



Final Report

Taxi and TNC Service Levels for Individuals with Disabilities Study

CONNECTICUT DEPARTMENT OF TRANSPORTATION

December 2020



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1 Introduction and Context

1.1 Report Purpose

The Connecticut DOT has commissioned this report in response to Public Act No. 17-140, An Act Regulating Transportation Network Companies and Taxicabs, and in the spirit of that law, to determine an appropriate method of providing people with disabilities, including those with fixed mobility devices that cannot be stowed in a normal vehicle, a measure of equivalency of service for Transportation Network Companies (TNC), taxis, and livery services. As a requirement of PA 17-140, this report also evaluates Connecticut’s Non-Emergency Medical Transportation (NEMT) services, and whether TNC services could be used for NEMT service. Currently the state’s NEMT contract is serviced by Veyo, which also operates a TNC in some markets, including New York. (Their operation in New York has prompted their licensing as a TNC in Connecticut as some fares bring them across state lines.)

It is reported that people with disabilities are more dependent on ride hailing services than people without a disability. According to one study, they make twice as many TNC/taxi trips as people without a disability, of those TNC/Taxi trips by people with disabilities, taxis account for two-thirds and TNCs one-third.¹ People with disabilities have many different needs to be accommodated during their transport, based on their particular disability, and additional driver training is beneficial—and in many cases required—to serve them.

According to the San Francisco’s SFMTA’s 2019 report “TNCs and Disabled Access,” many people with disabilities have benefited from TNCs. People with blindness have benefited from Uber and Lyft’s app (which are accessible to the visually impaired), people who are deaf have found TNCs to be a source of work, and many people of all abilities have benefited from the increased flexibility and access provided by apps that connect people to drivers—whether they are connecting to individual drivers or drivers connected to traditional taxi or livery services. However, disability rights organizations and individuals in Connecticut and in the rest of the nation have long fought for better access to both taxis and TNCs for people who require fixed mobility devices. These devices require wheelchair accessible vehicles (WAVs) for their transport.

Prior to the arrival of TNCs, taxis were the focus of lawsuits and other regulatory and legislative efforts from the disability rights advocacy community and others. As Uber and Lyft became the two largest TNCs in the country in the 2010s, disability advocates shifted their advocacy for better services to these new services, and disputes with taxi companies became less frequent nationally.

TNCs have so far avoided many of the regulations that apply to public transportation or other ride-for-hire services due to their unique business model, which does not include owning vehicles, and operates under the assumption that the drivers that use its service are independent contractors. TNC operators such as Uber, known as Raiser LLC in Connecticut, and Lyft describe their

¹ 2016-17 United States National Household Travel Survey

business not as transportation “primarily”, but rather as a marketplace that connects independent drivers and riders via a phone-based application.

During the development of this report, stakeholder engagement occurred with providers, including disability rights advocates, mobility access organizations, academics, and drivers and their representatives, as well as owners and operators of taxi and livery companies and representatives from TNCs Uber, Lyft, Via and Veyo (the latter also being the state’s NEMT contractor). The information gathered from those interviews and outreach efforts has helped inform the discussions, and recommendations included in this report and is included in Appendix A – Stakeholder Engagement Summary.

This report summarizes current levels of service experienced by those with disabilities using the for-hire vehicle industry and identifies recommendations for the Connecticut Legislature that would address disparities in service between taxi, livery, and TNC service for persons with disabilities.

1.2 Literature Review - Legislative and Regulatory Approaches

Because of the claim from TNCs that they are not primarily a transportation company, TNC operators have so far avoided legal responsibility for adhering to the sections of the Americans with Disabilities Act (ADA) that often apply to other forms of transportation, including taxis—namely: 42 U.S.C. § 12184, which governs private companies that provide transportation, and 42 U.S.C. § 12182, which bans discrimination in the use of public transportation. In more detail:

42 U.S.C. § 12184 “Prohibition of discrimination in specified public transportation services provided by private entities” – disallows discrimination based on disability by private companies that provide public transportation and are “primarily engaged” in the business of transporting people. However, this law only applies when the vehicles are *able* to transport the passenger—and thus does not require taxis to become accessible to fixed wheelchairs.

42 U.S.C. § 12182 “Prohibition of discrimination by public accommodations” – applies to publicly owned public transport. If TNCs or taxis were held to this law’s standard, it would require TNCs to take reasonable steps to ensure that people with disabilities have equal access to its goods and services just as publicly-funded bus systems are required to do.²

In recent years, dozens of plaintiffs with disabilities have initiated lawsuits against large TNC companies such as Uber and Lyft, filing claims of discrimination. Often these cases involved claims that drivers refused service to people with disabilities or who had service animals

² Rachel Reed, Disability Rights in the Age of Uber: Applying the Americans with Disabilities Act of 1990 to Transportation Network Companies, 33 Ga. St. U. L. Rev. 517 (2017). Available at: <https://readingroom.law.gsu.edu/gsulr/vol33/iss2/7>

accompanying them, and attempted to define the TNC involved as falling under either § 12184 or § 12182. So far in these lawsuits, courts have not conclusively established whether or not either of the sections, or USDOT's corresponding regulations in Section 49 C.F.R. §§ 37.1 to .215 (Transportation Services for Individuals with Disabilities (ADA)), apply to TNCs, which has meant their legal obligation to provide services to people with disabilities is still unclear.³

Many states, including Connecticut, have responded by clearly indicating in their own laws or regulations that TNCs may not discriminate against people with disabilities. Some legal experts conclude that it is most likely that TNCs would ultimately be held to 42 U.S.C. § 12184, the same standard as other vehicles for hire are held. For the most part, TNCs seem to agree, and are already adhering to this statute's standards of non-discrimination. However, this legal remedy to the many discrimination lawsuits would not, as noted above, improve access to TNCs for people with fixed mobility devices.

To address this legal shortcoming, several cities and some states are working proactively to provide accessible rides through TNC platforms or by providing new services that are all or partially funded by fees extracted from TNCs. In most states, state TNC laws pre-empt cities from enacting local TNC ordinances, but in the states that don't pre-empt local action, or that specifically allow their larger cities to create their own TNC regulations, more is typically done by those cities to improve TNC accessibility.

1.2.1 Examples of Municipal Approaches

- Portland, Oregon is providing an alternative WAV for hire service called PDX WAV⁴ that is funded, along with other programs, through a 50-cent surcharge on every TNC ride initiated in the city. (Initially this program also applied to taxis, but now taxis pay permit fees instead.)⁵
- Seattle, Washington is requiring TNCs and all taxi medallion owners to pay into a Wheelchair Accessible Services Fund with a surcharge of 10 cents per trip.⁶ The fund then disperses the funds to eligible drivers with WAVs or WATs (Wheelchair Accessible Taxis) who provide rides to people who request WAVs. Compensation ranges between \$20 and \$40 per ride.⁷
- New York City is requiring that eighty percent of all WAV requests to TNCs such as Uber and Lyft, must arrive in under 10 minutes, and 90 percent of all WAV requests must arrive in under 15 minutes. The transportation companies must meet these requirements gradually, with annual benchmarks along the way to meeting full compliance by June 30, 2021.⁸ New York City's policy is implemented by the Taxi and Limousine Commission,

³ Ibid.

⁴ <https://www.portlandoregon.gov/transportation/76679>

⁵ <https://www.portlandoregon.gov/transportation/article/725608>

⁶ Seattle Office of the City Clerk file 321010 retrieved at: <http://clerk.seattle.gov/search/clerk-files/321010>

⁷ Seattle Office of the City Clerk file 321583 retrieved at <http://clerk.seattle.gov/search/clerk-files/321583>

⁸ "New York City and TNCs Settle on Performance Measures for Accessible Service Requirements" Alice Grossman, Eno Center for Transportation, June 22, 2018, retrieved at:

which notably was successfully sued in 2011 for not providing enough accessible taxis in the city. The lawsuit was settled by an agreement that would make 50% of all city taxis wheelchair accessible vehicles by 2020.⁹ This was also related to a general redesign of New York City's cab fleet. This lawsuit and its results are likely to have had an impact on the agency's subsequent decision to create strict WAV standards for TNCs as well.

