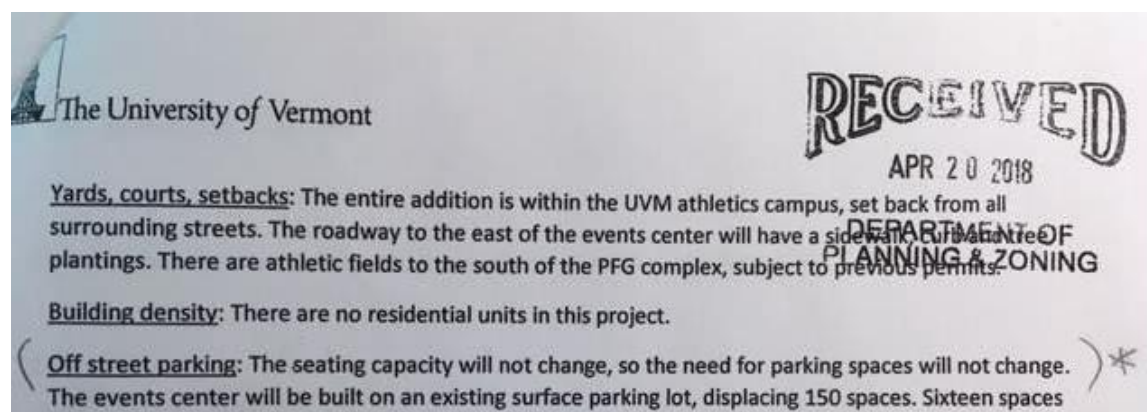
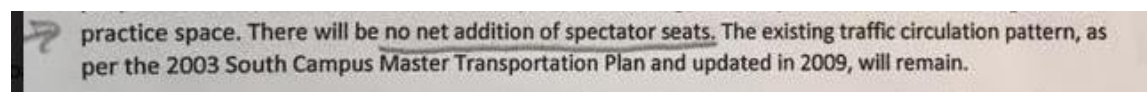
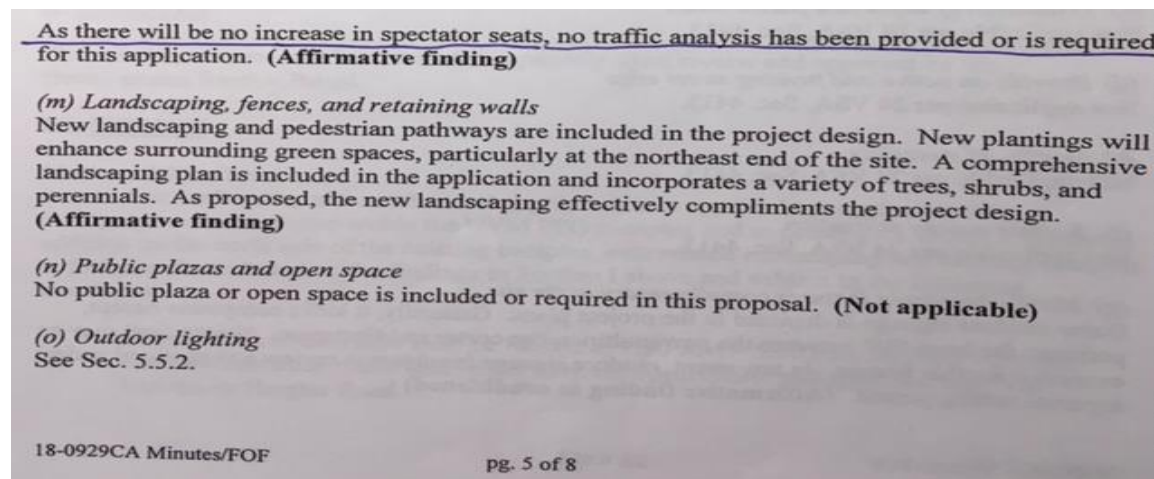
Exhibit 26: Is UVM trying to gain access to on-street parking by encouraging the city to adopt policies and tactics to give more public access to parking on streets near the campus?

Around 2016 a neighbor wanted the city to eliminate the public parking that was in front of his house on S. Prospect because it was always filled with UVM cars. He wanted to have the space protected by the Residential Parking program. The city agreed and at the same time created 4 public access spots with 4 hour windows in front of the UVM Redstone green.

Before the meeting participants came to the conclusion of how to address the city resident’s request/problems with UVM drivers not giving him any curbside space for his own use, the Public Works Commissioner, who is the Director of UVM Parking and Transportation suggested installing parking meters. That idea was immediately shot down by a City Councilor and the DPW Director because they had received hundreds of complaints when the idea of installing parking meters in front of people’s residential low density zoned houses came up during the DPW work in developing recommendations for the city’s Residential Parking Strategy. People feel that parking meters belong downtown and not in front of their Ward 6 homes. The fact that the Commissioner mentioned the already-killed idea indicates he is supportive of the concept of increasing public access to parking on streets near UVM and not losing those on-street parking spaces that are already used by UVM commuters.

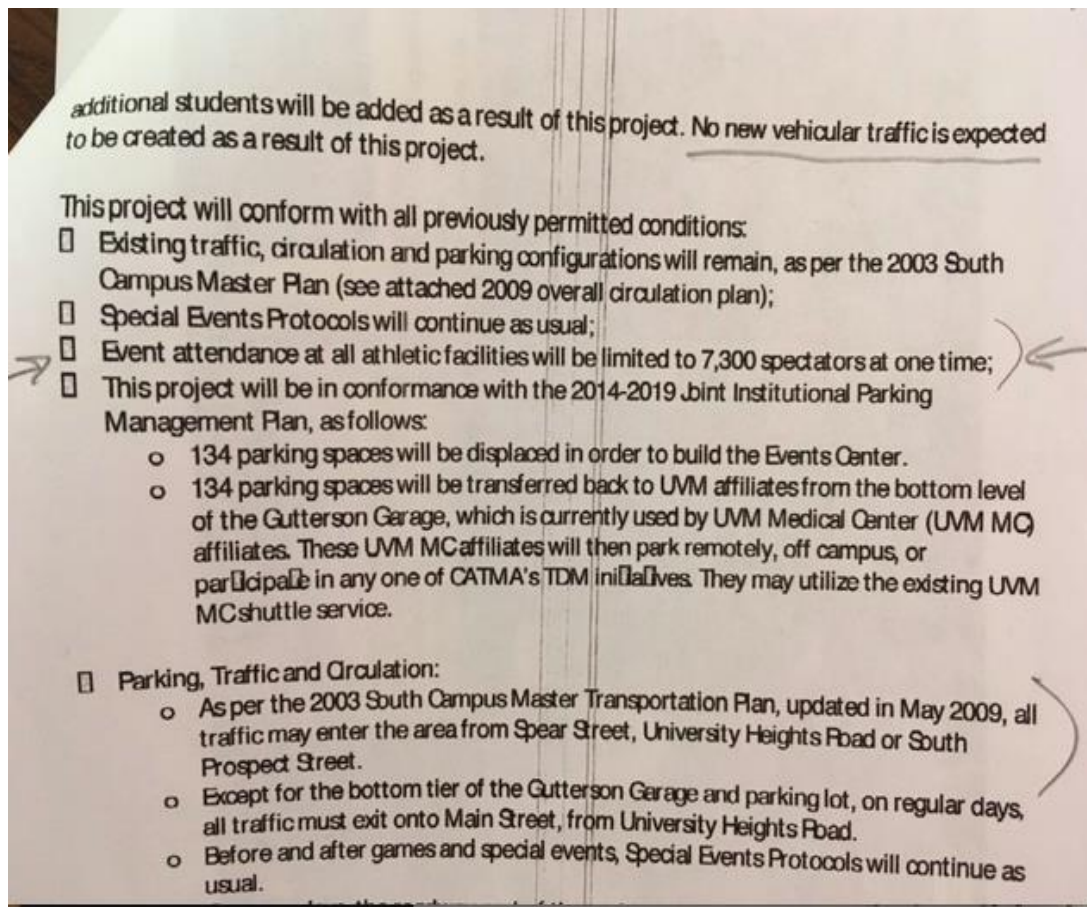
Exhibit 27: These are screen shots of information that UVM provided the DRB in 2018 when requesting a permit for the renovation and expansion of PFG.

The following statement was included in the DRB Findings dated 7/5/18, page 5: **“No increase in number of spectator seats, therefore no traffic study has been provided or is required.”**



The DRB finding, which is shown in the 1st screen shot above, and written by the Planning Department for the DRB, is inaccurate because Gutterson’s seating capacity is increasing from 4,500 to 6,300 persons for speaking events, concerts, etc.

Furthermore, UVM wants to start hosting up to 7,300 persons at the same time on the Athletic Campus. Evidence: UVM Proposed Project Description, 7/5/2018, page 4.



https://www.burlingtonvt.gov/sites/default/files/Agendas/SupportingDocuments/Project_Description_OCMC_final_0.pdf

Hence, UVM should have provided the DRB with a traffic forecast and a parking demand and supply analysis given that UVM except for its graduation ceremony, UVM has never had 7,300 spectators at one time on the Athletic Campus. (During the annual graduation ceremony there is significant police support to manage traffic and close roads; employees have the day off, and parking lots are emptied of all cars except for those belonging to people attending the graduation ceremony.)

Exhibit 28: The following screen prints are from the May 2019 JIPMP. There is no mention of Gutterson’s seating capacity increasing by 2,000 seats to a total of 6,300 seats – which is the capacity that UVM confirmed during the Act 250 Commission and in the February 2017 UVM Trustee’s meeting. Therefore, UVM had accepted a new design plan by 2017, a year before it met with the DRB in 2018 to request a permit and parking waiver for the PFG project.

TABLE 4-18: STATUS OF PREVIOUSLY IDENTIFIED UVM BUILDING PROJECTS

BUILDING PROJECT	COMPLETED?		NOTES
	Yes	No	
Multi-Purpose Event Center		✗	Carried forward to current 5-year Plan, project will start in spring 2019 and be completed by summer 2021
STEM	✓		Renovations on two existing buildings (Votey and the Innovation) and one new build (Discovery), scheduled to open in May 2019
Kalkin Addition (Ifshin Hall)	✓		Completed in 2018
61 Summit (Alumni House & Silver Pavilion)	✓		Completed in 2016
UVM Rescue Building	✓		Completed in 2017
Billings	✓		Completed in 2018
Housing Master Plan—Phase I	✓		Completed in 2017
Athletic Recreation Center		✗	Carried forward to current 5-year Plan as part of the Multi-Purpose Event Center
Virtue Field Outdoor Seating	✓		Phase 1 and 2 complete, Phase 3 carried forward to current 5-year Plan

Table 4-19 summarizes projects carried forward from the previous JIPMP as well as new planned projects identified by UVM staff estimated for completion by 2024. In total, these will result in an estimated loss of 88 spaces.

TABLE 4-19: UVM PLANNED PROJECTS

	PRIMARY USE	CHANGE IN RES BEDS	CHANGE IN GSF	CHANGE IN PARKING SPACES
Tarrant (Multi-Purpose) Event Center	Athletic	-	119,099	-149
New Research Facility for COM	Academic/Research	-	75,000	-107
Torrey/Votey Lot	Academic/Research	-	2,626	-21
Outing Club Relocation	Student Support	-	13,250	5
Gund Institute	Academic/Research	-	14,000	-5
Fleming Museum	Academic/Admin/ Student Support	-	0	10
Interfaith Center Parking Lot	NA	-	0	40
University Road (East Ave. to Compound)	NA	-	0	15
Southwick Hall	Academic/Research	-	0	2
Univ. Heights Rd/Davis Rd (Patrick Cir. to Southwick)	NA	-	0	20
Blundell	Academic/Research	-	0	5
Music Building Recital Hall Addition	Academic/Research	-	4,544	2
ADA Code Compliance	NA	-	0	-20
Future Structured Parking	NA	-	-	TBD
Residential Life Replacement Beds	Residential	500	120,000	95
Library Addition	Academic/Research	-	2,400	1
Central Heating & Cooling Plant	NA			
Cohen Hall/ Taft School	Academic/Research	-	25,000	0
439 College St	Student Support	-	14,864	19
Virtue Field Phase III	Athletic	-	5,000	0
TOTAL Increase		500	390,783	-88

Sources: Information provided by institutional staff.

Notes: Tarrant Event Center value assumes replacement of existing spectator seating at Patrick Gym with same number of spectator seats at new facility. Virtue Field Phase III relates to support functions such as bathrooms, ticketing, concessions, and locker rooms; no change is planned to overall capacity at

Gutterson's increase in seating capacity as a result of the PFG project is not mentioned in the footnotes of this table.

To: DRB
From: B. Headrick
Date: 11/16/2020
Re: UVM's JIPMP for 2020-2025

Since 2012, I've closely studied UVM's annual parking reports and followed UVM projects that affect its on-campus parking supply and demand. The reason I am interested is to protect residential neighborhoods adjacent to campus from UVM's parking demand and traffic impacts. This goal is relevant to the JIPMP review because my analysis of UVM's data indicates parking space deficits. My findings indicate that:

- UVM currently has a parking deficit of -556 spaces (Exhibit 1)
- UVM'S data indicates a -494 parking space deficit in Year 2025 (Exhibit 2)
- UVM already has an evening parking deficit of -256 spaces when it hosts sold out men's basketball games with 3,000 spectators and a -536 parking space deficit when it hosts sold out hockey games with 4,000 spectators. (Exhibit 3)
- UVM's evening parking deficits will increase when UVM starts using the renovated and expanded PFG Complex to host larger events, including:
 1. 5,000 person events by using Gutterson and the Tarrant Multipurpose Event Center concurrently to host singular events (1 event in two venues):
 - Reference 2/7/2019 memo from UVM to Act 250 Commission. Exhibit 4 UVM says it will host 5,000 person events in Gutterson/Tarrant space -- using both venues at the same time for 1 event. (On multiple occasions.) In this memo, UVM also mentions that it will host rare and unusually large events with more than 5,000 event attendees. This tells us that 5,000 person events will be the **new normal** for the expanded / renovated PFG Complex because events with more than 5,000 attendees are characterized as "rare and unusually large". The UVM wording regarding events with more than 5,000 attendees is tricky. Is UVM saying that some events with more than 5,000 attendees will be rare and other events with more than 5,000 persons will be unusually large but not necessarily rare? Or will all events with more than 5,000 persons be rare? A strict reading indicates the former.
 - During the October 2018 Act 250 review of UVM's PFG permit application, UVM told the Act 250 Commission that it has 850 to 1,100 parking spaces available in the evening when there are no PFG events. The Act 250 Commission calculated that UVM will have parking deficits of -150 to -400 parking spaces when it begins hosting 5,000 person events. (Exhibit 5)

- I believe that UVM's evening event-caused parking space deficits will exceed (-400) spaces because my Fall 2018 parking lot space counts showed only 551 spaces available when no evening events are being hosted at the PFG Complex. Based on UVM already having a (-256) parking space deficit for 3,000 person events, and a (-536) parking space deficit for 4,000 person events (sold out hockey games), UVM will have a (-699) parking space deficit when it hosts 5,000 person events. (Exhibit 6)
2. 6,300 person events in Gutterson. These 6,300 person events will use the 2,000 seat increase in seating capacity that the Gutterson venue is gaining via the PFG project. Exhibit 7 provides evidence of Gutterson's increased seating capacity. 6,300 person events will cause a -1,024 parking space deficit (Exhibit 6)
 3. "7,300 spectators at one time" on the Athletic Campus (Exhibit 7). This is in the Project Description that UVM provided to the DRB when requesting a permit for the PFG project in 2018.) When UVM hosts 7,300 spectators at one time on the Athletic Campus, UVM's parking deficit will be (-1,274) parking spaces. (Exhibit 6)
 4. **Size of events will be larger than before:**
In addition to UVM's regular season athletic events, UVM's forecast includes other kinds of events for the renovated / expanded PFG Complex, including:
 - **6 large concerts with 5,000 attendees/event**
 - 6 more concerts with 2,500 attendees/event
 - **4 Regional tournaments with 5,000 visitors per event**
 - 5 high school graduations with 3,000 visitors per event
 - 4 conventions/tradeshows with 3,250 visitors/event
 - 4 consumer shows with 2,800 visitors/event
 - 8 banquets with 1,500 visitors/event
 - 8 "other" events with average attendance of 3,000 persons

The UVM consultant for the PFG project forecast **248,000 event attendees per year**. (Exhibit 8)

5. **Events will occur frequently. Averaging 4 per week year-round.**
We can expect 210 days of event traffic /year. (Exhibit 9)

Question 1: If the DRB comes to the conclusion that it is not certain of UVM having a current and future parking surplus, especially given the Act 250 Commission's March 2019 Finding that UVM will have parking deficits stemming from large PFG events, and UVM's Jon Dowds email (Exhibit 10) referring to **whether on-street parking will become available** when he was asked if UVM has a parking deficit, will the DRB apply CDO Article 8 (Section 8.3.5) to deny UVM a parking waiver at this time?

Question 2: Would the DRB be willing to grant UVM a 5-year parking waiver if UVM agrees to shift at least 50% of its Fall 2018 parking demand (5,004 parking spaces x 50% = 2500 cars) to remote (outside of Burlington) park and ride lots by Fall 2024? This would advance our city's progress in achieving goals listed in CDO Article 8 and planBTV.

DAYTIME PEAK DEMAND FOR PARKING SPACES

The purpose of the information below is to show that there are good reasons for the DRB to not have high confidence in UVM's presentation of having parking surpluses today and 5 years out. Please consider this information when deciding whether to grant no parking waiver or a one- or five-year parking waiver, and with or without conditions.

1. In the 2020-2025 JIPMP, UVM's current net parking supply is a range estimate of 185 parking spaces +/- 210 parking spaces. UVM is using a range because UVM is not certain of its net number of available parking spaces. UVM thinks that it might have a parking deficit ($185 - 210 = -25$) or it might have a parking surplus of ($185 + 210 = 395$), or some number in-between negative 25 and a surplus of 395. Per UVM, the uncertainty that is implicit with their survey results is captured by using an estimated range for UVM's net parking situation. (Exhibit 11)
2. In an email that I received from UVM (Jon Dowds, UVM Transportation Research, worked on the JIPMP), I have the impression that he thinks the degree to which UVM already uses and will use on-street parking in the future will impact whether UVM has an on-campus parking deficit. (Exhibit 10). Just based on this UVM comment, I believe the DRB would have good reason to not offer UVM a 5-year parking waiver.
3. UVM's parking situation is worse than UVM presents in the JIPMP because unmet (unsatisfied) demand is not included in UVM's parking demand estimates. (Exhibit 11) UVM's unmet (unsatisfied) parking demand exceeds the 25 drivers ($185 - 210 = -25$). Unmet demand includes drivers who cannot find a convenient parking space on campus. For example, someone who is going to the Athletic Center won't want to park on the Trinity campus. When the UVM lots are more than 85% full, finding an empty parking space becomes too difficult. Searching for one empty parking space among many full and scattered parking lots can be like searching for a needle in a haystack. According to UVM, there is unmet (latent/hidden) parking demand when UVM's parking lot utilization rate exceeds 85%. (Reference Appendix B of the JIPMP supplemental report, page 42, 2nd paragraph).
4. Based on data in the 2020-2025 JIPMP, UVM's daytime peak utilization rate ranges from 91% to 100% full. *Therefore, even in the best-case scenario (with UVM's margin of error added to the mid-point number), UVM's parking demand exceeds UVM's effective parking capacity.* Per my calculations, UVM needs 756 off-site parking spaces in Fall 2021 and 894 off-site parking spaces in Year 2025 to bring its daytime peak utilization rate down to 85% , at which point UVM has which is hit its effective parking capacity. (Exhibits 1 and 2)

5. In Fall 2019, UVM people were advertising on FPF looking for off-street parking spaces near the UVM campus. Some were also knocking on my front door and asking if they could rent a parking space in my driveway. This is very strong evidence that UVM had a parking deficit in Fall 2019. (Exhibit 12) UVM's 2020 net supply is based on Fall 2019 – which is a deficit situation.

