Transportation for an Aging Population in Burlington, VT

2022 Transportation Report to the Burlington Aging Council

Prepared by:
Catherine Alexander, Krysta Gingue, Amelia Luke, & Autumn Strom

Table of Contents

Acronyms

AARP American Association of Retired Persons
ADA American Disabilities Act
APS Accessible Pedestrian Signal
ARPA American Rescue Plan Act
BAC Burlington Aging Council
BTV Burlington, VT (airport code for the area)
CATMA Chittenden Area Transportation Management Association
CCRPC Chittenden County Regional Planning Commission
GMT Green Mountain Transit
MPA Master's in Public Administration
RSG Resource Systems Group
SaaS Software as a Service
SSTA Special Services Transportation Agency
TDM Transportation Demand Management
TIF Tax Increment Financing
UVM University of Vermont
UVMMC University of Vermont Medical Center
VMT Vehicle Miles Traveled

Executive Summary

This report culminates research conducted by Catherine Alexander, Krysta Gingue, Amelia Luke, and Autumn Strom of the 2022 University of Vermont (UVM) Master's in Public Administration (MPA) program capstone course. The report was crafted for the use of the Burlington Aging Council (BAC), in Burlington, VT (BTV), to inform policy suggestions and decisions focused on transportation for an aging population. The report begins with an analysis of current Burlington policies centering on walkability, increased use of public transit, and innovation for decreasing personal vehicle use. Next, the report explores potential public transportation initiatives and specialized transportation programs to better serve Vermont's aging populations to increase access to workforce opportunities. In addition, the report analyzes current infrastructure standards in BTV and potential opportunities to raise accessibility standards. Finally, based on these researched transportation methods, the report suggests viable options for transportation engagement with the aging population and policy suggestions the BAC could support to enhance accessibility for their constituents.

A Shelburne-Bound Bus leaves the downtown Burlington transit terminal on August 5, 2019.
(Joel Banner Baird/Burlington Free Press)

Introduction

As climate change continues to threaten the planet, Vermont is in a vital and tangible position to implement carbon-cutting measures to secure the longevity of our communities. Additionally, Vermont's population is simultaneously experiencing an aging population and labor shortages. In this unique position, Vermont communities should seek to reengage isolated populations to reinvigorate its labor population. In analyzing the Vermont transportation sector, within the lens of reintegrating the aging population into the workforce, there are many instances for increased sustainability and accessibility measures.

As Vermont seeks to retain and attract a larger workforce, transportation initiatives will be critical to guarantee infrastructure can continue pace with population growth. By ensuring these alternative modes of transportation are accessible for all, BAC can advocate for an aging population while also providing programs for other vulnerable and marginalized people. The path towards a more sustainable future should include all residents.

Research and Investigation

This section outlines our project goals, research process, and findings from this analysis completed throughout the spring 2022 semester.

Goals and Intended Impact

This project sought to comprehensively review Burlington transportation systems, evaluate available options, identify sector challenges and opportunities, and finally provide recommendations for the Burlington Aging Council for opportunities to improve transportation initiatives. Our intended impact of this project is for the BAC to feel inspired by our research and recommendations and understand the actionable next steps to improve transportation accessibility for older adults in our community.
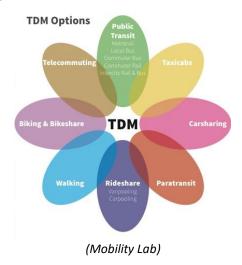
Methods

For this project, we completed a thorough analysis of the literature on this topic, including case studies from other cities within the United States. Conducting this research helped us to better understand what transportation initiatives have been successful and consider what can be implemented and improved in Burlington. Additionally, we interviewed four individuals involved with Burlington's transportation initiatives to better comprehend the landscape. These four interviews were conducted with Jordan Posner, Mobility Management Coordinator at Green Mountain Transit (GMT), Burlington City Councilor Jack Hanson (P-East District), Burlington City Councilor Gene Bergman (P-Ward 2), and Executive Director Jane Catton and the Director of Volunteer Services Erica Marks from the state-designated Area Agency on Aging, Age Well. Each interview was conducted remotely with at least two members of our team, using a qualitative interview template we jointly developed. Interviewees were asked the same questions to gather information about their work in the transportation sector and their organizational mission. We asked about what is going well, what needs improvement, and where individuals recognize opportunities in the community for future growth. Using a completed situation analysis of transportation projects and programs in Burlington, we chose three specific transportation areas in Burlington to analyze. From our research, we developed final recommendations for the Burlington Aging Council regarding transportation systems in Burlington.