- In November 2019 Chicago began a “New Pilot Program for TNP (Transportation Network Providers) WAV Incentives” that allows drivers of WAVs to apply for \$15 per-trip reimbursement subsidy for every WAV trip. The fee was recently doubled to \$30 per trip, all of which is funded by congestion fees charged to TNCs that use the “downtown congestion zone” during peak hours.¹⁰ The program reduces that fee for WAVs. The city also requires training for all TNP drivers who operate WAVs and extensive data from the TNCs on all trips originating in or ending in the city, including the number of requests for WAVs and the number of requests that are referred to other WAV dispatchers.¹¹

1.2.2 Examples of State Approaches

There are fewer examples of legislative or regulatory success on influencing better policies for taxis and TNCs among State governments, though some states have allowed their larger cities to implement their own TNC rules, including Pennsylvania, New York, and Vermont. Oregon, notably, is the last state to not implement a statewide TNC law, which has allowed the city of Portland to innovate. These states and others, in one way or another, have given flexibility to their large cities to legislate on TNC use, which has often led to improvements in WAV service among TNCs. Most other states have pre-empted municipal authority, often influenced by Uber to do so. This includes Texas, which overrode Houston's attempts to create an ordinance that would have required all vehicle-for-hire companies to provide some form of wheelchair accessible service.¹²

A few states, including Washington and Connecticut, have required that TNCs offer a way for the passenger to indicate that they require a wheelchair accessible vehicle.

Our literature review found only two states that have enacted legislation to increase the equivalency of service for people with disabilities in TNCs and Taxis via the addition of WAVs:

- In 2016, Pennsylvania passed SB 984, which requires that TNCs in Philadelphia have a combined minimum of 70 WAVs “available” by June 30, 2017 and to file an annual report on their programs and best practices in the city. Uber and Lyft were able to meet this

<https://www.enotrans.org/article/new-york-city-and-tncs-settle-on-performance-measures-for-accessible-service-requirements/>

⁹ Noel v. New City Taxi and Limousine Commission

¹⁰ City of Chicago Congestion Pricing web page:

https://www.chicago.gov/city/en/depts/bacp/supp_info/city_of_chicago_congestion_pricing.html

¹¹ City of Chicago Transportation Network Providers Rules, Amended and Effective January 1, 2017, retrieved at:

<https://www.chicago.gov/content/dam/city/depts/bacp/rulesandregs/TNPRulesAmendedeffJan12017.pdf>

and Draft TNP Reporting Manual, retrieved at: <https://chicago.github.io/tnp-reporting-manual-draft/>

¹² City of Houston Legislative Report 2017, Major Legislative Battles, Transportation Network Companies and HB 100, retrieved at: <http://www.houstontx.gov/txlege/hb-100-transportation-network-companies>

requirement by offering WAVs at the same price as sedans through its affiliated leasing services, by contracting WAV services, and by offering bonuses to drivers that picked up users who requested WAVs.¹³ It also required that WAVs be clearly identified as an option in the company’s digital network, and if unable to provide a WAV in that network, it would refer the rider to a provider with the “authority and ability” to dispatch a WAV.¹⁴ The Philadelphia Parking Authority reported in 2019 that the legislation failed to define the meaning of “available” in terms of how many hours a WAV should be in service, stating that a driver of a WAV could work one day a month and count toward the requirement. They also reported difficulties in regulating TNCs due to a lack of data on the number of trips provided by WAVs, the number of WAVs in service at any one time, the identities of WAV drivers, or the number of complaints the TNCs receive regarding WAV service.¹⁵

- In 2018 California passed SB 1376, which sets up an ambitious program to provide equivalent WAV service for TNC customers by charging a surcharge on each TNC trip that would go to an Access for All fund. The fund would then “distribute funds from the TNC Access for All Fund on a competitive basis to access providers that establish on-demand transportation programs or partnerships to meet the needs of persons with disabilities in the geographic areas selected by the commission.” The bill gave rulemaking authority to the state’s Public Utilities Commission to involve stakeholders in determining the initial surcharge amounts, the geographic areas to be used, and other details of the programs such as offsets for TNCs that begin to provide equivalent service for people who need WAVs. The bill also requires data collection and reporting, which is now one of a few indicators available of WAV demand for TNCs. Lyft reported .03% of all trips requested WAVs for 2015-2017, and Uber reported .08% in the same time period.¹⁶ However, as documented within the existing conditions section of this study, disability advocates saw the results of the rulemaking negotiations held by the California Public Utilities Commission as unfair—leading to exceptions to the fees for TNCs, even when an equivalency of service was not met by the companies.

1.2.3 TNC-led Approaches

In a limited way, some TNCs are initiating their own programs to increase WAV availability. In 2015, Uber provided an option called Taxi WAV in Washington D.C., but response times reportedly fell short of equivalent service. In November 2018, Uber began to provide a service in select cities that could respond in “15 minutes or less” according to the Uber newsroom web page, by teaming up with MV Transportation, the nation’s largest paratransit provider. The service is

¹³ Laughlin, Jason. Uber and Lyft’s Wheelchair Access Grows, with Room to Improve. *The Inquirer*, July 6, 2017. <http://www.philly.com/philly/business/transportation/uberswheelchair-accessibility-grows-with-room-for-improvement-20170706.html> Accessed August 23, 2017

¹⁴ General Assembly of Pennsylvania Senate Bill 984, session of 2015

¹⁵ Letter to the Independent Regulatory Review Commission of Pennsylvania from Christine A. Kirlin, Esq. Director of the Taxicab and Limousine Division of the Philadelphia Parking Authority, February 20, 2019. Retrieved at: <http://www.irrc.state.pa.us/docs/H20191/TESTIMONY/2019-1%20002-21-19%20PPA.pdf>

¹⁶ Uber and Lyft Accessibility Reports for the California Public Utilities Commission, retrieved at: <https://www.cpuc.ca.gov/General.aspx?id=3046>

provided in New York City, Boston, Philadelphia, Washington DC, Chicago and Toronto.¹⁷ It is important to note that all of these cities have put pressure on the company in one way or another, through regulation, negotiation, or legislation. Lyft has a similar partnership with First Transit in some of the same cities, including Boston, Toronto, San Francisco, and Los Angeles.

1.2.4 Taxi/Transit District Led Approaches

As discussed later in the document, the largest taxi company in Connecticut, commonly known as M7 (registered as Transportation General Inc as well as Fairfield County Transportation LLC), has partnered in the past with transit districts in the state to access USDOT New Freedom funds and FTA funds to provide subsidized taxi services for persons with disabilities and/or seniors through the New Freedom Taxi Voucher Fund program. The New Freedom program no longer exists, and today the state's taxi voucher programs are funded by the Federal Transit Authority's Section 5310. An example of a 5310-funded program is called the Encompass Program. It is a partnership between M7 and the Greater Hartford Transit District that offers \$5 rides to seniors and/or people with disabilities for any reason, any time.