6. In February 2018, UVM's Board of Trustees discussed the need for UVM Parking administrators to communicate programs that will spread out peak parking demand over more hours (to reduce shortage of on-campus spaces) and for TDM programs to better serve commuter needs. (Exhibit 13). Again, this is strong evidence that UVM had a parking shortage in Fall 2019.

7. An analysis of trends and changes in UVM's parking supply and demand over time finds that UVM's on-campus parking demand has increased by more than the increase in its on-campus parking supply. (Exhibit 14)

8. In addition, UVM has significantly increased the number of on-campus parking permits it issues each year. In Fall 2019, UVM issued 19% more permits than it did in Fall 2018. In Fall 2018, UVM issued 9% more permits than it did in Fall 2017. This equated to a 1,615 more parking permits being issued in Fall 2019 than had been issued in Fall 2017. In comparison, UVM's on-campus parking supply only increased by 432 spaces. This eroded UVM on-campus parking surplus between 2017 and 2019. (Exhibit 15).

9. UVM enrolled 1,505 more students in Fall 2019 than it had forecasted in its 2014-2019 JIPMP. This caused more on-campus parking demand than what UVM forecasted for Fall 2019. Based on UVM's formula, this translates in UVM needing 398 more parking spaces than it anticipated for Fall 2019. (Exhibit 16).

UVM FORECAST FOR 2025

10. UVM's 2014-2019 JIPMP forecast for 2019's peak daytime parking was a 748 parking space surplus. But UVM's new estimate (based on Fall 2019 data) is that UVM has a 185 +/- 210 spaces available. This forecasting error is between -300 and -750 parking spaces. Therefore, there is reason to have low confidence in UVM's forecast of having 255 +/- 204 parking spaces in Year 2025.

11. The UVM JIPMP for 2019-2024 that was published in March 2019 reported a parking deficit of -533 spaces for Fall 2019 and a forecasted parking deficit of -700 spaces for Year 2024. The report was revised and published again in May 2019, and at that time UVM reported a parking deficit of -414 spaces for Fall 2019 and a parking deficit forecast of -469 parking spaces for Year 2024. (Exhibits 17 and 18)

12. In reporting parking deficits for 2019-2024, UVM did not qualify under CDO Section 8 for parking waivers. This explains why UVM withdrew those reports and re-submitted new numbers to show that it might have a parking surplus depending on what end of the estimate

range one considers and depending on UVM actually using the off-site parking spaces. After considering the information provided in points listed above (1 to 10), there is good reason to doubt UVM's 2020-2025 JIPMP.

13. Evidence of parking deficits (Board of Trustee minutes, PFG ads for parking, UVM email about interest in on-street parking to solve a parking deficit, large forecasting errors in the 2014-2019 JIPMP, and multiple revisions of the 2019-2024 JIPMP), all indicate that UVM's 2020-2025 JIPMP may have been tailored for the purpose of showing that UVM might have a surplus (even though evidence indicates that a parking deficit exists) in order to obtain a 5-year parking waiver from the DRB.

14. UVM's forecast of its parking demand vs supply for Year 2025 indicates a 91% utilization rate in the best case scenario. Best case scenario is when adding (and not subtracting) the margin of error to the midpoint of the estimated net parking space range. This means that UVM's forecasted parking demand will exceed its effective capacity in 2025. UVM needs 894 off-site parking spaces in Year 2025 to reduce its campus-wide parking lot utilization rate from 91% to 85%. (When lots are 85% full, UVM has reached its effective capacity). (Exhibit 19)

EVENING PARKING DEMAND WHEN THERE ARE PFG EVENTS

15. In 2018, UVM told the Act 250 Commission that in the evening, without any PFG events, UVM currently has between 850-1,100 parking spaces available at the PFG parking area and the Jeffords Parking Lot. The Act 250 Commission determined that there would be a -400 to -150 parking space deficit in the evening for 5,000 person events at the PFG Complex. (Exhibit 5)

16. Based on UVM's Fall 2019 data, UVM data for ticket sales, and information obtained from UVM during the October 2018 Act 250 Commission review of UVM's PFG permit application, and my parking counts in 2018, my analysis indicates that (before co-vid) UVM had a -256 parking space deficit in the evenings when it hosted sold-out basketball games and a -536 parking space deficit when it hosted sold out men's hockey games. (Exhibit 3)

17. Largest event to date was in 2012 when Obama spoke at PFG. (4,500 persons) (Exhibit 20)

18. UVM intends to host larger events on the Athletic Campus with 5,000 persons, 6,300 persons, and 7,300 persons. I know this from UVM memos, UVM Trustee meeting minutes, and by participating in the Act 250 Commission hearing for the PFG's permit. (Exhibit 4)

Exhibit 21: Board of Trustee minutes and VT Business press release indicate that as a result of the PFG renovation and expansion, Gutterson's seating capacity will increase by 2,000 seats. New seating capacity including floor space will be 6,300 persons. This was confirmed the Director of UVM Athletics during the Act 250 Commission hearing.

Exhibit 4: UVM memo to Act 250 Commission regarding UVM plans to use 2 indoor PFG venues (Gutterson and Tarrant Multipurpose Event Center) concurrently for singular events (1 event in both venues) and hosting up to 5,000 visitors at one time on the Athletic Campus as a normal course of business, but even larger events would be hosted but these would be rare and unusually large.

Exhibit 8: UVM forecast of other kinds of events it would like to host in the PFG Complex

Exhibit 9: Forecast for how frequent PFG events will occur. (210 event traffic days a year)

Exhibit 7: PFG Project Description says up to 7,300 visitors on Athletic Campus at one time.

19. When the PFG renovation and expansion is completed, and UVM hosts 5,000 person, 6,300 person, and 7,300 person events on the Athletic Campus, UVM will have respective parking space deficits of (699), (1,024), and (1,274). (Exhibits 6 and 7)

20. Even in the best case and unrealistic scenario of filling seats with on-campus students to the greatest extent possible, in order to have as few as possible event attendees arriving by car, UVM's parking demand will exceed its effective capacity. Lot utilization rates will range from 87% to 97%, and the spots that are available will be far from the Athletic Campus. (Exhibit 22)

21. Given the volume of parking needed in the evening for large PFG events, and the high frequency of the PFG events (210 days a year), and the Act 250 Commission's finding that there will be parking deficits in the evening due to PFG events, UVM should start providing in its annual JIPMP updates and the 5-year JIPMP reports a campus wide parking demand and supply analysis for different size events. (3,000 persons or more; or when there are for example multiple 1500 person events on-campus)

22. Even though evening event parking demand has not been addressed in the JIPMP in the past, UVM's goal of increasing rental use of the venue and hosting larger events means that the event parking demand (when 3,000 person and larger events are hosted, or multiple events are hosted on campus that add to this number) should not be ignored or dismissed when UVM prepares the JIPMP. Providing both daytime and evening parking supply and demand analysis would be consistent with CDO. CDO Article 8.3.3 states: "... an Institutional Parking Management Plan shall include... an analysis of the anticipated parking demand by user group, **time of day** and/or **demand by use**;"

This rest of this document is organized as follows:

- Goals of CDO Article 8 and planBTV (page 7)
- Is the city about to increase public access to parking on streets near UVM?
- UVM use of on-street parking would be counterproductive to CDO and plan BTV goals
- Use of on-street parking would shift some of UVM costs and burdens for parking to people who live near campus and the broader community

- Will UVM's excess parking land in new garages on the periphery of campus? Along residential streets?
- Why is UVM waiting until 2025 to start a remote (outside of Burlington) park and ride?
- Strategic policies can encourage UVM to use remote park and ride lots instead of on-street parking and instead of new garages
- Disadvantages of 5-year parking waivers
- Do we need to revise the criteria for earning a parking waiver? Is there too much focus on building more parking spaces if the DRB deems that the supply is inadequate? How about requiring remote (outside of Burlington) park and ride program if supply is deemed inadequate?

Exhibits with supporting evidence are in a separately attached document.

Goals of CDO Article 8 and planBTV

The intent of CDO Article 8 is to ensure that:

- The university's parking doesn't overflow onto adjacent streets because doing so would cause an unfair burden on those adjacent residential neighborhoods; and that
- The university parking management plan advances the goals of the municipal development plan (planBTV) to reduce dependence on single-passenger vehicles. (CDO Article 8, sections 8.1.1, 8.1.15, 8.3.1)

The Municipal Development Plan (planBTV) and CDO Article 8's goals (Sections 8.1.15 and 8.3.1) include:

- Reducing the number of SOV vehicles on our city streets
- Reducing congestion on streets and contributing to traffic safety
- Increasing safety for pedestrians and bicyclists
- Encouraging carbon-free modes of transportation
- Implementing remote (outside of Burlington) park & ride programs (Exhibit 23)
- Reducing pollution
- Protecting quality of life in residential neighborhoods

The city's 2015 Residential Parking Strategy, which has since been adopted into planBTV, has as one of its top recommendations that UVM start a remote (outside of Burlington) park and ride program. (Exhibit 23)

Because UVM has a parking deficit, we have to ask: Where will UVM's excess parking land? In a new garage? Or in remote (outside of Burlington) park and ride lots? Or on-street in residential neighborhoods that border campus? Which of these best advances the objectives of planBTV, the intent of CDO Article 8, and is

best for our environment and entire community? Answer: Remote (outside of Burlington) park and ride lots.

Is UVM going to gain access to on-street parking via a city policy or regulation change?

Currently, public access to parking on residential streets adjacent to and near UVM is limited by city regulations. Prior to the city tweaking the Resident Permit Parking program in 2015, the city earned \$200,000 profit/year (\$300,000 in revenues - \$100,000 in expenses) on the sale of Resident Parking Permits.

During the Planning Commission meeting on 11/10/2020, the city planner mentioned that the DPW had recently requested information from the Planning Department regarding the on-street parking regulations for streets near UVM's campus. The DPW is currently reviewing on-street parking regulations for streets near UVM to decide if changes should be made to increase public access to on-street parking near UVM. This is a resurrection of some ideas that were vetted and tabled (for a pre-determined 5-year period) after significant public protest by UVM's neighborhoods in 2015.

The influence behind this might be the fact that on-street parking is cheaper for UVM than running park and ride programs and building garages. Also, some city administrators and leaders are morally conflicted about our need to achieve environmental goals by reducing the number of SOV versus the opportunity to collect more revenues by monetizing curbside parking spaces. Clearly, the environment and reducing the number of SOV drivers should be our shared priority and, in my opinion, curbside space should be left open for bicycle transportation. That space is needed to encourage more people to bike instead of drive.

The Public Works Commission (and not City Council) will vote on any changes to on-street parking regulations and the Residential Permit Parking program. One of Burlington's Public Works Commissioners is UVM's Director of Transportation, and he is responsible for managing UVM's parking supply and demand. Another PW Commissioner also works for UVM in a Transportation function and has a close working relationship with UVM Director of Transportation (fellow Commissioner) as he is one of her internal UVM customers.

Thus, in the near future, people who live near UVM may need to get very involved in city meetings to keep UVM from gaining access to on-street parking. There is significant risk that UVM may gain access to on-street parking if current city regulations and Residential Permit Parking program are modified.

If UVM begins to use on-street parking, some of UVM's costs and parking burdens will shift to Burlington residents

If the city changes its on-street parking program policies or parking regulations in a way to increase public access to parking on streets near UVM, those parking spaces will be

immediately filled by UVM students, employees, and visitors – even if the city charges a premium for parking on streets near campus.

Therefore, if the city modifies the Residential Permit Parking Program or on-street parking regulations, and UVM gains access to on-street parking to supplement its on-campus parking supply, that city policy change would save UVM money but increase financial and health costs borne by the general public and especially those who live close to campus. The cost and burden shift would cause residential neighborhoods and the environment permanent harm. The cost impact on people who live in neighborhoods near UVM would include:

- Costs of health care related to more pollution and reduced safety
- Lower property values if neighborhood streets become UVM's parking lots
- Damage to cars caused by others who are parking on the street as commuters
- Increased car insurance rates
- Litter left behind by UVM drivers who park on-street
- Increased road maintenance expense as a result of more use
- Negative environmental effects
- Less space for bicycling in the street, causing people to drive rather than bike

If UVM gains access to on-street parking, that would be counterproductive to the objectives of planBTV and the intent of Article 8.

Question 3: If UVM is granted a parking waiver, is UVM still responsible for providing adequate off-street parking to satisfy its demand? Is UVM thinking that it might be able to use on-street parking for its excess parking demand? If the city changes policies/regulations to increase public access to on-street parking, will UVM be prevented by the intent of Article 8 to not use on-street parking to satisfy its excess parking demand?

Question 4: Is it possible for the DRB to add conditions to the DRB Findings and the parking waiver or zoning/building permits to expressly prohibit UVM from using on-street parking?

Will UVM's excess parking demand land in new garages?

Per UVM's Master Plan and 2019 Board of Trustee minutes, UVM wants to shift traffic from on-campus to off-campus by relocating campus parking to the periphery of campus. To achieve this, UVM's strategy is to build garages and expand parking lots along streets adjacent to campus. (Exhibit 24)

The effect will be to transfer UVM's on-campus traffic into the adjacent neighborhoods.

Garages and parking lots on residential streets that border campus will lead to more traffic and reduced safety on these residential streets. Building more parking facilities or increasing the number of parking spaces by enlarging lots or using on-street parking, will increase SOV driving.

Badly located parking facilities (it's bad if it's located along a residential street) harm neighborhoods and the environment and are contradictory to the goals of CDO Article 8 and planBTV.

Doesn't the JIPMP 2020-2025 already include a remote (outside of Burlington) park & ride program? The Colchester program is only on-paper. Not active. Why is UVM waiting till 2025? (In case on-street parking becomes available before 2025?)

Is the Pine Street lot a park and ride? Answer: No. Because of limited access it is more like warehousing

UVM leased 200 parking spaces on Pine Street from VT Railroad on 10/11/2019 and then sub-leased the 200 spaces to an auto-dealer until August 2021. UVM used these 200 spaces to satisfy a condition of the Beaumont permit it received from the DRB in 2019. These spaces are not an equitable replacement of the spaces lost on campus as a result of the Beaumont project. Nor are they a serious park and ride effort because drivers have limited access to their cars (Monday – Friday 7am to 5pm access unless a rare exception is granted); and UVM did not provide daily shuttles to/from Pine Street. The Pine Street lot users were told that they could use Champlain College shuttles but those aren't convenient to people on the UVM campus. Because of the limited access, the Pine Street spaces are similar to a warehousing TDM instead of a park and ride TDM. In fact, CATMA refers to the Pine Street lot as “warehousing”. (Exhibit 25A)

Colchester Remote Park & Ride is only on-paper and is a forecast for 2025

When I asked CATMA for details about the 200 parking spaces that UVM plans on leasing in Year 2025 in Colchester, I was told that UVM is in the assessment phase for this site and has not yet worked out the details of who will work there, what access to one's car will be, and what shuttle service of any will be provided. (Exhibit 25B)

I suspect that the Pine Street and Colchester parking spaces are being used in the JIPMP to boost UVM's parking supply on paper in order to show a parking surplus in the JIPMP and obtain from the DRB a 5-year parking waiver for Years 2020-2025. Without these off-site (and inactive) parking spaces, the mid-point of UVM's estimate for its net parking supply would be a negative number (parking deficit).

I have the impression that the JIPMP was tailored to create an on-paper appearance of a parking surplus – one that doesn't actually exist

I also believe that UVM would prefer to use on-street parking and never have to use these off-campus lots. (Exhibit 26) These parking spaces may be an accounting plug in the JIPMP calculations that will go away if/when the city increases public access to parking on streets near UVM.

Why won't UVM adopt and grow a remote (outside of Burlington) park and ride TDM program sooner than Year 2025?

To the greatest extent possible we need UVM to implement asap a remote (outside of Burlington) park and ride program in order to reduce the number of SOV.

For example, Apple provides its employees who live up to an hour away with Apple shuttle (bus) service between their hometown and Apple's Cupertino campus. Only Apple employees can board the shuttles. The shuttles have WIFI. The shuttles are very popular with Apple employees and people make housing choices based on the location of shuttle stops. My guess is that UVM needs to provide shuttle service between remote towns and campus in order to create a successful satellite park and ride program.

A large and successful UVM remote park and ride program **would benefit UVM** and also *accomplish many of the same objectives that that are mentioned in CDO Article 8 and planBTV:*

- Reduce demand for parking permits
- Reduce UVM's daytime on-campus parking demand,
- Eliminate UVM's daytime parking deficits (Exhibit 1)
- Reduce traffic on-campus and on streets next to and near campus
- Increase safety for pedestrians – especially at the top of Main Street near Davis Center
- Increase use of bicycles for transportation because everyone feels safer bicycling if there is less traffic and space near the curb for the bicyclist.
- Increased bicycle use can reduce demand for UVM's on-campus shuttles that cause pollution and expense and don't reduce car usage for on-campus travel
- Reduce the number of cars that are on campus overnight and thereby free-up on-campus parking spaces for PFG's evening event parking demand
- Prevent evening parking deficits that will otherwise occur when UVM hosts large PFG events (Exhibits 5 to 7)
- Reduce use of on-street parking by UVM students, employees and visitors (city, and bicyclists, and neighborhoods near UVM benefit)
- Help UVM avoid the cost of building another garage.

Hence, if UVM starts and grows a significant and remote (outside of Burlington) park and ride program, that would be superior to on-street parking and superior to new garages in advancing the municipal objectives (CDO Article 8 and planBTV). If UVM creates a significant park and ride program, it will not be necessary for UVM to build new garages or expand existing parking lots or use on-street parking.

Even though planBTV and CDO Article 8 recommend the satellite park and ride TDM, UVM might be seeking to avoid the expense of implementing a robust park and ride program

because using on-street parking to supplement its on-campus parking supply would be the least expensive parking solution for UVM.

STRATEGIC POLICY CHOICES & DRB REVIEW DECISIONS

If UVM doesn't gain access to on-street parking near campus, and if UVM starts a successful and significant remote park and ride TDM program, then there will be no need for UVM to build parking garages and larger parking lots on the perimeter of its campus; and all of the objectives listed above will be advanced.

However, If the public gains more access to on-street parking near UVM, UVM will have less incentive to ever begin, promote, and grow a remote park and ride program even though it would benefit the broader community. All of the harms that Article 8 is trying to prevent will occur and be permanent.

Question 5: Is there anything the DRB can do or say to convince or require UVM to get serious about a remote park and ride program?

Question 6: Can the DRB require as part of the JIPMP reporting process and CDO Article 8, section 8.1.15, item 3F, that UVM provide in all future JIPMP (annual and 5-year) reports detailed information regarding:

- UVM short and long-term parking strategies
- UVM progress with growing a remote (outside of Burlington) park and ride program
- UVM's parking space supply and demand situations when it hosts different size large events (3,000 attendees or more) or multiple events of 1,500 attendees /event in the evening and also on weekend days.

Question 7: If UVM receives a parking waiver as a result of the JIPMP 2020-2025 review, will UVM have more flexibility later to cherry-pick the locations for future garages and lot expansions? The cherry picked location might not necessarily within 1,000 feet of the project that received the parking waiver. Will UVM use this timing strategy to implement its perimeter parking plan? What can the DRB do to prevent UVM from building garages (or expanding parking lots) along residential streets?

DISADVANTAGE TO CITY OF 5-YEAR JIPMP parking waivers is that data is old and outdated when the 5-year old data is used to obtain a zoning/building permit.

