

# University of Southern Maine (USM) Portland Campus

## Transportation Demand Management (TDM) Plan



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# 1

## Introduction

This Transportation Demand Management (TDM) plan provides a cohesive strategy for continuing a successful TDM program for the University of Southern Maine (USM) Portland campus. This plan seeks to enhance multimodal accessibility, ensure the use of non-vehicular modes, and discourage the use of driving through parking management, to achieve and build upon the parking demand reduction goals for the campus.

The TDM Plan expresses a TDM program of strategies and timeframe for when USM intends to implement the various strategies. The strategies aim at promoting walking and bicycling, improving transit service to promote ridership, promoting carpooling, , and managing parking demand via changes to USM's pricing and permit policies.

### USM Portland

The University of Southern Maine (USM) Portland campus encompasses approximately 30 acres, with 27 buildings comprising 1,190,929 assignable square feet (ASF). Located less than one mile from the heart of downtown Portland, the Portland campus provides excellent access to social, cultural and internship opportunities. Linked to the Gorham campus ten miles to the west and the Portland city center via frequent bus service (METRO's Husky Line), the Portland campus also has convenient access and visibility from Interstate Highway 295,

with Forest Avenue serving as the primary roadway arrival point. A second important arrival point onto the campus is the roundabout at the intersection of Deering Avenue, Brighton Avenue, and Falmouth Streets. Bedford Street bisects the campus providing access to most of the parking lots and structured parking for the campus.

The campus is in a completely developed urban neighborhood. The adjacent land consists of Interstate Highway 295 on the south-east border, commercial uses on the north east (along Forest Avenue), and residential uses on the northwest, west and south west. The largest adjacent land use is the Oakhurst Dairy distribution center between the campus and Forest Avenue. The adjacent residential areas provide housing for some of USM's students but are generally a set of very solid and cohesive neighborhoods. Currently, no students reside on the Portland campus, but that will change in the summer of 2023 when a new residence hall will come online.

In 2017 and 2018, the University of Southern Maine undertook a process that resulted in a final *Facilities Master Plan* approval by the Board of Trustees in January 2019.<sup>1</sup> The process included information gathering via tours of all three campuses, extensive internal and external stakeholder interviews, and public input. The plan incorporates the visions, goals, facilities assessments, and the campus space needs assessments into a set of campus physical development recommendations. USM is now embarking in implementing specific capital projects identified in the plan.

## Commitment to TDM

USM has a history of promoting Transportation Demand Management (TDM) strategies on its campuses. For starters, TDM clearly falls within two guiding principles of the University's Facilities Master Plan through its attempt to increase non-private vehicular transportation and reduce related transportation emissions:

- **Mobility**—the Master Plan supports robust pedestrian, bicycle, shuttle bus, ride share and metropolitan and regional public transit systems that look beyond private vehicular parking to meet the transportation needs of the campus community.
- **Sustainability**—the plan supports all existing sustainability policies of the University.

TDM also indirectly relates to several other guiding principles as a result of potential outcomes from a TDM program:

- **Student Experience**—the process, plan, and implementation focuses upon improving the students' academic, co-curricular and living experience on each of the campuses.
- **Public Safety**—the plan and subsequent implementation seeks to provide the safest campus environment possible through physical, programmatic, and operational improvements, including those in response to public health threats like Covid-19.

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<sup>1</sup> For more details, please visit [usm.maine.edu/president/master-plan](https://usm.maine.edu/president/master-plan).

- **Neighbors**—the plan seeks to establish campuses and campus communities that are positive members of the neighborhoods, mitigating negative impact and providing a beautiful and inviting campus landscape for all neighborhood members to enjoy.
- **Aesthetics**—the visual quality of the campus facilities is important to creating an environment that meets the mission and goals of the University.

The implementation of TDM measures provides USM with the ability to make access to the campus more enjoyable and safer for affiliates (because of reduced traffic), improved relations with neighbors (because of decreased traffic and parking concerns), and decreased campus space dedicated to parking.

As a result, the University introduced TDM for the first time within its 2017 Sustainability Plan. The sustainability plan set a quantitative goal for sustainability efforts related to transportation and established a baseline of strategies to achieve that goal. Per the sustainability plan, the goal related to transportation was to reduce greenhouse gas emissions from transportation by 20 percent from a Fiscal Year (FY) 2006 baseline. TDM-related strategies suggested by the Sustainability Plan are presented in Chapter 3; one recommendation was to develop a TDM plan.

To further understand how TDM will play a role as the campus continues to transform, USM hired VHB to develop a comprehensive TDM Plan that will allow the University to meet their sustainability goals while responsibly meeting user parking demands (and limiting the additional parking supply requirements). To develop a strategic approach for USM transportation that leverages current realities in developing future outcomes, VHB and USM hosted a series of stakeholder meetings and interviews. These conversations helped inform the proposed strategies presented in the first generation of this TDM plan, which was published in 2020. The plan presented here builds on the 2020 plan, modifying strategies to address lessons learned and behaviors observed through the first two years of implementation.

## Development Proposal: Facilities Master Plan Program Elements

Consistent with the USM *Facilities Master Plan* approved January 27, 2019, USM has several development program aspirations that have triggered the initial development of this TDM Plan and continue to influence it. The University is actively building the new campus “heart”, consisting of the following capital projects:

- **Career and Student Success Center**—This building, now named the McGoldrick Center, will replace the dining and cocurricular activity space formerly in the Woodbury Campus Center. In addition, the vision for this building is to provide a common place for programs and functions that support both the academic success and long-term professional success of the USM student. The building is anticipated to be approximately 41,000 square feet.
- **Student Housing**— This approximately 216,000 square-foot building will house upwards of 580 beds to accommodate upper class undergraduate students and graduate students.

- **“Quad”**—A key component of the transformation of the Portland Campus is a second campus open space, located adjacent to the residence halls and the Career and Student Success Center.
- **Center for the Arts Building**- Framing the west side of campus along the former Brighton Ave. Extension, this building will include classroom space, a recital hall, and a visual arts gallery.
- **Structured Parking**- A four-level structured parking garage is being built next to the existing parking garage adjacent to the Abromson Center. Not only will the facility accommodate approximately 504 automobile spaces and six motorcycle spaces, it will also contain 250 covered, secured long-term bike parking spaces and 58 level-two electric vehicle charging plugs.

The development noted above may be followed by additional capital projects on USM’s Portland campus.

## Parking Supply and Demand

To accommodate parking needs for the new construction laid out above, the master plan proposed an increase to the supply of parking. To verify this assumed need, the University hired VHB to conduct a parking study in 2019. The study, published in March of 2020, showed that the Portland campus would, indeed, be short on parking supply at the opening of the new buildings, even in a 0% enrollment increase scenario.

In the Fall of 2020, the University submitted site plans to the City of Portland for the new career and student success center and residence hall described above. Upon review of the University’s parking study and the anticipated demand for parking stemming from the new residence hall, the City drafted a condition of approval for the project that mandated the provision of 396 net new parking spaces. The accounting within the condition of approval is listed in the table below. It incorporates a significant loss in surface parking as a result of the construction project and the creation of a large campus green.



**Table 1: City of Portland’s Condition of Approval for Supply of Parking**

<b>Item</b>	<b>Peak Demand or Supply Impact</b>
Residence Hall (Provision of Parking for 68% of 580 residents)	394
Displacement by Closure of Woodbury Lot	130
Displacement by Closure of Facilities Lot	41
Displacement by Revision of Central Heat Plant Lot	6
Displacement for Future Salt Shed in Law School Lot	4
Wishcamper Parking Lot Expansion Plan	-115
Reduction from TDM Strategies Applied to this Parking Pool	-64
<b>TOTAL NEED</b>	<b>396</b>

After the Planning Board approved the career and student success center and residence hall buildings, the University moved forward with plans to meet the condition of approval for net new parking by submitting site plans for a structured parking garage in the Fall of 2021. Given that the new structured parking garage would be situated on the Wishcamper surface lot, 92 current spaces would be lost in addition to 115 future spaces. The future spaces had been previously anticipated to be gained by a City-approved expansion and re-striping of that lot that had also been incorporated into the condition of approval for the career and student success center and residence hall. Due to this displacement of parking in the Wishcamper lot, the University proposed that the size of the structured parking garage be 504 automobile spaces in order to reach the City’s condition of approval for 396 net new spaces. With the planned departure of the Maine Law School from campus set to occur prior to opening the new buildings, the University estimated it would see reduced demand of at least 152 vehicles during the peak hour, allowing for a 504-space garage to sufficiently meet the condition of approval for 396 net new spaces. VHB reviewed and verified the numbers, and in January of 2022, the City of Portland’s Planning Board approved the parking garage project.

In December of 2022, the University submitted site plans for the Center for the Arts building (CFA). The University estimates that this building will create new demand for 32 parking spaces at peak time. The combination of the new parking garage, the departure of the Maine Law School, and the TDM initiatives outlined in this plan are anticipated to collectively accommodate 32 parking spaces for the CFA building, and still leave 75 spaces of surplus

available for future growth in enrollment. The loss of the Brighton Ave. lot from the City's 2021 roundabout project (26 spaces) is factored into this projected net surplus. Reduced demand from TDM campus-wide (144 spaces), as opposed to only lots impacted by construction in the condition of approval, is also factored into the net surplus explained here. This additional TDM impact is estimated to reduce demand by another 80 vehicles over the original 64 vehicles accounted for in the condition of approval.



# 2

## Mobility Context

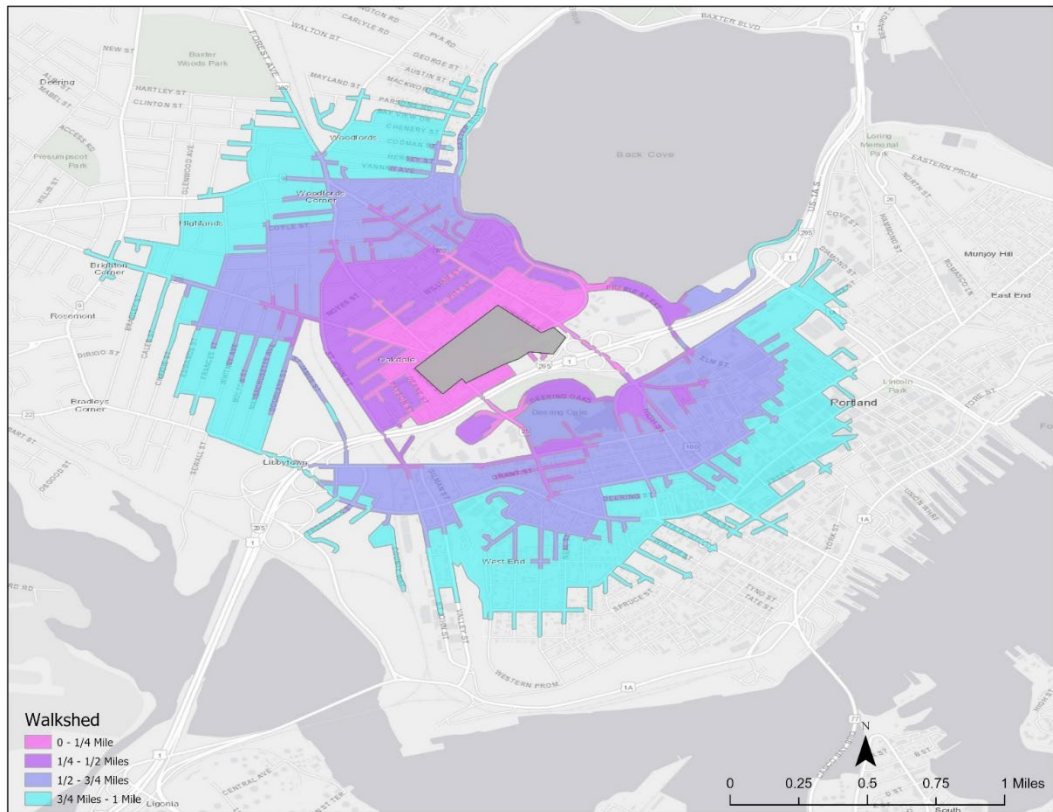
Understanding the transportation context that is available for students, faculty, staff, and visitors at USM Portland is important to be able to recommend targeted TDM program elements. This section summarizes VHB’s findings from 2019 when assessing the different ways that one can access the USM campus as well as opportunities and challenges related to those options.

### Walking and the Pedestrian Environment

USM’s Portland campus is located on the edge of the Portland peninsula adjacent to the Oakdale residential neighborhood. Oakdale maintains a grid of streets, a majority with sidewalks, and low-volume, low-speed streets that make it generally comfortable and conducive for walking. The University is also adjacent to Forest Avenue, which offers local retail (including a grocery shop) within a short walk of the University. *Walkscore.com*, a real-estate site that evaluates walkability and transportation when choosing where to live, scores USM a 78 out of 100 and considers it to be a “Very Walkable” location where most errands can be accomplished on foot.