Research

Currently, the City of Burlington has a densely built infrastructure system, so it has been rated highly in terms of walkability. Walk Friendly Communities has designated the city as a silver-level walk-friendly community (Walk Friendly Communities, n.d.). This is primarily due to the Complete Streets Initiative, which works towards street coordinators that provide safe and convenient travelers for all

types of riders. This initiative sprung from a workshop sponsored by the Environmental Protection Agency in June 2012 and has been the building block for future non-motorized infrastructure planning (City of Burlington Public Works, n.d.). This initiative is centered around the balance of using the public space to provide access for all. Though this policy is formalized, not all of Burlington's streets have become "complete." In 2017, the City completed a comprehensive plan focused on walking and biking. PlanBTV Walk Bike complements past and ongoing planning efforts such as planBTV South End process, the 2016 Chittenden County Regional Planning Commission (CCRPC) Regional Bicycle and Pedestrian Plan, the 2016 Vermont Comprehensive Energy Plan, and the 2015 planBTV Parks, Recreation & Waterfront Master Plan (Walk Bike Master Plan Burlington, Vermont, 2017). This plan includes potential street redesigns and a biking action plan to respond to the citizen demand for attention to improve safety and priority actions. The City of Burlington is dedicated to improving non-motorized transportation with a focus on racial and economic equity, but there is a gap in equity concerns for the aging population that relies on motorized services like ride share or public transportation services. There is the possibility that the incompleteness in planning relates to the siloed nature of transportation planning in Burlington. There are several different distinct partners involved in transportation changes, the Public Works Department, Chittenden County Regional Planning Commission, Green Mountain Transit, and CarShare Vermont, to name a few. This situation is not unique to Burlington.

To better understand how other cities outside of Burlington address transportation issues, we reviewed a study from San Jose University that analyzes six different cities' transportation initiatives. The significant finding from this study contains a theme that parallels Burlington's landscape. The San Jose University study states that "The dominant institutional narrative, particularly in transportation, is one of fragmentation: multiple agencies provide overlapping fixed-route and demand-responsive services, whose funding sources and fare structures vary considerably" (Loukatitou-Sideris and Wachs, 2018). The theme of different agencies working to close the gap in transportation needs is evident in Burlington's transportation services, which amplifies confusion for the user attempting to navigate and use these various services. This study also highlights the cost of these services in the six different focal cities. When comparing these cities to Burlington, it should be noted that for a city of Burlington's size, many of the initiatives are comparable in cost and scope to ones in larger cities such as Houston and Chicago. The major difference is that transportation routes are often more widespread, making it easier to get from place to place, while Burlington struggles with offering bus routes that meet all the needs of riders in the Greater Burlington Area.

(Mobility Lab)

A framework that can be used to foster collaboration between each of these entities is Transportation Demand Management (TDM). An idea that initially arose in our interviews with folks who

serve on the Burlington City Council, TDM can be defined as "the successful complement to infrastructure [which] focuses on understanding how people make their transportation decisions and helping people use the infrastructure in place for transit, ridesharing, walking, biking, and telework" (Mobility Lab, 2022). Transportation Demand Management focuses on understanding how people make their transportation decisions and helping people use the infrastructure in place for transit, ridesharing, walking, biking, and telework. It aims for cost-effective guidance in the design of transportation and physical infrastructure so that alternatives to driving are naturally encouraged and our systems are better balanced. The goal of our report was to find opportunities for diversification of modes in transportation in Burlington, VT. While our focus was on accessibility for aging populations, with further understanding of transportation initiatives, we soon found that accessibility aims should encompass all vulnerable populations for efficient and effective change. According to the 2018 Chittenden County ECOS plan, only two initiatives fit into the category of TDM.

Situation Analysis

The situation analysis identifies opportunities and challenges present in the Burlington political landscape and helps define the scope of the city's transportation management problem. By analyzing the previously proposed city policies, this report can make informed recommendations based on successful past goals while considering the more difficult transportation-focused initiatives that may face public backlash. A strong understanding of existing policies and financial commitments will enable the BAC to make strategic decisions on policies to support, build-out, and propose.

2015 Transportation Demand Management Action Plan

This 2016 report was prepared for the City of Burlington and Chittenden County Regional Planning Commission (CCRPC) by a private consulting firm, Resource Systems Group (RSG), in conjunction with the Chittenden Area Transportation Management Association (CATMA), to address the transportation needs of the city through city employee transportation impact reductions. The goals outlined in the report include traffic reduction, reduced commuter parking demand, active lifestyle promotion, reduction in carbon emissions and vehicle miles traveled (VMT), and the creation of an attractive eco-minded city. The long-term action proposals included increasing charges to downtown and south end employees to match market rates, providing a pre-tax subsidy, dubbed a "commuter allowance," that can be used towards transit passes, parking passes, or bicycle commuting, an introduction of city employee telework policy, and the creation of a Downtown TDM Coordinator position to monitor employee TDM activity and usage. Accessibility is not explicitly referenced in this proposal, indicating that while there is political support for expanding public transportation options to reduce the downtown personal vehicle footprint, projects such as this need to have input from vulnerable populations to ensure programs remain accessible.