23. In 2018 when UVM was requesting a permit and parking waiver from the DRB for the PFG project, UVM referred to the 2014-2019 JIPMP which mentioned the old design concept for the PFG Complex. In the old design, concurrent use of venues was not envisioned because the venues were not to be adjacent to each other. However, by March 2017 UVM had information about the new seating capacity for Gutterson (as well as the rest of the PFG building) and the UVM Athletic Director mentioned to the UVM Board of Trustees the additional 2,000 seat capacity in Gutterson and the opportunity to host up to 6,300 spectators in Gutterson. So,

when UVM was before the DRB in 2018 to request a permit for the PFG project, it seems that UVM should have disclosed to the DRB the news that Gutterson's seating capacity was increasing and that this would increase parking demand and traffic. But UVM did not disclose Gutterson's increase in seating capacity. UVM's comments to the DRB in 2018 were:

- "The seating capacity will not change, so the need for parking spaces will not change."
- "There will be no net addition of spectator seats"
- "As there will be no increase in spectator seats, no traffic analysis has been provided or is required for this application"
- "No new vehicular traffic is expected as a result of this project."
- "The two event spaces will not be used concurrently for spectator events."
- Exhibit 27

This is a good example of why 5-year parking waivers should not be granted. The carrot/stick of 5-year parking waivers vs CDO parking space requirements creates too much incentive for UVM to not disclose new information if it doesn't help UVM's position when UVM is before the DRB with a permit application or a 5-year JIPMP review.

I encourage the DRB to consider what can be done to encourage UVM to provide accurate, full, and transparent disclosure of facts in its JIPMP. The carrot/stick tradeoff may be the reason why UVM did not disclose to the DRB the 2,000 seat increase in Gutterson's total seating capacity when requesting a permit and parking waiver for the project. Also, Gutterson's increase in seating capacity was not mentioned in the 2018 JIPMP update, nor in the 2018 JIPMP update, nor in the 2019-2024 JIPMP published in May 2019. (Exhibit 28)

Do we need to revise the criteria for earning a 5-year Institutional Parking Waiver ?

If an institution (UVM) doesn't have adequate parking, my impression of CDO Article Section 8.3.5 is that it seems to require the institution to build more parking spaces to satisfy the requirements of Table 8.1.8. In my opinion, these cited sections don't focus enough on creating and growing remote (outside of Burlington) park and ride programs in lieu of building parking lots and garages. It might be productive for the city to amend Section 8 in order to address this. For example, if Article 8 required UVM to pass the following four (suggested) criteria, then providing UVM with a parking waiver would reduce SOV miles and pollution, protect neighborhoods adjacent to campus from adverse impacts due to UVM's parking demand and traffic, and eliminate UVM's parking deficits.

1. Zero use of on-street parking
2. Significant progress in having at least 50% of UVM's drivers use remote (outside of Burlington) park and ride lots on a daily basis;
3. No on-campus parking deficits during daytime hours or during PFG events
4. A utilization rate of no more than 85% (effective capacity) for on-campus parking lots

Thank you for considering these comments.

Sincerely,
B. Headrick



2020 - 2025

Joint Institutional Parking Management Plan



Submitted on: November 17,
2020

Prepared for: City of Burlington
Development Review Board

Submitted by: Chittenden Area
Transportation Management
Association

In Cooperation with: Champlain
College, University of Vermont,
and University of Vermont
Medical Center



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I. Introduction

The Chittenden Area Transportation Management Association (aka CATMA) has been submitting a 5-year Joint Institutional Parking Management Plan (JIPMP) to the City of Burlington since 2009, along with annual updates under [Article 8 of the Burlington Comprehensive Development Ordinance \(CDO\)](#). This report allows the institutions to demonstrate parking demand and, when lower than parking requirements outlined in Article 8 of the CDO, receive what amounts to a parking waiver from those standards when applying for zoning permits for projects listed in this report. This report may be approved by Burlington's Planning Commission and Development Review Board (DRB) for a period of up to five years with annual updates reported to the City's Planning and Zoning office. This Plan is submitted by CATMA on behalf of its founding institutional members: Champlain College, University of Vermont, and the University of Vermont Medical Center.

Joint Institutional Parking Management Plan

Purpose

The 5-Year JIPMP and its annual updates are intended to:

- Recognize the need to manage parking demand and resources holistically and creatively, employing transportation demand management (TDM) practices as well as supplying adequate parking facilities
- Recognize the efficiencies gained when several neighboring institutions share resources and collaboratively participate in parking and TDM programs
- Ensure that city streets in nearby neighborhoods are not unfairly burdened by parking demands from post-secondary education or medical institutions.

In addition to the requirements of Burlington ordinance Article 8 Section 8.1.15 Waivers from Parking Requirements, an Institutional Parking Management Plan shall include the following:

- a) Information specifying the proposed number of students (full-time, part-time, commuter, on campus, off campus, and continued education), faculty and staff (full time and part time), patients and visitors being served by the institution and anticipated over the ensuing five year period;
- b) An analysis of the anticipated parking demand by user group, time of day and / or demand by use;
- c) Information specifying the number and composition of the institution's vehicle fleet, where these vehicles are regularly kept, and designated "service vehicle only" parking;
- d) Programs, policies or incentives used to reduce or manage the demand for parking which may include but are not limited to:
 - policies which restrict and/or prohibit the bringing of vehicles to the institution for various users or groups of users
 - transportation demand management programs to encourage the use of public transit, walking, bicycling, carpooling, vanpooling and telecommuting
 - implementation of a parking permit system to allocate parking throughout the system;
- e) Implementation of a monitoring, compliance, and enforcement system to measure and ensure compliance with the plan.

Content

The 2020-2025 JIPMP contains a collective summary chapter which highlights the current and future parking conditions of each institution, on-street parking trends, collective transportation trends, and collective TDM strategies in place for all of the institutions.

Each institution (Champlain College, University of Vermont (UVM), and University of Vermont Medical Center (UVM Medical Center) have their own chapter which contains the following information:

- Current parking requirements per Burlington's Comprehensive Development Ordinance (CDO)
- Updates on construction projects reported in the previous [2014-2019 JIPMP](#)
- Current parking demand estimates and on-street parking
- Planned construction projects for the next five years
- Future parking demand estimates
- Institutional mode trends reported from the 2019 CATMA Employee and Student Transportation Surveys
- Update on status of institution-specific TDM strategies

The data provided in the 2020-2025 JIPMP has been streamlined from previous versions to only include the most relevant information.

A new Supplement document was created for reasons of space and is not essential for inclusion in the full text of this report but might benefit the reader for further detail.

About CATMA

CATMA was established in April 1992 by the three "Hill" institutions in Burlington: Champlain College, University of Vermont, and the University of Vermont Medical Center. In January 2015, CATMA expanded to a regional TMA serving Chittenden County with transportation demand management services, incentives, and programs. Its mission is to work with members and community partners to plan and manage safe, convenient, and economical transportation and parking options in ways that better coordinate land use and reduce environmental impacts. In addition to collective parking management among the Hill institutions, they have also invested and committed to TDM strategies for over 27 years. An overview and information on CATMA can be found at catmavt.org.

Transportation Management Associations (TMA)

TMA's are associations, organizations, or cooperatives that provide transportation services and education to businesses, property owners, residents, and employees in a defined geographic area, combining their efforts to expand transportation options and reduce program costs. They are not-for-profit collaborations of private and public sector entities working together towards common goals, such as congestion mitigation, transportation services and pollution reduction.

Transportation Demand Management (TDM)

Transportation Demand Management is defined as, "the acts of creating a most efficient multimodal transportation system that moves people with the goal of reducing congestion, improving air quality, and stimulating economic activity."¹ It is the use of planning, programs, policy,

¹ Association for Commuter Transportation. 2020. "Benefits of TDM."
<https://www.actweb.org/i4a/pages/index.cfm?pageID=3473>

marketing, communications, incentives, pricing and technology to shift travel mode, routes used, departure times, number of trips and location and design work space or public attractions.”

2. Collective Summary

Collective Institutional Results

The findings below provide an overview of the parking supply and demand data collection and analysis effort conducted by CATMA with guidance from the UVM Transportation Research Center. Parking demand is calculated by determining the peak proportion of automobile users that park on campus using data from CATMA's 2019 Employee and Student Transportation Surveys. For the purpose of this report, demand is defined as the number of automobile users who park on campus at the peak time. A more detailed explanation of the demand calculation can be found in [Appendix A](#). Detailed findings can be found in the individual institutional sections.

Each institution's employment and enrollment numbers refer to employees working on the "Hill" and students who attend classes within the City of Burlington.

Table 2-1 is a summary of all information required to apply for a parking waiver per the Burlington Comprehensive Development Ordinances, which will be referred to as CDO throughout this document. The CDO outlines both the minimum required number and maximum allowed number of parking spaces any development can have based on size and use, but because the institutions are uniquely positioned to manage their parking demands in collective and creative ways, they can request a parking waiver from the City of Burlington if they demonstrate their ability to manage parking demand. **The waiver requested will be the minimum parking required per CDO minus the institution's parking supply.**

As seen in Table 2-1, there is often a discrepancy between the maximum utilization recorded and the estimated demand. The discrepancy between utilization and demand simply means that all people who may want to park on campus at a given time did not park on campus when counts were conducted. These individuals may find alternative locations (such as the street or a non-campus parking lot) to park their vehicle or may utilize other transportation modes during peak time. For a more in-depth explanation of this, please see [Appendix B](#).

It should be noted that all information in this report reflects data predating the COVID-19 crisis. All Hill institutions foresee changes in future policies and trends, which may reduce users and parking demand. Champlain College and UVM enrollment numbers may change. Over the past four months, the Hill institutions have expanded telework, online learning, and telehealth options. It is also likely for at least the next year, large events typically hosted on campus by the institutions will not be possible due to physical distancing guidelines which will reduce demand for visitor parking. The impacts of these conditions will be addressed in 2021 Annual JIPMP Update.

Table 2-1. Summary of current parking conditions and CDO requirements.

	Champlain College	UVM	UVM Medical Center
Current Conditions			
Current Potential Users¹	2,967	17,468	6,197
Current Demand²	612	4,933	2,330
Current Maximum Parking Utilization³	599	3,958	2,408
Minimum Parking Required by CDO⁴	1,677	11,159	3,284

Current Parking Supply⁵	710	4,939	2,509
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¹Current users includes students and employees. Due to insufficient mode data for patients/visitors, demand created by them is added to the demand calculation based on institutional estimates.

²Determined using CATMA 2019 Employee and Student Transportation Survey.

³This is the maximum count recorded between 10 AM and 2 PM on Oct. 22-24, 2019 or Feb. 18-20, 2020.

⁴Requirements based on gross square footage (GSF) calculations found in Burlington CDO.

⁵UVMMC supply only accounts for Medical Center supply located on-site. For supply and demand including off site lots see Table 5-3. UVM supply only accounts for UVM affiliated supply (for total supply see Table 4-4).

Table 2-2. Summary of future (2025) parking conditions, CDO requirements, and requested parking waiver.

	Champlain College	UVM	UVM Medical Center
Future Conditions			
Future Potential Users¹	2,910	17,931	6,197
Future Demand²	591	5,044	2,330
Minimum Parking Required by CDO³	1,754	11,313	3,284
Net Impact of Planned Projects (2020-2025)	-	128	-
Future Parking Supply⁴	660	5,067	2,509
Waiver Request⁵	1,094	6,246	775

¹Future users includes students, employees in Burlington and visitor/patient estimates.

²Determined using CATMA 2019 Employee and Student Transportation Survey.

³Requirements based on gross square footage (GSF) calculations found in Burlington CDO.

⁴This supply only accounts for Medical Center supply located on-site. For supply and demand including off site lots see Table 5-6. UVM supply only accounts for UVM affiliated supply (for total supply see Table 4-8).

⁵The waiver request is equal to the minimum parking required by the CDO minus the future parking supply.

On-Street Parking Adjacent to Institutions

For the first time in CATMA's history, the 2019 Employee and Student Transportation Surveys attempted to understand who from the three institutions parks on city streets adjacent to the campuses. There are 123 institutional affiliates who may park on-street during peak time (Table 2-3). This estimation is most likely higher than actual use for two reasons: 1) off-campus students may have said they park off-campus but their car is parked by their residences and 2) it is unlikely every single day each of these people are parking on the street due to nearby street parking availability and restrictions.

Table 2-3. Institutional on-street parking demand at peak time¹.

	Champlain College	UVM	UVM Medical Center	All
Students				
On-Campus	6	13	N/A	19
Off-Campus	5	27	N/A	32
Employees	5	35	32	72
Total	16	75	32	123

¹Peak time for each institution can be found in Appendix A, Table A-2.

Collective Trends

The 2019 CATMA Employee Transportation Survey saw an increase in drive alone rates not only for employees of the three Hill institutions, but for all of CATMA membership. This collective increase is most likely due to a combination of factors such as lower gas prices and more affordable housing outside of Burlington. It is also consistent with a gradual increase in single-occupancy vehicle commuting that has been documented at the state level². The 2019 CATMA Student Transportation Survey showed that for students living within a half mile of their respective campus, drive alone rates decreased. Because housing distance remained constant, existing TDM strategies could continue to decrease the drive alone rate amongst this group.

Collective TDM Strategies/Highlights

CATMA offers its members a comprehensive suite of TDM incentives, programs and services that are essential to support and encourage sustainable mobility options rather than driving alone.

A comprehensive suite of TDM programs is essential to provide a commuter with connectivity options. The following is a list of TDM programs available to CATMA members:

- Transit Discounts and Subsidies
 - Unlimited Access: Applicable for UVM and Champlain College
 - Discount Passes : Applicable for UVM Medical Center
 - Employee Transit Pass Program: Applicable for CATMA members
CATMA's Unlimited Access Program is GMT's second largest customer.
- [CATMA Bike/Walk Rewards Program](#)
- [Greenride Bikeshare System Access/Member Discounts](#)
- [Carpool/Vanpool Services](#)
- [CarShare Vermont System Access/Campus Discounts](#)
- [Guaranteed Ride Home](#)
- Education, Outreach and Awareness

The following demonstrates the collective efforts of the Hill institutions to share parking and TDM resources. In addition, each institution has individual TDM and Parking initiatives in place which are described in their respective chapters.

- Off-Site Parking and Shuttles: CATMA, on behalf of its members, contracts with Ride Your Bike, LLC for 403 spaces at 115 Lakeside Avenue lot. Of these, UVM Medical Center leases 252 spaces, Champlain College leases 150 spaces although Champlain will reduce to 100 effective 9/1/20. Each member operates their own shuttles in order to provide direct and efficient service and meet employees work schedules.
- Campus Shuttles: Each institution has its own self-operated or contracted shuttle service. These shuttles are used on/around campus and also between campus and off-site lots. Employees of all Hill institutions can ride any of the shuttles, if needed. However, for UVM Medical Center shuttles, there must be capacity for its employees before allowing other riders to board. UVM allows Ruggles House constituents to ride the CATS shuttle as a good neighbor gesture.
- Shared Campus Parking and Shuttles: UVM Medical Center leases parking from UVM (South Lot of Jeffords).

² Vermont Agency of Transportation. 2019. "The Vermont Transportation Energy Profile."
https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/The%20Vermont%20Transportation%20Energy%20Profile_2019_Final.pdf

- Green Mountain Bike/Walkway: There are numerous pedestrian and bikeways throughout the UVM Medical Center and UVM medical and academic campuses which their constituents, visitors, neighbors and general public utilize. The Green Mountain Bike/Walkway represents a new active transportation project that was constructed in collaboration with both institutions and has created a thoroughfare through UVM's main campus, across a portion of UVM Medical Center's campus to Colchester Avenue, giving users a safe and clear north/south route through the campuses.
- Real-Time Shuttle App:
 - In Winter 2019-2020, Champlain College joined the TransLoc Real-Time Shuttle App contracted by UVM.
 - UVM Medical Center contracts with Premier Bus Company for its employee intra-campus shuttles effective 1/1/2020. A real-time shuttle app locator is available for employees, and this shuttle info is on display screens in key shuttle pick up and drop off locations.

3. Champlain College

Founded in 1878, Champlain College is a small, not-for-profit, private college overlooking Lake Champlain and Burlington with additional campuses in Montreal, Canada and Dublin, Ireland. Their career driven approach to higher education prepares students for their professional life from their very first semester.

For the fifth year in a row, Champlain was named a “Most Innovative School” in the North by *U.S. News & World Reports* “America’s Best Colleges” 2020 regional rankings and listed among The Princeton Review’s “The Best 385 Colleges” in 2020. Champlain is also featured in the 2020 Fiske Guide to Colleges as one of the “best and most interesting schools” in the United States, Canada and Great Britain as well as recognized as a 2020 College of Distinction for its “Engagement, Teaching, Community and Outcomes”.

Current Conditions

Users (Students, Employees, & Visitors)

Champlain College is a small college with 4,419 current enrollments. Only 2,087 students are based on the Burlington campus, with over half of Champlain’s total enrollment based abroad or online. Of the Burlington students there are 2,078 undergraduate students and 9 graduate students. Champlain employs 1,194 staff members, but only 880 are based on the Burlington campus. Champlain has 377 full-time employees, 415 part-time employees, and 88 contracted employees.

GSF Requirements and Parking Supply

Champlain College is in the Shared Use Parking District and the Downtown Parking District. Champlain has a total of 47 buildings that influence the parking inventory. The gross square footage (GSF), associated required parking, and the current parking supply are included in Table 3-1 with further details in Supplement. Both Champlain College’s on-site and offsite parking supply contribute to the parking supply discussed in this JIPMP. Champlain’s current parking supply of 710 spaces is 967 spaces below the minimum parking required per Burlington’s CDO and 1,387 below the maximum.

Table 3-1. Current GSF, parking requirements, and parking supply for Champlain College.

	Champlain College
GSF	838,191
Minimum CDO Parking Requirement	1,677
Current Parking Supply	710
<i>On-Site</i>	560
<i>Leased Offsite Parking Supply</i>	150

Table 3-2. List and completion status of all projects mentioned in the 2014-2019 JIPMP.

Building Project	Completion Status
Butler Hall (ResTri)	Completed
Valcour Hall (Res-Tri)	
194 St Paul St	

CCM Project	
Miller Information Commons Addition	Carried forward to 2020-2025 JIPMP
Foster Hall Addition	
Information Technology & Sciences Building	
Ethan Allen Center	
Summit & Maple Res Hall	No longer planned
West Hall/Perry Lawn Res Hall	
Career Center/Durick Hall Addition	
IDX Student Life Addition	

Demand

Using data collected from the 2019 CATMA Transportation Surveys, Champlain College's current estimated peak parking demand is 612 spaces (margin of error ± 60 spaces) which is 98 spaces under their parking supply (see Table 3-3). During peak time, it is estimated 11 on-street parking spaces are occupied by Champlain College affiliates (see Table 3-4).

To complement the peak demand estimate from the 2019 CATMA Transportation Survey, Champlain College conducted parking lot utilization counts at 10 AM, 12PM, and 2 PM one week in October 2019 (12PM counts were not conducted in October) and a week in February 2020. Champlain's highest parking utilization was on Tuesday, October 22, 2019 at 2:00 PM with 599 occupied spaces, equating to an 84% utilization rate. This is very close to the peak demand (85% utilization) estimated from the survey data. Champlain College averaged a 73% utilization rate (517 spaces) for the 13 counts conducted. Figure 3-1 shows the average utilization by lot.

Table 3-3. Current parking demand calculation for Champlain College.