Some built and natural barriers limit accessibility to areas on the south side because of the I-295 highway, to the west and southwest because of a below-grade railroad, and to the northeast because of the Back Cove. Although there is a comfortable shared use path under the interstate, I-295 can pose as a psychological barrier to some people for walking trips to downtown. Figure 1 shows the walkshed in quarter-mile increments out to a mile from the USM Portland campus.

Figure 1: 1-Mile Walkshed from USM Portland Campus



On campus, there is a robust network of pedestrian paths that connect all campus buildings (Figure 2). There are also information kiosks and wayfinding to assist pedestrians in their orientation around campus.

Figure 2: Portland Campus Map



In summary, walking is easy in and around USM; however, natural or human-made barriers may provide some real barriers and some psychological barriers. For example, the primary walk route to downtown from campus is on Forest Ave, which is a wide, fast street with large intersections and long wait times, despite the fact that there is a safe and comfortable shared used pathway crossing the on and off ramps of 295.

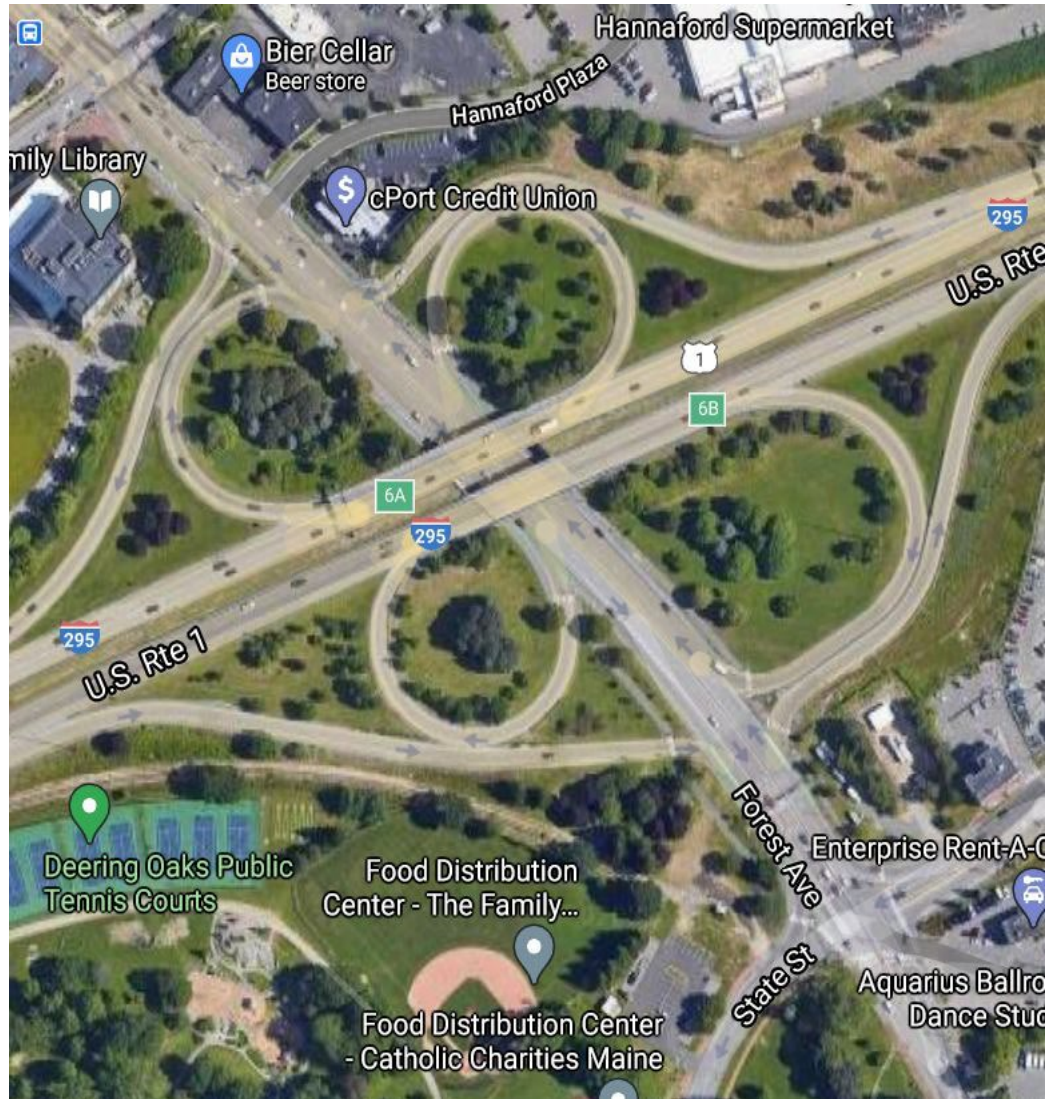
TDM strategies within this plan will seek to better connect the University despite these perceived or real barriers.

## Bicycling Environment and Infrastructure

The *Walkscore.com* website lists USM at a Bikescore of 93 out of 100, the equivalent of a “Biker’s Paradise.” In fact, USM is located at the convergence of several key bike routes in the region that ultimately connect to the Portland Peninsula. Bike lanes around USM can be found along Brighton Avenue, Deering Avenue, Bedford Street, and Forest Avenue.

Some work is needed to teach the University community how to overcome certain psychological barriers. The best example, arose in stakeholder input sessions, was the perception that traveling on Forest Avenue to downtown is difficult. The root of the perception may be from the fact that there are six intersections, on ramps, or off ramps on each side of the road for a 1,200 foot-long stretch. See the aerial image in Figure 3 below:

**Figure 3: Forest Avenue Bi-Secting I-295**



The City has worked hard to increase the safety and comfort of this area by building and maintaining a shared used path on each side of Forest Avenue.

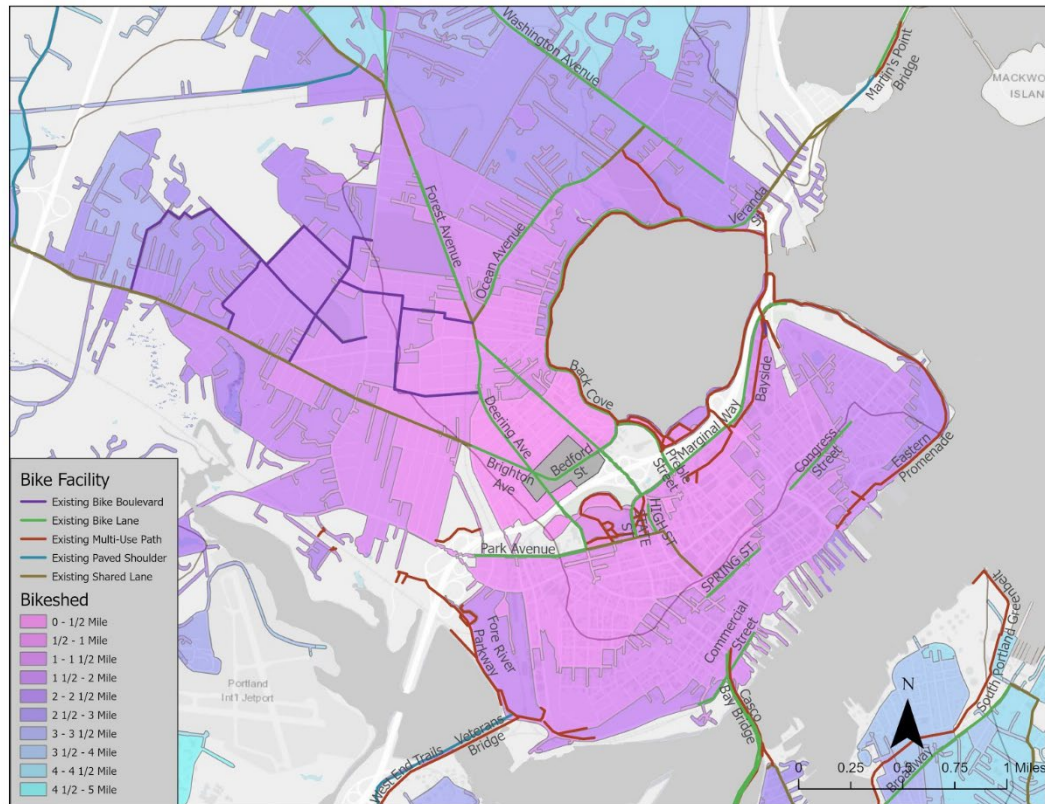
**Figure 4: Shared Use Path Available on Forest Avenue Provides Access Under I-295**



There is also a shared use path that runs parallel along the Back Cove. In addition to providing beautiful vistas of the downtown skyline, this path provides comfortable and safe bike/ped access to numerous Portland neighborhoods including the Back Cove, Woodfords, East Deering, and Bayside. Even the East End and the Old Port can be accessed this way, via the Eastern Prom Trail connected to the Back Cove path. Through the various shared use paths near the University, the entire Portland peninsula can be accessed within 2 miles of USM.

Within 5 Miles, one can also reach South Portland to the south, Westbrook to the west, and the border of Falmouth to the north. For the bike-to-transit trips, METRO buses serving the University are equipped with bike racks. The Husky line buses have slots for three bikes, and the other METRO buses serving the Portland campus have slots for two.

Figure 5: Bikedshed from USM



On-campus, there are 16 locations with bicycle racks and a bicycle repair stand adjacent to the Woodbury Campus Center. The locations of most of these racks are readily visible within the campus map (Figure 2) posted on kiosks throughout the campus and online. The majority of the racks are easily visible when on foot, except for the covered racks under Masterton’s awning and in Abromson parking garage. The condition of the on-campus bicycle racks is fair; however, the Bike Fix-it Station needs repair: its tools have rusted and are bent and unusable. Shower access for campus affiliates is available at the Sullivan Gym. In order to gain access, they must show their campus ID.

In comparison to most places in the United States, the biking network in and around Portland and USM Portland campus is robust. On-campus, commuters have a place to store these bikes. TDM strategies related to biking should focus on marketing this commute option to overcome any fears about perceived barriers and thereby expand the potential pool of people that can bike. The University should also collaborate with the City as they seek to expand and improve the bicycle network.

## Public Transit

USM affiliates are granted unlimited free METRO transit access as part of their enrollment and employment at USM. Transit access is paid by way of the student transportation fee and



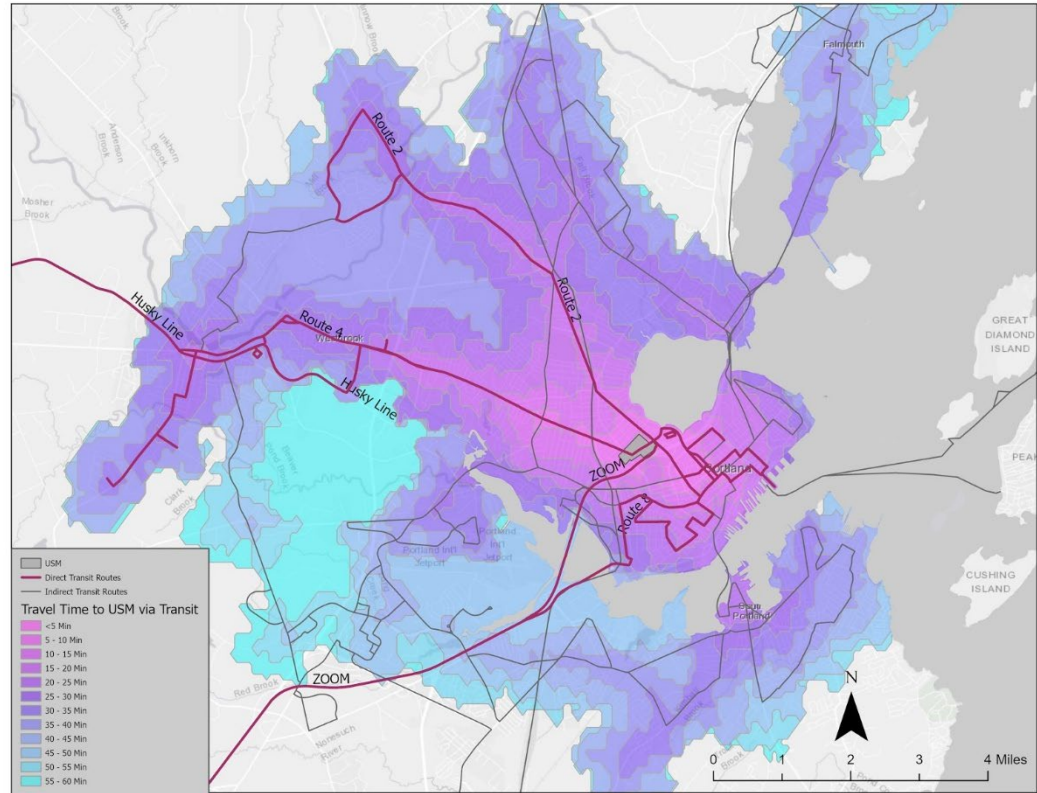
the employee parking permit fee. When boarding a METRO bus, USM affiliates must show their ID to the bus driver.