2019 St. Paul Street Great Streets Project

The first Great Streets Initiative Project began in 2019 on St. Paul Street between Main Street and Maple Street. The goal of the project is to "make new investments in the downtown's public infrastructure and ensure that Burlington has a downtown that is a vibrant, walkable and sustainable urban center" (City of Burlington Public Works). The project, completed in 2020, included new bump-outs and crosswalks, wider sidewalks, more trees, rain gardens, permeable paving, bike racks, streetlights, new benches, granite curbs, and utility work. These updates created a walkable & bikeable, sustainable, vibrant, and functional space in the downtown Burlington area. In addition, by improving the right of way, streets become a shared space between pedestrians, bikers, and vehicles, ensuring increased safety in the area. The response to the project was mixed, with commuters complaining about rerouted streets and over-extended curbs, businesses voicing financial downturns and limited customer parking (Lamdin, 2019). The walkability of that neighborhood has increased dramatically, however, the impacts on transportation could grow with the next Great Streets Project.

2022 N. Winooski Corridor Plan

The 2022 North Winooski Corridor Plan was approved in March 2022 by the Burlington City Council to remove 39% of parking on North Winooski Avenue between Union Street and Riverside Avenue to make safer bike lanes. Construction is not slated to start until September 2023. The heated debate about the project points to Burlington's more extensive consideration when moving forward with projects to increase walkability on city streets. According to data from the city's parking study, people of color use other modes of transit more often than cars, and this area has Chittenden county's lowest rate of vehicle ownership (St. Angelo, 2022). However, concerns arose with the businesses located on N. Winooski and the impact that reduced parking would have on accessibility to non-profit organizations and BIPOC-owned businesses in the area. While the project passed the City Council, concerns about the effects of the project must still be addressed, including parking solutions for relocated street spots and potential issues related to resident mobility.

2022 TIF Bond Main St Great Streets Project

The City Tax Increment Funding (TIF) Bond was approved in 2022 to fund the $25.9 million Main Street updates as a part of the Great Streets Project. "The concept plan for Main Street is about balancing all of the uses of our public right of way; it optimizes the roadway by converting diagonal parking to parallel. This change allows for the introduction of wider sidewalks, appropriately sized tree belts to support tree health and stormwater management, and a protected bike lane" (City of Burlington Public Works). In the same vein as the St. Paul Street updates, the goal of the Main Street update is to encourage mixed-used public streets that encourage safety when walking and biking in addition to space for personal use vehicles and public transportation. A key feature of the TIF Bond is that it is not projected to raise the property tax rate because it is paid for with the added tax revenue brought in by new development in the area (Lyons, 2022). This required new development will inherently impact infrastructure needs for the city, including roadways and parking. The approval of this bond indicates the continued necessity of balancing growth in Burlington and the needs of current residents.

2020 UVMMC Bus Implementation

The UVM Medical Center (UVM) Employee Shuttle program was implemented in January of 2020 when the hospital entered an agreement with Premier Bus Company to provide shuttle service to employees who parked off-site in satellite lots. UVMMC provides off-site parking at their Fanny Allen campus in Colchester, 115 Lakeside Ave. in Burlington's south end, and Technology Park in South Burlington. As indicated by the table below, the shuttles result in 254 shuttle trips per day (CATMA, 2020). These buses are only available to UVMMC staff and are not accessible to patients, volunteers, or the public who are required to park in the UVMMC parking garage, connected to the hospital underground, at a rate of up to $7 a day. The necessity of this private shuttle points to the limited reliable transportation options available to UVMMC staff while also illustrating the opportunity for public-private partnerships to meet the needs of the workforce in Burlington.

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

2021 Micro Transit

Billed as the Uber for Public Transportation, the MyRide program through Green Mountain Transit (GMT) was first piloted in Montpelier in 2021 as an on-demand micro-transit program. The result of the Micro-transit Working Group in 2018, convened by the Vermont Agency of Transportation

(VTrans) and including key transportation stakeholders, explored the potential and feasibility of micro-transit service in Montpelier. Deciding to go in the Software as a Service (SaaS) direction, the vendor provides the dispatch and operating software for the service, assuming that the current transit provider will operate the service (Micro-transit Working Group, 2019). MyRide is a two-year pilot program in collaboration between the Sustainable Montpelier Committee, GMT, and the state Agency of Transportation to alleviate road congestion and decrease demand for parking in the city. Booking on-demand rides are accessible to all through their smartphone app, call center, and transit center kiosk, allowing people of all abilities and internet accessibility to schedule rides. The MyRide vehicles replaced the Montpelier Circulator and the Montpelier Hospital Hill and Capital Shuttle routes showing the capability of micro-transit to connect the workplace and area visitors with personalized routes and timetables without a smaller footprint on the city streets (White, 2020). While only operating in Montpelier, the potential for MyRide to extend throughout the state leads to an additional transit option for all ages and abilities.