Champlain College			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees	880	40%	352
On-Campus Students	1479	14%	208
Off-Campus Students	608	5%	31
Visitors			15
Fleet ²			6
Total Peak Parking Demand³			612
Total Parking Supply			710
Net Spaces			98

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

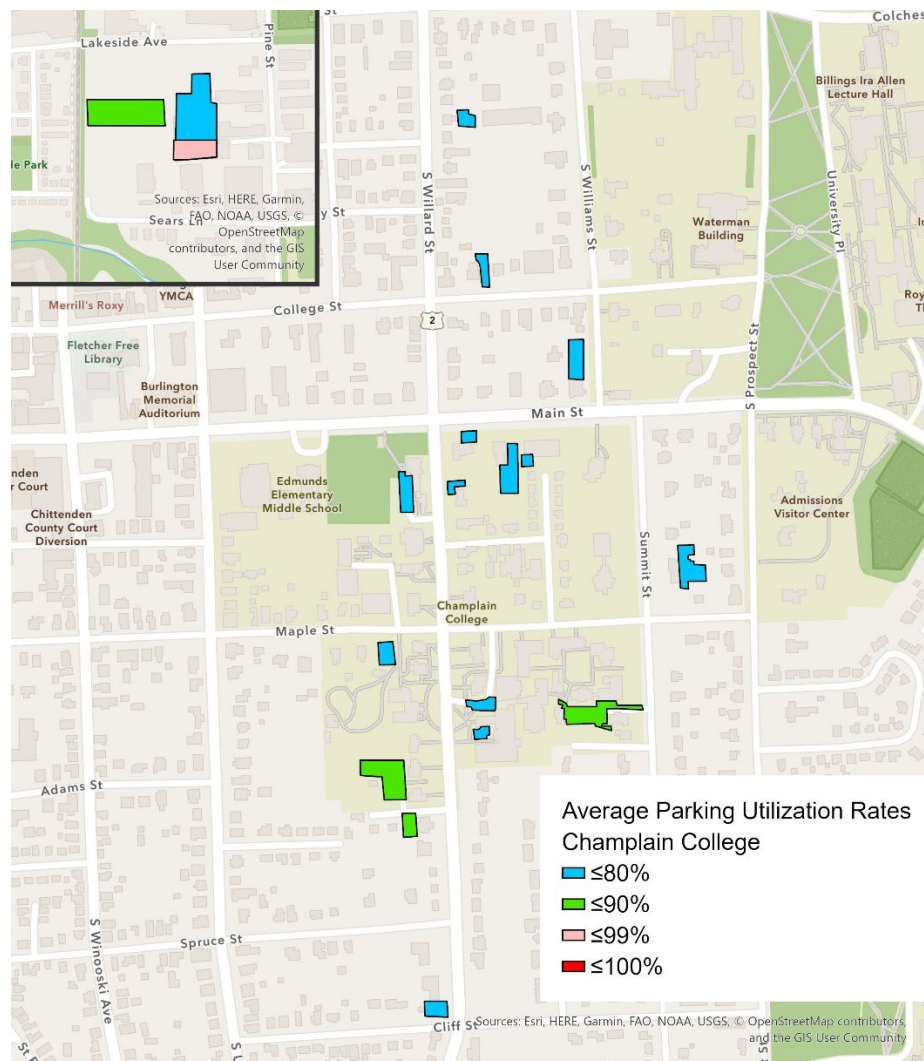
²Champlain has 16 fleet vehicles but estimates only 40% would attempt to park on campus at peak time. However, this estimation is not included as a peak parking demand percentage because it was not calculated from 2019 CATMA Employee Transportation Survey data.

³Total peak parking demand has a margin of error of ± 60 spaces.

Table 3-4. Champlain College survey respondents reporting on-street parking at peak hours.

	Within 2 Blocks of Campus	More Than 2 Blocks of Campus	Total
On-Campus Students	4	2	6
Off-Campus Students	0	0	0
Employees			5
Total			11

Figure 3-1. Map of average parking utilization rates by lot on Champlain College campus.



Future Conditions

Users (Students, Employees, & Visitors)

Champlain College expects a slight increase in enrollment and slight decrease in employment in the coming years. Total enrollment will increase to 4,430, but enrollment on the Burlington campus will decrease slightly to 2,080 due to a lack of in-person graduate students. Full-time employment will remain at 380, part-time employment will decrease to 350 employees, and contracted employees will increase to 100.

GSF Requirements and Parking Supply

Champlain intends to complete the following projects by 2025 (Table 3-5). These projects are all academic buildings and thus no new residential beds will be added.

Table 3-5. Future construction plans for Champlain College.

Project Name	Change in Building Area	Associated Change in Parking Requirements	Est. Completion
MIC Addition	8,000	0	2025
Foster Hall Addition	3,500	0	
New ITS Building	27,000	0	

Champlain's GSF is expected to increase because of the new construction (Table 3-5). The maximum parking allowed would be 2,192 spaces. Champlain's inventory of 660 spaces is 1,094 spaces below the CDO required minimum and 1,532 below the maximum.

Table 3-6. Future GSF, parking requirements, and parking supply for Champlain College.

	Champlain College
GSF	876,691
Future CDO Required Parking	1,754
Future Parking Supply	660
<i>On-Site</i>	560
<i>Leased Offsite Parking Supply</i>	100

Estimated Demand

Using the same demand generator calculated by the 2019 CATMA Transportation Surveys for Champlain College, it is expected overall parking demand will decrease by 2025 (see Table 3-7). This decrease is mostly due to reduction of employees from 880 in 2020 to a projected 830 in 2025. Champlain, in collaboration with the City of Burlington, CATMA, Gotcha Bike, and others is bringing 200 electric-assist bikes to the regional bikeshare program and adding two bikeshare hubs to Champlain's campus (totaling seven campus bikeshare hubs which are conveniently accessible to all members regardless of campus affiliation). E-bike use has been shown to decrease drive alone rates year round by 10%³.

Table 3-7. Estimated future parking demand for Champlain College.

Champlain College			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees	830	40%	332
On-Campus Students	1474	14%	207
Off-Campus Students	606	5%	31
Visitors			15
Fleet ²			6
Total Peak Parking Demand³			591

³ McQueen, Michael, John MacArthur, and Christopher Cherry, PhD. 2019. "The E-Bike Potential: Estimating the Effect of E-bikes on Person Miles Travelled and Greenhouse Gas Emissions." Portland State University and University of Tennessee, Knoxville. https://wsd-pfb-sparkinfluence.s3.amazonaws.com/uploads/2019/05/E-bike-Potential-Paper-05_15_19-Final.pdf

Total Parking Supply	660
Estimated TDM Effects⁴	-25
Net Spaces	94

¹Peak parking demand is calculated from data collected in the 2019 CATAMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

² Champlain has 16 fleet vehicles but estimates only 40% would attempt to park on campus at peak time. However, this estimation is not included as a peak parking demand percentage because it was not calculated from 2019 CATMA Employee Transportation Survey data.

³ Total peak parking demand has a margin of error of ± 58 spaces.

⁴This value is only representative of new TDM strategies that have not yet affected current demand. The explanation of how this value was determined can be found in the narrative above.

Unique Trends & TDM Strategies

Trends

Employees and students at Champlain College are both more likely to drive alone than carpool as their primary mode to campus. Just over 40% of employees drive alone as their primary commute, though 68% report driving alone to campus sometimes. All user groups at Champlain have low use of carpool as a primary mode, though students are much more likely than employees to sometimes carpool to campus. Students within a half-mile of campus report a very low drive alone rate of only 4% (Figure 3-2). There are 39% of Champlain students and employees who choose an active mode of transportation as their primary mode and 24% who choose the public bus or campus shuttle instead of relying on an automobile (Figure 3-3).

Figure 3-2. Mode split (2019) for Champlain employees and off-campus students (by distance of home from campus).

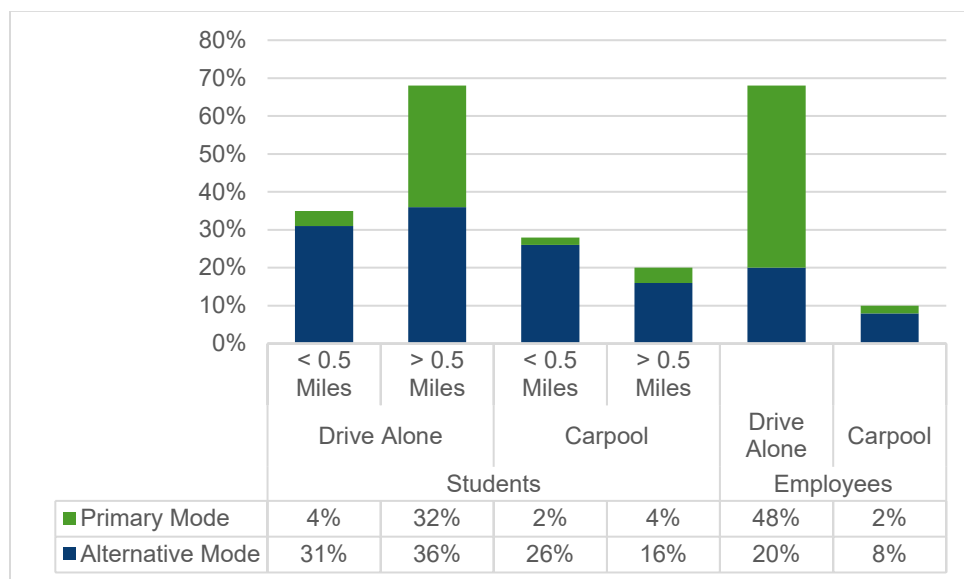
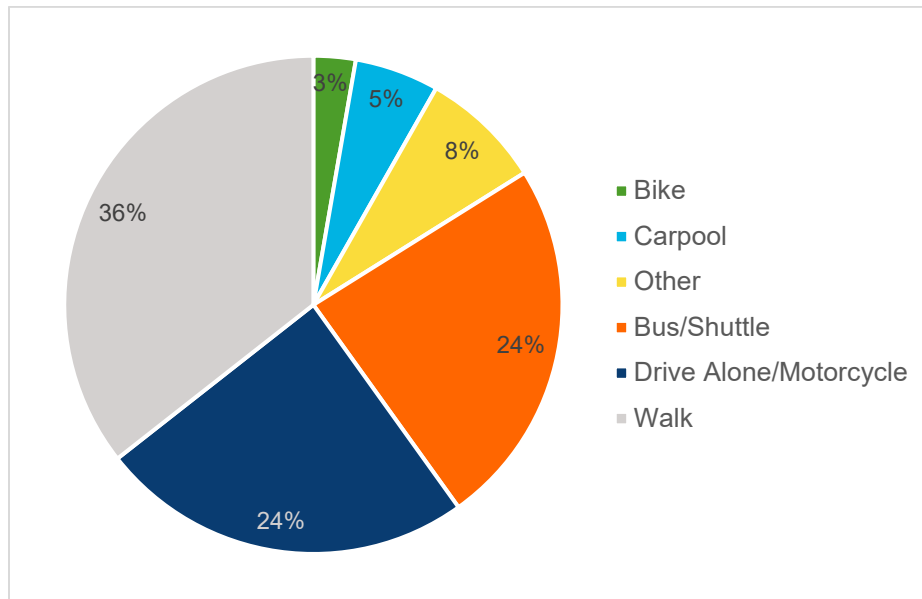


Figure 3-3. Collective mode split (2019) (including sustainable modes) for Champlain College employees and students.



Over time, students, regardless of their distance from campus, have relied on automobiles less and less, with 2019 seeing the lowest drive alone rate yet. The drive alone rate for employees raised slightly from the 2016 CATMA survey, but it has remained relatively stagnant for the past decade (Figure 3-4). Similarly to off-campus students, automobile reliance for on-campus students (as measured by vehicle ownership) has continued to decline, reaching an all-time low in 2019 (Figure 3-5). This new low can be attributed to Champlain's Fall 2018 policy prohibiting first years from bringing a car to campus (though some exceptions are allowed).

Figure 3-4. Drive alone rate for Champlain College employees and off-campus students (by distance of home from campus) (2001 – 2019).

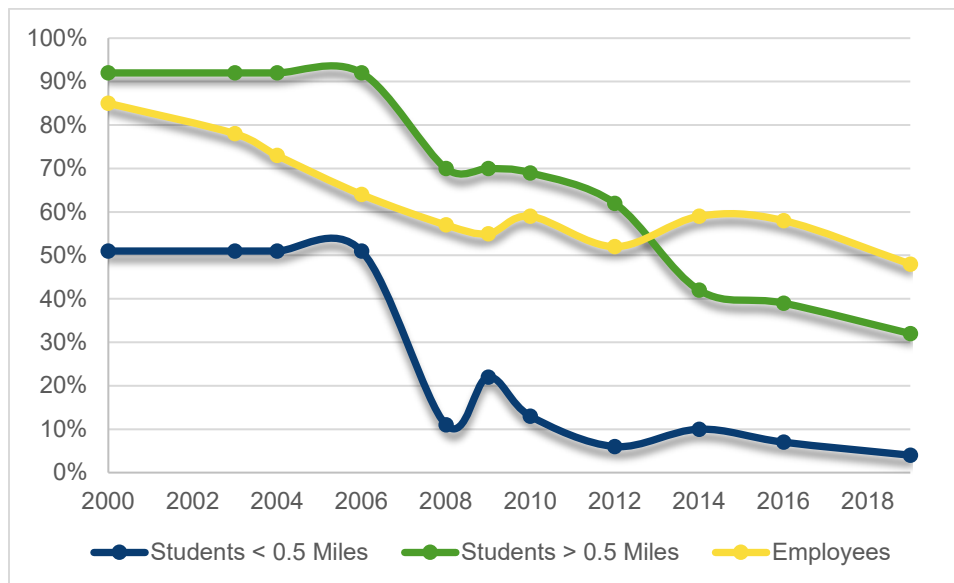
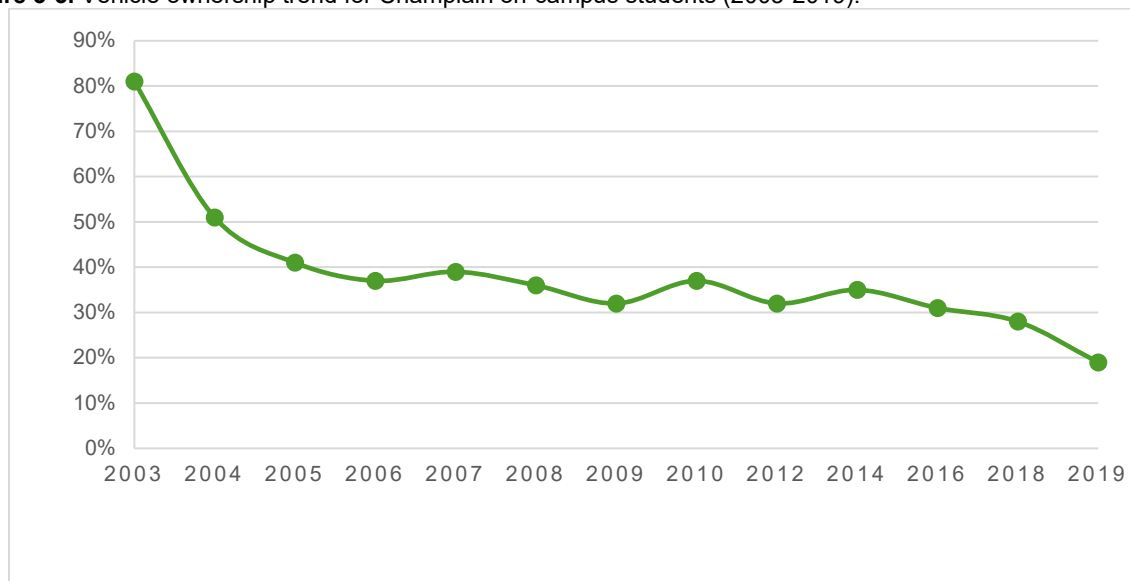


Figure 3-5. Vehicle ownership trend for Champlain on-campus students (2003-2019).



TDM Strategies

Permits & Other Regulated Uses

All vehicles parked on Champlain's campus must be permitted. Commuter students and employees have access to a free Zone 1 permit (located off-site at Champlain's 175 Lakeside Avenue campus). Employees can receive one permit per semester which can have two associated vehicles. Residential students can purchase a permit to park in the off-site lot at 115 Lakeside Avenue. All other permits allow users to park at the main Burlington campus have an associated fee ranging from \$90 - \$225 per semester. As of December 2019, Champlain College has issued 858 active permits.

Champlain Transportation's Parking Coordinator conducts daily counts and monitors lots. Individuals found in violation of parking rules will be given a citation with fines ranging from \$10 - \$100. Certain citations have a higher fee associated with them if it is not a user's first offense. City streets surrounding Champlain are also monitored by college staff as per an agreement made between Champlain and the City of Burlington. Cars parked on street without proper permitting and who are suspected of being Champlain College affiliates are issued a citation from the college. Tickets are issued via a commonly used ticketing management company, IPARQ.

On-Campus Shuttles

The Champlain campus shuttle system runs between the CCM Center on Main Campus, 194 Saint Paul Street Apartments, the Miller Center at 175 Lakeside Avenue, and the 115 Lakeside Avenue resident student parking lot. The shuttle system is operated in conjunction with Mountain Transit.

Table 3-8. Champlain campus shuttle schedule.

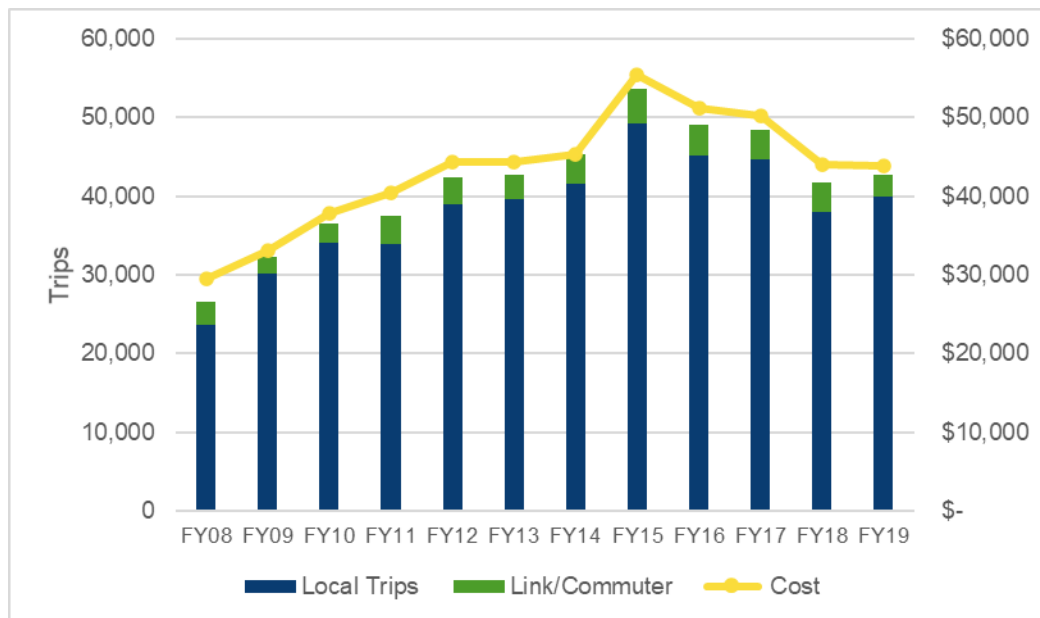
Routes	Days	Times	Runs Every (Minutes)	Buses Running
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Weekday	Mon - Fri	6:30am - 11pm	8-10	2
Weekend	Sat - Sun	10am - 9pm	15-17	1

Transit

In 2006, Champlain College joined the CATMA Unlimited Access Program, which provides unlimited free access on existing GMT public transit services to staff, faculty, and students. Champlain receives a 28% discount per ride from GMT by being a part of this program. Ridership and associated costs are displayed in Figure 3-6.

Figure 3-6. UA Trips by Champlain students, faculty, and staff with associated cost (2008 -2019).



Bicycle Infrastructure & Parking

Champlain College is nationally recognized as a Silver-level Bicycle Friendly Campus as of 2015. Champlain employees and students have access to bike racks throughout campus as well as covered bike storage in the CCM building. There are accessible showers on campus for those who bike. Bicycle pumps and other tools are located throughout campus. Champlain affiliates are eligible for a 50% discount on annual Greenride Bikeshare Membership through CATMA.

Car Sharing

Champlain College has a partnership with CarShare Vermont via CATMA's Campus Programs Contract. Champlain contributes between \$7,500 and \$10,000 annually to CarShare Vermont so that students and employees without long-term parking permits can receive a subsidized membership to CarShare services. The Campus Programs Contract accounts for about 30% of CarShare Vermont's total membership. There are two pods on Champlain's campus: 194 St. Paul Street and West Hall Lot.

NOTE: The Supplement provides more detailed data referred to in this report.

