

Mobility on Demand Trends in the United States

~A Case Study of Washington D.C., Part 2~

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1. On Demand Transportation Other Than Paratransit

In the greater Washington D.C. area, public transportation and private businesses are cooperating to ① replace suburban bus routes, ② support late-night commuters, and ③ implement on-demand transportation in response to the emergency travel needs of commuters who don't have access to a car. However, regarding ② and ③, the number of individuals using these services isn't very many due to the lack of marketing and strict conditions of use. ^{Note 1)}

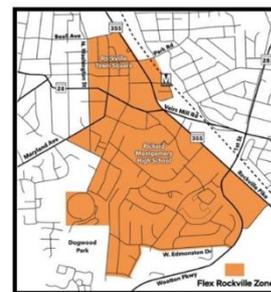
1.1 Suburban Bus Route Replacements

One example of a developed case in the Washington D.C. metropolitan area is Ride On Flex, which began operating in June 2019.¹⁾ In order to reduce operating costs of low-rider routes of Ride On buses, which are managed by the Montgomery County Department of Transportation (MCDOT), located north of Washington, D.C. in Montgomery County, Maryland, on-demand carpool transportation by TNC Via was introduced.^{Note 1)} Users can request to move to a specific destination within a designated area (see figure below) during certain weekday time periods at a flat rate (\$2). On the part of the operator, when multiple requests are received at the same time and are heading the same direction, customers are picked up from their respective positions and dropped off simultaneously at their shared destination. Additionally, while the MCDOT has selected TNC Via as the contractor to introduce this process, drivers of the previous shared buses have been appointed to be the drivers of the current

replacement buses on the same route, and software, smartphones, and apps developed by Via have been purchased by Kyodo Transportation and continue to be in use.^{Note 1)} This has occurred within the context of a strong public transport union in the Washington, D.C. greater area that opposes cooperation between public transportation and TNCs (particularly when TNC replace existing routes). Ride On Flex can then be viewed as an example of how compromise can be reached to resolve this issue.

Rockville

Mon-Fri, 9:00 a.m. to 3:30 p.m.



Glenmont/Wheaton

Mon-Fri, 6 to 9 a.m. & 3:30 to 7:00 p.m.



Figure: Ride On Flex zone areas (from the MCDOT website²⁾)

1.2 Late-Night Commuters

WMATA has begun partnering with the ride-sharing operator Lyft to offer a pilot program that compensates part of the fare when Lyft's carpool options are used between WMATA's nonoperating hours of midnight to 4 a.m. It is mainly intended for hospitality workers and medical staff who commute to work outside WMATA's

business hours, and pay up to \$3 each time for as many as 40 one-way trips in January. However, available travel is limited to those beginning and ending in the service area³⁾ (the WMATA operating area is limited to a small space, particularly within the District of Columbia and its surrounding suburbs). If an applicant requests participation in the WMATA pilot program by the 25th of the previous month, Lyft rides are discounted from the 1st of the month. In addition to workplace information, customers must provide their WMATA registered SmarTrip account information at the time of application, although SmarTrip cannot be used for Lyft services (payment is done through Lyft accepted credit cards). Regarding this, WMATA limits the use of SmarTrip to travel services where vehicles can accommodate at least 6 people, which is in accordance with the Internal Revenue Service's (IRS)²⁾ imposed restriction.⁴⁾ The year-long pilot project is scheduled for July 1, 2019 through June 30, 2020.

1.3 Responding to the Emergency Travel Needs of Commuters Who Don't Ride Cars

Washington D.C. and the Baltimore metropolitan area offer a Guaranteed Ride Home (GRH) program for local commuters that will compensate the fare to travel from work to home in an emergency.⁵⁾ This initiative is promoted as part of efforts to reduce the use of private cars for commuting.

In principle, users need to pre-register, but they are exempt from the fare if they require a means of transportation to return home from work due to unforeseen circumstances. Conditions to use the service demands that travelers commute at least twice a week, movement is restricted to travel between home and work, is utilized no more than 4 times a year, and unexpected circumstances are limited to personal/family emergencies, illnesses, and unplanned overtime, with overtime in particular strictly monitored with the need for confirmation from managers. Available hours are from 6 am to 10 pm, during which time travelers can explain their situation by making a call to the designated phone number or on the website through their accounts, and with prior permission, can use the appointed

transportation service (taxi, rental car, or public transportation) free of charge.^{Note 3)} Although there are various conditions for use, the specified area for work locations is wide, and available destinations for returning home cover fairly remote areas, such as some parts of West Virginia.

The program operates as part of Commuter Connections run by the Metropolitan Washington Council of Governments (COG) within the National Capital Region Transportation Planning Board (TPB) (this will be further described in my next report "Urban Transportation and City Planning"). Commuter Connections originates from a carpool matching service launched by COG in 1974. This carpool matching service is still going strong⁶⁾ and can be accessed by using a smartphone app.⁷⁾ Commuter Connection projects, including the GRH program, are funded by local, state, and federal governments.