Four METRO bus routes serve the USM Portland campus: Route 4 and Husky Line serve the campus directly with a stop on Bedford Street, and within a quarter-mile, the Route 2 (via Forest Avenue) and Route 8 (at Hannaford Plaza). In addition to METRO service, the Lakes Region Explorer Bus (\$2 one-way) is also nearby. Among the four, only the Husky Line has limited stop service all the way between the Portland and Gorham campuses.

On Bedford Street, at the heart of campus, there are shelters for Route 4 (Westbrook–Portland Pulse) and the Husky Line (USM Gorham via Westbrook–Portland Pulse). Route 2 (Forest Avenue) and Route 8 (Peninsula Loop) can be accessed at nearby Hannaford Plaza roughly a quarter-mile from campus. The Lakes Region Explorer (Windham Route), run by RTP, stops at the corner of Forest Avenue and Bedford Street.

Transit “accessibility” was determined by travel time, including time required to walk to the stop, wait for a transfer when applicable, ride the bus, and walk to the final destination. This differs from accessibility for walk and bike sheds where distance from campus generally determines accessibility. Expected transit travel time to the campus using the existing Portland transit network was mapped out in 5-minute increments (Figure 6). These increments include up to a maximum of a 15-minute walk for the total trip (to account for walk-access to transit).

Figure 6: Transit Service at USM Portland



Transit is not only a function of having a service route present nearby; other important pieces to consider are its span of service (i.e., is the service available at the times of day when needed) and service frequency (i.e., does the service operate at frequent intervals). Scheduled headways and service hours for direct services are included in Table 1 below.

Table 2: Direct Transit Route Headways

Route	Headways (minutes)							Span					
	Weekday			Saturday		Sunday		Weekday		Saturday		Sunday	
	Peak	Day	Evening	Day	Evening	Day	Evening	Start	End	Start	End	Start	End
Bedford St USM (0.0 Miles)													
Husky	30	30	50	45	45	45	45	6:30 AM	10:30 PM	8:30 AM	11:00 PM	8:00 AM	7:00 PM
4	30	30	60	30	60	45	-	5:30 AM	11:30 PM	6:00 AM	11:30 PM	8:30 AM	7:30 PM
Forest at Bedford St. (<0.25 Miles)													
2	20	30	60	60	60	60	-	6:00 AM	11:00 PM	6:30 AM	10:30 PM	8:30 AM	4:40 PM
Lakes Region Explorer	180	180	180	-	-	-	-	6:00 AM	10:30 PM	-	-	-	-
Hannaford Plaza (<0.25 Miles)													
8	30	30	-	60	-	60	-	7:00 AM	6:00 PM	8:00 AM	6:00 PM	9:00 AM	4:00 PM
Zoom Turnpike Express	30	-	-	-	-	-	-	6:00 AM	6:40 PM	-	-	-	-

While all transit services adjacent to USM operate during the schedule of a normal business day and into the evening, the frequency can pose challenges to some of USM’s population. As one can see above, the most frequent transit service (Route 2) runs every 20 minutes while the Husky Line, Route 4, and Route 8 run on 30-minute intervals. For many, these frequencies are satisfactory, especially given that the Husky Line is a limited stop service, cutting down on travel time. But, the frequencies don’t yet meet the threshold for “transit

freedom” or the ability to travel without planning (“Transit freedom”, per the definition by Jarrett Walker in *Human Transit*, is a frequency of at least 15 minutes all day<sup>2</sup>). People who are able to plan are facilitated by helpful resources like the Transit Tracker app and soon-to-be-installed transit screens at certain stops.

## Other Mobility

In addition to walking, biking, and riding transit buses, USM affiliates can use ride-hailing services Uber, Lyft, or taxis, which are readily available in and around the peninsula. No carshare vehicles are located within a half-mile of USM. Also, no dedicated carpool parking spaces are designated on campus. Carshare and carpool are opportunities that the TDM Plan can leverage to reduce the number of people parking on campus.

## Parking Facilities and Policy

Campus affiliates and visitors can park at 11 distinct parking lots (including one garage) across campus hosting a total of 1,701 spaces (Figure 7). By far, the largest parking facility on campus is the University Garage, which has a total of 1,155 parking spaces. Lots are designated by permit type and only users with that permit can park in that lot. Figure 7 identifies the location of these lots, permitted users, and the total number of spaces. The campus also has dedicated spaces for handicap, service vehicles, and an electric charging station.

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<sup>2</sup> Source: [humantransit.org/2011/12/how-frequent-is-freedom.html](http://humantransit.org/2011/12/how-frequent-is-freedom.html)

Figure 7: Parking Spaces at USM Portland



*Note: Although the 1,155-space Abromson Garage is primarily for student and visitor parking, faculty and staff may use the facility. The garage is access-controlled by a revenue control system.*

All vehicles in University of Southern Maine (USM) parking lots on the Portland campus must display a valid USM parking permit, which comes in the form of a hang tag that must be hung from a vehicle's rear-view mirror. Permits may be obtained from the parking office or online through the University's parking web portal.

USM Portland has the following permit types:

- Student (Commuter, Gorham Residential) – All students are given the same parking privileges on the Portland Campus
- Employee (Faculty, Staff)

On the Portland campus, students may park at three different lots during the day (designated by a green sign) and at a fourth lot only after 4:30 PM. All students pay a transportation fee if registered for on-campus courses. The fee varies based on the number of credits for which they are registered: between \$55 and \$110 per semester. These payments are mandatory as part of enrollment and are made each semester: fall, spring, and summer.

On the Portland campus, employees are allowed to park in eight different lots on campus (designated by a blue sign). They pay \$25 annually for their parking permit, which needs to be renewed each calendar year.

Short-term visitors to the campus may park in the parking garage for \$2 an hour between the hours of 7 AM and 5 PM, Monday–Friday. Outside of these hours, visitor parking is free. There is a charge for overnight parking, except during snow bans. Prospective students and their families, campus guests, visitors, and volunteers receive free validation by the office or department they are visiting. To pay for parking, visitors must pay at the Parking Garage Office or use the pay-on-foot stations located by the doors to the parking garage on the first and second floors of Abromson Center and the ground floor of the parking garage by the vehicle exit.

A violation of parking guidelines may result in any number of consequences, including a parking ticket fine, towing of a vehicle (and responsibility of the owner/operator for payment of related towing and storage fees), or suspension of campus parking privileges. Parking tickets range from \$25 to \$200 depending on the infraction. Students and faculty must pay outstanding tickets before picking up a new permit.

Parking at USM is relatively unconstrained. Typical parking activity is accommodated with the present supply. Although on-street parking is also an option, many of the streets adjacent or near the campus are metered or have 1- or 2-hour parking limits during daytime hours. Recent observations conducted by VHB for USM found approximately one third of the on-street parking spaces available during peak parking periods.

Remote lots have been considered, but a large portion of USM students have one or more off-campus jobs, which require them to have ready access to their vehicles. To be more effective at discouraging parking on-campus, the University plans to make the transactional cost of parking more apparent for students.

The University reviewed parking rates around the City and around the New England market in general to see if there was room to use increased rates as a leverage point. This influenced the University to go from charging \$0 for public parking to \$2 per hour, which is still on the low to medium end of the market. The University is considering raising prices again to possibly \$3-\$4 per hour. However, the current plan is to keep it free for the early evening hours (5-11 pm), and to help out the neighborhood by allowing them to park for free during for snow bans from the hours of 5 pm to 8 am the following morning.

## Regional TDM Program

At USM's disposal are several regional, state, and national-level TDM programs and services that are intended to support programs such as the one being reviewed by USM. Among these potential programs/services that could support USM include:

**GO MAINE:** Run by the Maine Turnpike Authority, this state-wide program serves as a rideshare matching service as well as a platform to log any kind of non-single occupancy trips, including non-motorized trips. The range of services include the following:

- **Emergency Ride Home-** This program essentially serves as “insurance” to provide people an option to get home from work in case of an emergency. The rides are provided using a taxi or Enterprise rent-a-car. It is available to commuters who carpool, vanpool, take transit, bike or walk at least three days a week. The benefit may be used up to eight times per calendar year.
- **Way 2 Go Maine-** *Way 2 Go Maine* is an annual commuter challenge in October that encourages employees of local businesses to use alternative transportation options through an inter-company competition. The competition recognizes companies for their successful participation and distributes prizes such as gift cards and swag to encourage participation.
- **Vanpool Matching-** Vanpooling is a common, long-distance commute option for employees headed to the same general area consisting of between 5 to 15 commuters. GO MAINE assists to form these vanpools.
- **Rewards Program-** GO MAINE has a rewards program for individuals who take greener trips, which include walking, biking, telecommuting, carpooling, vanpooling, or taking public transportation. Participants must sign-up and log their commutes daily. Rewards include gift cards and discounts to various local businesses.

**Portland Slow Ride:** To get people comfortable with biking, the Bicycle Coalition of Maine offers the “Portland First Friday Slow Ride”. These rides are typically done at a relaxed pace and coincide with Portland’s “First Friday” art walk event.

**Smart Cycling Traffic Skills 101 and Educational Courses:** Traffic Skills 101 is hosted by the Bicycle Coalition of Maine and is a course that teaches new and experienced cyclists how to ride in traffic. An individual or employer can specifically request a safety workshop.

**Discounted Helmets:** The Bicycle Coalition of Maine runs a helmet purchase discount program: when purchased in bulk (8-30 helmets) the cost is \$7 per helmet.

**Bicycle Benefit:** As part of this national program, local businesses offer rewards to patrons who arrive at their establishments by bicycle.

**Cycling Savvy:** Is a program of the American Bicycling Education Association aimed at helping communities become more livable and sustainable by promoting a civil and cooperative environment on roads through complementary education and infrastructure design.

**Best Employers for Commuters:** This membership program provides qualified employers with national recognition and an elite designation for offering outstanding commuter benefits.

## TDM at USM

TDM related to increasing multimodal transportation is not a new concept for USM. In 2017, the Office of Sustainability worked with various campus stakeholders to develop an eight-year sustainability plan that set a quantitative goal for sustainability efforts related to transportation and established a baseline of strategies to achieve that goal. Per the

sustainability plan, the goal related to transportation was to reduce greenhouse gas emissions from transportation by 20 percent from a FY 2006 baseline.

Table 2 below identifies the original strategies pursued by the sustainability plan as well as current strategies that came as a result of this original proposal:

**Table 3: Suggested TDM Tactics from Sustainability Plan**

Category	Original TDM Strategy	Progress at the Inception of TDM Plan (2019)
Shuttle	Extend shuttle routes and improve shuttle footprint	USM has partnered with the Greater Portland bus system, METRO, allowing students, staff and faculty to ride anywhere in the METRO system for free and vastly expanding the reach of University affiliates.
Carsharing	Explore option of starting a carshare program on campus	USM has explored options with one company and discussed ways it could fit into the vehicle fleet.
Comprehensive TDM Strategy	Create a Comprehensive Transportation Demand Management (TDM) strategy	This document is a product of the development of a comprehensive TDM Plan.
Bicycle Infrastructure	Create adequate bicycle infrastructure & education on campus to support people who would consider biking including a bikeshare program.	To accommodate bicycles, USM provides bicycle racks around the campus (16 racks & 250 spaces total). The Portland campus also has a fix-it work stand which is the first of its kind in Portland and allows riders to make simple bike repairs on campus. The University transportation website also highlights the benefits of biking from a health and environmental perspective.
Carpooling	Create adequate carpooling infrastructure & education on campus to support people who would consider carpooling	USM researched different carpool apps and began interviewing stakeholders to create a plan.
Hybrid & EV Vehicle Discounts	Create modest incentives for hybrid or electric vehicles	An EV charging station is provided at the parking garage and is free to use. Additional charging stations are being considered for the garage, Wishcamper, and locations in Gorham.
Incentive Program	Explore a partnership with Rise-Up to award incentives for alternative transportation commuting	The Office of Sustainability has held brainstorming sessions with the Wellness Committee to determine what types of incentives would qualify for the health credit. The Wellness Committee has agreed to work on implementation.
Carbon On-Setting Project	Explore possibility of creating a carbon on-setting project with local low-income households	No transportation related actions were identified. The Office of Sustainability chose a home weatherization project instead.