Transportation Financing- Burlington & Vermont

The Governor's FY22 American Rescue Plan Act (ARPA) budget plan includes $25 million in EV infrastructure over four fiscal years and $22 million in Transportation Electrification Incentives in FY23. ARPA funding is eligible to be utilized to meet pandemic response needs and rebuild a more substantial and equitable economy as the country recovers, and while many transportation initiatives have received significant subsidies from both ARPA and CARES act monies, such as GMT subsidized free fares, the reliance on this funding is not sustainable (REDW, 2021). Vermont's Transportation Fund relies on taxes imposed on gas purchases, but with the increase in EV and hybrid car purchases, the 30-cent tax is not a reliable funding mechanism (Cutler, 2022). Despite current debates for increased Transportation funds in the 2022 VT Legislative Session, GMT seeks to cut 5.6% of their service due to inflationary impacts on their operating budget. This dichotomy between increased funding for green initiatives such as e-bikes and the decreased funding available to regional transportation options highlights the need for increased collaboration between state and locally funded partners (H. 736, April 2022) (Robinson, 2022). Most notably, the 2022 Burlington Capital Bond for infrastructure development failure indicates the hesitancy many Burlingtonians have about potential tax implications while pursuing infrastructure and transportation initiatives.

Findings and Analysis

Based on our research from the literature and the interviews we conducted, we decided to evaluate three areas of transportation-- bus systems, specialized transportation, and built infrastructure. We also conducted a situational analysis, which provides insight into our analysis of the current transportation initiatives and how they work within the landscape of Vermont.

Public and Point-to-Point Transportation

From interviewing Jordan Posner, the Mobility Management Coordinator at Green Mountain Transit, it is clear Burlington faces critical bus-related infrastructure capacity weaknesses to serve wheelchair and mobility devices with accessible sidewalks, especially after eliminating parking structures for handicapped vehicles. Green Mountain Transit's base population of riders is low-income individuals with less access to transportation, and GMT's target service groups include individuals with disabilities and aging populations. From this interview, six priorities from the perspective of GMT and Burlington bus systems were identified. Firstly, considerable competing interests pose a challenge to increasing local walkability and curb access to safely use sidewalks and other access points to the bus systems. Competing interest groups in this debate include buildings, bicycles, regulatory agencies, and non-green vehicle modes which people must use due to income restraints. Secondly, investments in infrastructure are required, most notably in sidewalks. Investments in bike infrastructure can be made so as not to compete with sidewalk and bus infrastructure, but it needs to be done in a uniform, collaborative, and

interagency way. Thirdly, bus transportation programs must be expanded beyond the current fixed route systems without relying on motorized transport, since individuals can only be expected to walk a certain distance to the bus stop. Fourthly, current bus systems are highly reliant on federal funds, most recently CARES Act funds. Therefore, a local cash matching program is needed to reduce reliance on local municipalities for funding. Lastly, private and public partnerships with the University of Vermont Medical Center (UVMMC) and local service providers must be more aggressively pursued to help alleviate the strain on municipalities' integration of new bus systems since dominant transportation services commute to UVMMC.

Jordan Posner reiterated more seniors will ride more traditional transportation bus routes before needing tailored door-to-door bus transport. Considering the local aging populations and the top priority of job access for the aging workforce, transportation systems accessing Church Street Marketplace and major downtown routes must be designed with senior access in mind.

Interviews with the Executive Director and Volunteer Coordinator for Age Well further centered on senior access to regional transportation systems. Vermont has five Area Agencies on Aging, the largest being Age Well. Since 1974, Age Well has served Addison, Chittenden, Franklin, and Grand Isle Counties in Northwestern Vermont, currently serving 11,000 people either over 65 years old or under the age of 65 with a disability. Age Well provides nutrition programming and wellness services, including the Senior Helpline- delivering 292,416 meals in FY21 through Meals on Wheels and friendly visitation to mitigate social isolation, implemented by 1,100 volunteers. Age Well is Guided by the Administration for Community Living and the Older American Act. Their funds come through federal, state, local, and municipal sources. Age Well provides transportation support, addressing current transportation accessibility gaps. Last fiscal year, Age Well volunteers drove 243,000 miles and volunteered 49,000 hours.

Firstly, remove the ride limit individual clients can receive, most needed for transportation to medical appointments. For example, medical ride counts can add up quickly, with clients seeing specialists and dozens of follow-up physical therapy appointments needed for hip surgery. Currently, special authorization is required to override transportation limits for an individual passenger. A change should be made so that if senior riders or folks with disabilities need transportation to medical appointments- the cap should be removed, so clients can use as many rides as needed for medical care. Secondly, and related to medical appointments, it would be conducive for UVMMC to provide transportation to clients of Age Well getting chemo, radiation, and dialysis. These clients seeking transportation for these three medical procedures at the hospital can tip the scale and cost the most money. "If Age Well wasn't providing transportation to them, they could remove the transportation limits," shared Age Well Director of Volunteer Services Erica Marks. There is increased capacity for UVMMC to pay for SSTA and help provide more integrated approaches to transportation. After working with GMT to secure a new route to Tilley Drive, a location with a significant amount of UVMMC off-site offices, it is clear the hospital can be a vital partner in ensuring Burlington's aging population has access to medical services. In collaboration with these public and private partners, transportation agencies will need to be innovative, coordinated, and integrated to meet current and future medical transportation demands.