1.2.5 Connecticut's Current Legislation Regarding persons with Disabilities and Vehicles for Hire

At the time of this writing, Connecticut's statutes in Section 13b addressing transportation mention people with disabilities in only 6 areas of the law:

- Items 13b-4a and 4c address the ability of the commissioner to certify transportation programs for the elderly or people with disabilities, whether non-profit or otherwise. This relates to the funding of shuttle services provided by local council on aging and similar services.
- Item 13b-105, applies to the ability of the DOT to provide permits to livery services dedicated to the transportation of persons with disabilities.
- Item 13b-96(c) allows wheelchair accessible vehicles in compliance with the ADA and DMV registration to be used to provide taxicab service for people needing wheelchair accessibility.
- Item 13b-118(c) requires TNCs to have a policy of non-discrimination, including discrimination against those with disabilities, when providing a ride, and to notify their drivers of such policy.
- Item 13b-119(f) prohibits a TNC driver from imposing additional charges for those with disabilities based on their disability.

The law also mentions Wheelchair Accessible Vehicles in two sections:

¹⁷ "Wheelchair-accessible Uber service comes to D.C. and five other cities, expanding mobility options for people with disabilities" Faiz Siddiqui, Washington Post, Nov. 20, 2018. Retrieved at: <https://www.washingtonpost.com/transportation/2018/11/20/uber-launches-wheelchair-accessible-service-dc-five-other-cities/>

- In 13b-118(d) the law requires a TNC to provide a potential “rider with an opportunity to indicate whether such rider requires a transportation network company vehicle that is accessible by wheelchair.” If the company itself cannot arrange a WAV ride, it is required to “direct” the rider to an alternate provider, “if available.” Notably, the following section (13b-118(e)) requires the same companies to keep a record of all prearranged rides for a certain time period, but does not specify the provision of WAV request data whether the subsequent ride was provided or not provided.
- In 14-100a(e)(1) and (2), the law requires that WAVs have the proper safety devices to secure wheelchairs in place on lifts and in the vehicle.

While some of the statutes above help extend aspects of the federal anti-discrimination law (42 U.S.C. § 12184) and the ADA (USDOT’s Section 49 C.F.R. §§ 37.1 to .215) to TNCs (which is unclear in federal law), there is nothing in Connecticut legislation that requires taxis, livery, or TNCs to provide service to those who require WAVs.

1.3 Context of the Taxi, TNC, and Livery Industries

When considering legislative and/or regulatory changes to the taxi, livery, and TNC industry, it is important to consider the broader regulatory and economic context of the vehicle for hire industry and its existing regulatory framework.

The legislation that commissioned this report bundled these three business models of taxi, livery and TNC services together to solve a problem that is common to all three. This is a very logical approach, since all three compete in the same product market—providing rides for people in low-capacity motor vehicles from point A to point B. In law and regulations however, TNCs and taxis are rarely treated the same. Despite this, taxi companies and TNCs are becoming even more similar—taxis now have apps, and TNCs now allow riders to plan trips days ahead of time—just as taxis and livery have traditionally done. There are even services here in Connecticut, such as GoGo Grandparent, which provides a phone number that people can use as an alternative way to request an Uber or Lyft ride.

Across the U.S., taxi and livery operators are traditionally regulated by cities, whereas most states, including Connecticut, have generally assumed regulatory control over TNCs. In Connecticut, the state regulates taxi and livery services, but TNCs for the most part are treated entirely different than taxis and livery services.

It could be said that this disparity is a happenstance of history, given how each method of providing rides was introduced. But it translates into significantly different regulatory burdens that, repeated across the world, have contributed to the unparalleled growth of TNCs Uber and Lyft. Both are now international entities with powerful political influence that in part derives from their unique ability to mobilize thousands of drivers and customers through its web app (a practice becoming known as “clicktivism”).

It is also clear that, through their tactic of using prices lower than their true costs, these companies are vying to become global monopolies by creating a “network effect” that insulates them from

serious competition. Their global reach (in the case of Uber) and massive financial backing provide the largest TNCs (Uber and Lyft) with significant competitive advantages over locally owned Connecticut taxi and livery companies.

Uber and Lyft are not the only TNCs operating in the state. San Diego-based Veyo is regulated as a TNC due to its similar operations and business model to that of the larger companies Uber and Lyft. However, they do not compete directly in the same market with taxi companies in Connecticut. In Connecticut, Veyo specializes in Non-Emergency Medical Transportation (NEMT), and often contracts directly to taxi companies for WAV services as well employing independent contractors in its NEMT business to address spikes in demand, as will be addressed in the NEMT section of this report. There are a number of small TNC startups as well, with a small following.

1.3.1 Regulatory disparities between TNCs and their competitors

The story of taxi and livery being put at a competitive disadvantage to TNCs by regulatory differences is not a revelatory or new fact. Unfair competition has been the focus of many class action lawsuits from taxi companies against Uber (the world's largest TNC serving 63 countries) for nearly a decade, many avidly reported by the mainstream media. Sometimes those lawsuits have also included the smaller global competitor Lyft (serving the United States and Canada). As Uber expanded to many of the world's major cities, they became well known for flouting many local regulations that applied to other traditional vehicle for hire services such as taxis—often ignoring cease and desist orders from the municipalities they operated in. A lawsuit was filed by a number of taxi and livery services when TNCs first came to Connecticut in 2014. The suit claimed that Uber and Lyft “cut corners illegally and [undermined] critical safety provisions of Connecticut taxi and livery laws.”¹⁸ In many states, including Connecticut, laws were created that exempted cities from regulating TNCs. The following summarizes how vehicles for hire are typically regulated in relation to five aspects:

- Number of vehicles allowed in a municipality
- Fares
- Health and safety (with regard to drivers and also to vehicles)
- Protecting drivers (labor)
- Universal services (anti-discrimination)

Livery services are diverse, including several different types of specialization. These services do not always directly compete with taxis or TNCs, but when compared to the time-cost or financial cost of each individual regulation that applies to taxi and livery services or TNCs (as shown in Table 1-1), it is clear that TNCs have a significant competitive advantage based on regulations alone.

¹⁸ Connecticut Office of Legislative Research Report 2014-R-0173, June 19, 2014

Final Report

Taxi and TNC Service Levels for Individuals with Disabilities Study

Connecticut Department of Transportation

Table 1-1: Regulation Disparities and Their Comparative Time/Cost Advantage, or Disadvantage, for Vehicle for Hire Businesses