Category	Original TDM Strategy	Progress at the Inception of TDM Plan (2019)
Sustainable Business Travel	Develop mechanism for incentivizing more sustainable business travel	Measured carbon footprint of business travel in order to establish a baseline.
Parking Enforcement	Create a parking enforcement division of the University, separate from Public Safety, in order to maximize space utilization of existing lots	Division was created, staff were hired, and enforcement began.

The Plan found that it would be useful to conduct a Transportation Survey of campus affiliates to understand transportation patterns, needs and barriers. USM conducted a transportation survey effort in Spring 2019, yielding over 1,000 responses related to commute patterns, inter-campus travel, and receptiveness of possible TDM strategies.

Not listed within the Sustainability Plan, but nevertheless worth mentioning as TDM measures that have been pursued by the University include:

- Establishing a new USM transportation website to communicate the availability of alternative modes of transportation.
- Charging USM employees, students, and visitors for parking.
- Having a University System-wide telecommuting policy, which allows for telecommuting in certain cases. In response to the global pandemic, this policy was broadened to incorporate more people for longer periods of time.
- Having a larger portion of online classes in response to the global pandemic.





# 3

## Existing Transportation Patterns

By exploring how USM students, faculty, and staff are currently traveling to campus we can identify which alternative modes may have the greatest potential to reduce drive alone commutes, and save on trips, parking and carbon emissions. This investigation allows for the development of targeted TDM strategies that offer a greater degree of changing commuter behavior.

VHB has reviewed USM affiliates' travel patterns using two data sources: a transportation survey and registered permit data. These data help identify how people are commuting to campus, what modes of transportation may interest commuters, and finally, what types of strategies would be most beneficial towards encouraging alternative commute modes.

### Transportation Survey: Mode Shares and Travel Behavior

The Transportation survey conducted in Spring 2019 was done as part of the University's sustainability effort to chart emissions related to transportation. The online survey asked about current travel patterns between home and USM and about travel between the USM campuses. The survey also included questions about one's receptiveness to certain TDM strategies. About 1,000 USM affiliates participated.

Some key findings related to the survey (pulled from the “Final Survey Summary” prepared by USM) include:

- 78 percent of the USM population reported driving alone at least once a week to campus from home. About 72 percent of the population drives 2+ times per week to campus.
- 94 percent of USM employees park on campus; 81 percent of students park on campus.
- 25 percent of commuter students ride the METRO bus
- Dedicated, preferential carpool spots were the highest ranked activity to encourage students to use an alternative mode of transportation
- Per the survey, a new bike would be the best buyout reward for a parking cashout program, which may be a function of it being the highest value option (\$500) compared to less valuable options of \$100 cash, \$200 discount on carshare/bikeshare, \$200 discount on carshare/scootershare, \$150 gift certificate to bookstore, and \$150 gift certificate to dining services.

Additional conclusions from the survey data for the USM population who indicated making a trip to the Portland Campus include:

- 72 percent of USM Portland population reported having driven alone at least once a week to campus, 66 percent of the population drive 2+ times per week alone.
- 14 percent of the USM Portland population reported have taken transit at least once a week, 11.5 percent have taken transit at least twice per week.
- Considering only USM Portland commute trips (of employees and students), the Portland campus mode split is as follows: Drive Alone: 73 percent; Transit: 6 percent; Walk/Bike: 11 percent; Carpool: 8 percent; Motorcycle: 2 percent<sup>3</sup>
- USM’s Walk/Bike mode split of 11% exceeds the typical average of 3% among Universities across the country, including those who have implemented TDM programs, according to VHB
- Average One-Way Commute Distance: 13.8 miles.
- 56 percent of the USM Portland population travels to other campuses
- For trips taken between the Portland and Gorham Campus, 40 percent take transit, 37 percent drive alone, 20 percent carpool, 3 percent bike, 1 percent use a motorcycle

Another transportation survey was conducted in the Spring of 2022. However, those results are not shown here because the University does not believe they represent baseline behavior since the global Covid-19 pandemic was significantly impacting the number of in-person courses being offered at the time and the number of employees teleworking was arbitrarily high. This was validated by an analysis done on peak parking and vehicle entries and exits in the parking garage. This analysis estimated that parking during the peak hour in the Spring

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<sup>3</sup> It is important to note that this survey was taken before the Covid-19 pandemic. The next survey may show considerably different percentages for transit and carpooling.

of 2022 dropped by 45% over the 2019 baseline. Estimated trip generation dropped 20% during the AM peak and 41% during the PM peak.

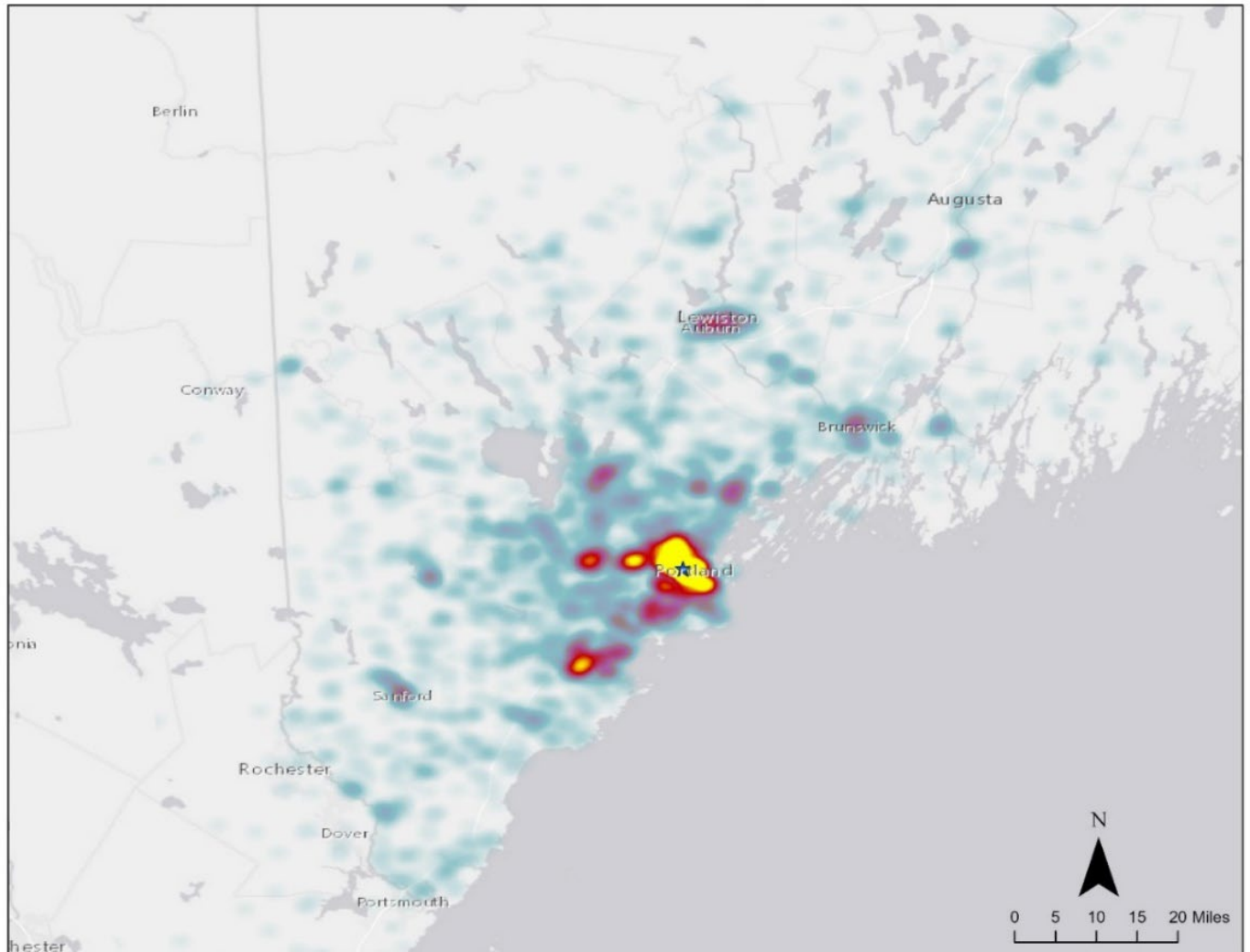
Future surveys, perhaps as soon as the Spring of 2023, are expected to offer better comparison data when compared to Fall of 2019. Such data will be featured in annual reports to the City of Portland as described in the *Monitoring and Reporting Plan* section below.

## Commute Trip Origins Based on Parking Permit Data

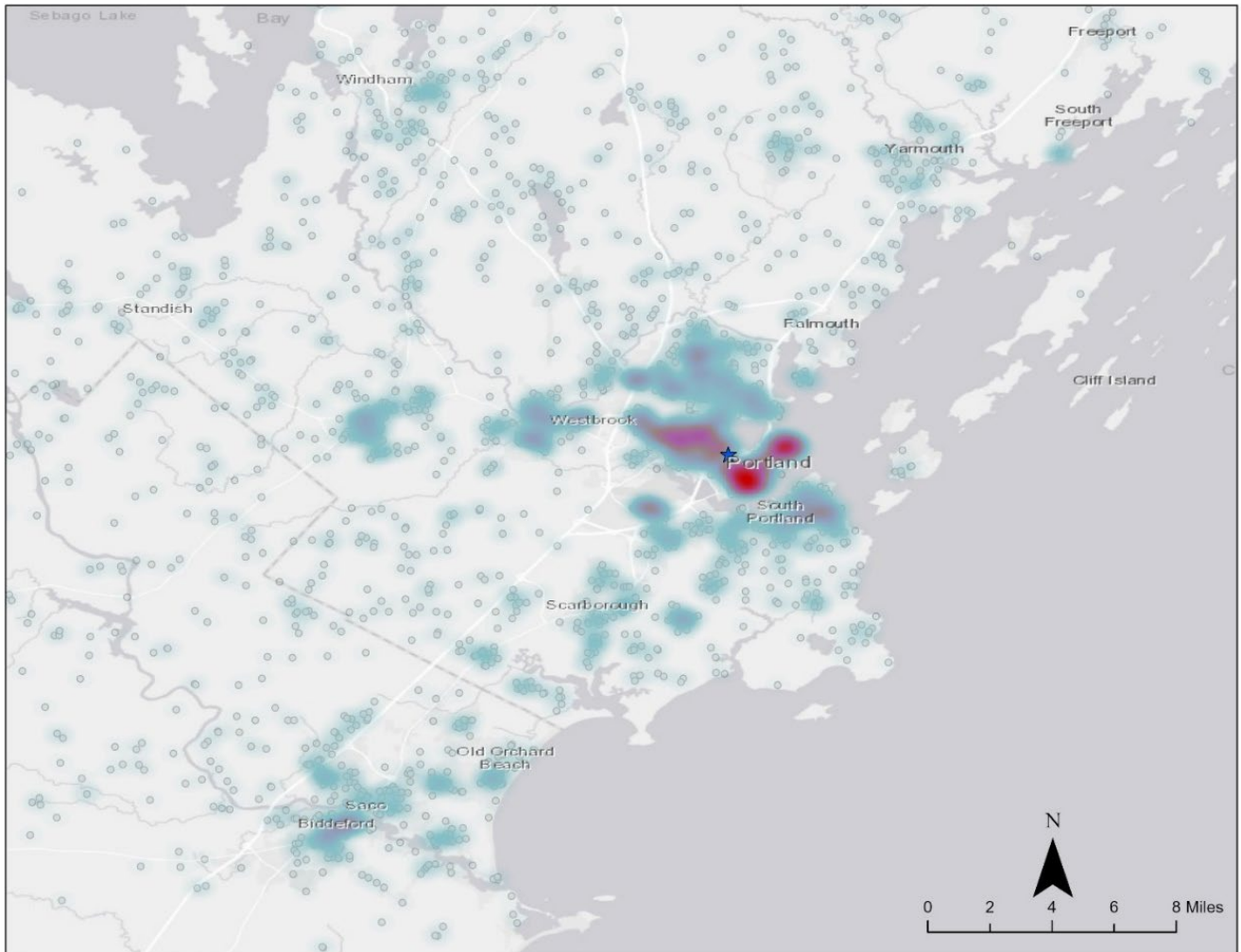
USM provided VHB with anonymized home address data for all their parking permit holders, which allows for an investigation of opportunities for providing incentives for reducing drive-alone trips to the campus. The following figures shows the distribution of commute trip origins based on the permit data. Major clusters of population are centered around the City of Portland, Westbrook, Gorham, Lewiston-Auburn, Brunswick, and Sanford (Figure 8). Figure 9 shows a zoomed-in version of the same data, showing that major residential areas include: Portland, South Portland, Westbrook, Gorham, Biddeford, Scarborough, and Yarmouth.