Similarly to what Jordan Posner of GMT raised, Age Well also faces long-term funding barriers, and the state and municipal governments need to support a new transportation strategy.

Additionally, a short-term micro-transit- that acts more like Uber or a taxi with users summoning a ride from their phone- is needed to provide greater scheduling flexibility. Age Well and specialized service providers currently need 48 hours' notice to schedule a ride in Franklin County and 24 hours prior notice in Chittenden County, with short-term requests presently placed on a cancellation list. The Vermont Agency of Transportation piloted this in Montpelier in January 2021 through Green Mountain Transit's fare-free micro-transit called MyRide. Since piloting this program, MyRide has

provided 34,860 rides, according to the Agency of Transportation (Mearhoff, Duffort, and Robinson, 2022).

Also, considering how COVID-related CARES Act money sunsets between 2023-2024, creative public-private partnerships are needed to address funding instability. Age Well is currently struggling since providers are having trouble recruiting volunteer drivers due to rising gas prices, negatively impacting clients through increased demand and competition for a decreased pool of volunteer drivers. Lastly, studies need to research comparative generational transportation needs. Shared Age Well Executive Director Jane Catton, "Today we need to build forward to what future transportation wants and needs will be." Further research is needed to study different generational transportation needs and wants to build future transportation systems to support these emergent and long-term needs.

Specialized Transportation Options

While buses can meet the need of an older population, a 2017 study from the National Institute of Transportation and Communities reported that aging riders face barriers to using a bus system. The perspective of those surveyed showed taking the bus was a source of frustration and was viewed as inconvenient and time consuming (Trygve and Kiersten, 2017). Therefore, it was essential for us to analyze the specialized transportation services available for riders in Burlington. For our analysis of specialized transportation options, we focused on the Special Services Transportation Agency (SSTA), Vanpool with Go! Vermont, and CarShare Vermont. Specialized transportation options help users access points of location excluded from a bus system, are rides outside of the times on a fixed bus route and are too far away to walk or bike to. Overall, these transportation options seek to close the gap of accessibility when it comes to public transportation options.

SSTA is an organization started in Chittenden County in 1982 to provide transportation services for people with specialized mobility needs (SSTA, 2022). This service works by allowing users to book door-to-door rides 24-48 hours in advance for a small fee or donation. Eligible riders are over the age of 60 or live with an ADA-defined disability; the program is designed for folks who live ¾ of a mile from a bus stop (VTrans, n.d). These rides can be used for a variety of activities such as medical care, meals, shopping, job interviews, employment, and leisure. Overall, this is a robust specialized transportation option. This is an affordable option for those who qualify for it, and the door-to-door service makes it accessible for those who are limited in their mobility. The SSTA fleet of buses and cars is over 50, allowing many individuals to access the service. Furthermore, the program uses a combination of lift-equipped vans, sedans, and minivans, along with volunteer drivers in their personal cars, to operate, which increases the program's resilience since there is more than one modality of service (SSTA, 2022). However, as noted in our interview with Counselman Bergman, increased monetary commitment from various stakeholders is needed to subsidize this service throughout the state of Vermont so more individuals can access it.

The following service we analyzed is the vanpool initiative, a collaboration between Enterprise and Go! Vermont called Commute with Enterprise. An organization can request to implement this service at their workplace by committing at least five members (but up to 15) for a month-long trial run. This service works by recruiting one person to be the vanpool driver, who picks up and drops off the other vanpool members on their route. This initiative eliminates single occupancy vehicle use, increases connectedness between co-workers, and provides someone access to a car they can then use outside of working hours (Connecting commuters, 2022). Suppose an organization finds this initiative to be functional and working well for their employee population; in that case, the employees can share the cost of the vanpool, which includes a gas card, an emergency roadside assistance service, and vehicle maintenance vouchers. This option is a cost-effective solution for employees to get to work and is especially helpful for someone who does not have access to a personal vehicle. It is also beneficial for older folk getting to work who may not have the ability to drive anymore. (Connecting commuters, 2022). Organizations using this resource reported that it provided a reliable transportation option and

allowed employees to bond with one another, leading to a more positive work environment. However, for those who are not the driver, this option could be challenging if the individual has midday appointments or requires the ability to leave work midday for childcare or other reasons.

The last specialized transportation option is CarShare Vermont. This organization uses a model that helps members access and share cars by allowing them to book cars on specific times and days. The member then goes to the car pick up "pod" and can use the vehicle for the entire duration they requested. Members pay a fee and pay a fixed amount per use based on mileage and gas prices and have access to roadside services, a gas card, and repair services included in their membership fee (CarShareVT, 2022). Additionally, they offer income-based eligibility, awarding a lower membership fee for qualifying applicants. CarShare is a strong option for someone who does not own a car and would like to have one available to them when public transportation options do not meet their needs. However, financial and accessibility barriers can still arise in this program.