	Taxi	Livery	TNC
Legal ways to hail rides	Street hail, pre-arrangement, sometimes from mobile app	Pre-arrangement, sometimes from mobile app	Pre-arrangement from mobile app
Cash accepted at time of ride	Yes	Not allowed	Not allowed
Ability to compete on fares	Tiered pricing only allowed for certain pre-determined events, dates, and times. Fares regulated with commissioner approval based on tariff that specifies per mile and time rates, after a public hearing.	Tiered pricing only allowed for certain pre-determined events, dates, and times. Fares regulated with commissioner approval based on a self-submitted tariff that specifies per mile and time rates.	Unregulated-Allows for surge pricing (during disasters this is limited to 2.5 times the usual price). Data that determines the usual price, or shares with the state pricing for each ride, is not currently available from TNCs.
Licensing Caps (# of vehicles allowed)	Limited-- no certificate holder shall operate a number of taxicabs greater than the number authorized in their certificate, in the territories contained in their certificate, which also regulates vehicles per territory. Expansion by more than one taxicab every two years requires a public hearing and a significant application process.	Limited—No permit holder shall operate a number of vehicles in excess of the number contained in their permit. In general, expansion by more than two vehicles every calendar year requires a public hearing and a significant application process.	Unlimited
Commercial Insurance	Commercial auto insurance at all times, in the amount of \$100,000 or more (or as specified by C.G.S. Chapter 246, Section 14-29).	Commercial auto insurance at all times, coverage amount not specified	Requires minimum insurance for drivers on the network without passengers (\$50,000 for personal injury to or death of one person per accident), and higher coverage for drivers with riders (\$1 million per accident for personal injury, death, and any property damage).
Driver Approval Process	Must receive "F" endorsement from the Department of Motor Vehicles which includes national criminal history, national sex offender check, Department of Children and Families check for perpetrators of child abuse and neglect, medical exam, fill out application for public passenger endorsement. Recent law includes provision for drivers to begin work for 90 days before receiving an "F" endorsement. Operator must check driver's driving record each year. Drivers are not allowed to work more than 12 hours in one shift or 16 hours in a 24-hour period.	Must receive "F" endorsement from the Department of Motor Vehicles which includes national criminal history, national sex offender check, Department of Children and Families check for perpetrators of child abuse and neglect, medical exam, fill out application for public passenger endorsement. Recent law includes provision for drivers to begin work for 90 days before receiving an "F" endorsement. Operator must check driver's driving record each year. Drivers are not allowed to work more than 12 hours in one shift or 16 hours in a 24-hour period.	No state endorsement required. Requires TNC to perform a national criminal history and national sex offender registry background check, or, an FBI and CT SPBI fingerprint check, once every three years. Drivers cannot participate in TNCs if convicted of a felony or other serious crime in the last 7 years or is included on the sex offender registry or is younger than 19. Also, strict drug and alcohol policy, and restriction that limits drivers to working no more than 12 hours in one shift or 16 hours in a 24-hour period.
Safety of vehicle	State inspection and approval for every vehicle put into service. Certificate holders must inspect each taxicab every three months and maintain a written record for two years. Vehicles no older than 10 years.	State inspection and approval for the majority of vehicles put into service. Permit holders must maintain vehicles in good condition, and maintain a written record for two years. Certain modified vehicles and bus type vehicles need re-inspection every two years.	Drivers must obtain a 14-point vehicle safety certification every two years.
Provision of infrastructure	A taxi company in good standing has access to taxi stands at transit stations, hotels, and other significant gathering places, including Bradley Airport.	None	Designated TNC pickup areas at Bradley Airport.
Anti-discrimination	Prohibits discrimination against riders of any kind, including charging additional fares for people with disabilities.	Prohibits discrimination against riders of any kind, including charging additional fares for people with disabilities.	Prohibits discrimination against riders of any kind, including charging additional fares for people with disabilities.
Data	Each certificate holder must require each driver to keep a taxi trip record form that includes number of passengers, pick up time, trip origin and destination, drop time, and fares paid in cash or credit. Also includes driver name and license number, odometer readings, taxi plate number, gas and oil purchased, time and date driver shift began and ended, and total miles travelled. Record is in writing, not digital.	Each driver to keep a written taxi trip record form that includes number of passengers, pick up time, trip origin and destination, drop time, and fares paid in cash or credit. Also includes driver name, license number, odometer readings, taxi plate number, gas and oil purchased, time and date driver shift began and ended, and total miles travelled.	Requires TNC to maintain records of each ride for three years after it occurred. It does not define what information should be included in that record.
Vehicle flexibility limitation	Prohibits taxis and livery vehicles from being used as TNCs (which may limit any WAV contractor if they are considered a livery service).	Prohibits taxis and livery vehicles from being used as TNCs (which may limit any WAV contractor if they are considered a livery service).	Prohibits taxis and livery vehicles from being used at TNCs (which may limit any WAV contractor if they are considered a livery service). TNC vehicles may be used for other purposes including food delivery services such as "Uber Eats" or personal vehicle use by the owner
Operating authority	Taxis not allowed to transport passengers from an area outside their authorized territory to another area outside their authorized territory.	Statewide, and interstate where approved, Billing occurs from HQ location, regardless of pick up point.	Unlimited
Shared ride fares	Determined by commissioner approval	Determined by self-submitted tariff	Determined by TNC
Ability to use vehicles for other commercial purposes	Prohibited. Also requires permanent identification as a taxicab including a non-permanent dome light and standard markings. Markings regulation updates are currently pending in a rulemaking process as of the time of writing.	Prohibited.	Unlimited, often used for delivery such as "UberEats"
Vehicle design	Limited-- much have a door by each seat or a 14-inch wide aisle connecting rear seats. Wheel base must be equal to or greater than 105 inches, unless a hybrid.	Unlimited	Unlimited

Key:	Time/Cost Disadvantage	Neutral	Time/Cost Advantage
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1.3.2 Economic disparities between TNCs and their competitors

The North American reach of Lyft and the global reach of Uber also provide TNCs with significant competitive advantages. Both companies have not yet made a profit. Instead, their strategy is to increase their market share both of drivers and of riders in as many marketplaces as possible, based on the idea that each additional user or provider of their service increases the value of their service to others. This business strategy is known as a “network effect.” The classic example is the telephone. Once a person buys a telephone, they can’t help but improve the value of the phone network for others because they have increased the size of the overall network. Social networks such as Facebook and Twitter are based on a similar strategy, and when they are successful they form a strong barrier to outside competition.

Both Uber and Lyft compete to put in place a powerful network effect in the U.S. market, and neither can fully succeed with the other present. Lyft posted a \$2.6 Billion loss in 2019,¹⁹ and Uber lost \$8.5 billion²⁰ in the same year, but both companies are backed in their approach by well-funded investors. Lyft has raised \$5.1 billion from investors and was valued at \$15.1 billion in February 2020, and Uber has raised \$24.5 billion and was valued at \$76 billion in February 2020.²¹ The current COVID-19 crisis has caused a deep decline in ridership for both companies, putting many drivers and corporate staff at the companies out of work. When the current crisis is over, however, their basic strategy and competitive edge over local companies will likely re-emerge.

Uber is not immune from competition from Lyft and vice versa, but smaller local Connecticut taxi and livery companies face a difficult task competing with these larger TNCs. Indicators include price and response time differences for customers (related to regulated fares and limits on drivers and vehicles), and utilization differences for drivers—which can make it difficult for taxi companies to compete for labor. Table 1-2 provides an accounting of just a handful of ways in which the size and reach of Uber and Lyft create protections against outside competition from traditional vehicle for hire companies.

¹⁹ “Lyft posts \$2.6B 2019 loss, keeps 4Q 2021 profit forecast,” Tom Krisher, February 11 2020, Associated Press

²⁰ “Uber lost \$8.5 billion in 2019, but it thinks it can become profitable by the end of 2020,” Andrew J. Hawkins, Feb 6, 2020, The Verge.

²¹ “Uber’s Biggest Investors,” Andrew Bloomenthal, updated April 16, 2020, Investopedia website, retrieved at: <https://www.investopedia.com/insights/ubers-top-investors/>

Table 1-2: Economic and Business Disparities between Taxi/Livery/TNC Businesses

	Taxicab	Livery	TNC
Horizontal Integration	Some consolidation within and between cities, less across state lines	Some national consolidation in certain specializations, such as WAV transportation (MV Transportation, Transit First)	Global consolidation for Uber/Lyft, less consolidated for other TNCs
Benefits of National Consolidation	N/A	For the limited number of livery services that are national, ability to serve national contracts, marketing	Lobbying, targeted marketing, Clicktivism*, better app development translates to quicker response times and easier payment,
Benefits of Global Consolidation	N/A	N/A	"Network effect" of global brand (e.g. travelers already in network, high number of drivers/high number of riders, etc.)
Vertical Integration	Drivers often independent contractors	Drivers can be employees or independent contractors depending on company and industry niche	Drivers all independent contractors for largest companies
Flexibility of labor force	Often full-time, dependent on driving for all income	Often full-time, dependent on driving for all income	Often part-time--sometimes with employee benefits at other jobs
Key:	Time/Cost Disadvantage	Neutral	Time/Cost Advantage

In addition to these larger competitive dynamics, it has also been observed that in some markets the larger TNCs have much higher utilization rates (idle time for San Francisco TNC drivers was observed as 1 minute vs. 10 minutes for traditional taxi drivers).²²

1.3.3 Approaches to levelling the playing field and encouraging competition

It is outside of the scope of this report to delve deeply into solutions for the broader disparities between traditional vehicle for hire models and TNCs, but in summary there are many approaches that are taken around the country and the world to help correct the imbalance. There have been regulatory, legislative, and legal attempts to increase regulations on TNCs, and in some instances they have succeeded. Most states now have anti-discrimination laws that apply to TNCs, and where they don't exist in the U.S., TNCs typically encourage their drivers to follow their intent.