Using the parking permit data, VHB calculated drive time for faculty and staff. About 50 percent live less than a 20-minute drive from the Portland campus and 94 percent live within a 60-minute drive of the campus.

**Figure 8: Distribution of Home (Commuter Trip Origins) – Southern Maine Area**



**Figure 9: Distribution of Home (Commuter Trip Origins) – Greater Portland Area**



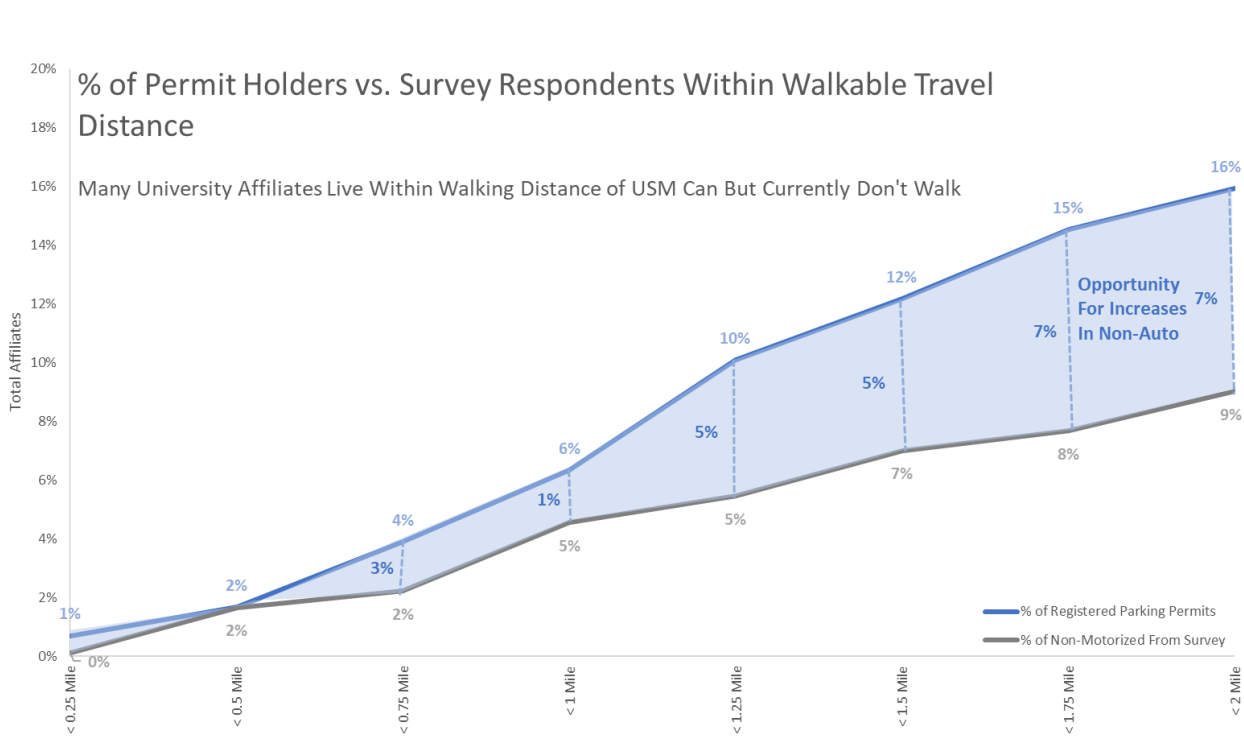
## Alternative Mode Potential: Opportunities for TDM

To gauge the modal potential for walking, biking, and transit to USM, the geographic distribution of parking permit trip origin data was compared to the walking, bicycling, and transit travel market sheds. To get an understanding of current travel behavior versus potential travel choices, the 2019 transportation survey results are overlaid against this geographic distribution. The difference between the total number of people matched to a particular mode and the mode choice results from the survey form an “opportunity” zone for a potential increase in the use of a travel mode. People are represented here as FTE (Full-time equivalent) rather than headcount because FTE fits greenhouse gas reporting protocol and the University believes it is a better representation of how trip proportion impacts campus.

### Walk Potential

Within a mile walking distance from campus, approximately 5 percent (an estimated 251 full-time equivalent individuals) of USM Portland students/employees reported using non-auto transportation to the USM Portland campus whereas per the permit data 6 percent of parking permit holders were geographically matched to reside a mile from USM (Figure 10). The delta between the two data points increases significantly as distance from campus increases. At 2 miles, only 9 percent of students/employees use non-auto travel modes (per the survey), whereas a total of 16 percent live within 2 miles of campus (per the permit data).

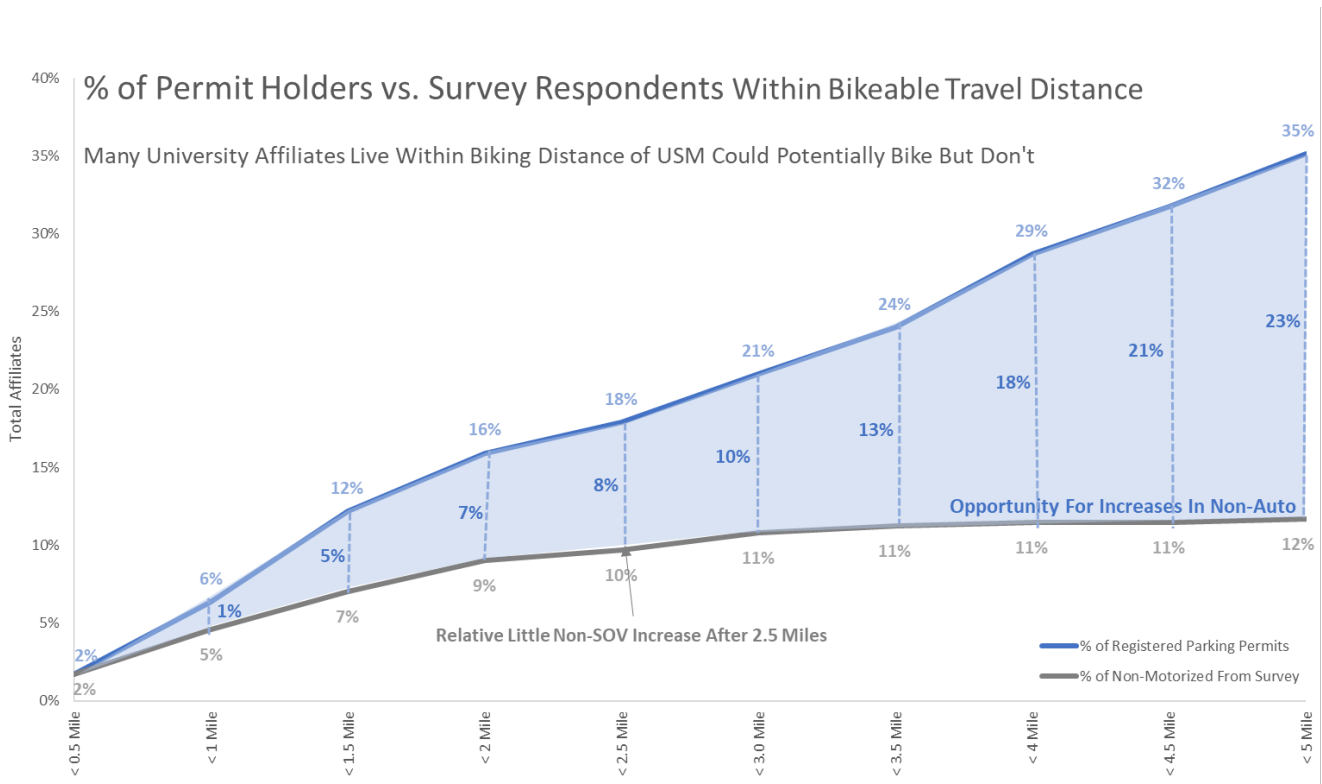
Figure 10: Walk Potential



## Bicycling Potential

Biking distance for parking permit holders was compared to non-motorized users based on survey results (Figure 11). Based on the geocoded parking permit data, up to 35 percent of all USM employees and commuter students (an estimated 1,759 full-time equivalent individuals) live within 5 miles of campus, considered the upper limit for a reasonable biking distance for a commute. Per the transportation survey, however, only about 12 percent of commuters who live within 5 miles of campus use a non-motorized form of transportation. According to Figure 11, below, after 2½ miles, most people at USM stop using non-SOV<sup>4</sup> modes of transportation, which may be an indication of the cultural and environmental limits of biking in Maine. Although there is potential beyond 2 ½ miles, that potential should be tempered by barriers of safety, comfort, and weather.

Figure 11: Bike Potential

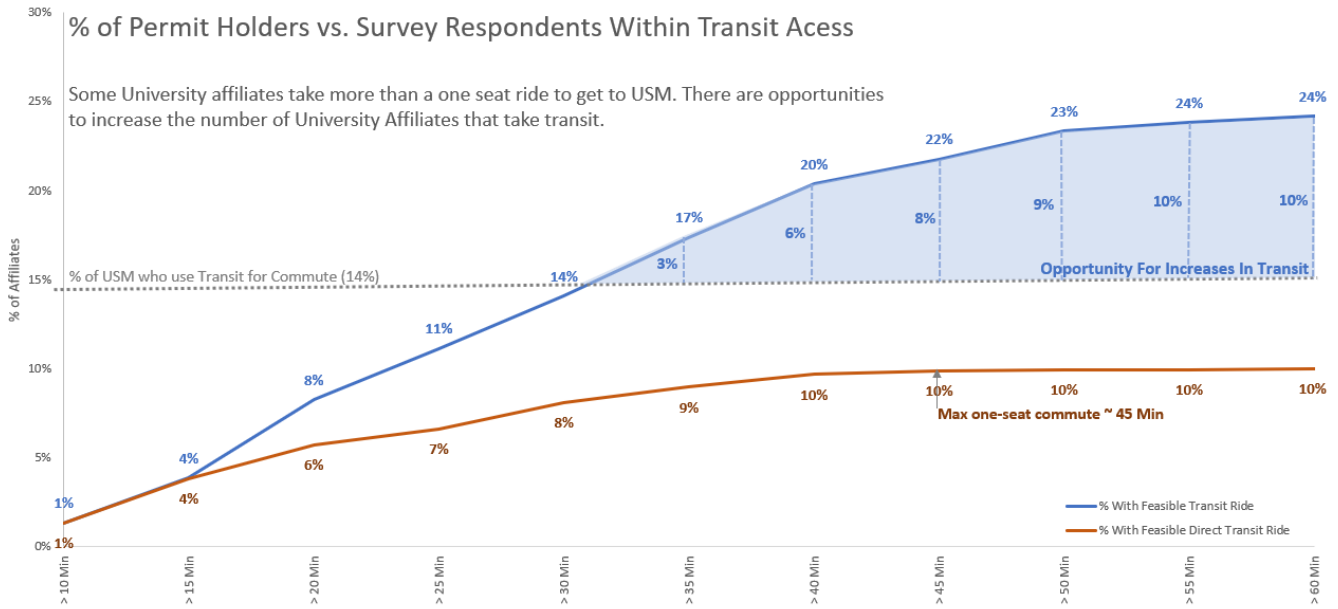


<sup>4</sup> SOV – single-occupancy vehicle (this mode is also referred to as *drive alone*)

## Transit Potential

Transit-access time was compared to the percent of commuters from the survey who reported using transit (Figure 12). Up to 10 percent (or 503 FTE individuals) of USM affiliates live within walking distance of a direct transit route to USM Portland (based on the parking permit data). A further 14 percent (summing to 24 percent) can take a transit option that would take less than an hour to access USM Portland. This is 10 percent more than the existing number of University affiliates who indicated taking transit to USM (as reported in the transportation survey).

Figure 12: Transit Potential



Given the higher number of USM affiliates who noted taking transit than the number of affiliates within direct transit routes indicates that either a percentage of affiliates may be connecting on transit service or otherwise driving to a stop first (example driving to Gorham campus and then hopping on the Husky Line). Of all transit routes with direct access to the USM Portland campus, the Husky Line<sup>5</sup> has the highest number of permit holders who live within walking distance (459), followed by Route 4 (451), Route 2 (352), and Route 8 (270). Of all transit routes, the Route 9A and Route 9B serve the most affiliates within walking distance of stops (611), but these routes require a transfer to a transit bus line with direct service to the Portland campus.

<sup>5</sup> This analysis does not account for the fact that the Husky Line is a direct service route with few stops, whereas the other lines are more traditional services; however, the comparison serves to highlight what would be possible if the Husky Line or a route like it were to offer more stops in certain neighborhoods.