The 2018 ECOS Plan notes that CarShare Memberships and SSTA services were down compared to previous years (ECOS Plan, 2018). While these options provide transportation access rides outside of the traditional public transportation system and seek to make transportation more accessible, affordable, and flexible, there is still room for improvement within each of these initiatives to increase the use of these services. If usage does not grow in the coming years, it is crucial to reevaluate the effectiveness and consider ways to make them more accessible.

Built Infrastructure

All these specialized transportation modes depend on the existence of well-maintained and smartly designed built infrastructure, but what is adapted for vehicles does not always make pedestrians feel safer. Specifically, adequate sidewalks and crossings to support walkers and protective infrastructure for bicyclists can make seniors feel confident navigating the streets. The City of Burlington is prioritizing plans to update non-motorized infrastructure and highlighting through the Great Streets initiative that includes other factors that influence walkability besides safety.

In 2018, the American Association of Retired Persons (AARP) conducted a neighborhood work audit with a group of aging residents in the Centennial neighborhood. The group found conditions of these streets to vary widely and overall rated intersections and crossings as poor and sidewalks as fair. (AARP Vermont, 2018). "The city also has a 21.5 percent walking mode share and nearly 100 percent sidewalk coverage" (Walk Friendly Communities, n.d). Though Burlington is a dense community with walking paths, seniors can be dissuaded from walking if they live in areas where the quality of the sidewalks is not as well maintained. Having quantity does not translate to quality in terms of walkability. This report was focused on a few streets in Burlington and did not include the pathways near Church Street and the University of Vermont Medical Center (UVMMC), which are even more heavily trafficked. Furthermore, in considering accessibility measures for all, particularly dangerous intersections would benefit from Accessible Pedestrian Signals (APS). Currently, these signals are not present at every significant crosswalk in the city. An audible signal that indicates when it is safe to walk, which direction the walker is traveling, and the street they are crossing would increase the safety of roadways for those who are hard of seeing and blind. Along with flashing lights that indicate pedestrian crossings, APS crossways ensure clear guidelines for hard of hearing and deaf pedestrians while encouraging drivers to slow down long before they reach the intersection.

Seniors could decide to walk more often if these increased safety considerations are met, but safety is not the only aspect that creates walkable neighborhoods. Through the Great Streets Plan, Burlington attempts to remedy this walkability issue. This initiative is an ongoing effort to rebuild downtown public streets per the four values articulated by Burlington's residents through planning initiatives (City of Burlington Department of Public Works, n.d.):

- Walkable and bikeable — safe for all modes and all levels of accessibility
- Sustainable — both environmentally sustainable and long-lasting

- Vibrant — to support downtown's diverse range of public and private activities
- Functional — work for all users, flexible, can be maintained, affordable

This overhaul has been an ongoing effort since 2016 to get community input for the redesign of the downtown, including St. Paul Street and City Hall Park redesigns which have recently been completed. The next phase is redesigning Main Street to be an inclusive corridor into downtown and the waterfront. This plan focuses on narrowing the roadway to create more space for protected bike lanes, pedestrians, and outdoor space. This Great Streets initiative is currently underway and ties in with the city's plans to purposefully develop the downtown streets surrounding City Hall.

Much of the emphasis on updating built infrastructure to better serve pedestrians and bicyclists stems from the safety tension between this group and vehicles. When streets are designed to optimize vehicles, they deter pedestrians and hinder walkability. Importantly, these new plans do not bar vehicles from the road but are intended to slow the speed of drivers, making them more conscious of others through deliberate infrastructure design choices.

Recommendations and Goals

Based on the analysis of the Burlington political landscape, including successful and unsuccessful transportation policies, stakeholder interviews and reflections, and the specialized research of the three transportation avenues, this report suggests the Burlington Aging Council further review the following policies. These recommendations are crafted with a holistic perspective in that accessibility for one group should enable accessibility for all; therefore, stakeholders and directly impacted constituents can represent both the aging population and other vulnerable groups.

The first recommendation is to extend indefinitely the fare-free policy currently in place on public bus transport systems in Vermont. The policy's goal would primarily reduce the cost-prohibitive implications of a fare and allow Green Mountain Transit to expand its customer base. Rising ridership would signal to legislators that these public services have the potential to grow in meaningful impact with the financial support to enable expansion. Maintaining free rides will allow for diversity in accessible modes of transportation for Burlington's most financially insecure population. As referenced in the city's TDM plan, improving transit ridership will reduce traffic, reduce commuter parking demand, and create an attractive eco-minded city. Additionally referenced in the 2015 TDM plan are corporate partnerships that would generate revenue streams without putting cost burdens on the public. While BAC's goal is to serve the aging population in Burlington, finding transportation solutions that have shared benefits will increase political buy-in from key stakeholders in the policy process.