²² Jiang, Shad; Chen, le; Mislove, Alan; and Wilson, Christo 2018 "On Ridesharing Competition and Accessibility: Evidence from Uber, Lyft, and Taxi" WWW '18: Proceedings of the 2018 World Wide Web Conference, April 2018, Pages 863–872

Regarding insurance for collisions, early attempts to require commercial insurance for TNCs in California has resulted in a partnership between insurance companies and Uber and Lyft to provide a higher level of insurance in most states—though not as high a level as what is often required for taxi companies. In Connecticut, taxis are required to have \$100,000 in insurance, while TNC drivers do not have a specific commercial requirement. Driver background checks is another area where progress has been made, though often still not to the degree that it is equivalent. In Connecticut for example, TNCs are required to perform driver background checks, but taxi drivers must acquire an “F” endorsement through the state—wading through a higher amount of bureaucracy including a similar background check as well as a medical examination.

On the other hand, TNCs have used their considerable resources to fight any reclassification of its drivers from the category of independent contractor, and they have also resisted being classified as a transportation company in numerous court cases. In smaller markets, TNCs have been able to pressure municipalities by threatening to depart or through their “clicktivism” organizing power. However, in larger markets including cities such as New York, Chicago, and San Francisco, municipalities have won considerable concessions including acquiring rich data troves from the companies. Some states, including Massachusetts, have increased fees on TNC rides and requested more data from them as well.

Another approach to levelling the playing field that may face less political resistance is the deregulation of the taxi and livery industries. In the U.S., concerns about congestion, have limited raising caps on taxi licenses (despite some of that congestion being tied to increasing TNC rides), and enduring concerns about unfair fares for street hail customers have prevented deregulation of fares. However, in our technology-rich times there may be solutions to explore in these areas that would garner public support.

2 Existing Conditions

2.1 Introduction and Context

In order to provide a baseline for determining options for achieving substantial equivalency of Taxi/Livery/TNC service for persons with disabilities, the existing state of service was determined. This effort built on the work conducted within the literature review and TNC/Taxi/Livery context provided in Section 1. Through a series of interviews with Connecticut government officials, disability rights advocates, Taxi/TNC/Livery companies, and drivers, a general understanding of the industry was developed. Taxi trip log data was also obtained to help inform the process. A survey of advocates in the disability community was also conducted, and a summary of the results is included in Appendix A. Survey takers included mobility managers and disability service providers. These “advocates” were asked to speak to the needs and experiences of the persons they represent. Where possible, quantitative data was obtained from interview sources to bolster and further illuminate the insights gained through the interview process. Data was also sourced from Connecticut government agencies and reports, including the CTDOT Regulatory Compliance Unit.

2.1.1 Prevalence of Persons with a Disability in Connecticut

As per research using Census data conducted by the New England ADA Center, 26% of Connecticut residents over age 18 live with a disability, and 15% with a significant disability.²³ 5.1% of residents reported using a cane, crutches, or walker, and 1.4% of respondents reported using a wheelchair.

2.1.2 WAV Production/Consumption in the US

Given the large share of persons living with a disability in the United States, wheelchair accessible vehicles are produced for both the personal market (purchased by those who need a WAV) as well as for the for-hire-vehicle market. Vehicles may be either factory built to allow access to a driver in a wheelchair or to wheelchair passenger, or they may be converted non-WAV vehicles. However, while WAV vehicles are on the market and the road, the Bureau of Transportation Statistics did find that persons with disabilities are less likely to own or have access to a vehicle than the general population, and 23% of non-workers with disabilities live in zero-vehicle household, and 12% of workers with disabilities live in zero-vehicle households.²⁴ Accurate estimates of the number of WAV on the road in the US were difficult to obtain, with total numbers estimated at 383,000 in 1997²⁵, and production of

²³ New England ADA Center, 2019 “Data on Disability in States, Cities and Sub-Groups in New England” Available at: <https://ne-ada.s3.amazonaws.com/Data+on+Disability+in+States+Cities+and+Sub-Groups+in+New+England+04.12.19.pdf>

²⁴Bureau of Transportation Statistics, 2019 “Travel Patterns of American Adults with Disabilities.” Available at: <https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities>

²⁵ <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/adaptedisability.pdf>

15,000 vehicles per year in 2013, at which point only 3.5% of wheelchair users were reported to own a WAV²⁶.

2.2 WAV Fleet Availability in Connecticut

There is no comprehensive data on the number of WAVs in the taxi, livery, and TNC fleets in Connecticut. WAV numbers in taxi fleets vary, from no vehicles to 50% for one company that has invested heavily. WAVs make up a small portion of vehicles for most taxi/livery companies interviewed. Taxi fleets with high numbers of WAVs do not necessarily use these vehicles solely for dispatched taxi service, they are also commonly used for private contracts with hospitals or other organizations, and some are also used as subcontracted service to Veyo NEMT. Livery services also own WAVs in Connecticut and provide subcontracted service to Veyo NEMT. At least one company with a smaller fleet reported that it was difficult to provide WAV service in their taxi fleet late at night, when demand for service was much lower.

Representatives from TNCs Uber and Lyft could not identify any of the vehicles using their apps as wheelchair accessible. Under Connecticut's TNC legislation, TNCs must allow customers to indicate their need for a WAV and provide a means of connecting the customer to a WAV provider if the TNC does not provide WAV service. In Connecticut, during the development of this report it was found that both Uber and Lyft did not allow the customer to indicate their need, and instead simply provided a link on their websites to direct people who need WAVs to local livery services. In response to this finding, the CTDOT requested proof that this functionality was in operation, which resulted in both Uber and Lyft integrating the ability for customers to choose WAVs on their apps, even if this often meant being redirected to the same list of livery services when WAVs were unavailable. This ability to indicate the need for WAVs creates a potential data resource, even if the TNC ultimately refers the passenger to another service.

2.3 Number of Requests for WAV rides in Connecticut

Data on WAV requests for taxi, livery, and TNCs data was requested from each of the interviewees. Limited data was received from taxi and livery companies, and no quantitative data was received from TNCs as to the number of customers using provided links to WAV providers (though state law requires TNCs to allow customers to "indicate" their need for such a service and CTDOT is pursuing data-sharing agreements with both companies). Of the taxi/livery data received, the following estimate of WAV trips was determined:

- For a company that only provides WAV trips on a pre-arranged basis due to lack of vehicles, 13% of total trips were WAV trips. Of the WAV trips, only 2% were paid for directly by the rider, with the other 98% being paid for by Veyo or another source (19% were self-paid for non-WAV trips for the same company);

²⁶ Chappell, Lindsay, April 8, 2013 "Wheelchair van makers see growth." *Automotive News*. Available at: <https://www.autonews.com/article/20130408/RETAIL03/304089975/wheelchair-van-makers-see-growth>

- For a company that provides the majority of their WAV trips through accounts (as opposed to rider-paid), for non-account trips, WAV trips comprised approximately 3% of their total trips provided.

For context, one TNC that does operate a WAV service outside of Connecticut indicated that demand for WAV services was between 0.5% and 2% of their total demand.