4. University of Vermont

Since 1791 the University of Vermont has worked to move humankind forward. Today, UVM is a Public Ivy and top research university of a perfect size, large enough to offer a breadth of ideas, resources and opportunities, yet small enough to enable close faculty-student mentorship across all levels of study, from bachelor's to M.D. programs. Students' educational experience and activities are enriched by its location- from the energy and innovation of Burlington to the forests, farms and independent spirit of Vermont. UVM provides students endless ways to explore the world, challenge ideas and dig in on the most pressing issues of our time.

Current Conditions

Users (Students, Employees, & Visitors)

The University of Vermont is the largest academic institution in the state with 13,548 total enrollments. In Fall 2019, UVM had 10,700 undergraduate students, 1,627 graduate/certificate students, 478 medical students, and 743 non-degree continuing education students. Employment at UVM currently in Fall 2019 was 4,139 faculty and staff. There were 3,570 full-time employees and 569 part-time employees. Excluding non-Burlington employees, UVM's total current employment is 3,920.

GSF Requirements and Parking Supply

The University of Vermont is in the Shared Use Parking District. UVM has a total of 232 buildings and accessory buildings. Sites UVM ground-leases (and their associated parking spaces), such as Redstone Lofts, Redstone Student Apartments, and Centennial Court Faculty/Staff Apartments are not included in this total. The gross square footage (GSF), associated required parking, and the current parking supply are included in Table 4-1. For the purposes of the JIPMP, all UVM's parking (on and off-site), except for parking it leases to the UVM Medical Center, count towards its current parking supply. UVM's current parking supply of 4,939 spaces is 6,220 below the CDO minimum and 9,009 below the maximum.

Table 4-1. Current GSF, parking requirements, and parking supply available at UVM.

	UVM
GSF	5,579,076
Minimum Parking Requirement	11,159
Current Available Parking Supply¹	4,939
<i>On-Site</i>	5,351
<i>Off-Site²</i>	200
<i>Leased Parking</i>	-612

¹On-site, off-site, and leased parking are used to calculate the current available parking supply.

²Off-Site parking is located at 351 Pine Street and is used for long term parking.

Table 4-2. List and completion status of all projects mentioned in the 2014-2019 JIPMP.

Building Project	Completion Status
STEM	Yes
Kalkin Addition (Ifshin Hall)	

61 Summit (Alumni House & Silver Pavilion)	Carried forward to 2020-2025 JIPMP
UVM Rescue Building	
Billings	
Housing Master Plan - Phase 1	
Virtue Field Outdoor Seating - Phases 1 & 2	
Virtue Field Outdoor Seating - Phase 3	
Multi-Purpose Event Center	
Athletic Recreation Center	

Table 4-3. List of projects completed in past year that were not included in 2014-2019 JIPMP.

Building Project	Associated Change in Parking
Cohen Hall	10
Library Addition	1
439 College Street	19
Pine Street Parking Lot	200

Demand

Using the Fall 2019 CATMA Employee and Student Surveys, along with the information above, it was determined the current parking demand for the University of Vermont is 4,939, putting it at a 368-space surplus for its entire system, and a 6-space surplus when only considering UVM affiliated parking (margin of error ± 210 spaces) (Table 4-4). Two net spaces demand estimates are provided account for the fact students living in the Redstone Lofts & Apartments, though nestled within the larger UVM campus, have 362 spaces which are not part of UVM's parking supply for their exclusive use. This estimated demand is higher than the recorded maximum parking utilization rate (observed on Thursday, February 20, 2020 at 12:00 PM) which was 83%. UVM averaged an 80% utilization rate for the counts conducted. Figure 4-1 shows the average utilization by lot. 35 employees and 40 students indicated they prefer to park on the street during peak time when driving to campus (Table 4-5).

Figure 4-1. Map of average parking utilizations rates by lot on University of Vermont campus.

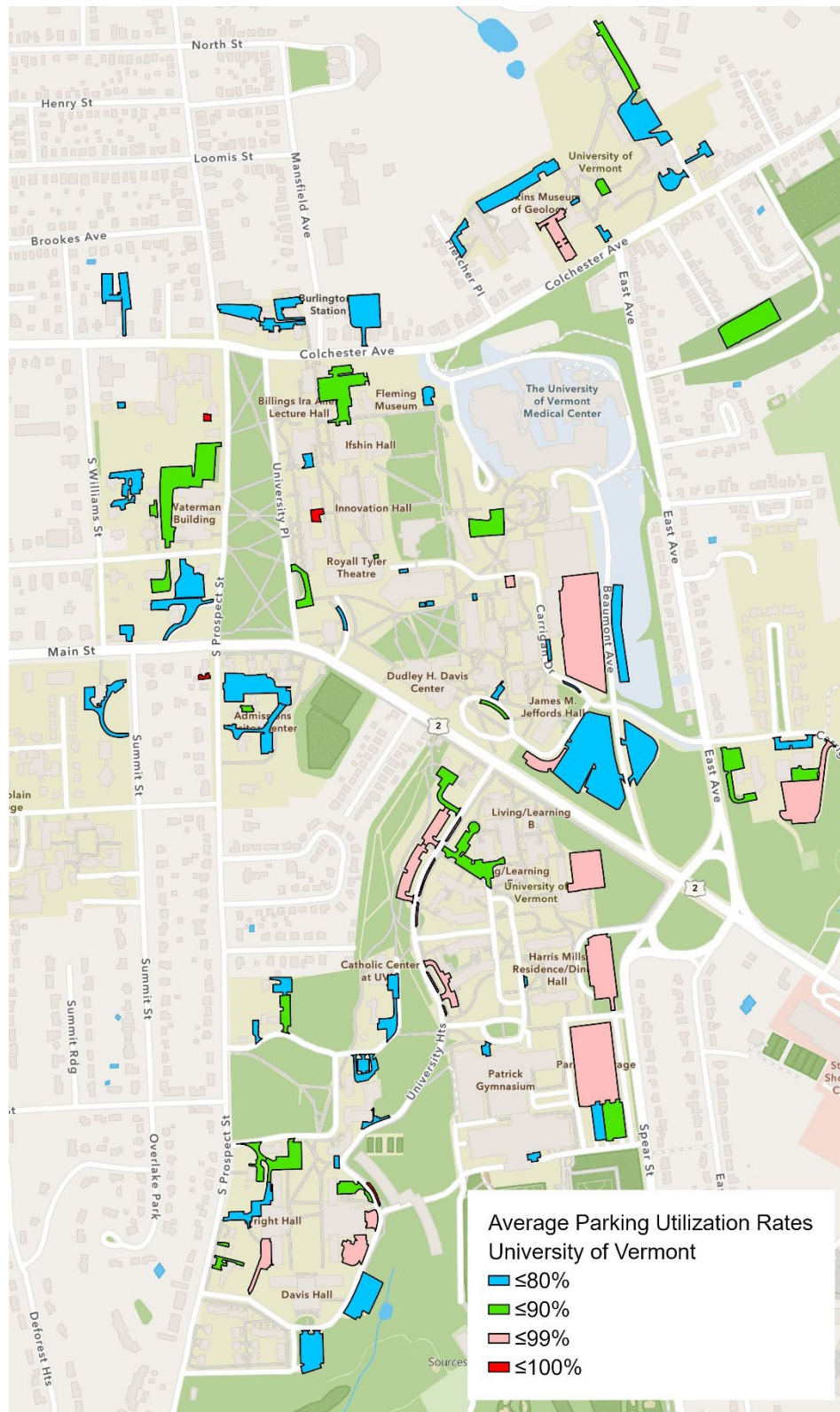


Table 4-4. Current demand calculation for UVM.

University of Vermont			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees ²	3,920	60.6%	2,376
On-Campus Students	5,366	11.1%	596
Redstone Lofts & Apartments	605	64.6%	391
Off-Campus Students	7,577	15.4%	1,167
Visitors			185
Fleet			218
Total Peak Parking Demand³			4,933
Total Parking Supply			5,301
<i>UVM Affiliated Parking Supply</i>			4,939
<i>Redstone Parking Supply</i>			362
Net Spaces (UVM Supply ONLY)⁴			+6
Net Spaces (Total Supply)⁵			+368

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

²Employees not located on Main Campus are not included in this count.

³Total peak parking demand has a margin of error of ± 210 spaces.

⁴The net spaces available if total demand could only be serviced by the UVM affiliated parking supply.

⁵The net spaces available when total demand is serviced by both UVM affiliated parking and Redstone Lofts & Apartments parking.

Table 4-5. UVM survey respondents reporting parking on-street at peak time.

	Within 2 Blocks of Campus	More Than 2 Blocks of Campus	Total
On-Campus Students	6	7	13
Off-Campus Students	15	12	27
Employees			35
Total			75

Future Conditions

Users (Employees, Patients, & Visitors)

UVM expects a slight increase in both employment and enrollment by 2025. Projected enrollment is 13,850, a 302-student increase from 2020. This increase is expected to occur equally among all student groups. Projected employment is 4,081 for UVM's Burlington sites.

GSF Requirements and Parking Supply

UVM intends to complete the following projects by 2025 (Table 4-6). These projects will grow the university by over 35,000 GSF and 128 parking spaces.

Table 4-6. Future construction plans for UVM with associated changes of building area and parking requirements.

Project Name	Change in Building Area	Associated Change in Parking	Est. Completion
Music Building Recital Hall Addition	4,544	3	2022
New Research Facility for COM ¹	75,000	-121	
Jeffords East Lower Lot	0	67	
University Road (East Ave to Compound)	0	15	
University Heights Road (Southwick)	0	7	
Pomeroy Barn & 172 South Prospect	-6,067	15	
Virtue Field Phase 2	5,000	0	
ADA Code Compliance	0	-20	2024
Blundell	0	5	
Fleming Museum	0	20	
Outing Club Relocation	13,250	5	
Southwick Hall	0	3	
Tarrant (Multi-Purpose) Event Center	119,099	0	2025
Interfaith Center Parking Lot	0	40	
Torrey Hall Addition	2,860	0	
Miscellaneous Parking Adjustments ²		25	
Bioresearch Complex	0	200	Unknown
Future Structured Parking	0	TBD	
Coolidge Hall	-30,510	-10	
Colchester Ave/Dewey	-82,622	-83	
Back 5 & Cottages (Trinity Campus)	-64,907	-243	
Colchester Research Facility ³	0	200	
Total	35,647	128	

¹New Research Facility for COM has a separate Parking Plan which has been approved by the DRB in 2019. It is included in this project list to provide an accurate list of expected changes to UVM's parking supply.

²Wherever possible UVM will attempt to reallocate space to create more parking. It is estimated this will result in ~25 spaces over 5-years based on previous experience.

³This facility is estimated to house between 200 and 400 parking spaces. Though it is off-site it will impact on-campus demand depending on UVM policy.

The future parking inventory for UVM is provided in Table 4-7. UVM plans to continue leasing a portion of its parking supply to other institutions for revenue. UVM's future parking supply of 5,045 is 6,268 spaces below the CDO minimum and 8,705 spaces below the maximum.

Table 4-7. Future GSF, parking requirements, and parking supply for UVM.

	Main Campus
GSF	5,656,447
Minimum Parking Requirement	11,313
Future Available Parking Supply¹	5,045
<i>On-Site</i>	5,257
<i>Off-Site²</i>	400
<i>Leased Parking</i>	-612

¹On-site, off-site, and leased parking are used to calculate Future Available Parking Supply.

²The 200 off-site parking spaces located at 351 Pine St and the Colchester Research Facility are used for long term parking.

Estimated Demand

Assuming constant commute trends between 2020 and 2025, the estimated future demand for UVM will rise. However, this increased demand will be met with an increased parking supply and a reduction in fleet vehicles, which will increase UVM's estimated future parking demand to a 462-space surplus for its entire system, and a 100-space surplus when only considering UVM affiliated parking (margin of error ± 204 spaces)(Table 4-8). Without include the Redstone Lofts & Apartments, UVM's maintains a surplus of 100 spaces. To reduce this demand, UVM will employ the following strategies: UVM, in collaboration with the City of Burlington, CATMA, Gotcha Bike, and others is bringing 200 electric-assist bikes to the regional bikeshare program and adding five bikeshare hubs to UVM's campus (totaling seven campus bikeshare hubs which are accessible to all members regardless of campus affiliation). E-bike use has been shown to decrease drive alone rates year round by 10%⁴. UVM will be adding MDC (Motor Drive Cycles) parking options in safe, non-vehicle spaces. This will free up parking currently being occupied by MDCs for conventional vehicles. UVM estimates this will add 27 SOV spaces. Finally, in the 2019-2020 academic year, the Center for Research on Vermont launched an initiative which incentivizes UVM employees to turn in their parking permit. This pilot project resulted in 30 permits being turned in. If these three strategies continue in the future, this will reduce UVM's parking demand by 77 spaces giving UVM a 255-space surplus.

In addition, the potential post-COVID impacts on telework and online courses would reduce demand.

⁴ McQueen, Michael, John MacArthur, and Christopher Cherry, PhD. 2019. "The E-Bike Potential: Estimating the Effect of E-bikes on Person Miles Travelled and Greenhouse Gas Emissions." Portland State University and University of Tennessee, Knoxville. https://wspd-pfb-sparkinfluence.s3.amazonaws.com/uploads/2019/05/E-bike-Potential-Paper-05_15_19-Final.pdf

Table 4-8. Estimated future parking demand for UVM

University of Vermont			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Employees ²	4,081	60.6%	2,474
On-Campus Students	5,516	11.1%	613
Redstone Lofts & Apartments	605	64.6%	391
Off-Campus Students	7,729	15.4%	1,191
Visitors			185
Fleet			190
Total Peak Parking Demand³			5,044
Total Parking Supply			5,429
<i>UVM Operated Parking Supply</i>			5,067
<i>Redstone Parking Supply</i>			362
Estimated TDM Effects⁴			-77
Net Spaces (UVM Supply Only)⁵			+100
Net Spaces (Total Supply)⁶			+462

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

²Employees not located on Main Campus are not included in this count.

³Total peak parking demand has a margin of error of ± 204 spaces.

⁴This value is only representative of new TDM strategies that have not yet affected current demand. The explanation of how this value was determined can be found in the narrative above.

⁵The net spaces available if total demand could only be serviced by the UVM affiliated parking supply.

⁶The net spaces available when total demand is serviced by both UVM affiliated parking and Redstone Lofts & Apartments parking.

Unique Trends & TDM Strategies

Trends

Although UVM's employee drive alone rate is much lower than the state average of 82%⁵, it is the main mode for 60% of employees and 42% of off-campus students who live farther than a half-mile from campus. Off-campus students within a half-mile of campus prefer other commute modes, with only 3% of those students reporting drive alone as their primary mode (Figure 4-2).

Figure 4-2. Mode split (2019) for UVM employees and off-campus students (by distance of home from campus).

⁵ Vermont Agency of Transportation. 2019. "The Vermont Transportation Energy Profile." https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/The%20Vermont%20Transportation%20Energy%20Profile_2019_Final.pdf

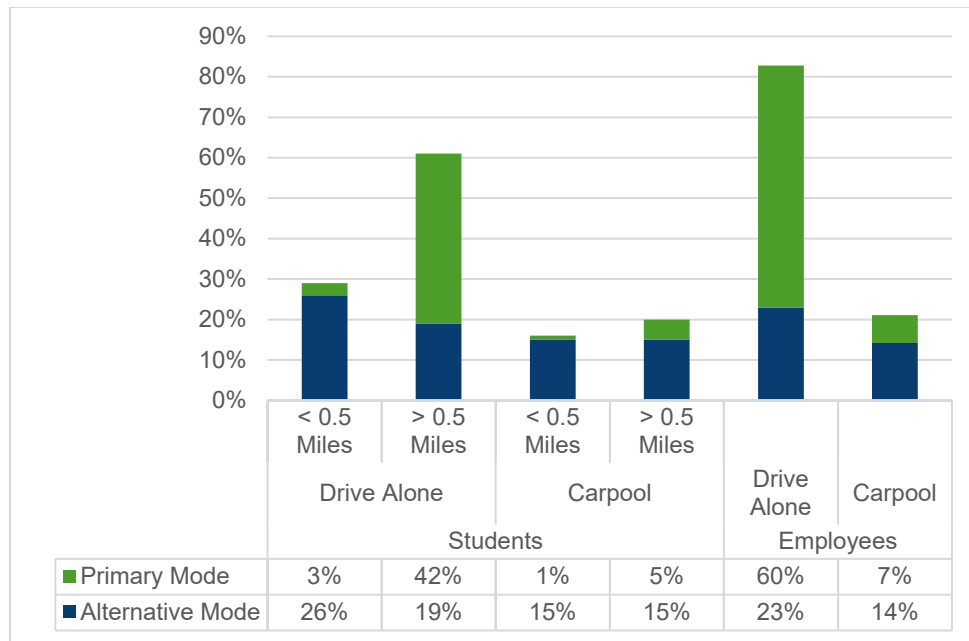
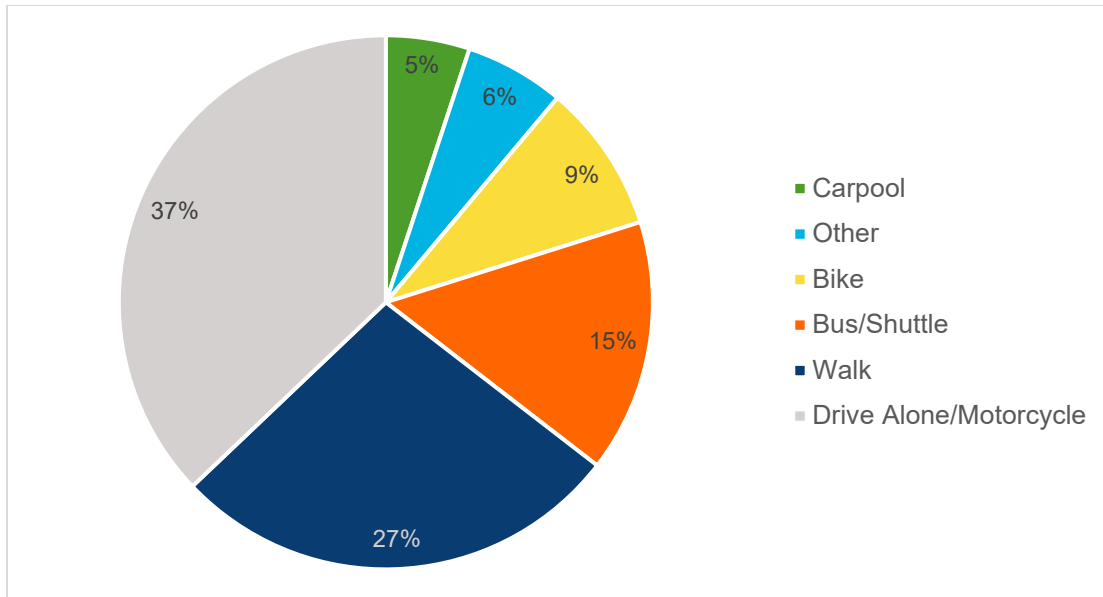


Figure 4-3. Collective mode split (2019) (including sustainable modes) for UVM employees and students.



Over the past four years, the drive alone rate for employees and off-campus students living farther than a half-mile from campus has increased, but both remain lower than the first recorded rate (Figure 4-4). Students living within a half-mile of campus have returned to their lowest drive alone rate. For on-campus students, automobile-reliance is measured by vehicle ownership, which has risen 6% since the previous year's survey (Figure 4-5). However, this number remains much lower than the first recorded ownership statistic.

Figure 4-4. Drive alone rate trend for UVM employees and off-campus students (by distance of home from campus) (2001 – 2019).