To this same end, another suggestion would be to encourage diversification of funding streams for the Burlington transportation system. In the face of COVID-19, the state received one of the most significant federal cash infusions in history; however, influxes of financial capital such as ARPA are unlikely to take place again. For example, the proposed 2023 VT ARPA budget earmarked $3 million for e-transportation initiatives, an unprecedently large capital investment in a long-term Vermont sustainability project. Conversely to the approved 2022 TIF Bond, Burlington voters opposed another municipal infrastructure bond due to hesitation with tax implications. Ultimately, finding revenue and funding streams that do not rely on vulnerable populations via fares and city tax increases will encourage consistency and sustainability in the transportation sector without undue burden on the constituents and riders.

Future growth in the transportation sector is dependent on greater collaboration between stakeholders. To pursue a TDM framework, all interested parties must prioritize meeting frequently, exchanging ideas, and surveying constituents together. Future transportation plans that focus on sustainability and demand management need to consider the complexity of the system and the abilities of all residents. While researching different transportation options for the aging population, our team discovered many different programs that we were not aware of beforehand. Further into our research,

we uncovered the concept of micro-transit and the MyRide program driven by GMT. This shows that there are many different transportation programs being pursued in Vermont. Unless transit organizations make a conscious effort to collaborate and better inform the public of the available options, the fragmentation of the transportation sector can leave certain programs underutilized and give an incomplete picture of the transportation resources available. Because multiple stakeholders are involved in transportation planning and execution, there should be a collaborative effort to engage the public and get rider feedback on services offered in Chittenden County. We recommend that the Burlington Council on Aging continue to encourage collaboration between stakeholders for all stages of transportation growth and change. For example, Grace Cottage Family Health & Hospital, a critical rural care facility, collaborates with Green Mountain RSVP in a volunteer driver program. This program helps patients attend their medical appointments and builds community, especially among aging and disabled residents who have the greatest need for this service. "To improve access to wellness services and medical appointments, Grace Cottage utilized RSVP's insurance rider program to station volunteer drivers at the hospital. Volunteer drivers use their personal cars to assist those struggling to attend medical appointments at Grace Cottage's primary care practices or return home after outpatient appointments or inpatient stays. The program's services are available to all patients." (American Hospital Association, 2017). A similar program could be coordinated between the UVM Medical Center in Burlington and specialized transportation services like SSTA. Because transportation is a social determinant of health, both the hospital system and transportation organizations have a vested interest in increasing accessibility and affordability for aging Burlington residents.

Finally, the Burlington Aging Council should encourage the city to commission a Generational Transportation Assessment. Using participatory practices, the survey and assessment would track transportation needs across generations to understand how transit and access change across ages and abilities. While this report pulls together information on transportation best practices across the country, successful transportation policies in Burlington, opportunities for growth in public & NGO transit options, and infrastructure improvements, there is little existing literature based solely on transportation based on age. This report pulls information about transportation in Burlington in general with an eye towards accessibility for an aging population to reconnect them with the community and workforce. However, a report using participatory methods would enable the BAC and City Council to understand the specific needs of their constituents over time. The term "aging population" inherently references the dynamic changes coming as constituents age. Most of our recommendations will not grow alongside the Burlington community without understanding how transportation needs to change alongside an aging population. A "Generational Transportation Assessment" will improve comprehension of how transit options need to meet Burlington's needs regardless of age or ability.

Conclusion

As demographics in Vermont shift, a more significant percentage of Burlingtonians are aging. In our work, it is paramount to consider this demographic not as a homogenous group but as a community with different abilities, incomes, and preferences. Transportation Demand Management is a helpful framework for the Council to consider transportation changes through because it emphasizes balancing alternatives to guide transportation design (Mobility Lab, 2021). It is vital for stakeholders invested in the transportation ecosystem to encourage open collaboration between the silos of stakeholders. Senior residents are not a homogenous group, which is why we have considered improvements for public transport, rideshare, and non-motorized options simultaneously that engage multiple players in the transportation world.

References

AARP Vermont. (2018, May). *Burlington Centennial neighborhood walk audit.* AARP
Vermont.https://www.healthvermont.gov/sites/default/files/documents/pdf/Burlington-Walk-
Audit-Report-Final.pdf

American Public Transport Association. (n.d). *A guide to multimodal transit.* APTA Knowledge Hub.
https://knowledgehub.apta.com/resource/transloc-a-guide-to-multimodal-
transit?utm_source=apta&utm_medium=cast&utm_campaign=Recap040422

American Hospital Association (2017). *Social determinants of health series: Transportation and the role
of hospitals.* Health Research & Educational Trust. http://www.hpoe.org/Reports-
HPOE/2017/sdoh-transportation-role-of-hospitals.pdf