Of note is that during the interview process, advocates and taxi/livery company owners did state that for some customers with disabilities, the normal cost of taxi trips was prohibitive and as such, WAV use was generally helped by subsidized programs such as Veyo or New Freedom Program vouchers; this pre-ponderance of subsidized fares was noted in the funding source for taxi/livery trips. As such, there would likely be greater demand for WAV trips if general taxi prices were lower. It should also be noted some of the advocates interviewed stressed the importance of certain trips, such as airport access, as essential at any cost.

As per the American Community Survey, taxi (non-WAV and WAV) trips were 0.1% of all commute trips by workers in Connecticut,²⁷ though most workers do not utilize taxis for commuting purposes for cost reasons. Nationally, 0.5% of trips in the National Household Travel Survey were provided by taxi, livery, or TNC providers.²⁸

Persons with a disability currently use multiple service providers including taxis, livery vehicles, and TNCs (for those who have a disability but do not require a WAV). The advocate survey indicated that 45% of individuals represented by the survey respondents utilized taxi services, 36% used TNC companies, and 23% used livery services (percentages sum to greater than 100% as respondents use multiple ride provider types).

2.4 Connecticut Requirements for Taxi/TNC/Livery equivalency for WAV access

As discussed previously, Connecticut does not require any level of equivalency between WAV and non-WAV service (where available) for any of the vehicle-for-hire types discussed herein. For TNC companies, Connecticut law requires that TNCs provide a “rider with an opportunity to indicate whether such rider requires a transportation network company vehicle that is accessible by wheelchair,” and if unable to provide a vehicle, direct them to an alternate provider “if available²⁹.” In practice, TNCs currently direct persons indicating a WAV need to a webpage providing a list of taxi/livery companies providing WAV service statewide.

²⁷ U.S. Census Bureau, “American Community Survey 2012-2016 Five-year estimates. Special Tabulation: Census Transportation Planning.”

²⁸ USDOT Federal Highway Administration 2017, “2017 National Household Travel Survey”

²⁹ Connecticut Statute Section 13b-118 4d

2.5 Connecticut WAV acquisition program

Until recently the Connecticut Department of Transportation did administer a federal program wherein taxi companies could partner with transit districts to receive funding for the acquisition of WAV taxis (sometimes referred to as Wheelchair Accessible Taxis (WAT)). The funding was derived from the Federal Transit Administration (FTA), however the Fixing America's Surface Transportation Act (FAST Act) in 2015 changed the definition of "shared" transportation services, thus disqualifying taxis.

Before this change, four of the State's taxi companies did take advantage of this program. The last vehicles were purchased in 2013, according to CTDOT staff, which means they must by regulation end their service in 2023 at the latest. A few of the companies interviewed expressed the need for assistance to buy more WAVs, which can cost up to 50% more than conventional taxi vehicles.

2.6 Typical Fare differences—TNC – Livery – Taxi

There is no difference in fares between WAV and normal service for taxi companies, though some differences in WAV vs. non-WAV price do exist in the livery market. Taxi fares within the service area of a taxi company are regulated by CTDOT. TNC companies do not currently provide WAV service in Connecticut. However, because TNC companies direct WAV passengers to taxi companies, there is a difference in fare equivalency between a TNC trip and a WAV taxi trip referred by a TNC. In general, TNC trips tend to be much less expensive than the regulated CTDOT fares for taxis on the whole, though TNC trips are subject to surge pricing (rapid fluctuations in price). TNC fares are not regulated by CTDOT. Sample fares for taxis and TNCs were determined for 20 representative routes in Connecticut and are shown in Table 2-1. TNC fares and wait times were requested on a weekday in November 2020, outside of the prime rush hours. Fares would likely be higher during rush hour or busy times. It is unknown what effect the COVID-19 pandemic has had on fares.

Final Report

Taxi and TNC Service Levels for Individuals with Disabilities Study

Connecticut Department of Transportation

Table 2-1: Taxi and TNC Fares for Twenty Representative Routes in Connecticut

Origin	Destination	Distance (mi)	County/Part of State	Taxicab Company		TNC					
						Uber			Lyft		
				Cost	Fare Type Applied (A)	Min (B)	Max (B)	Wait Time (C)	Min (B)	Max (B)	Wait Time (C)
Middletown	Durham	6.4	Hartford Area	\$18.32	Fare Card	\$11.90		3	\$15.99		16
Hartford	Manchester	9.8	Hartford Area	\$29.45	Fare Card	\$17.00	\$21.00	12	\$18.00	\$21.00	8
Bradley Airport	Hartford	15	Hartford Area	\$36.00	Airport	\$23.00	\$29.00	16	\$24.00	\$28.00	5
Willimantic	Brooklyn	16.4	Northeast	\$47.29 / \$49.20	Fare Card / Flat Fare	\$23.63		17	\$27.23		No Car
Putnam	Danielson	9.6	Northeast	\$28.91	Fare Card	\$17.08		10	\$20.05		No Car
Somers	Strafford Springs	8.2	Northeast	\$25.13	Fare Card	\$16.95		17	\$17.30		22
Pomfret	South Woodstock	3.1	Northeast	\$11.35	Fare Card	\$12.90		19	\$10.39		No Car
Torrington	Thomaston (D)	10.8	Northwest	\$28.88	Fare Card	\$17.00	\$21.00	4	\$19.56		8
Bristol	Torrington	17.5	Northwest	\$50.26 / \$52.5	Fare Card / Flat Fare	\$22.97		13	\$28.00	\$33.00	No Car
Sharon	Lakeville	6.8	Northwest	\$19.28	Fare Card	\$13.75		No Car	\$16.29		No Car
Cornwall	Goshen	6.5	Northwest	\$18.56	Fare Card	\$11.98		No Car	\$17.45		No Car
New London	Mystic	9.1	Southeast	\$24.80	Fare Card	\$16.00	\$20.00	4	\$17.00	\$19.00	5
Groton	New London	4.2	Southeast	\$13.04	Fare Card	\$11.00	\$13.00	3	\$11.00	\$13.00	5
Uncasville	Gales Ferry	10.9	Southeast	\$29.12	Fare Card	\$13.75		9	\$19.00	\$22.00	13
Ledyard	North Stonington	9.1	Southeast	\$24.80	Fare Card	\$16.11		10	\$18.35		14
New Haven	Branford	7.7	Southwest	\$23.78	Fare Card	\$15.00	\$18.00	4	\$16.00	\$18.00	6
Danbury	New Fairfield	5.8	Southwest	\$16.88	Fare Card	\$12.48		8	\$15.36		6
Stamford	Bridgeport	22.5	Southwest	\$70.72 / \$67.50	Fare Card / Flat Fare	\$33.00	\$43.00	2	\$36.00	\$42.00	8
New Haven	Milford	11.7	Southwest	\$34.59	Fare Card	\$20.00	\$25.00	4	\$21.00	\$24.00	6
Redding	Easton	7.7	Southwest	\$21.44	Fare Card	\$16.40		18	\$17.42		22

Notes: (A) CTDOT Regulated Fares for trips under 15 mi or airport trip. For trips greater than 15 mi, fare card and flat fare are both shown (\$3.00 per mile flat fare assumed, research showed fares between \$2.75 and \$3.00 per mile).

(B) For TNC companies, estimated fares are provided, but fares may increase due to surge pricing

(C) TNC apps provide estimates even if no drivers are in the area. It is likely that no vehicles are available in this area at most times. Anecdotally, wait times are optimistic projections to entice riders.