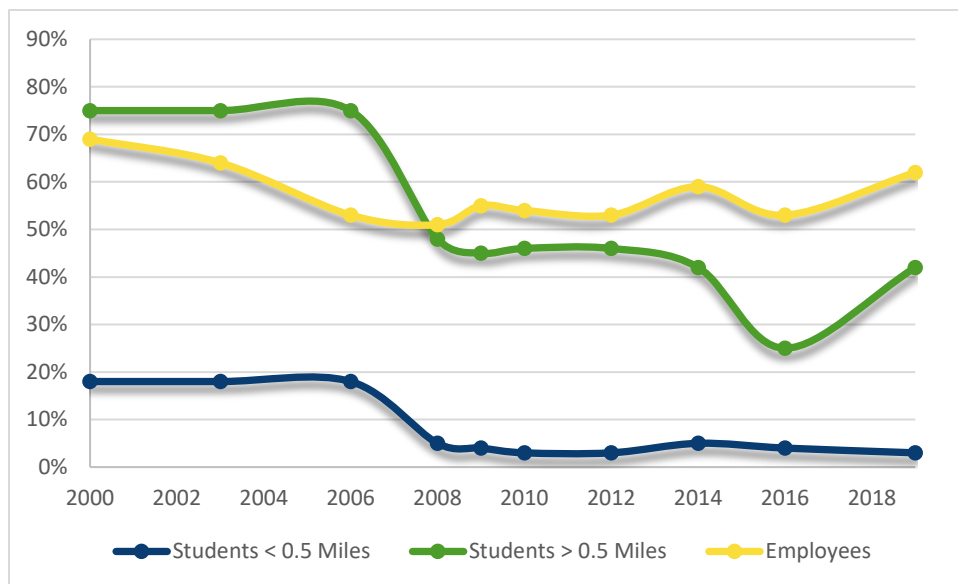
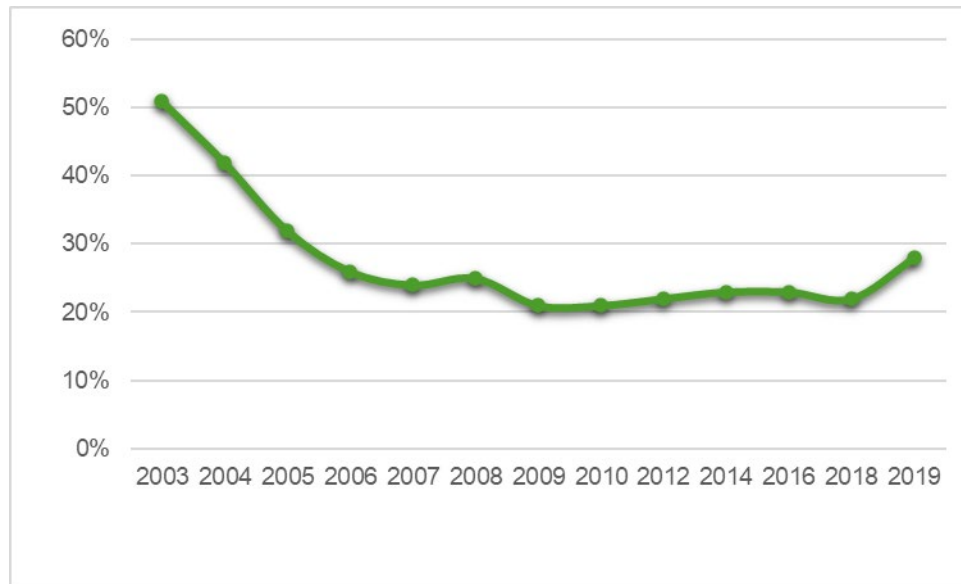


Figure 4-5. Vehicle ownership trend for UVM on-campus students (2003-2019).



TDM Strategies

Permits & Other Regulated Uses

UVM uses a permit allocation system designed to regulate demand in core areas. As of December 2019, UVM issued 6,953 permits for single occupancy vehicles (3,720 for employees, 3,233 for students). UVM also issued 36 carpool permits, with 75 total participants. Employee permits within the core campus are more expensive than permits for outer areas and are assigned based on seniority. Cost of employee permits is progressive, meaning higher paid employees pay a higher cost for their parking permit (up to a certain point). All on-campus students are discouraged from bringing cars to campus and first-year students are prohibited from bringing cars to campus unless the student can prove a need such as work or medical reasons. Resident student permits are priced higher than commuter student permits. Only students living farther than a half-mile of CATS shuttle stops are eligible for a commuter permit. Off-campus students within a half-mile of CATS shuttle stops may be eligible for an evening commuter permit.

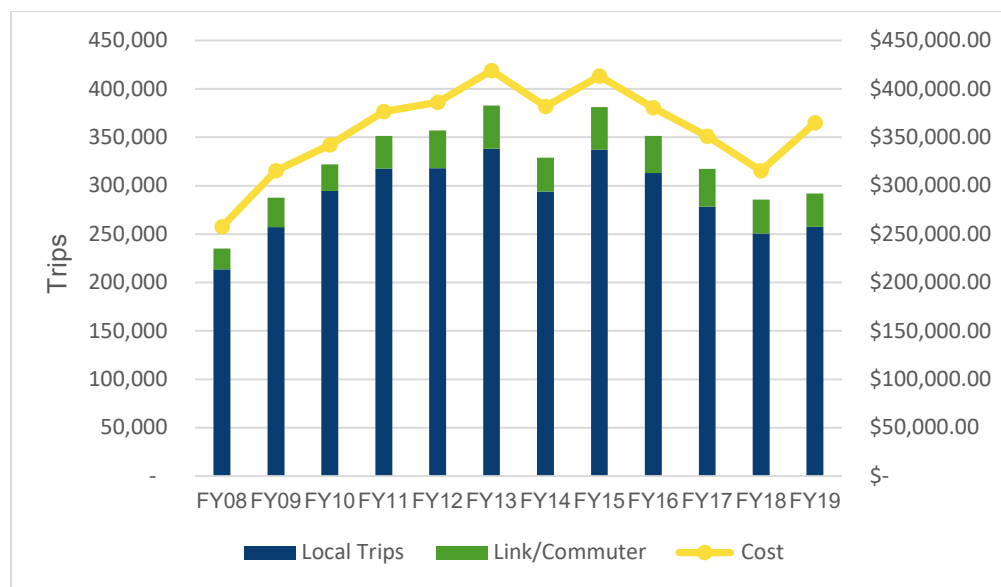
Starting in Fall 2020, anyone requesting a permit will be required to complete a TDM module, which outlines all possible alternative modes available to university affiliates. The intention of this module is to educate those driving about other transportation options that reduce parking demand. The impact of this module will be assessed in the 2021 JIPMP Annual Update. Throughout UVM's campus there are visitor parking lots that are paid for via the ParkMobile app. UVM students are prohibited from parking in these spaces during metered hours. All parking lots are monitored by UVM Transportation and Parking Services and citations are issued for vehicles found in compliance with regulation.

Currently, UVM has 218 fleet vehicles. These vehicles are identifiable by parking stickers and are kept at their respective department location. Temporary business placards are provided to other service/vendor vehicles as needed during the day. Over time, UVM has reduced their fleet, and projects this trend to continue into 2025.

Transit

In 2003, UVM joined the CATMA Unlimited Access Program, which provides unlimited free access on existing GMT public transit services to staff, faculty, and students. UVM receives a 28% discount per ride from GMT by being a part of this program. Ridership and associated cost to the university are displayed in Figure 4-6.

Figure 4-6. UA Trips by UVM students, faculty, and staff with associated cost (2008 -2019).



On-Campus Shuttles

UVM also provides free access to the CATS campus shuttle system to all university affiliates to promote safety and more energy-efficient transportation. The CATS service schedule is depicted in Table 4-9.

Table 4-9. CATS Shuttle Schedule.

Routes	Days	Times	Runs Every (Minutes)	Buses Running
Redstone Express	Mon - Fri	7:45am - 4:45pm	15	1-2
Daytime	Mon - Fri	7:30am - 6:30pm	10	3
Evening	Mon - Thurs	6:15pm - 11:45pm	30	1
Weekend	Sat - Sun	11:30am - 6:30pm	30	1
Off-Campus	Sun - Thurs	6:30pm - Midnight	30	1
Off-Campus (Weekend)	Fri - Sat	6:30 pm - 10:00pm	15	2
Off-Campus (Late-Night)	Fri - Sat	10:00pm - 3:00am	10	3

Bicycle Infrastructure & Parking

UVM is one of only 25 universities nationally recognized as a Gold-level Bicycle Friendly University as of November 2018. UVM has bike racks located throughout campus, indoor bicycle parking and pumps in most residence halls, and three fix-it stations. UVM Bikes, a student club, operates a bike co-op on campus overseen by TPS advisors. The co-op leases bikes and offers bike mechanic services to UVM students and employees.

Car Sharing Service

UVM has a partnership with CarShare Vermont via CATMA's Campus Programs Contract. UVM contributes \$20,000 annually to CarShare Vermont so that students and employees without long-term parking permits can receive a subsidized membership to CarShare services. The Campus Programs Contract is responsible for about 30% of CarShare Vermont's total membership. There are two CarShare hubs located on UVM's campus at the Royal Tyler Theater and the Redstone Lofts.

Parking Cash Out

During the 2019-2020 academic year, the Center for Research on Vermont ran the Give Up Your Permit Program, which encouraged 30 UVM employees to give up their parking permit in exchange for a \$75 gift card and a parking pass allowing for 12 uses for emergencies/occasional use. There are plans to continue and expand this program in the future.

Planning Studies

The University of Vermont has a dedicated commitment to sustainably and creatively planning transportation for the campus. Over recent years, UVM has undergone multiple planning studies which all have a goal of reducing the number of SOVs on campus. The following are the most recent and relevant studies:

- [UVM Active Transportation Plan](#)
- Nelson Nygaard Parking & Transportation Plan

NOTE: The Supplement provides more detailed data referred to in this report.

5. University of Vermont Medical Center

The UVM Medical Center is an academic medical center providing high quality care and regional referral services for patients throughout Vermont and Northern New York. UVM Medical Center is a member of the UVM Health Network, which includes facilities in Burlington, as well as other communities in Chittenden, Addison, Fairfax, Washington and Orleans Counties, the Central Vermont Medical Center, Champlain Valley Physicians Hospital, Elizabethtown Community Hospital, Alice Hyde Medical Center, Canton-Potsdam Hospital, Inter-Lakes Health, Home, Health & Hospice (formerly Visiting Nurses Association of Chittenden and Grand Isle Counties), and the UVM Health Network Medical Group. The UVM Medical Center consists of approximately 50 patient care and administrative support sites and 100 outreach clinics, employs over 8,000 people, serves a population of over a million people, and conducts around 1.4 million out-patient procedures every year.

Current Conditions

Users (Employees, Patients, & Visitors)

UVM Medical Center employs a total of 6,338 individuals in Burlington. 6,197 of these employees are assigned to the Medical Center Campus or 1 South Prospect Street. On any given day, 50 Community Based Members, 1-2 Honorary Members and 25-35 Volunteers are on campus. For the purposes of estimating parking demand, institutional staff expect that non-paid staff demand no more than 100 parking spaces on any given day.

In 2019, UVM Medical Center Campus performed approximately 627,777 outpatient procedures, and 1 South Prospect performed approximately 92,917 outpatient procedures. This equates to approximately 2,511 outpatient procedures per day at the Medical Center Campus and 372 outpatient procedures per day at 1 South Prospect.

These requirements will be considered during the planning and design of individual projects. UVM Medical Center provides an optional valet parking service for its Medical Center Campus patients and visitors. This service is available at the patient and visitor entrance Monday thru Friday from 6:00am to 5:00pm. Cars can be retrieved with the valet until 9:00pm.

GSF Requirements and Parking Supply

The Medical Center Campus and 1 South Prospect are in the Shared Used Parking District.

The Medical Center Campus is currently licensed for 580 patient beds or bassinets. Since the number of staffed or occupied beds may vary, the number of licensed beds is used as the basis for this Plan as it is a maximum and invariable number that leads to a conservative estimate. To account for the diverse healthcare functions provided by UVM Medical Center, an effort has been made to distinguish between hospital/ in-patient uses, educational uses, and other uses (e.g. cafeteria, medical office, administrative office, support space, common areas). While there is not a precise method to distinguish between these uses and the square footage associated with each, a reasonable estimate was produced. The GSF, associated required parking, and the current parking supply of both Medical Center Campus and 1 South Prospect are included in Table 5-1. Though UVM Medical Center has a total parking supply of 3,746 spaces, only 2,509 of those spaces are located on-site at the Medical Center Campus and 1 South Prospect. For the purposes of the JIPMP only the on-site supply will be referenced when estimating demand for the UVM Medical Center because it is where there is most concern for parking management.

UVM Medical Center's current on-site parking supply is 2,509 which is 775 spaces less than the minimum required by the CDO and 1,596 spaces less than the maximum allowed.

Table 5-1. Current GSF, parking requirements, and parking supply available at UVM Medical Center (Medical Center Campus and 1 South Prospect).

	Medical Center Campus	1 South Prospect	Total
GSF¹	1,698,739	149,404	1,848,143
In-Patient Beds	580	-	580
Minimum Parking Required	2,985	299	3,284
Current Parking Supply			
On-Site²	2,052	457	2,509
Leased/Offsite Parking Supply	-	-	1,237

¹For Medical Center Campus, only 912,682 GSF counts towards calculating CDO parking requirements because the rest of the GSF accounts for in-patient uses.

²Only on-site parking is counted towards the parking supply.

Demand

Using data collected in the 2019 CATMA Employee Survey and requirements above, it was determined the current parking demand for the UVM Medical Center and 1 South Prospect campuses is 2,330 spaces putting it at a 179-space surplus (margin of error ± 42 spaces)(Table 5-2). The aggregate average of parking counts for UVM Medical Center and 1 South Prospect lots from October 2019 and February 2020 show utilization at 81% (Supplement Figure 4-1) with a maximum utilization rate of 96%.

Employees without permits for on-site lots, must park in one of the off-site parking lots, which provide UVM Medical Center employees with an additional 1,237 parking spaces. Demand for UVM Medical Center, when including those who park in off-sites lots, is 3,246 with a 500-space surplus (margin of error ± 65 spaces)(Table 5-3). UVM Medical Center's off-site parking lots average an 84% utilization with a maximum 89%. These off-site lots are a crucial tool through which the UVM Medical Center manages parking demand. It should be noted, UVM Medical Center's satellite lots did not undergo the same lot count process as its on-site lots, but from November 2019 to February 2020, UVM Medical Center's off-site lots were counted at least weekly to get the above utilization rate.

The 2019 CATMA Employee Survey asked employees where they prefer to park, and 32 UVM Medical Center employees reported parking on the street.

Table 5-2. Current demand calculation for UVM Medical Center not including those who utilize off-site lots (Medical Center Campus and 1 South Prospect).

UVM Medical Center			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Medical Center Campus			
Employees	5,567	17.8%	991
Out-Patients			708

In-Patients			75
Visitors ²			250
Fleet			38
<i>Subtotal</i>			2,062
1 South Prospect			
Employees	630	3.7%	24
Out-Patients			236
Fleet			8
<i>Subtotal</i>			268
Total Peak Parking Demand³			2,330
Total Parking Supply			2,509
Net Spaces			+179

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

²UVM Medical Center volunteers are included in visitor parking demand, because in the 2019 CATMA Employee Survey, volunteers identified they park in the ACC Garage and get a voucher to avoid paying upon their departure.

³Total peak parking demand has a margin of error of ± 42 spaces.

Table 5-3: Current demand calculation for UVM Medical Center including those who utilize off-site lots (Medical Center Campus and 1 South Prospect).

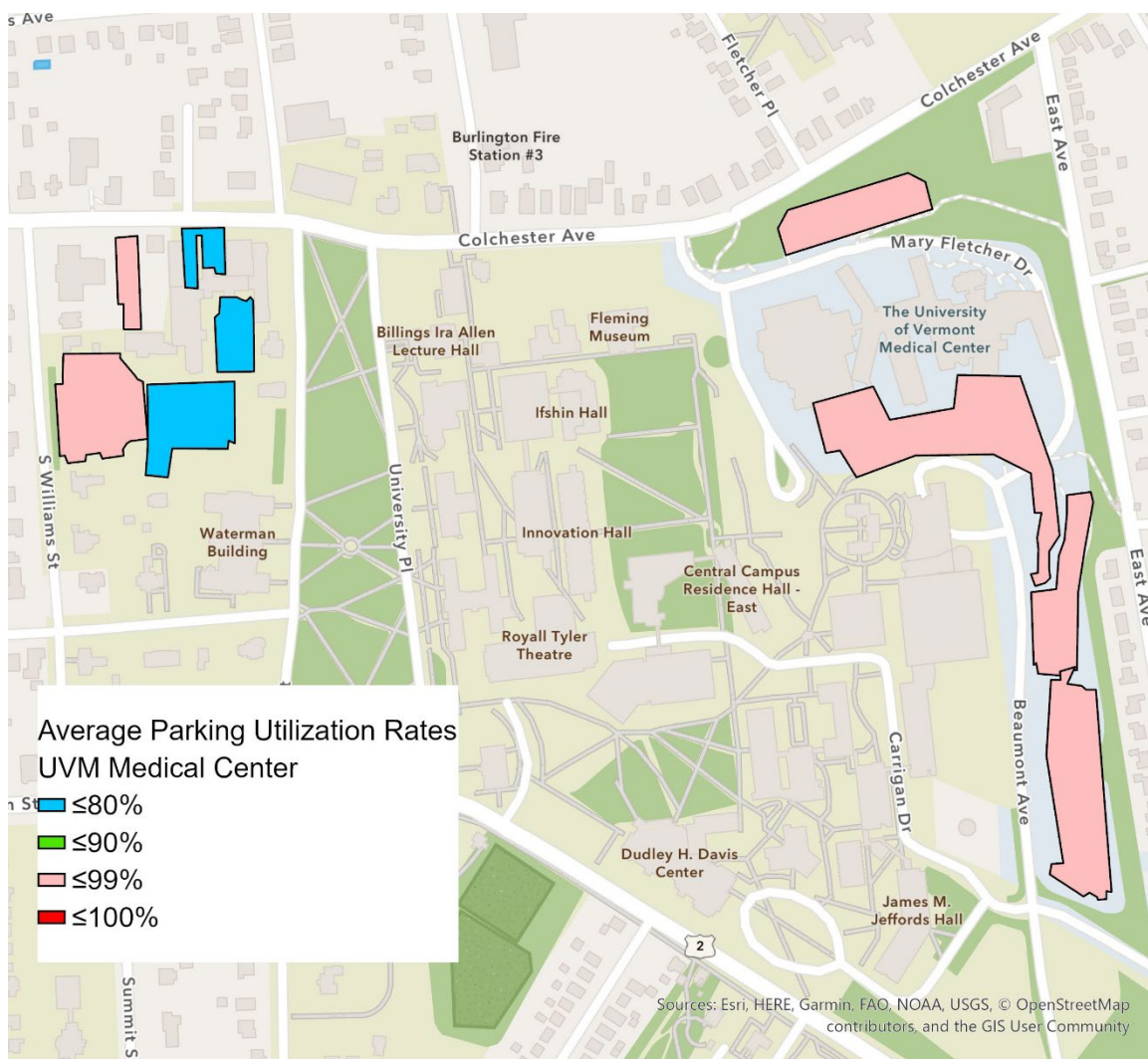
UVM Medical Center			
User Group	Number of Users	Peak Parking Demand¹	
		% of Users	Spaces
Medical Center Campus			
Employees	5,567	34%	1,893
Out-Patients			708
In-Patients			75
Visitors ²			250
Fleet			38
<i>Subtotal</i>			2,964
1 South Prospect			
Employees	630	6%	38
Out-Patients			236
Fleet			8
<i>Subtotal</i>			282
Total Peak Parking Demand³			3,246
Total Parking Supply			3,746
Net Spaces			+500

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A.

²UVM Medical Center volunteers are included in visitor parking demand, because in the 2019 CATMA Employee Survey, volunteers identified they park in the ACC Garage and get a voucher to avoid paying upon their departure.

³Total peak parking demand has a margin of error of ± 65 spaces.

Figure 5-1. Map of average parking utilizations rates by lot on UVM Medical Center campus.