Chittenden Area Transportation Management Association (2020). 2020-2025 Joint Institutional Parking
Management Plan.
https://www.burlingtonvt.gov/sites/default/files/Agendas/SupportingDocuments/JIPMP%20202020-2025%20111320.pdf

Chittenden County ECOS Plan (2018). *Supplement 5- Metropolitan Transportation Plan.* Chittenden
County RPC. http://www.ecosproject.com/wp/wp-
content/uploads/2017/09/ECOSPlan_MTPSupplement5_Final_20180615.pdf

City of Burlington Public Works. (n.d.). *Complete streets*. City of Burlington, Vermont. Retrieved April 19,
2022, from https://www.burlingtonvt.gov/DPW/Complete-Streets

City of Burlington Public Works. (n.d). Great Streets BTV. http://greatstreetsbtv.com/downtown-
standards

Connecting Commuters (2022) *Commuter Co-op.* Go! Vermont.
https://www.connectingcommuters.org/information-and-schedules/ridesharing/commuterco-
opvt/

Cutler, Calvin (2022). Vt. lawmakers consider alternate transportation funding sources. *WCAX*.
https://www.wcax.com/2022/02/23/vt-lawmakers-consider-alternate-transportation-funding-
sources/

Faste, Trygve and Muenchinger, Kiersten. Design for an Aging Population. NITC-ED-986. Portland, OR:
Transportation Research and Education Center (TREC), 2017.

(G. Bergman, personal communication, March 28, 2022).

H. 736 (2022) Senate proposal of the amendment.
https://legislature.vermont.gov/Documents/2022/Docs/BILLS/H-0736/H-
0736%20Senate%20proposal%20of%20amendment%20Official.pdf

(J. Hanson, personal communication, March 24, 2022).

(J. Posner, personal communication, February 23, 2022).

(J. Canton, and E. Marks, personal communication, April 19, 2022).

Lamdin, Courtney (2019). Burlington's St. Paul Street Makeover Confounds Drivers. Seven Days.
https://www.sevendaysvt.com/vermont/burlingtons-st-paul-street-makeover-confounds-
drivers/Content?oid=28447019

Mearhoff, Duffort, and Robinson. (March 9, 2022) Final Reading: Like Uber, for everyone. VTDigger.
Retrieved April 10, 2022, from https://vtdigger.org/2022/03/09/final-reading-like-uber-for-
everyone/

Micro-transit Working Group (2019) White Paper: Micro-transit in Montpelier
https://src.vermont.gov/sites/src/files/doc_library/Microtransit%20white%20paper%2008-1-
19.pdf

Mobility Lab. (2012) *What is TDM?* Mobility Lab. https://mobilitylab.org/about-us/what-is-tdm/

Lyons, Jack (2022). Burlington voters back infrastructure measures but reject tax rate increase. *VT Digger. https://vtdigger.org/2022/03/01/burlington-voters-back-infrastructure-measures-but-reject-tax-rate-increase/*

REDW (2021). Key Differences: CARES Act vs American Rescue Plan Act Funding. https://www.redw.com/blog/2021/06/21/cares-act-and-american-rescue-plan-act-funding/

Robinson, Riley (2022). Green Mountain Transit plans permanent service cuts amid inflationary pressures and budget woes. *VT Digger*. https://vtdigger.org/2022/03/29/green-mountain-transit-plans-permanent-service-cuts-amid-inflationary-pressures-and-budget-woes/

RSG, CATMA (2015). *City of Burlington Transportation Demand Management Action Plan*. https://parkburlington.com/wpcontent/uploads/2014/09/BTV_TDM_ActionPlan_20151016.pdf

Special Services Transportation Agency (2022) *Frequently Asked Questions.* https://sstarides.org/frequently-asked-questions/

St. Angelo, Lilly (2022). Burlington City Council votes for bike lanes, reduced parking on North Winooski Avenue. *Burlington Free Press*. https://www.burlingtonfreepress.com/story/news/local/2022/03/24/north-winooski-avenue-city-council-approves-first-phase/7139834001/

VTrans (n.d) *Chittenden County Elderly and Disabled Transportation Ride Guide Information Handbook.* https://vtrans.vermont.gov/sites/aot/files/publictransit/documents/Ride_Guide_Draft%20-%20United%20Way%20and%20CCRPC.pdf

Walk Bike Master Plan Burlington, Vermont. (2017, March 17). City of Burlington. Retrieved April 19, 2022, from https://www.burlingtonvt.gov/sites/default/files/PlanBTVWalkBike_MasterPlan_finalPlanOnly.pdf

Walk Friendly Communities. (n.d). *Burlington, Vermont.* Walk Friendly Communities. https://www.walkfriendly.org/communities/burlington-vt/

White, Olivia (2020). Montpelier Micro-transit Experiment to Start January 4. *The Bridge*. https://montpelierbridge.org/2020/12/montpelier-microtransit-experiment-to-start-jan-4/