(D) No taxi company is licensed to operate in Thomaston, though companies can pick up there for trips to other territories

2.7 Geographies

2.7.1 TNC Service Areas

TNCs are licensed to operate anywhere in the state of Connecticut as per their TNC licenses. Both Uber and Lyft state that they provide service statewide in Connecticut, but also say that response times and service are dependent on driver availability. Drivers are independent contractors and can work when and where they wish, though the TNC companies do incentivize contractors to drive at specific times and locations through the fare structure as well as through bonuses (surge pricing is a means of incentivizing drivers to congregate in a busy area). Many TNC drivers drive for more than one TNC company. Nationally, Uber has the largest market share of any TNC, and it is assumed that this is also the case in Connecticut. Table 2-1 shows that no drivers were available to provide Lyft rides for 5 of the 20 representative routes, all in the northeast and northwest parts of the state. Uber was unable to provide rides for 2 of the routes, both in the northwest part of the state, both of which were also unserved by Lyft. Wait times vary throughout the state depending on driver availability and tend to be lowest in urban areas with higher population densities where TNC drivers congregate.

2.7.2 Taxi Service Areas

Taxi companies are licensed to operate set numbers of taxis in specific towns throughout the state, with each company having a headquarters town where they are based. CTDOT regulates the number of authorized taxis (plates) per town, though not all companies operate their full complement of cabs (as indicated by the number of plates issued). Table 2-2 shows the number of companies with headquarters in each county, as well as the number of plates issued (vehicles available to be on the road) per county. Of note, is that taxi companies headquartered in one county are often authorized to operate in towns in other counties, as is the case in Litchfield County where companies based in Hartford County operate in Litchfield County. There are a number of towns for which no taxicabs plates are issued, with many of these cases found in Litchfield County, as shown in Table 2-3. In general, taxicab availability tracks with population density in the state, with the smaller numbers of taxicabs in rural areas. Northeastern and Northwestern Connecticut have the sparsest taxi and TNC service in the state, and this was emphasized by the disability advocates groups and mobility access organizations interviewed for this study.

Table 2-2: Taxicabs by County of HQ Town

County of HQ Town	Count of Companies	Count of Plates Issued
Fairfield	20	200
Hartford	38	123
Litchfield	1	2
Middlesex	4	28
New Haven	29	285
New London	8	71
Tolland	3	26
Windham	1	4

Table 2-3: Towns with No Authorized Taxicabs

Town	County
Easton	Fairfield
New Fairfield	Fairfield
Sherman	Fairfield
East Granby	Hartford
Hartland	Hartford
Bridgewater	Litchfield
Colebrook	Litchfield
Harwinton	Litchfield
Litchfield	Litchfield
New Hartford	Litchfield
Norfolk	Litchfield
North Canaan	Litchfield
Plymouth	Litchfield
Thomaston	Litchfield
Winchester	Litchfield
Killingworth	Middlesex
Bethany	New Haven
Prospect	New Haven
Lyme	New London
Old Lyme	New London
Union	Tolland

2.7.3 Livery Service Areas

Livery services are allowed to provide rides anywhere in the state, however, most operate in defined geographic areas around their home base.

2.8 Response times

CTDOT does not collect data on response time for taxi, livery, or TNC trips, and no comprehensive source of response time data exists across the three types of trip providers. Interviewees were asked to share data where possible. For some taxi/livery companies, WAV service is only provided for pre-arranged rides due to limited availability of WAV. One taxi company that does provide on-demand WAV trips reported that 77% of WAV trips arrived within 30 minutes of booking (as opposed to 94% for non-WAV trips), and that this rate was considered very good for non-reservation trips for WAV (as opposed to paratransit or taxi/livery service requiring advance booking). Discussions with advocates indicated that response times for WAV tend to be much longer than those for non-WAV.

It is unknown what effect the COVID-19 pandemic has had on response times. Many of the taxi company owners reported a reduced number of cabs on the road to better match existing rider demand during the pandemic.

2.9 Time of Service

CTDOT regulates the hours of service for taxis, but not livery services or TNC companies. In order to qualify to cover a certain geography, a taxi company is required to operate 24 hours a day, though the number of cabs on the road may vary. In the taxi industry it is not uncommon for a single cab to be driven for most of the 24 hours in a day by multiple drivers on a shift schedule in order to maximize the time the vehicle is on the road (this is far less common for TNCs, where individual drivers generally own or lease their vehicles). In general, demand for taxi, livery, and TNC service overnight is lower than during the day. As discovered through the literature review and interview process, in urban areas, TNCs have taken a large part of the market for late-night service from taxi companies, and TNC marketing has focused on the post-bar trip as a lucrative market. Generally, taxi companies do not keep records of how often they are unable to provide a WAV trip by time of day, and as such it was not possible to determine whether demand for WAV is not served during certain times of day.

Anecdotally, one taxi company did indicate that demand for WAV tended to be lower during the overnight hours, which might result in taxi fleets using non-WAV for overnight service unless a WAV trip had been pre-arranged. Other companies also referenced a reduction in their business serving nightlife activities. A couple of taxi companies did indicate that their WAV vehicles (converted Nissan NV-200s, and Mobility Ventures MV-1s in these instances) work very well for both ambulatory and wheelchair customers, and as such they use the vehicles to serve ambulatory and wheelchair trips interchangeably depending on demand.

2.10 Ride Access Methods

For both WAV and non-WAV trips, depending on the company, trips may be requested on-demand or booked in advance. Taxi and livery companies historically were booked by telephone or in-person at transit hubs and airports but have begun to add proprietary apps or web-booking portals as TNCs have gained market share. TNCs only provide trips via their own proprietary apps.

These differences in access methods between taxi, livery, and TNC companies impact different types of riders in different ways, especially for riders with visual or auditory disabilities who may have difficulties accessing a particular access method. Ride access methods for the largest taxi companies in Connecticut and the major TNCs are shown in Table 2-4 to indicate the range of options available to customers.

Table 2-4: Ride Access Methods for Selected Taxi, Livery, and TNC Companies in Connecticut

Company	DBA	Type	Method			Type of Dispatch	
			Phone	App	Web	On-Demand	Pre-Scheduled
Uber		TNC		Yes		Yes	Yes
Lyft		TNC		Yes		Yes	Yes
Veyo		NEMT	Yes			Yes	Yes
Transportation General, Inc / Fairfield County Transportation	M7	Taxi	Yes	Yes	Yes	Yes	Yes
Casino Cab Co. Inc	Yellow Cab Co	Taxi	Yes	Yes		Yes	Yes
Suburban Transportation Inc.	Valley Cab	Taxi	Yes	Yes	Yes	2 Hour Lead Time for WAV	Yes
Greenwich Taxi Inc.		Taxi	Yes		Yes	Yes	Yes
Stamford Yellow Cab, Inc.	Eveready Stamford	Taxi	Yes			Yes	Yes
Norwich Taxi LLC		Taxi	Yes			Yes	Yes
Ace Taxi Service / East Hartford Cab Co	Ace Taxi	Taxi	Yes	Yes	Yes	Yes	Yes
Executive 2000 Transportation, LLC		Taxi/Livery	Yes		Yes	Non-WAV Only	Yes
Norwalk Taxi Inc.		Taxi	Yes		Yes	Yes	Yes
Della Famiglia Inc.	Stamford Taxi	Taxi	Yes			Yes	Yes

Note: Data on WAV Availability is noted where known, but not all companies on this list provide WAV. Time to pick-up for On-Demand services varies with driver availability

2.10.1 Cross-platform trip planning apps

Currently there are many competing multi-modal trip planning apps operating in Connecticut, such as Transit App, Moovit, and Citymapper. These apps also operate in other locations around the world, offering familiarity to their users even when they are in a different location. There are also many leading navigation apps that are beginning to provide transit functionality, including Google Maps and Apple Maps. This is a highly competitive space with significant private funding and these services are constantly growing their reach and functionality.