Future Conditions

Users (Employees, Patients, & Visitors)

UVM Medical Center expects there to be no significant change in employees, patients, or visitors. As new space needs on the Medical Center Campus are identified, that need is offset by moving existing space users to a satellite location that have a lower need for proximity to the Medical Center Campus. A total of 6,338 full-time, part-time, and per diem UVM Medical Center employees are expected to work across the Medical Center Campus, 1 South Prospect, and other Burlington sites through 2025. There are no expected changes for in-patient and out-patient numbers at any of the UVM Medical Center sites.

GSF Requirements and Parking Supply

UVM Medical Center does not intend to complete any construction projects that would add to the Burlington facilities for the next five years. Employment and procedures are expected to remain at the current conditions.

The future parking inventory for UVM Medical Center across Burlington sites is provided in Table 5-4. UVM Medical Center's future on-site parking inventory of 2,509 is 775 spaces less than the CDO minimum required and 3,067 spaces less than the maximum allowed.

Table 5-4. Future GSF, parking requirements, and parking supply for UVM Medical Center (Medical Center Campus and 1 South Prospect).

	Medical Center Campus	1 South Prospect	Total
GSF	1,698,739	149,404	1,848,143
In-Patient Beds	580	-	580
Minimum Parking Required	2,985	299	3,284
Future Parking Supply			
On-Site¹	2,052	457	2,509
Leased/Offsite Parking Supply	-	-	1,237

¹For Medical Center Campus, only 912,682 GSF counts towards calculating CDO parking requirements.

²Future parking supply is the sum of on-site parking and leased/offsite parking

Estimated Demand

Assuming commute trends stay constant between 2020 and 2025, the estimated future demand for the UVM Medical Center will remain as it is in 2020. It is estimated the Medical Center will have a surplus of 179 parking spaces for its on-site supply by 2025 (margin of error of ± 42 spaces) (Table 5-5). Including its off-site supply and demand, the Medical Center will have a surplus of 500 spaces (margin of error of ± 65 spaces) (Table 5-6).

Table 5-5. Estimated future parking demand for UVM Medical Center not including those who utilize off-site lots (Medical Center Campus and 1 South Prospect).

UVM Medical Center			
User Group	Number of Potential Users	Peak Parking Demand ¹	
		% of Users	Spaces
Medical Center Campus			
Employees	5,567	17.8%	991
Out-Patients			708
In-Patients			75
Visitors ²			250
Fleet			38
Subtotal			2,062
1 South Prospect			
Employees	630	3.7%	24
Out-Patients			236
Fleet			8
Subtotal			268
Total Peak Parking Demand ³			2,330
Total Parking Supply			2,509

Net Spaces			179
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¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A. "% of Users" consists only of car users who are on campus at peak time.

²UVM Medical Center volunteers are included in visitor parking demand, because in the 2019 CATMA Employee Survey, volunteers identified they park in the ACC Garage and get a voucher to avoid paying upon their departure.

³Total peak parking demand has a margin of error of ± 42 spaces.

Table 5-6. Estimated future parking demand for UVM Medical Center including those who utilize off-site lots (Medical Center Campus and 1 South Prospect).

UVM Medical Center			
User Group	Number of Users	Peak Parking Demand ¹	
		% of Users	Spaces
Medical Center Campus			
Employees	5,567	34%	1,893
Out-Patients			708
In-Patients			75
Visitors ²			250
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Subtotal			2,964
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Employees	630	6%	38
Out-Patients			236
Fleet			8
Subtotal			282
Total Peak Parking Demand ³			3,246
Total Parking Supply			3,746
Net Spaces			+500

¹Peak parking demand is calculated from data collected in the 2019 CATMA Employee and Student Transportation Survey using the methodology described in Appendix A.

²UVM Medical Center volunteers are included in visitor parking demand, because in the 2019 CATMA Employee Survey, volunteers identified they park in the ACC Garage and get a voucher to avoid paying upon their departure.

³Total peak parking demand has a margin of error of ± 65 spaces.

Unique Trends & TDM Strategies

Trends

Driving alone continues to be the primary mode of the majority of UVM Medical Center employees at both the Medical Center Campus and 1 South Prospect (Figure 5-3). Medical Center Campus employees are more likely to use UVM Medical Center shuttles from satellite lots than their colleagues at 1 South Prospect. Carpooling is not a highly utilized mode, but over 10% of employees at both locations are carpooling sometimes, which would be an easy population to work with to increase carpooling as primary mode. Unfortunately, the drive alone rate continues to rise following an all-time low in 2010 (Figure 5-4). This rise can be explained by a multitude of factors including lower gas prices and more affordable housing outside of Burlington.

Figure 5-2. Mode Split (2019) for UVM Medical Center Employees by Campus.

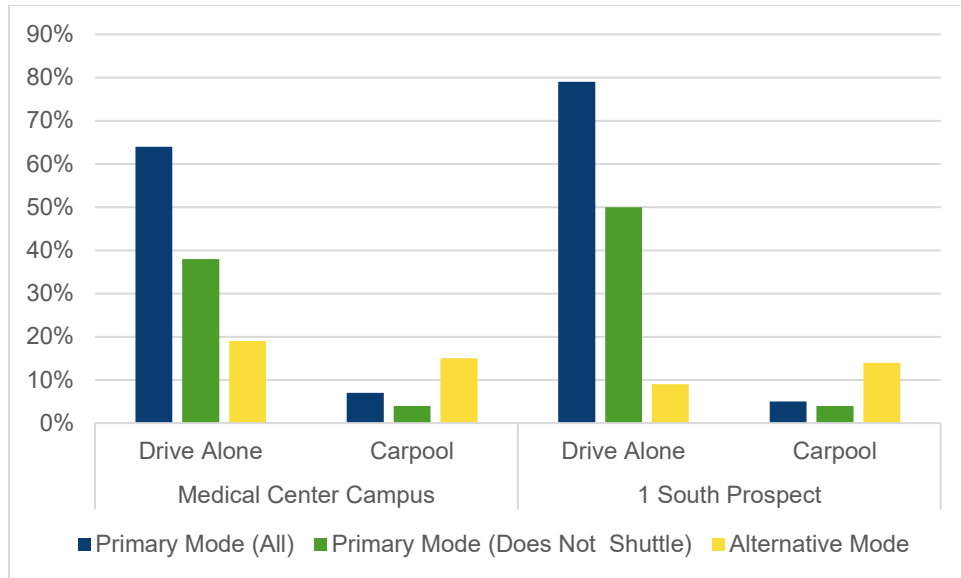


Figure 5-3. Collective mode split (2019) (including sustainable modes) for UVM Medical Center employees.

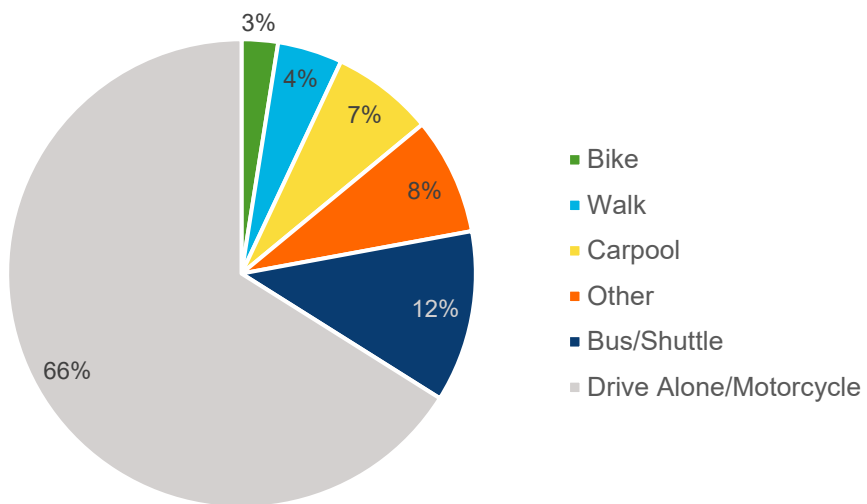
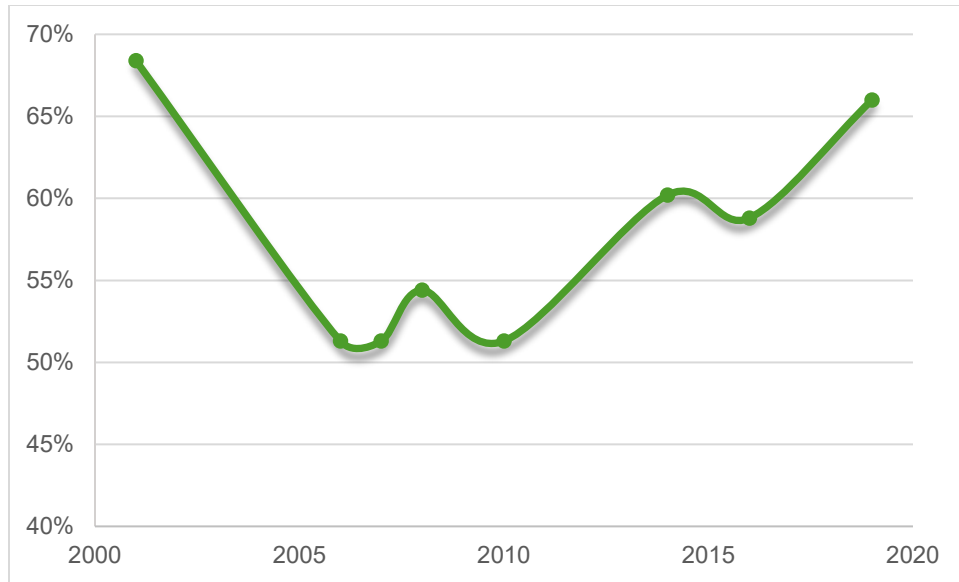


Figure 5-4. Drive Alone rate trend for UVM Medical Center Employees (2001-2019).



TDM Strategies

Permits

During peak demand periods, convenient onsite parking assignments are limited to senior staff, physicians, residents, and those with “business needs” or “medical needs” permits.

Shuttles & Remote Off-Site Lots

UVM Medical Center also uses off-site lots and an effective shuttle system to manage on-site parking demand. Staff without on-site parking permits are required to park in a satellite lot served by a shuttle or use an alternate transportation mode. UVM Medical Center provides off-site parking at Fanny Allen (Colchester), 115 Lakeside Avenue (Burlington), and Technology Park (South Burlington) with regular service direct to the Medical Center Campus. The shuttles summarized in Table 5-6 result in a combined 254 shuttles that operate 254 days per year that equal 74,676 shuttle trips per year.

Table 5-7. UVM Medical Center shuttle schedule.

Shuttle Locations	AM Runs	Midday Runs	PM Runs	Total Runs/Day
Tech Park/Medical Center	21	11	28	60
Lakeside/Medical Center	21	11	28	60
Fanny Allen/Medical Center	21	11	28	60
Catamount/Medical Center	16	14	14	44
Centennial/1 South Prospect	15	0	15	30

Transit

UVM Medical Center has offered a discount on GMT local (50%), commuter and LINK passes (25%) since 1995 (Table 5-7). Employees can purchase these passes via a payroll deduction. Since the early 1980s, GMT buses have served UVM Medical Center well with the Burlington/

Essex route, and most recently GMT implemented its Next Gen Plan which included direct service from key originations and destinations in the region. There are 10 GMT transit routes that stop at the Medical Center Campus.

A 25% discount on ferry tickets for employees who live in New York is also provided by UVM Medical Center.

Table 5-8. Average number of transit passes sold monthly by UVM Medical Center for selected years (2014 & 2019).

	2019	2014
GMT Monthly		
Local	93	34
Local ADA	0	9
LINK Express	3	8
LINK Express/Commuter	3	3
GMT 10 Ride Pass		
Local	36	98
Local ADA	0	15
LINK Express	72	74
LINK Express/Commuter	34	27
Champlain Ferry		
Car & Driver Monthly Pass	121	110
Passenger 10 Ride Pass	23	28
Motorcycle 10 Ride Pass	0	5

Bike Infrastructure & Parking

UVM Medical Center supports bicycle travel by investing in local and regional bicycle networks. It is recognized as a Bicycle Friendly Employer by the League of American Bicyclists. For example, UVM Medical Center widened the sidewalk along Colchester Avenue between East Avenue and Mansfield Avenue to interconnect with UVM bike paths. The sidewalk along Beaumont Drive is 10 feet wide to function as a shared use path. UVM Medical Center provides on-site shower facilities and over 100-spaces of bicycle parking (covered and uncovered) for its cyclists.

A bikeshare hub is located at the ACC Circle, adjacent to transit stop on main campus, and there is a hub at Waterman Building nearby 1 South Prospect Street.

Carpool Incentive

A carpool parking incentive (on campus parking permit) is available to employees at the Medical Center Campus, Fanny Allen Campus and 1 South Prospect who have two or more employees who commute to work together. There are approximately 1,000 UVM Medical Center employees registered with CATMA as carpoolers.

NOTE: The Supplement provides more detailed data referred to in this report.

6. Conclusion

This JIPMP demonstrates the Hill institutions' ability to actively and collaboratively manage the demand for parking for each of their campuses. All three institutions are well equipped with various TDM strategies provided through CATMA and individually to mitigate changes in demand and mode use.

The projects included in the 2020-2025 JIPMP are likely to be over-estimating parking demand now that policy shifts are occurring as a result of the COVID-19 crisis. All of the institutions will be implementing firmer telework policies for their employees. UVM and Champlain may see a decline in students coming to campus in Fall 2020 with potentially more online courses offered. As employees and students gain the skills to work and learn remotely, the demand for on-campus parking is likely to decrease. At this point, the impact of COVID-19 on parking demand is unknown, but it will be acknowledged further in the Spring 2021 JIPMP Update.

Appendix A: Methodology

Lot Counts

In the data collection process of the 2020-2025 JIPMP, CATMA and the institutions defined a lot count inventory process. In October 2019, the institutions agreed to conduct counts on the same days and times (Tuesday and Thursday at 10:00 AM and 2:00 PM), to control for regular variation in day-to-day travel habits. Following a winter meeting of the institutions and CATMA, these counts were extended for three days (Tuesday, Wednesday, and Thursday) and three times (10:00 AM, 12:00 PM, 2:00 PM). These adjustments were made as a reflection of peak time determined by the CATMA survey data. Moving forward, the institutions will each conduct counts quarterly on these three days and times so that CATMA can have a growing log of utilization rates. This constant and consistent data collection will strengthen our demand estimations in future JIPMPs.

There are advantages and drawbacks to using lot counts or survey data to estimate demand. Though lot counts are an inexpensive method to calculate parking demand, they are also usually only representative of a limited time frame. This limitation means typical peak demand may not be captured due to variability (i.e. seasonal mode change, time-off, etc.), and may underestimate demand. Survey data may overestimate demand because it fails to capture daily variation seen in lot counts. However, survey data can break down demand by user group, understand different mode trends, and can easily forecast future demand patterns. For more information about the advantages and drawbacks of lot counts and survey data for estimating demand, please see Appendix B which was provided by Jonathan Dowds with UVM's Transportation Research Center.

Survey Administration

The 2019 CATMA Student Transportation Survey was launched on October 28, 2019. The 2019 CATMA Employee Transportation Survey was launched on October 29 and October 30, 2019. Direct solicitation emails were sent to employees and students. Table A-1 describes the solicitation process in more detail.

Table A-1. Overview of CATMA's 2019 Transportation Survey solicitation and responses.

	Launch Date	Population Total	Solicitation Total	Total Responses	Margin of Error
Student Survey					
Champlain	10/28/2019	2087	2059	515	4%
UVM	10/28/2019	13850	13960	2892	2%
Employee Survey					
Champlain	10/29/2019	880	705	190	6%
UVM	10/30/2019	4205	4289	1299	2%
UVM Medical Center	10/29/2019	4670	8631	2678	1%

Survey Weighting

With guidance from UVM's Transportation Research Center, the results of CATMA's 2019 surveys were weighted using population parameters provided by the institutions. Survey weighting is intended to weight survey responses in a way that is reflective of the actual

population. This process corrects for segments in population who are either under or overrepresented by those who answered the survey.

Demand Calculation

The demand estimation calculation used in the 2020-2025 JIPMP is very different from that used in previous JIPMPs. This modified calculation was provided by UVM's Transportation Research Center. Rather than finding the peak time on campus for all users and the demand for parking of all users, this modified calculation relies on the peak time on campus for auto-users. This adjustment is reflected by the **peak parking demand percent** listed in each demand calculation (see Table A-2). By making this slight distinction, some overestimation of demand is reduced as well as a reduction in the margin of error.

Peak parking demand percent is calculated by first finding the time the most auto users are on each campus. For employees and off-campus students, auto users are either those who drive alone and half of those carpool as their main mode. For on-campus students, auto users are all individuals who own a car. Then, a proportion is created for each user group (employees, on-campus students, and off-campus students) by taking the number of auto users on campus at peak time and dividing it by the total number of individuals in that user group in the survey. That percentage (which is the peak parking demand percentage) is multiplied by the total number of users in that group given by the institution which results in demand (see Figure A-1 for formulas).

Table A-2. Summary of peak parking demand on each campus as identified by the 2019 CATMA Employee and Student Transportation Surveys.

Champlain College	Wednesday	11:30 - 1:30 PM
UVM	Tuesday	11:30 - 1:30 PM
UVM Medical Center	Monday	12:00 -1:00 PM

Figure A-1. Top: Formula for calculating peak parking demand percent for employees and off-campus students. Bottom: Formula for calculating peak parking demand percent for on-campus students.

Peak Parking Demand % =	$\frac{\text{Drive Alone at Peak Time} + \frac{1}{2}(\text{Carpool at Peak Time})}{\text{All Users}}$
Peak Parking Demand % =	$\frac{\text{Own Vehicle}}{\text{All Users}}$

Margin of Error

The margin of error is the range within which a true value may be found given a certain confidence interval. All margins of error reported in the 2020-2025 JIPMP are within a 95% confidence interval. The margins of error were calculated using the Complex Samples modules in SPSS and were found for the peak parking demand percent for each user group. For each of the institution, the composite margin of error was found by summing the squares of each user

group's margin of error and taking the square of root of the sum. Knowing the margin of error is useful, because within a 95% confidence interval, we can know the total parking demand for any institution is above or below a certain percentage of the estimated demand given.

Appendix B: Parking Demand Estimation Overview

Jonathan Dowds
6/1/2020

Parking Demand Overview

Parking demand is a measure of the number of parking spaces required to serve all vehicle trips ending at a given destination over a given period of time, typically measured in space-hours. The parking demand associated with a specific destination depends on a variety of factors, including the number of people traveling to that destination at a given point in time, the modes of travel that are available for travel to that destination, parking prices and other variables that influence the relative attractiveness of available modes. Mode choices are influenced by travel time, cost, reliability, and parking availability among other factors. Thus, parking demand is not static and can increase or decrease with changing circumstances. Deliberate Transportation Demand Management (TDM) policies, utilizing incentives, education and other strategies to alter travel behavior, are one method for reducing parking demand.

Current parking demand can be estimated using parking lot counts or user surveys that collect mode share data.⁶ The Metropolitan Area Planning Council, the regional planning agency serving the Boston Metropolitan area, provides a toolkit for member cities to conduct count-based parking studies for the purpose of determining parking utilization rates and whether demand exceeds supply (MAPC 2019). Both parking counts and user surveys can be used to calculate a per-user parking demand ratio – the ratio of the number of parking spaces used to the total number of users of a destination. Using parking counts to estimate demand becomes less accurate as parking utilization approaches the effective parking capacity. Depending on how the data are collected, the parking demand ratio may be further broken out by sub-groups such as faculty, staff, and students. Future demand can be forecasted by applying these demand ratios to a projection of the future user base (potentially with adjustments for planned changes that are expected to impact the demand rate such as new transit or bike options). For planning purposes, parking demand has frequently been estimated using parking generation factors from the Institute of Transportation Engineers (ITE) and Urban Land Institute (ULI) but these figures have been criticized for their lack of geographic specificity and tendency to over-estimate parking needs (Litman 2016; Kimberly-Horn 2016). Other methods for forecasting parking demand include the use of land use or gravity models.