# 4

## TDM Coordinator

TDM program management responsibilities will be designated to three representatives associated with the University.

USM appointed the Director of Sustainability to serve as the lead TDM Coordinator for USM, with primary responsibilities centered on long-term demand reduction, planning and implementation. The Manager of Parking and Transportation Services will play a supporting role, with primary responsibilities focused on more short-term planning and on-the-ground assessment of existing programs. Considerable overlap is expected between both of these individuals. Both of these positions report to the Associate Vice President of Operations, who will also play a role in both short-term and long-term operations and planning of TDM initiatives.

The current Director of Sustainability, Aaron Witham, can be reached via:

- email at [aaron.z.witham@maine.edu](mailto:aaron.z.witham@maine.edu)
- phone at 207-780-5947.

The responsibilities of the Director of Sustainability will include the following:

- Promote non-SOV transportation choices primarily to faculty, staff, students and residents

- Champion the implementation of new TDM strategies to reduce parking demand and increase the use of non-SOV transportation modes
- Conduct new student/new employee orientation to educate incoming affiliates regarding their transportation options to and from the campus.
- Coordinate the implementation of TDM strategies with Campus Scheduling, Human Resources, Parking, and any other departments.
- Work with the City of Portland, METRO, GoMaine, a private carpool app and other potential partners to improve non-SOV transportation access to the campus and to gain support for program implementation.
- Recruit and engage participants for any outreach events or campaigns associated with the TDM program over time.
- Review potential new alternative transportation technology or SOV reduction technology and coordinate implementation efforts associated with them.
- Co-coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program in achieving the targets.
- Co-develop a TDM Report, which will provide an assessment of strategies implemented to date and outline the activities to be implemented in the upcoming year.
- Co-develop and implement financial parking incentives or disincentives as identified by the TDM plan.

The responsibilities of the Manager of Parking and Transportation Services will include the following:

- Provide consultation on TDM strategies that impact parking supply, services, and technology.
- Co-coordinate all monitoring and evaluation activities necessary to measure the effectiveness of the TDM program in achieving the targets, such as providing up-to-date data on parking volumes and trip generation estimates.
- Co-develop a TDM Report, which will provide an assessment of strategies implemented to date and outline the activities to be implemented in the upcoming year.
- Co-develop and implement financial parking incentives or disincentives as identified by the TDM plan.
- Maintain existing motor vehicle and bike parking infrastructure and technology, with the support of Facilities Management and Capital Planning.
- Maintain parking services, including payments, campus notifications, and website updates.
- Carry-out parking enforcement.



# 5

## Transportation Demand Reduction Goals

USM expects the TDM program to reduce the number of single-occupancy vehicle trips, thus reducing overall trips, demand for parking, and greenhouse gas emissions.

**Trip Reduction Goal:** USM aims to reduce University-generated peak hour vehicle trips between 3-6% (17-35 trips) for the AM peak hour and by 3-6% (12-23 trips) for the PM peak hour by 2025. This goal is relative to a baseline of 581 and 381 trips, respectively, in the year 2023, at the opening of Portland Commons, the Career and Student Success Center, and a new parking garage (as determined by the Traffic Movement Permit analysis conducted in March of 2020). The peak hours are based on total traffic in the area, inclusive, but not limited to USM's contribution. They are noted to be between 7:30 am- 8:30 am and between 4:30-5:30 pm. Given that the morning hour is a higher peak overall, that hour will be the primary focus of the goal. This goal is not adjusted to account for the Maine Law School leaving campus, in order to ensure that the strategies presented in this document for reducing traffic are overly sufficient.

**Parking Demand Reduction Goal:** USM aims to reduce parking demand by 10-14% (144-201 vehicles) by 2025 during the hour of peak demand on campus<sup>6</sup>. The peak parking hour

<sup>6</sup> The peak hour for trips is related to the peak hour for parking, but they are not the same. For example, the first peak hour for trips occurs early in the morning when the maximum volume of people are on the road traveling. The peak parking hour occurs later, reflecting cumulative impact as a result of multiple hours of trips coming to campus. This is why the trip reduction goal is smaller than the parking reduction goal.

and baseline volume (1,435 vehicles) was established from 12:30-1:30 pm, Monday-Wednesday, inventoried in the Fall of 2018. As strategies are implemented to achieve this goal, the peak demand hour may change, so the goal will stand in reference to the volume, not the time, of parking demand measured at the original baseline peak hour in Fall of 2018.

**Mode Split Reduction Goal:** USM aims to decrease the percentage of SOV (single occupancy vehicle) trips to 70% and increase the percentage of non-SOV trips to 30% by 2030. The SOV category includes personal automobile trips without passengers and motorcycles, while the non-SOV category includes carpools, riding the bus, biking, and walking. The most recent data set of 2019 shows that USM is currently at approximately 75% SOV and 25% non-SOV. Given that measuring this goal relies on self-reported survey data and only includes a sample of the larger population, the University primarily wants to use this goal for internal planning purposes and for estimating greenhouse gas emissions. However, the University will provide the current estimate annually in its reports to the City.

**Greenhouse Gas Reduction Goal:** USM aims to reduce greenhouse gas emissions from commuting by 20% (or .4 MT of CO<sub>2</sub>e per capita) by the year 2025, in line with its goal to reduce all scope one emissions at the University by 20%<sup>7</sup>. The 2006 baseline greenhouse gas emissions from commuting on an annual, per capita basis is approximately 2 MT of CO<sub>2</sub>e. This goal is tied to a larger University pledge called the President’s Carbon Commitment, a national commitment among hundreds of colleges and universities to reach carbon neutrality. USM signed the pledge in 2007, and set 2006 as the baseline with a goal of 2040 for carbon neutrality. The 20% goal here is higher than the goals set for trip generation and parking reduction because in addition to vehicle reductions, the University is actively building infrastructure for electric vehicle charging and anticipates increases in fuel economy standards for traditional gasoline-powered vehicles and hybrids.

**Table 4: Summary of Targets Following City of Portland Reporting Guidelines**

<i>Date of Original TDM Plan: 11-3-2020</i>				1-20-2023 Revision
Provide Data in Percentages and Absolute Numbers, where applicable		<i>Baseline Data (at time of TDM plan adoption)</i>	<i>TDM Plan Reduction Target (if applicable)</i>	<i>Current Reporting Period Data</i>
<i>Vehicular Trips</i>	<i>Off-Peak</i>	N/A	N/A	Report forthcoming in 2023
	<i>AM Peak Hr</i>	581	3-6% (17-35 trips)	Report forthcoming in 2023
	<i>PM Peak Hr</i>	381	3-6% (12-23 trips)	Report forthcoming in 2023

<sup>7</sup> There are three categories of emissions in GHG accounting. Under Second Nature, scope three is comprised of commuting, business travel, study abroad, downstream waste emissions, and transmission and distribution loss from electricity, as well as occasionally other sectors.

<i>Mode Split (future data may be reported as SOV &amp; Non- SOV)</i>	<i>Single-Occupancy Vehicle</i>	75%	70%	Report forthcoming in 2023
	<i>Non-SOV</i>	25%	30%	Report forthcoming in 2023
	<i>Carpool</i>	8%	Not specific	Report forthcoming in 2023
	<i>Bicycle</i>	*11% (shared with walk)	Not specific	Report forthcoming in 2023
	<i>Walk</i>	*11% (shared with bike)	Not specific	Report forthcoming in 2023
	<i>Transit</i>	6%	Not specific	Report forthcoming in 2023
<i>On-site Parking (Peak)</i>		1,435	10-14% (144-201)	Report forthcoming in 2023
<i>GHG Emissions Targets</i>		2 MT of CO <sub>2</sub> e per capita	20% (or .4 MT of CO <sub>2</sub> e per capita)	Report forthcoming in 2023
<i>Other: _____</i>				





# 6

## Trip, Parking, Mode Split and GHG Reduction Strategies

The USM TDM Plan establishes an aspirational vision and set of goals for transportation, mobility, and sustainability. The Plan builds off USM’s multimodal strengths but pushes forward-thinking and multifaceted solutions.

Ultimately, USM will achieve success if one keeps in mind the following key concepts:

**There is no “silver bullet” in TDM.** The recommendations represent a package of reforms; implementing only one or two items will not solve USM’s parking challenges.

**Behavior change is difficult, but critical if USM would like to realize its vision.** Future growth at the University will present critical challenges with parking. USM will need to depart from the status quo and rethink parking and transportation in order to grow sustainably.

**The Plan is a “living” document.** Key to the success of this plan is to implement, measure, learn, and adjust. Over time as the transportation context, technology, institutional culture, and user preferences change, so may the types of strategies that are pursued. This is true now, more than ever, given the current global pandemic, and the need to remain adaptable.

What is presented here is the University’s current plan for Transportation Demand Management. It is subject to change as the global pandemic unfolds, as financial constraints

dictate, and as annual survey data and parking counts inform what is working and what is not working among USM’s unique population.

Therefore, the University is not committing to launch every one of these initiatives necessarily or committing to keeping every initiative in place permanently if they prove to not be feasible. Rather, the University is aiming to achieve trip, parking, and greenhouse gas emissions reduction targets using the most effective suite of technologies and policies available and achievable for a particular year. That said, it is the desire of the University to launch most of these initiatives in order to provide a multi-modal suite of options to students, staff and faculty, not all of which have the privilege of owning a personal vehicle. Moreover, the University has identified certain initiatives as “core” initiatives that it is committed to implementing. These are indicated with an asterisk in Table 3.

The matrix below introduces a snapshot of the initiatives that USM hopes to implement. Following the matrix is a section outlining descriptions of the initiatives. To the extent possible, strategies are grouped by categories reflected in the *City of Portland’s Technical Manual*. For each strategy, an anticipated launch date is provided.

Most of the initiatives described here were first conceived and published in the 2020 version of the TDM Plan. Therefore, progress has been made toward many of them over the two years since the plan was released. Some of the initiatives have even been fully implemented. For annual initiatives or initiatives that require ongoing management, they are considered “ongoing”. The implementation status is indicated in the “Launch Date” column below.

**Table 5: Overview of TDM Initiatives for USM**

STRATEGY	LAUNCH DATE	INFRASTRUCTURE	INCENTIVES	EDUCATION
<b><i>Walking</i></b>				
Participate in the “Complete City Project”	Completed in 2020			X
Hold Fitness Challenges	Completed in 2022 & Ongoing		X	
<b><i>Biking</i></b>				
*Co-launch City Bikeshare	Completed in 2022 & Ongoing	X		
Build Bicycle Repair Station	Fall 2023	X		X
Promote Local Bike Activities	Completed in 2022 & Ongoing		X	X
*Improve Bike Infrastructure	Fall 2023	X		
Apply for Bike Friendly University Certification	Fall 2023	X	X	X
<b><i>Transit</i></b>				
*Continue METRO Pass Program	Completed in 2022 & Ongoing	X	X	



Promote & Market METRO to University Students, Staff & Faculty	Completed in Fall 2021 & Ongoing		X	X
Work with METRO to Incentivize Travel of Community Members to USM Events	Fall 2025		X	X
Propose Transit Service Expansion Beyond Husky Line	Completed in Fall 2022	X		
Install Transit Screen on Portland Campus	Spring 2024	X		
Subsidize City-Link passes for Lewiston-Auburn College students	Spring 2024		X	
<b><i>*Carpooling, Telecommuting &amp; Time-of-Day</i></b>				
Designate Carpool Spaces	Completed in Fall 2022	X	X	
Expand Rideshare Matching Opportunities	Fall 2024	X		
Promote Telework & Flexwork	Completed in Spring 2020 & Ongoing		X	X
Restructure Course Schedule	Completed in Fall 2020	X		
<b><i>Parking Pricing</i></b>				
*Establish Residential Parking Buyout Program	Fall 2023		X	
Host Carshare Program to Support Buyouts	Fall 2023	X	X	
*Unbundle Student Parking Fees	TBD		X	X
Build Additional EV Charging Stations	Spring 2023 & Ongoing	X		
Review Parking Price Levels	Completed in Fall 2020 & Ongoing		X	
<b><i>Communications &amp; Marketing</i></b>				
*Hold New Student & Employee Orientations for Transportation	Completed in Fall 2022 & Ongoing		X	X
*Revise Transportation Website	Completed in Fall 2022 & Ongoing			X
*Publish Access Guide	Completed in Fall 2021 & Ongoing			X
Offer Emergency Ride Home Service	Fall 2023		X	

\*Core strategies that the University is committing to are indicated by \*. In the case of the Carpooling, Telecommuting & Time-of-Day category, the category itself is considered core, but the University will maintain flexibility in which of these strategies it implements, depending on future conditions

## Walking Initiatives

**Participate in “The Complete City” project:** A class led by Dr. Yuseung Kim collaborated with the Portland Society for Architecture (PSA) to carry out this project. The goal of the project was to make the Greater Portland community area more accessible, more attractive, more just, and equitable. This includes creating what they (and others) describe as “The Complete City,” where within the city, each neighborhood has all it needs within a half mile, incentivizing alternative transportation by intentionally planning communities. Having one’s needs within a half mile makes a community walkable. Six graduate students worked on the project and helped deliver a 130-page report and a 15-page executive summary. More about the Complete City Project can be found here: <https://thecompleteness.com/disconnected/>.

