White Paper:
Microtransit in Montpelier

Microtransit Working Group

convened by

VTrans Working to Get You There
Vermont Agency of Transportation

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INTRODUCTION

New technologies such as smartphone apps and route optimization allow for on-demand, flexible services to be delivered much more efficiently than in the past. This "microtransit" service allows passengers to request trips with no advance notice, and drivers to pick up and deliver passengers based on manifests that are updated in real time. The software that runs this service balances the goals of minimizing passenger waiting time and maximizing the efficiency and productivity of the vehicle trips.

In September 2018, the Sustainable Montpelier Coalition held a roundtable on transportation for key stakeholders, including major employers, merchants, and public sector representatives, and had presentations pertaining to various local transit options. This meeting led to a Microtransit Working Group in early December convened by the Vermont Agency of Transportation (VTrans), with key constituents including the City of Montpelier, Green Mountain Transit, Sustainable Montpelier Coalition, Vermont Center for Independent Living, and Central Vermont Regional Planning Commission. The goal of this group was to begin considering the potential for a microtransit service in Montpelier, based on experiences and results of microtransit services elsewhere in the US.

The Microtransit Working Group is exploring the feasibility of operating microtransit service in the Montpelier area as a substitute for some of the existing bus and demand response service operated by Green Mountain Transit. A range of operational models are possible, as described below.

SERVICE MODELS

In December 2018, VTrans issued a request for information (RFI) to potential microtransit operators/vendors. Four companies responded, two of which were vendors with credible real world experience in multiple settings: Via and TransLoc. Follow up questions were sent out to those entities and their responses are reflected in the information provided in the rest of this paper.

There are two broad catgories of service models available in the industry:

Transportation as a Service (TaaS) – In this model, an independent contractor is chosen to provide the microtransit service as a turnkey system. The contracted company will provide vehicles, drivers, insurance and the operating/dispatch software and other system components needed for complete operations. Via, the only TaaS service provider who responded to the RFI, claims that they can be operational 12 weeks after a bid award. In their RFI follow up, they offered this commitment:

"On an ongoing basis, VTrans will receive highly-detailed data about the performance of the pilot and will be empowered to recommend adjustments or refinements to better meet its goals over time. On a day-to-day basis, however, Via will provide all operations of the service on VTrans' behalf, including fleet management, driver onboarding and scheduling, high-touch customer service, and advanced analytics."

Software as a Service (SaaS) – In this model, the vendor provides the dispatch and operating software for the service with the assumption that the current transit provider will operate the service. Both Via and TransLoc can offer the SaaS model. This model would require GMT to be willing to reallocate drivers and vehicles from existing shuttle routes to microtransit service and to adopt the hardware and software necessary to process and dispatch the ride requests.

Traditional bus routes work best in linear corridors where they can efficiently serve many trip origins and destinations. The City Commuter between Barre and Montpelier is an example of a linear route, connecting the centers of the two cities with the many trip generators along the Barre-Montpelier Road. Bus routes are less efficient when the patterns of origins and destinations are spread out over a wider area, necessitating a more circuitous routing and thus slower and less direct trips for the passengers. The Montpelier Circulator is an example of this type of non-linear route.

Microtransit has the potential to be a more efficient way to serve the transit demand in a non-linear area. By focusing on the origins and destinations of the passengers who are requesting trips at a specific time, the trips for those passengers can be quicker and more direct, making the service more competitive to driving. While a lightly-used bus route may be empty for parts of its service time, a microtransit vehicle would only be operating when there are trip requests. Microtransit service can also be scaled up and down in response to demand, while bus routes operate on a fixed schedule whether demand is up or down.

At the present time, the vast majority of people using the local bus routes in Montpelier are those who do not have access to an automobile or cannot drive for whatever reason. For transit to become attractive to the people who currently drive, it must become more convenient, and some of the hidden subsidies for driving should be removed. The primary hidden subsidy is free parking, available to most of the employees in Montpelier. The rates charged for metered spaces in the downtown area also greatly understate the actual cost of building and maintaining that parking space, not to mention the opportunity cost of what that land could otherwise be used for.

The design competition sponsored by the Sustainable Montpelier Coalition demonstrated that city residents understand that the city would be better off if the land used for parking downtown was used instead for housing and businesses and parks. However, they still want travel into downtown to be convenient. It is here that a well-designed microtransit service can serve as an essential piece in a redevelopment of the downtown area and provide greater mobility for a wider region as well.

If this redevelopment is achieved, facilitated, in part, by microtransit, the carbon footprint of Montpelier can be significantly reduced. More housing and businesses downtown means more trips accomplished on foot. Longer trips would be accomplished on bus routes or microtransit vehicles, with multiple passengers sharing rides. Car ownership would drop and the need for parking would diminish.

To achieve this long-term goal, people will have to believe that microtransit is a viable and sustainable option for them. The following goals are essential to making it work:

- Educating the public about how it works prior to startup
- Scaling the level of service (number of vehicles on the street) appropriately so that wait times are short
- Engaging with employers (including city and state government) to create incentives to using microtransit
- Ensuring good riding experiences so that people who try it once or twice will want to use it more regularly
- Ensuring that riders of existing bus routes that may be replaced by microtransit are no worse off

CONCLUSIONS AND NEXT STEPS

Microtransit could be an important component of a sustainable redevelopment of our downtowns, allowing people to maintain their mobility without owning automobiles. Fewer automobiles means less land devoted to parking and more possibility for walkable and accessible communities. To date, there are no examples of microtransit working in a city as small as Montpelier, with a resident population of under 8,000 and a daytime population under 14,000. If this project can work successfully in a small city context, it will create an attractive model for other similarly-sized communities in Vermont and elsewhere.

A successful trial will likely require both a well-designed and appropriately scaled service as well as a comprehensive community engagement and education effort to explain the benefits of microtransit. The audience for that effort includes current transit users and residents and workers in Montpelier who drive into the downtown area.

The Microtransit Working Group will continue to work with vendors and stakeholders to develop a microtransit plan for Montpelier. As this plan takes shape, the community engagement and education process can begin to build a constituency for the service.

Microtransit Working Group

VTrans

City of Montpelier

Green Mountain Transit

Sustainable Montpelier Coalition

Vermont Center for Independent Living

Central Vermont Regional Planning Commission