2. Autonomous Vehicles

The greater Washington, D.C. area is home to many federal agencies, along with universities and academic institutions related to the government and military. As such, numerous organizations developing and manufacturing autonomous vehicles are not only conducting experiments there for practical use, but D.C. has also gained attention as a place to conduct demonstrations for policy makers.⁸⁾

However, in the three jurisdictions that span the metropolitan area, different regulatory methods are applied for autonomous driving technology.^{Note 4)} Firstly, as early as 2013, the District of Columbia passed legislation for autonomous vehicle testing⁹⁾ ahead of many U.S. states with the consent of the mayor and city council, and from June of that same year began enforcing driving functions that allow switching between self-driving modes at any time, ensuring that autonomous vehicles were in conditions capable for someone to drive them, and permitting experiments for the practical use of autonomous driving technology. Furthermore, considering the remarkable technological development, in 2018 the D.C. Council proposed a bill to update the law (such as to

require DDOT permission to conduct practical use experiments of self-driving cars and to establish guidelines for vehicle registration of autonomous vehicles.¹⁰⁾ In addition, autonomous driving technology is not only regulated by the D.C. Council, but the Autonomous Vehicle Working Group¹¹⁾, which was established in 2018 under the leadership of the mayor, establishes special ward policies through brainstorming with other municipalities, as well as positively working on developing and introducing autonomous vehicles in discussions with multiple automobile manufacturers. Under these circumstances, the major automobile manufacturer Ford Motor Company (headquartered in Michigan) and the autonomous driving technology platform developer Argo AI (headquartered in Pennsylvania), for example, are working on collecting road data from the area by 2021, with the aim of introducing autonomous vehicles that can be used for ride sharing and food delivery later in the year.¹²⁾ In 2020, Uber also began collecting area road data with the hopes of selling autonomous vehicles using this information that same year.¹³⁾

On the other hand, while there is no state law, the Maryland Department of Transportation formulated procedural requirements¹⁵⁾ in their "Vision for Connected and Automated Vehicles,"¹⁴⁾ instructing companies that conduct experiments on autonomous vehicles to undergo prior examination and to obtain their permission. In addition to taking out general automobile insurance, the conditions of permission include proof of ability to guarantee personal and material losses of up to \$5 million (through third-party insurance and guarantees, as well as self-pay). Local Motors (headquartered in Arizona ^{Note 5)} is a licensed state operator, and its vehicle, Olli, is being tested in Prince George's County (a suburb of Washington, D.C.). Anyone visiting a Local Motors office¹⁶⁾ in Prince George's County's National Harbor area can test drive Olli¹⁸⁾ if they've signed a consent form in advance through their website.¹⁷⁾ In contrast to these two jurisdictions, Virginia has no laws or regulations regarding practical testing of autonomous driving technology. The state is very affirming about developing autonomous driving technology, designating a 70-mile long highway as the

Virginia Connected Corridor (VCC),¹⁹⁾ and a collaboration between the Virginia Department of Transportation (VDOT), Virginia Transportation Research Council (VTRC), and the Virginia Tech Transportation Institute (VTTI) is making efforts to collect and disclose data^{Note 6)} bringing in necessary sensory technology, such as roadside units (RSU). The Washington D.C. metropolitan area includes northern Virginia, and Fairfax County, for example, aims to be the center of self-driving car testing in the state.²⁰⁾ In addition to experiment collaborations on the VCC, the county has independently cooperated with local electric power company Dominion Energy^{Note 7)} to begin an autonomous driving shuttle pilot in October 2020.²¹⁾ In addition, though not on a public road, the previously mentioned Local Motors conducted experiments on the practical use of their autonomous vehicle, Olli, for 3 months at a U.S. Army and Marine Corps joint base in the state,^{Note 8)} and also moved employees among the 12 stations located along the route.²²⁾

Notes

Note 1) Hearing information. Implemented on February 12, 2020, WMATA.

Note 2) A federal organization equivalent to the National Tax Agency of Japan.

Note 3) For taxi/rental cars ridden, customers report the travel distance. Public transportation fares are refunded afterwards.

Note 4) Dentons *Autonomous Vehicles: US Legal and Regulatory Landscape* (August 2019)

Note 5) Established in 2007. Using 3D printing technology, manufactures electric autonomous vehicles that have learning functions at small plants in Arizona and Tennessee. Practical experiments conducted in Europe, Australia, and the Middle East as well as throughout the United States.

(<https://localmotors.com/> [Accessed : 2020/3/13]).

Note 6) Allows specific users to access the following databases and shares various data (<https://smarterroads.org/login> [Accessed : 2020/3/13]).

Note 7) Headquartered in Richmond, Virginia
(<https://www.dominionenergy.com/> [Accessed : 2020/3/13]).

Note 8) Annex of Arlington National Cemetery 「Joint Base Myer-Henderson Hall」

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