Parking Demand Concepts and Terminology

Capacity/Supply: The capacity, or supply, of parking is equal to the number of parking spaces within a lot or study area.

Effective capacity: A parking lot's effective capacity is the number of vehicles that can practically be expected to park at that lot. It is lower than the raw number of spaces in a lot to account for spaces that are blocked by other vehicles or obstacles and for users' finite willingness to search for a free parking space. Estimates for "effective capacity" vary but several sources consider 85-90% to be the highest practical utilization rate (MAPC 2019; UVA 2019).

⁶ Note that the terms "parking counts" and "parking surveys" are often used interchangeably to refer to a tally of the number of vehicles parked within a specific study area. To avoid confusion with respect to the CATMA Student and Employee Transportation Surveys, this memo will refer to counts of parked vehicles as "parking counts" or "lot counts" and reserve the word "survey" for user surveys similar to the 2019 CATMA student and employee survey efforts.

Latent parking demand: Latent parking demand refers to the additional number of parking spaces that would be utilized if the price were lower or if more parking capacity was available. Waitlists for permits and on-street parking or illegal parking in nearby neighborhoods are two indicators of latent demand. Latent demand can be reduced by TDM measures that increase the attractiveness of modes that do not require parking.

Parking demand ratio: The parking demand ratio is equal to the proportion of users of a destination that utilize parking. It can be used to forecast future parking demand in conjunction with estimates of the number of users that will travel to a destination.

Parking utilization/occupancy rate: The parking utilization rate is the percentage of parking spaces that are being used at a particular time.

State of Practice for Institutional Parking Plans in Higher Education

There is no single standard for parking demand estimation used by institutions of higher education. For university parking plans, lot counts appear to be the most common method for estimating current parking utilization but user survey are also used for this purpose. Examples of different approaches to developing institutional parking plans are described below.

The University of Virginia (UVA) completed a parking master plan in July of 2019 that utilizes a similar set of methodologies to the JIPMP (UVA 2019). The UVA parking plan covers the UVA student body, faculty and staff and UVA Health. Primary modes share usage for faculty and staff were collected with a survey conducted by the UVA Center for Survey Research and were used to calculate parking demand ratios for these user groups. Student parking demand ratios were calculated based on vehicle counts. These parking demand ratios were applied to population projections developed by the University based on historical trends and other factors. For additional context, parking occupancy rates for individual lots and across the UVA campus are also reported. The plan includes 18 strategies for addressing expected parking shortfalls.

Salem State University (SSU) also completed a campus parking study in 2018 (Salem State University 2018). This study used lot counts as the basis for estimating current and future parking demand. It complemented these data with an online survey for the SSU community and surrounding neighborhoods to collect mode choice data as well as feedback on parking problem areas. Parking counts were conducted for two days in September of 2017 and included a count of the type of permit displayed by each vehicle. Parking counts were also conducted on a section of adjacent roadway, with all vehicles parked on-street assumed to be associated with SSU. Future parking demand was forecasted by applying a 2% annual growth rate (the projected rate of growth in enrollment) to the peak demand seen in the lot counts.

The University of Rhode Island's (URI) "Transportation and Parking Master Plan" for its Kingston Campus, completed in 2018 (VHB 2018), and Michigan Tech's "Campus Transportation & Parking Plan," completed in 2011 (Carl Walker, Inc. 2011), are additional examples of parking plans created primarily using lot count data but neither includes a strong demand forecast element. In addition to on-campus lots, 159 on-street parking spaces in the immediate vicinity of campus are included in the parking inventory and parking counts in the Michigan Tech study.

Colorado State University and North Carolina State University both utilized a parking gravity model, Park+, developed by the consulting firm Kimberly-Horn (Kimberly-Horn 2014; 2017). Park+ uses parking occupancy data collected via lot counts to calibrate a model that estimates the parking demand associated with each building on campus.

Advantages and Drawbacks of Lot Counts

Lot counts are a relatively straightforward and inexpensive method for collecting data about parking demand. Counts are suitable for the direct calculation of the average parking demand ratio across all users when the utilization is below effective capacity. When lots are limited to a single user group or when permit type information is also collected, demand ratios may be calculated separately for different user sub-groups. It is likely that the comparatively low cost of collecting this data contributes to its widespread use in parking planning.

There are a number of drawbacks to using lot counts as the sole sources of parking demand data, however. Lot counts tend to be collected over a limited time frame (one to two days in the examples above). Because of daily, weekly, and seasonal variability in travel behavior, the peak demand recorded in one or two days of observations may not be representative of typical peak demand. Seasonal impacts are likely to be particularly important in Vermont with users whose primary commute mode is a SOV are more likely to opt to use secondary modes such as walking and biking when the weather is favorable. Additionally, lot counts have a limited capacity to accurately capture circumstances where demand approaches or exceeds supply. Vehicle queuing, snow buildup, poorly parked vehicles, and vehicles parked illegally reduce the amount of parking capacity that is available at a given time, creating a reduced *effective* parking capacity. Therefore, parking counts that result in a utilization of 85-95% may indicate that supply is insufficient and latent demand exists. Counts that do not account for parking on surrounding streets or users who chose not to park due to capacity issues will fail to fully capture the entire demand for parking.

This combination of factors suggests that short duration lot counts will tend to under-estimate parking demand. Over time, continuing lot counting programs, such as the one implemented by the Hill Institutions, are less likely to suffer from these short-comings than one-off lot counts and will more accurately reflect parking demand.

Finally, lot counts also fail to provide information about mode splits, latent parking demand, and users perceptions of their transportation options. While this information may not be essential to estimate current parking demand, it is very valuable for understanding and managing future parking demand.

Advantages and Drawbacks of User Surveys

As with parking lot counts, user surveys offer both advantages and drawbacks for estimating current and future parking demand. Advantages to user surveys include improved ability to differentiate between the parking demand for different user groups and to capture on-street parking as well as to collect information on user satisfaction and latent parking demand. For calculating current total parking demand, surveys are especially valuable because they can easily and comprehensively be used to estimate the parking demand that is being met using parking spaces outside of the count area. While lot counts are highly effective at capturing the total demand for parking at isolated lots and lots that are far below capacity, they are less effective when the area of study is embedded within an environment that includes other parking options, such as on-street parking or parking lots for unaffiliated entities. In these circumstances, especially when parking utilization is high, parking prices are high, or the effective capacity is reduced by something like snow buildup, lot counts will miss users who opt to park on nearby streets rather than within institutionally provided parking areas or who choose not to park at all due to the capacity issues. While it is possible to conduct parking counts on nearby streets, in a setting like Burlington it would difficult to determine with certainty what vehicles are affiliated with one of the Hill institutions. By contrast, a user survey such as that

conducted by CATMA can ask directly about parking at locations other than institutionally provided parking lots, enabling a direct estimation of the entire parking demand.

Surveys also offer advantages for forecasting future parking demand because demand can be tracked by user group with greater specificity that can be achieved with most lot counts. Within the university context, for example, the percentage of users that require parking is likely to vary among faculty, staff and students. When parking lots are not restricted to a single user group, a simple lot count will only produce a single, overall estimate of the percentage of users that require parking but will not capture difference in parking demand between different user groups. If these different user groups are projected to increase at different rates, using this overall parking demand ratio to estimate future parking demand will be less accurate than applying user-group specific parking demand ratios.

Conversely, because the CATMA Survey asks respondents about their *typical* travel/parking behavior, it does not fully capture the day-to-day variations in behavior that impact total parking demand.⁷ For example, on any specific day, some employees/student will be sick or traveling and will not be on campus or need parking. Users whose primary mode is driving alone will sometime use other modes (decreasing the need for parking) and users whose primary mode is not driving will sometimes drive (increasing the need for parking). The net effect is that this survey method may overstate parking demand.

Finally, survey offer the advantage of providing information about user satisfaction and latent parking demand as well as the modes share data used to collect parking demand. While this information may not be essential to estimate current parking demand, it is very valuable for understanding and managing future parking demand.

Conclusions

Both parking counts and survey data have advantages and disadvantages for estimating parking demand and there is a degree of uncertainty associated with each. Under these circumstances, it is highly desirable to be able to present parking demand estimates using both methodologies. Demand estimated by the user survey captures parking usage that is met in the surrounding neighborhoods and does not reduce demand to account for share users who are not on campus due illness, vacation or other occasional telecommuting. Consequently, it will provide an estimate of the highest, annual peak parking demand. Overtime, on-going lot counts will provide an increasingly accurate representation of peaking parking utilization but will not capture parking in the surrounding neighborhoods so will provide a lower bound estimate of parking demand.

References

Carl Walker, Inc. 2011. "Campus Transportation & Parking Plan Final Report." Michigan Tech. <https://www.mtu.edu/transportation/campus-transportation-and-parking-plan-for-michigan-tech-final-report-1-.pdf>.

⁷ Other travel surveys, such as the National Household Travel Survey, ask respondents about their behavior on a specific day (e.g. "how did you get to work on XX/YY?"). With a sufficiently large sample, this approach would capture day-to-day variation.

Kimberly-Horn. 2014. "Colorado State University Parking and Transportation Master Plan." Colorado State University.
https://www.fm.colostate.edu/files/forms/Parking_Transportation_Master_Plan_Study.pdf.

———. 2016. "Parking Generation - Replacing Flawed Standards with the Custom Realities of Park+." White Paper Series Vol. #3. Kimberly-Horn. https://www.kimley-horn.com/wp-content/uploads/2017/02/PARK_Plus_ParkingGen.pdf.

———. 2017. "NCSU Transportation Master Plan." November 2017.
<https://transportation.ncsu.edu/wp-content/uploads/2019/01/18Transportation-Master-Plan.pdf>.

Litman, Todd Alexander. 2016. "Parking Management." Victoria Transport Policy Institute.
https://www.vtpi.org/park_man.pdf.

MAPC. 2019. "How to Do a Parking Study." <https://www.mapc.org/resource-library/how-to-do-a-parking-study/>.

Salem State University. 2018. "Campus Parking Study." Salem State University.
<https://records.salemstate.edu/sites/records/files/reports/2018-05/Campus%20Parking%20Study%20Final%20Report-April%202018.pdf>.

UVA. 2019. "UVA Parking and Transportation Master Plan." University of Virginia.
<https://officearchitect.virginia.edu/pdfs/UVATPPlan2019.pdf>.

VHB. 2018. "Transportation and Parking Master Plan." The University of Rhode Island.
<https://web.uri.edu/planning/files/TransportationParking-Master-Plan-Final-by-VHB-March-2018.pdf>.

To: DRB
From: Michael Long
Regarding: JIPMP

11/17/20

I was on the DRB when the 2014-2019 JIPMP was approved. Like the updated plan this was a weighty tome not easily absorbed in a sitting. Whether such plans effectively manage parking or merely provide approval for the institutions to proceed as they see fit is I think an open question.

The premise of such a comprehensive plan seems sensible, but its scale and the considerable challenge of simply counting the spaces, the vehicles, and the vehicle-trips makes the clarity and precision necessary for meaningful review elusive.

Barbara Headrick's analysis of the updated plan seems thorough and substantive. I hope you will take full advantage of her efforts to assist you in addressing any problematic elements in the plan that the DRB should be flagging or in framing conditions the DRB should require.

Our friends and neighbors at the hospital and colleges are well-versed in putting out plans. There's little danger their submissions will ever be on a napkin or the back of an envelope. Nevertheless, well laid plans do sometimes include smoke and mirrors too. For the JIPMP to be meaningful it must effectively manage institutional parking and parking demand — which goes well beyond simply meeting the requirement of filing a plan.

Burlington Development Review Board

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Brad Rabinowitz
AJ LaRosa
Springer Harris
Geoff Hand
Brooks McArthur
Kienan Christianson
Caitlin Halpert
Sean McKenzie, (Alternate)
Ravi Venkataraman, (Alternate)



BURLINGTON DEVELOPMENT REVIEW BOARD Tuesday, November 17, 2020, 5:00 PM REMOTE MEETING

Zoom: <https://us02web.zoom.us/j/84529354697?pwd=SFRsdTdjaTNVcHBCclpLMndZdHN3UT09>

Webinar ID: 845 2935 4697

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Coverage video: <https://www.cctv.org/watch-tv/programs/burlington-development-review-board-346>

Minutes

Board Members Present: Brad Rabinowitz, AJ LaRosa, Springer Harris, Caitlin Halpert, Kienan Christianson, Geoff Hand, Ravi Venkataraman (Alt)

Board Members Not Present: Brooks McArthur,

Staff Members Present: Mary O'Neil, Ryan Morrison, Alison Davis, Meagan Tuttle

I. Agenda

B. Rabinowitz: Asks about updates to the agenda

M. O'Neil: Request from 75 Cherry St for deferral. 219 North Winooski Ave also asking for deferral due to not yet completing DAB review.

II. Communications

B. Rabinowitz: Some items added to supporting documents for Joint Institutional Management Parking Plan

III. Minutes

B. Rabinowitz: Previous meeting minutes are in packet

IV. Consent

1. 21-0396CA; 219 North Winooski Ave (NMU, Ward 2C) Jade Age LLC, Steven Schenker

Construct new 3-unit apartment building and related site work. (Project Manager: Ryan Morrison)

Requests deferral

V. Public Hearing

1. 20-0522CU; 75 Cherry Street (FD6, Ward 3C) BTC Mall Associates, LLC

Amend ZP 17-0662CA/MA phasing schedule.

Geoff Hand and AJ LaRosa recused from item

Jesse Beck appeared on behalf of item

M. O'Neil: Requesting time extension for their deferral. Time extension runs out this month. Can have one more time extension, which is what they are asking for

B. Rabinowitz: Asks if Board has any comments or questions for applicant

S. Harris: Motion to extend the deferral for three months

C. Halpert: Seconds motion

5-0-0

2. Review of 2020-2025 Joint Institutional Parking Management Plan

Lani Ravin (UVM), Sandy Thibault (CATMA), Kim Furtado (CATMA), Jonathan Dowds (UVM Transportation Research Center) appeared on behalf of item

Pike Porter (544 South Prospect St), Barbara Headrick (South Prospect St), Serrill, Sharon Bushor provided public testimony

S. Thibault: Explains overview of Joint Institutional Parking Management Plan and why the institutions need to update plans every five years. Gives overview of CatMA is and explains how they manage the University of Vermont, University of Vermont Medical Center, and Champlain College transportation and parking. Explains history of JIPMP. Explains in 2019 there was a gap year and they performed an overhaul of plan. Explains there are two pieces to the plan, two different reports. Walks through presentation

K. Furtado: Explains survey and on-street parking demand

S. Thibault: Explains collective TDM strategies. Explains drive alone trend. Explains how parking trends have changed since covid. There is less demand for on campus parking, which opens availability of spaces.

J. Dowds: Explains what the Transportation Research Center does. Explains the research of the data. Explains methods like lot counts.

B. Rabinowitz: Asks about how the two different ways of calculating the parking compare

J. Dowds: Explains the differences and similarities. Walks through the Executive Summary page.

S. Thibault: Explains things that are happening in the future, like their spring survey

G. Hand: Asks about the demand trends since covid and asks if they have studied alternative modes of transportation and how those have been impacted since covid.

J. Dowds: Explains how they predict the trends to change effected by covid

G. Hand: Asks about the impact of the annual reports. Asks about maybe coming back for the annual update to show how covid has impacted the data. Concerns about approving a plan for five years when trends are changing. Asks about possibility of approving plan for one year vs five years.

J. Dowds: Probably will be a moderate hit to transportation use, especially public transportation due to covid, but there is a high number of people who drive alone.

S. Thibault: Explains the annual reports and what kind of impacts they have to changes of the plan

M. Tuttle: If you want to approve for a shorter amount of time, like one year, that would be fine, but would be hesitant to assume that the data that is presented one year from now would be indicative of the trends for all five years. Could approve plan for a shorter amount of time if wanted.

B. Rabinowitz: Has seen methodology change due to conditions on the ground. Five-year plan seems reasonable to changes overtime

K. Christianson: Asks about the e-bike program, public comment says that company is no longer in existence. Asks if there is a response to that comment. Asks about e-bike use for the summer vs winter months

S. Thibault: Explains the goal to transition to electric assisted bicycles and increase number of bikes and hubs, but there have been some bumps in the road due to covid. We have an RFP out right now for the transition. May decrease number of bikes during the winter. We have seen ridership decrease in the winter, but maybe e-bikes will change that.

K. Christianson: Explains and asks about how there is no expected rise of parking need for the medical center. Asks how they projected that conclusion.

S. Thibault: The medical center does not have any plan to expand building, faculty or patients, no growth, so the current supply remains the same

K. Christianson: Asks about ban on sophomores having cars and how that can alleviate parking pressures.

S. Thibault: UVM had hired a consultant for a transportation and parking study, so that plan is complete and is moving up through leadership, but now put on hold with covid. One of the recommendations is to assess their parking permit structure, strategy and fees.

L. Ravin: Responds to the ban of sophomores having cars

C. Halpert: Asks about survey for on street parking, asks about how many students were surveyed and what the response rate was

K. Furtado: Somewhere around 20% of student body. Explains how they came to the conclusion from survey results

B. Rabinowitz: Asks about Champlain College and how they monitor the cars parked

C. Halpert: Asks about TDM strategies and about solutions for trend that they identified

S. Thibault: People may be moving into more rural areas where public transportation is more limited, making more people drive alone, and the price of fuel is affordable right now.

G. Hand: Asks if the data of drive-alone might be because parking is too available

S. Thibault: Parking utilization maps is a new feature, and we can track who is parking in what lots and with what modes of transportation. This is something that we would like to look into more.

P. Porter: Explains to Board to be skeptical about data and to look into where the data is coming. Asks UVM to support data that they using. Redstone zoning permits do not match with parking numbers in the report.

S. Bushor: This is only the third plan for parking management. The plan does not fully provide what its goal and intent is. Covid is an unknown and we do not know how many people will continue to work remotely and demands on people's time. Things can change dramatically. Five years may be too long for an approval. When trends change, it changes the neighborhood dynamic surrounding the institutions. CATMA needs a better interface with the City, should be more of a partnership. Questions if visitor spaces are limited at institutions. Needs to talk about the parking problem as an environmental issue.

B. Headrick: Lots of students that park on South Prospect Street. Would like to see the number of single occupancy vehicles and cars in general decrease. Under threat of UVM gaining on street parking. Questions "adequate" parking, explains mathematics of adequate parking numbers. Explains different parking trends and the parking supply/demand trends at the institutions. Would like to support a park and ride program.

S. Thibault: Responds to public comment. Events have not been involved in report due to time on weekends, etc.

A. LaRosa: Would like to reflect on comments and discussion. Would like to give UVM a chance to respond to the comments that were heard today.

K. Christianson: Agrees with AJ. Would be interested in a plan that shows what is going on with covid vs what is going to happen after. Would agree to shorter time period for approved plan.

B. Rabinowitz: Covid is definitely not increasing parking. To rewrite the plan for Covid does not make sense. They will have to wait to see what the parking demand is. Will it change from Covid? That is what we will need to see.

G. Hand: Talks about TDM strategies and how there are not many new proposals to address the existing issue that is in the plan. All three institutions have climate change pledges, but no mention of pledges in parking plan. Transportation management efforts should be part of achieving those goals.

R. Venkataraman: Agrees about the climate change pledges. TDM are based on current data, but also aspirations, so would like to see something about mitigation over time along with climate change goals.

S. Thibault: Would like to consider a three-year approval of plan with annual updates. Climate matter has not been included in this report but it is a great idea.

L. Ravin: Addresses the parking concerns brought up earlier.

B. Rabinowitz: Closes public hearing.

VI. Adjournment

Meeting adjourned at 6:52 pm.

Bradford L. Rabinowitz, Chair of Development Review Board

Date



Alison Davis, Zoning Clerk

Date

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status, crime victim status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at (802) 540-2505.