**Hold Fitness Challenges:** In the Spring of 2022, the Office of Sustainability launched its first sustainable-fit commute challenge. The purpose of the challenge was to incentivize students, staff, and faculty to try walking or biking to campus in order to better their health and the health of the planet. Over 100 people signed up for the four-week challenge, which took place between April and May. Participants were asked to fill out a form at the end of each week to self-report their mileage or steps.

The winning walker and biker each week received a prize of Husky Bucks, which are University dollars that can be used in the campus bookstore or dining facilities. As an additional incentive, employees and eligible spouses, who participated each of the four weeks, were granted achievement of their level 2 health incentive with the University’s health program, which comes with a \$100 reward. The Employees Benefits Center, Human Resources Departments, and the University’s Health Committee all partnered on the initiative. The University intends to continue holding the event annually.

## Biking Initiatives

**Co-Launch City Bikeshare:** Over the Fall of 2021 and the Spring of 2022, the University helped the City of Portland research and develop its RFP for bikeshare services. The RFP effort was successful and the chosen vendor, Tandem Mobility, begin installing bikes across the City in 2022. In the Fall of 2022, the University established two bikeshare locations on the Portland campus, including Skywalk Landing by Masterton Hall and a location by Sullivan Gym. The University endeavors to move one or both of these stations to locations that are anticipated to see higher foot traffic after the McGoldrick Center, residence hall and center for the arts buildings come online. The current plan is to have one bikeshare station on each end of campus, serving the two new quads. The University promotes the bikeshare program on its website, through Instagram, and in direct emails to the University community. USM will continue working with Tandem Mobility and the City of Portland to support and expand the program, including the potential to integrate bikeshare incentives into the campus’ broader parking management strategies.

**Build Bicycle Repair Station:** In the early summer of 2023, the new structured parking garage on Bedford Street will open on the Portland campus. Contained within this structure is a dedicated bike repair room that is adjacent to the bike-storage room. This covered room, with electrical outlets and lighting, will be outfitted with basic tools and stands, so that students, staff, and faculty may conduct basic bike repairs. At a minimum, the space will be set up to operate in a self-serve capacity. However, if funding and expertise can be acquired in future years, the room may be able to house a bike repair shop.

**Promote Local Bicycle Activities:** The University will promote the participation in (and facilitation of) local bike activities such as the Portland Slow Ride, Smart Cycling Traffic Skills 101, and Cycling Savvy events. At least one opportunity or event will take place each semester. In the Spring of 2022, the University co-hosted three bike activities with the Bicycle Coalition of Maine: a Great Maine Bike Swap on the Lewiston campus, a Great Maine Bike Swap on the Gorham campus, and a bike-in-traffic workshop on the Portland campus. In the Spring of 2023, the University has two fix-it workshops planned with Bicycle Coalition of Maine, with planning taking place for another bike-in-traffic workshop. The number of activities and types of bike activities offered each year will depend on current demand and availability of instructors.

**Improve Bicycle Infrastructure:** The University plans to increase bicycle parking spaces to 2.5 times what is currently offered on the Portland campus. Currently there are 250 spaces.

In the summer of 2023, USM plans to add 122 short-term (uncovered spaces) to campus, with a lot of them slated for the new quad and some of them being distributed throughout campus to fill in gaps. USM also plans to add 288 long-term (covered and secured) spaces at the same time. Approximately 38 of these long-term spaces are being built inside a bike room within the Portland Commons residence hall, and 250 long-term spaces are being installed in a dedicated bike room in the new structured parking garage. Bikeshare notwithstanding, the total spaces on campus by the Fall of 2023 is planned to be 670. Then, in the Fall of 2024, another 10 bike spaces are planned to be installed near the new center for the arts.

These volumes of new bike parking meet or exceed several important standards that align with the University's aggressive plan to increase biking among its students, staff, and faculty:

- 5.5 times higher than City of Portland's Technical Specs, campus-wide<sup>8</sup>
- Double the amount suggested by APBP for short-term parking for students and employees<sup>9</sup>
- Meets APBP's recommended long-term space allocation per bed<sup>10</sup>
- Exceeds City of Washington D.C.'s requirement by over 50% for long-term spaces per dwelling units in residential apartments<sup>11</sup>

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<sup>8</sup> Per City of Portland Code of Ordinances, Section 14-526

<sup>9</sup> Per Association of Pedestrian & Bicycle Professionals' Bicycle Parking Guidelines, 2<sup>nd</sup> Edition, assuming that student & faculty vehicle spaces are a reasonable proxy for individuals on campus at one time

<sup>10</sup> Per Association of Pedestrian & Bicycle Professionals' Bicycle Parking Guidelines, 2<sup>nd</sup> Edition multi-family housing criteria of .5 spaces per bed

<sup>11</sup> Per Table 1:

[https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/DDOT%20bike%20parking%20guide\\_060118\\_Screen.pdf](https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/DDOT%20bike%20parking%20guide_060118_Screen.pdf)

- Double City of Cambridge, MA’s requirements for short-term spaces and exceeds their requirements for long-term spaces.<sup>12</sup>

Off campus, the University will collaborate with the City of Portland on identifying improvements to bicycling infrastructure along corridors traveled by USM commuters through the annual transportation survey.

**Apply for Bike Friendly University Certification:** The University plans to apply for Bike Friendly University Certification. The application process, completed every four years, will help the University identify areas for improvement, and inform the types of questions that need to be asked in the annual survey of students, faculty and staff. Preliminary work began in the Fall of 2021 to identify where to find and how to compile the necessary data in order to apply. The University plans to draft an application in the Summer of 2023.

## Transit Initiatives

Bus ridership has obviously been impacted by the global pandemic by some customers deciding not to ride the bus and by temporary restrictions on being issued by the Federal Government. Despite these challenges, VHB believes that transit ridership demand will fully rebound again within a couple of years, so they do not recommend changes to long-term ridership predictions at this point. However, they note that the ability for ridership to be accommodated depends on supply of seats being available, which could possibly be impacted by future policy decisions coming from the Federal government. For the time being, the University is not adjusting expected transit impact for TDM goals set on a 2023 horizon.

**Continue METRO Pass Program:** In 2018, the University established a program with the Greater Portland METRO to allow students, staff, and faculty to ride any METRO route for no cost to the individual, so long as they show a USM ID. The program has been popular for students, as it increased the number of trips offered between Portland and Gorham via the newly established limited stop Husky line. Post pandemic, it has great potential to shift USM commuters out of personal vehicles if they live on or near an existing line. In the Fall of 2022, the University activated its last option year under the existing contract and is working with METRO on a contract renewal to keep service operating beyond the Summer of 2023.

**Promote & Market METRO to University Students, Staff & Faculty:** The University will work with METRO to promote use of the Husky Line as well as the system as a whole. In the last couple of years, the University has promoted bus ridership on social media and hosted group rides through new student orientation. Use of the METRO is also being planned as part of a focused sustainable transportation orientation.

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<sup>12</sup> Per College or University Student Activity Facilities, page 4: [https://www.cambridgema.gov/-/media/Files/CDD/Transportation/Bike/Bicycle\\_Parking\\_Guide\\_20130926\\_2017PictureEdits.pdf](https://www.cambridgema.gov/-/media/Files/CDD/Transportation/Bike/Bicycle_Parking_Guide_20130926_2017PictureEdits.pdf)

**Work with METRO to Incentivize Travel of Community Members to USM Events:**

The University is working with METRO to explore grant or METRO-funded discounts on fares through ticket purchases for the general public attending University events, such as events that will be hosted in the new center for the arts or athletic events. METRO and the University meet quarterly to discuss improvements to service and to share ideas for broadening ridership.

**Propose Transit Service Expansion Beyond Husky Line:** In 2022, the University of Southern Maine and the Maine Law School met with METRO multiple times to discuss expansion of the Husky Line deeper into downtown Portland. Discussions have centered around advancing the route down Congress Street and Franklin Arterial in order to serve the Fore Street and waterfront neighborhood, before traveling back to Elm Street. Such an expansion would assist University students, staff, and faculty in accessing downtown businesses without bringing a single occupancy vehicle onto the peninsula. METRO is taking multiple stakeholders into consideration before it finalizes any plans for route expansion. The University remains available and willing to assist with data collection or analysis.

**Install Transit Screen:** The University plans to install a real-time transit screen near the center of campus. Discussions with METRO and various University stakeholders have identified the new Career and Student Success Center, the bus stop, or the new structured parking garage as potential locations. Installation may not take place until after the new buildings have opened and pedestrian routes through campus have been established, so that the University can decide which location would achieve the highest visibility.

## Carpooling, Telecommuting and Time of Day Initiatives

The initiatives below are paired together here so that they can be substituted for one another when responding to the risks created by the Covid-19 pandemic and future pandemics. For example, under non-pandemic circumstances, the telework initiative may only constitute 25% of the demand management that this category is capable of, while under a pandemic scenario it may need to constitute 100% of the demand management.

**Designate Carpool Spaces:** In the Fall of 2022, the University designated 50 prime parking spaces for carpool on the Portland campus. Three spots have been signed in the Masterton Lot, two spots in the Human Resources Lot, one in the Payson Smith Hall Lot, six in the Law School Lot, and 38 in the parking garage. Each location allows carpoolers to park close to the adjacent building. Students, staff, and faculty parking in the spaces are required to display two valid parking passes within the vehicle to prove that a second vehicle is being left at home. Non drivers are allowed to apply for a non-driver carpool pass that can be displayed as the second parking pass. To advertise the launch of the program, the Director of Sustainability and the Associate Vice President of Operations informed drivers entering the parking garage during the first week of classes, and a narrative describing the program was emailed to the entire University along with other transportation-related notifications. Usage of the spots has not yet reached its full potential, so the Office of Sustainability will continue marketing efforts in future semesters. Future expansion of the program will be considered if space counts demonstrate high usage and if survey data provides evidence that expansion will incentivize more carpooling.

**Expand Rideshare-Matching Opportunities:** The University advertises the Maine Turnpike Authority’s rideshare matching platform through Go Maine. Information about Go Maine is available on the University’s transportation website, sustainable transit quick access guide, and other mass communication. However, the University does not yet have a formal partnership with Go Maine. Research into the benefits and risks of a partnership have been ongoing since 2019. The University is exploring whether or not it wants to pursue development of or a subscription to a private rideshare-matching application, and aims to make a decision by the Fall of 2024, assuming that the Covid-19 pandemic has leveled out by then. The carpooling mode share at the University is relatively high (8% in 2019 and 6% in 2022), so efforts to assist in ride-matching are not as high of a priority as some other TDM initiatives.

**Promote Telework and Flexwork:** The University of Southern Maine will continue promoting its existing voluntary telecommuting policy issued by the University of Maine System. Over the last two years, the Human Resources department has issued several notifications to employees about how to apply for telework.

**Restructure Course Schedule:** In the Fall of 2020, the University’s Registrar’s Office led a restructuring of the course schedule to spread out enrollment throughout the day and to better align with the METRO schedule in order to assist students wanting to take the bus from Gorham to their classes in Portland. In addition to impacting peak parking demand in the middle of the day, the effort was also meant to reduce demand on available classroom space, and to give students more options for when to take courses. The new course schedule starts 45 minutes earlier in the morning, lengthening the day. It also adds an additional early morning time block and an additional evening time block when courses can be booked. The full effects of this restructuring will not fully seen until after the University’s ratio of online/hybrid courses to in-person-only courses falls back to pre-pandemic levels.

## Parking Pricing Initiatives

**Establish Residential Parking Buyout Program:** The University plans to launch a parking buyout program to encourage student residents on the Portland campus to give up their parking pass for a year in exchange for a cash incentive and value toward bikeshare and/or carshare services. The current proposal, subject to change, is to offer up to 100 buy-outs that include both the cash incentive and value toward alternative transportation services. The second 100 buy-outs would be just for alternative transportation services. Additionally, the first 30 applicants would get secure, covered parking inside Portland Commons. The second 170 applicants would get secure, covered parking inside the bike room of the parking garage. All participants would receive a limited number of one-day vehicle passes to assist them through unplanned life events or emergencies. The amounts of the financial incentives are still being finalized and are subject to the forthcoming budget approval process culminating in May of 2023. The University will monitor this program over time and adjust the number of buy-outs and the financial incentive to respond to changing conditions.

**Host Carshare Program to Support Buyouts:** The University will attempt to establish a carshare program that would be utilized as part of the residential student buy-out program

(in subsidized form), as well as by commuter students, staff, faculty and non-USM community members. The University recognizes that the carshare business plan has been challenged by Covid-19 due to the financial losses sustained by car rental businesses, so this initiative may not prove reliable. To that end, it is not a critical leverage point within this TDM plan; rather it is supplemental to the buy-out initiative. The hope is that the industry will rebound in 2023. Effort will be made to partner with the City of Portland if it develops an interest in establishing a carshare program.

**Unbundle Student Parking Fees:** The Office of Sustainability endeavors to find a way to either unbundle the student transportation fee from their other tuition-related fees or make the parking-related portion of the transportation fee more transparent, so that the payment for a parking permit becomes a more conscious action. This action which will draw attention to the cost of those applying and serve as a disincentive to some. Because of the fact that University of Southern Maine fees are established through Board of Trustee (BOT) approval, and BOT processes are longer than most other approval processes at the University, it is unclear when the next opportunity to achieve this goal will arise.

**Build Additional EV Charging Stations:** The University has purchased 29 level-2 charging stations with 58 plugs to have installed in the new structured parking garage upon opening. There are already two level-2 charging stations on the Portland campus and one on the Gorham campus. In future years, the University's goal is to ensure there are enough charging stations available to meet the next year's expected demand of students, staff, and faculty driving EV vehicles to campus (as indicated by available data from charging station software, parking permits and the annual transportation survey), so that spaces to park do not limit potential EV drivers. Stations will charge customers to charge.

**Review Parking Price Levels:** The University has carried out recent reviews of parking pricing in an effort to discourage single occupancy vehicles and increase revenue. In 2020, the University Auxiliary Services division reviewed parking pricings at the University and surveyed the Greater Portland market. The findings influenced operation of the parking garage on the Portland campus over the following two years. In the Fall of 2022, the Operations division increased pricing for non-permit holders from \$2 per hour to \$3 per hour. The goal will be to achieve greater parity between employee and student parking pricing. When the new residence hall opens on the Portland campus, the University intends to charge a premium for students parking overnight. Future considerations are being made for efforts to increase parking price parity between students and employees.

## Communications and Marketing Initiatives

**Communications & Marketing:** The University plans to hold new student and employee orientations for alternative transportation modes, infrastructure, resources, and incentives. In 2022, the University developed two different orientation models (an in-person and a virtual). During the Fall semester, the Office of Sustainability launched the virtual orientation, which comprised of providing participants with sustainable transportation tutorial information, a code for two hours of free bikeshare, and a request to post a picture of themselves on a bikeshare bike with a hashtag linking the post to the Office of Sustainability's Instagram page. The Office of Sustainability plans to conduct an in-person orientation during warmer

months. These new orientation programs will supplement existing group bus rides that occur during new-student orientation programming.

**Revise Transportation Website:** In the Fall of 2022, the University launched a new transportation website, its second major revision in the last three years. The latest website offers targeted information on how visitors to campus can ride a bike, take a bus, take a train, carpool, or drive an electric vehicle. Separate pages on each of these alternative modes covers infrastructure, incentives, local resources such as maps, and estimated greenhouse gas emissions saved. The Office of Sustainability and Parking Office will update this website over time.

**Publish Access Guide:** In 2021, the Office of Sustainability developed a “slick sheet” access guide summarizing ways to travel to campus and nearby destinations, using alternative modes. The guide was printed as a flyer and hung around campus. It has also been incorporated into new student orientation packets. The Office of Sustainability will update this guide over time and continually evaluate the best venues to use for publicizing it.

**Offer Emergency Ride Home Service:** The University plans to promote the “guaranteed ride home” program from Go Maine and consider supplementing this service with a University-funded budget for additional guaranteed rides home. The service would likely be structured as reimbursement for a taxi, private bus, or a rideshare service, such as Uber or Lyft. It would provide security to students, staff and faculty who choose not to bring their single occupancy vehicle to campus. If they experience an emergency that requires them to get a ride home, to a doctor’s appointment, or to pick up a child, they would be able to apply for reimbursement if they meet certain minimum requirements.

## Potential Greater Portland Initiatives

The University recognizes that it is only one entity within a much larger complex system of transportation within the greater Portland. Toward that end, VHB researched potential improvements that could be considered by the METRO, the City of Portland, and other supporting entities to support USM’s TDM plan. VHB also estimated the potential impact these initiatives could have on USM’s trip generation and parking goals. The proposed initiatives and their potential impacts are summarized here:

- **Increase frequency of Husky Line to 15 minutes:** Reduction of 39 (2.5%) to 79 (5%) Peak Hour Parking Spaces
- **Increase frequency of METRO Routes 2 and 4 to 15 minutes:** Reduction of 39 (2.5%) to 79 (5%) Peak Hour Parking Spaces
- **Restructure departures and arrivals of all METRO routes serving the Portland campus in order to create 10 minute headways to downtown:** Reduction of 8 (0.5%) to 16 (1%) Peak Hour Parking Spaces, with even greater reductions possible if all routes were routed to serve the same stop on campus
- **Create local on-demand circulator route (shuttle):** Reduction of 56 (3.5%) to 111 (7%) Peak Hour Parking Spaces
- **Improve downtown METRO loop (Route 8) and route it through the USM campus:** Reduction of 43 (2.7%) to 86 (5.4%) Peak Hour Parking Spaces



- **In support of the above initiatives, METRO could begin to plan around USM as an anchor node in their network when the new residence hall comes online**
- **Create a better defined and safer bicycle/pedestrian corridor from USM to downtown:** Reduction too difficult to estimate until the goal is more defined

The reduction ranges featured above should be considered for each initiative individually, as opposed to being additive if all initiatives were implemented. In other words, some individual riders may be affected by more than one initiative. To further explore these initiatives, the University recommends that a coalition of METRO, the City, the University, and others research what the potential cost per rider would be for implementing these strategies, in order to determine which may warrant further consideration.



# 7

## Monitoring and Reporting Plan

Program monitoring and evaluation are important components of any successful TDM Program, because they provide a quantitative benchmark of the program’s effectiveness in reducing single occupancy vehicle trips and parking demand. The Transportation Demand Management Coordinator can use the information gathered via the monitoring plan to direct the ongoing implementation of the TDM Program, allowing for adjustments and the introduction of new strategies. Furthermore, via regular periodic reports, USM will provide

evidence to the City of the applicant’s diligence in implementing the program.

There are different methods for collecting the data necessary to monitor a TDM Program, including surveys, program participation documentation, vehicle parking counts, and activity logs. USM’s TDM program monitoring will use trip generation counts, vehicle parking counts and person surveys in evaluating the effectiveness of the program. Each of these tools is discussed below.

## Trip Generation Counts

Trip generation counts refer to estimating the potential contribution of USM students, staff, and faculty to the total volume of vehicles on the roads feeding the Portland campus. The peak trip hours will be used as the boundary for this metric, and the data will originate from recorded vehicles entering and exiting the parking garage structures on campus. The University will then apply the ratio of trips per parking spaces calculated from the garage data to the surface lots on campus, in order to estimate trip counts to/from the surface lots as well. The parking garages will represent the supermajority of parking for the foreseeable future (e.g. 87% of the parking in 2024), which provides the University confidence that this method will yield a reasonable estimate of trip generation for the entire campus.

The peak hours will be assumed to be between the hours of 7:30-8:30 am and 4:30-5:30 pm, Monday through Wednesday, in October, unless future analysis shows they should be at a different time. These hours were determined by the Traffic Movement Permit published in 2021 and updated in 2022.

The Manager of Parking and Transportation Services at USM will provide vehicle count data from the automated garage entry systems. In the event that the automated garage entry system is broken, then visual counts or traffic strips may be used.

The report generated in the Spring of 2023 will show percentage change relative to 2022, given that the baseline year for this metric does not occur until the Fall of 2023. From 2024 onward, the percentage change will be based on a baseline year of 2024.

## Parking Occupancy Counts

Parking counts refer to an accounting of the number of occupied and/or empty parking spaces. These data are used to ensure that the amount of parking supply (spaces) on site is appropriate to meet peak hour parking demand (parked vehicles).

Under the direction of the TDM Coordinator or the Manager of Parking and Transportation Services, the University will collect observations of vehicle parking during a representative (typically busy, classes-in-session) 3-day period in October. Observations of spaces occupied will be made during each hour in a ten-hour period of 8:00 AM to 6:00 PM.

The automated garage entry system at the gates to the parking garages will be used to collect the data, provided it is functioning at the time. If it is not functioning, then a visual

count or traffic strip will be utilized. The parking supply in the parking garages will represent the supermajority of available parking on campus for the foreseeable future (e.g. in 2024, 87% of the parking will be in the parking garages). An occupancy ratio will be determined from this data set that will then be applied to the surface lots on the Portland campus, in order to estimate the approximate occupancy counts of those spaces.

The reporting of parking transactions and garage use should distinguish, to the extent possible, those users who are USM employees, students, and transient/visitors (hourly, public) users.

A parking occupancy rate relative to total supply of parking on campus will be reported by the University for the three days of data. The University will also report the raw data for these counts when requested to do so by the City of Portland.

## Survey of Commuting Patterns, Mode Split and GHG Emissions

The Office of Sustainability or Parking Services will administer a survey of both employees and students of USM Portland.

Surveys provide a qualitative understanding of how well TDM (and Parking Management) program elements are working. The survey will also be used to estimate greenhouse gas emissions associated with commuting, as well as the current mode split.

The TDM Coordinator will conduct the surveys in either the Spring or Fall session (e.g., March or October), depending on available resources and labor relative to the resources and labor required to conduct the trip generation and parking analysis. The survey will be completed during a week without any holidays and when classes are in session.

Survey questions will incorporate the following components, in addition to others:

- Type and frequency of modes of transportation used in a typical week
- Destinations traveled to via particular modes
- Reasons why people are driving alone
- Reasons why people are not driving alone
- Level of enthusiasm for incentives that would encourage drive-alone respondents to use an alternative mode
- Ideas for improvements to transportation system, including ideas for incentives
- Routes traveled by foot or bike and associated improvements desired
- Trip generation during time of day (in order to supplement USM-generated contribution to peak traffic generation)
- Ownership of electric vehicles
- Questions required for Bike Friendly University application
- Questions about health concerns (e.g. Covid-19) with different modes and how that is impacting behavior and expected to impact behavior in the future

## Status and Monitoring Report

Each year, after data are collected, the Office of Sustainability or Parking Services will prepare a report summarizing TDM program status and monitoring results. In addition to reporting the results of the data collection, the report will detail (1) what/when strategies were implemented, (2) an estimate of how many individuals participated in certain programs, and (3) the lessons learned regarding the most effective TDM strategies, including barriers to not driving alone from the survey.

A core summary table of the goals will be provided in the report that includes baseline numbers, progress to date, goal numbers, and dates by which the University is striving to reach the goals. Goals included will be trip generation, parking counts, mode split, and greenhouse gases.

In addition to reporting on electric vehicle data collected through the annual survey, the University will provide an EV Use and Forecast Report to the City on or before May 15th of each year beginning in calendar year 2024, summarizing EV ownership and EV charging station use statistics. The Report will also include a proposal regarding the number of EV charging stations for the coming school year, based upon the supply and demand statistics from the previous year. In alignment with the other reporting activities outlined in the TDM plan, the University commits to annual reporting through 2030, the horizon of the Facilities Master Plan, after which a new TDM plan may be proposed.

The University will submit the report to the City of Portland's TDM Program Manager (a position currently staffed in the Planning and Transportation Division of the Planning and Urban Development Department). A report should be issued on or before May 15<sup>th</sup>. The University will work with the City every year to ensure it is meeting expectations of the City regarding format of the report. The TDM Coordinator will meet with the City of Portland Planning Department, as needed, to discuss suggestions for changes to the TDM Program, and will make adjustments before the start of the Fall semester if necessary.

## Monitoring Schedule

Monitoring (survey, parking, and traffic data collection) will begin the year this plan is published (2023). Monitoring will occur according to the schedule detailed below, until the year 2030, the horizon year of the *Facilities Master Plan*. Updates to the *Sustainability Strategic Plan* and/or *Facilities Master Plan* may conclude that further monitoring is warranted.

Annually, the University will:

- Conduct analysis of trip generation (as described above)
- Conduct parking occupancy observations (as described above)
- Conduct a travel survey (as described above)
- Prepare a TDM monitoring report (as described above)