One of the leaders in this field, for instance, is Transit App. The Transit App currently incorporates real-time data from all CTTransit operations except Meriden, as well as Metro-North Railroad, Greater Bridgeport Transit, Norwalk Transit, and Westport Transit. Bus and train arrival times are incorporated into trip planning so that travelers can compare them to other types of transportation. They also allow people to hail an Uber or Lyft via the same app in addition to comparing a “taxi” trip that is not associated with a particular company. It also compares the time and cost of driving a personal car, walking, or biking. The user of the app enters their origin and destination and several options, including their costs and time durations are provided in an extremely simple and user-friendly interface. Transit App’s competitor Moovit, with similar functionality, has also made its trip-planning app accessible to users who are blind.

Another related type of app is Curb, which offers comparisons between the cost and duration of multiple participating cab companies (varies by market) and TNCs like Uber and Lyft.

One fault of these apps is that they often do not include the ability to hail rides from local taxi companies with the push of a button, and that extends to WAV service which is available from some but not all taxi companies. While this is a critical fault, the ultimate goal of connecting people with disabilities to ride services might be met in other ways, and the barriers to creating an app that would be useful to those using taxis and/or WAV taxis in Connecticut may outnumber such an app’s benefits. Some of the challenges would include:

- Complexity of trip planning across multiple modes and the entire state, including dozens of private companies and transit agencies
- Diversity of sophistication of many smaller taxi companies, which would likely mean only larger companies would/could participate, but also complicating dispatch and payment
- Challenge of creating an app that is accessible
- Continuing maintenance costs (app updates, data sourcing issues, security)
- Competition from the private sector, including:
 - Apps of participating local companies, such as that of M7
 - Global-scale trip planning apps, such as Transit App, Moovit, and Citymapper
 - National-scale taxi hailing apps such as Curb

Our search for an example of a statewide app in the country that includes access to multiple taxi companies and WAVs did not provide a result. While many transit agencies have created their own apps, many of these apps most often simply illustrate real-time bus and train locations, a far simpler task. Even these apps, it was found, are often created by private partners such as Transloc, who provide the real-time visualization of GPS data for a fee.

Our recommendation for connecting riders to WAV services is included in section 4.2.3 of this report. We also believe it is always advisable to explore partnerships or collaborations with leading apps in this space. Several transit agencies, including the MBTA in Massachusetts for instance, have partnered with and promoted the use of TransitApp.

2.11 Training Programs

Connecticut does not require any additional training or certification for WAV drivers as opposed to normal taxi/livery/TNC drivers. Per discussions with taxi/livery/TNC drivers, at the very least drivers are given on-the-job training in how to secure wheelchairs, while some operators do pay drivers to take formal classes on disability transport.

Non-WAV taxi, livery, and TNC drivers do routinely transport persons with non-ambulatory disabilities (hearing, vision, cognitive, etc.). Taxi and livery drivers generally do not receive training on interacting with customers with disabilities, and advocates reported that poor interactions with drivers unfamiliar with a range of disabilities is common for those with disabilities.

For NEMT drivers, there are specific credentials that must be maintained, and specific trainings mandated by the Centers for Medicare and Medicaid Services (CMS).

In discussions with advocates, many stated that members of the disability community often encounter issues with taxi, livery, and TNC drivers who are unfamiliar with who how to deal with persons with disabilities. There are two pieces to driver familiarity and training for WAV: 1) technical training to appropriately secure a wheelchair or mobility device and 2) cultural competency training to ensure customers with disabilities are treated with dignity and respect.

One training program mentioned by advocates, taxi companies, and a TNC was the Community Transportation Association of America (CTAA) Passenger Assistance, Safety, and Sensitivity (PASS) training class. This class costs \$50.00 per driver if conducted online, though CTAA highly recommends an in-person class which includes hands-on wheelchair securement training at \$500 per participant (or \$7,500 if a private workshop up to 16 persons).

2.12 Similar Services

2.12.1 Taxi Voucher Program

The Taxi Voucher Program (formerly funded by the New Freedom Program) provides a 50% discount for taxi fares for people with disabilities. The program is limited to taxi companies that work with a transit district or brokerage to administer the program. Funded through a Federal Transit Administration program administered by CTDOT, the program allows a rider to place funds in an account or to purchase scrip (company-specific vouchers) which is accepted by the transportation provider. Rider funds are matched dollar-for-dollar. Riders must be eligible for ADA paratransit in order to use the program. Some interviewees noted that in some geographies, only one taxi company was available to redeem the vouchers. While the advocates and mobility managers interviewed did appreciate the value of the taxi voucher program, they often complained that it is not available in all parts of the State.

2.12.2 Gogo Grandparent

GoGo Grandparent is a paid service that provides access to TNCs via telephone, as well as food delivery and store pickups. Targeted at older adults, it provides access to services that would otherwise require a smartphone to access.

2.12.3 Encompass Program

The Encompass Program is a new program launched in September 2020 in partnership between M7 and Greater Hartford Transit District that provides subsidized taxi trips to seniors and those with disabilities. Funded by the Federal Transit Administration, it is similar to the Taxi Voucher Program with applicants screened for eligibility prior to joining the program. Trips begin at \$5.00 for the first 8 miles travelled, with each additional mile charged at \$2.00 per mile.

3 Equivalency of Service for WAV

3.1 Fares

In Connecticut, fares are equivalent for WAV vs. non-WAV service for taxis, as well as for WAV used for TNC purposes (if a rider were to be assigned a WAV by chance, as it is not possible to request a TNC WAV in Connecticut). Livery services may charge different fares for different vehicle types, including WAV.

Of note is that TNC fares (non-WAV) tend to be lower than taxi and livery fares, a fact that was noted in the analysis of representative routes and fares presented in Table 2-1. This discrepancy is likely due to the lower regulatory burden faced by TNCs, and that TNC vehicles may not be driven by professional full-time drivers using dedicated for-hire-vehicles. As WAV service is only available from taxi and livery providers, riders who require for-hire WAV service are forced to utilize more expensive providers (taxi/livery) than those who do not require WAV (TNC). For WAV customers, choice of provider and control of attendant costs are limited as compared to non-WAV customers. While TNC companies do direct WAV customers from their apps to taxi/livery companies, the fare of the eventual taxi/livery trip arranged via a referral from a TNC app will almost always be more expensive than a trip for a non-WAV booked directly with the TNC provider.

Of 53 advocates in the disability community that were polled on WAV service in the state, 53% indicated that cost was a major challenge to access to transportation for the people with disabilities they represented. The Bureau of Transportation Statistics did find that on average, persons with a disability have significantly lower incomes than those without a disability.³⁰

3.2 TNC Shared/Pooled services Unavailability for WAV

TNC services provide multi-customer shared rides at a lower cost point, under service names such as “Uber Pool” or “Shared Rides.” These services match riders with similar routes, allowing one vehicle to pick up multiple parties with similar origins and destinations, allowing for a lower cost to the rider. These TNC shared ride services are not available to wheelchair customers, and they do not benefit from these cost discounts.

³⁰ Bureau of Transportation Statistics, 2019 “Travel Patterns of American Adults with Disabilities.” Available at: <https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities>

3.3 Geographic differences in availability by WAV vs. Non-WAV

As presented in Section 2.7, TNC companies are authorized to, and generally state that they do operate anywhere in the state, however in many remote geographies TNC vehicles may be unavailable. The areas where TNCs were found to be unavailable do overlap with areas with fewer taxi companies and smaller taxi fleets, especially in Litchfield, Windham, and Tolland counties. From a regulatory perspective, there is nothing to prevent TNCs/TNC drivers from increasing service in these areas, whereas there are a number of towns in the state for which no taxi company is authorized to operate in. The lack of both taxi and TNC service in these areas is more than likely due to limited demand for service and possibly a shortage of drivers in those areas.

The advocate survey did indicate that persons with disability on average found “access to WAV services” to be worse for TNC companies than taxi companies, with 59-64% of respondents finding TNC service to be poor, as compared to 38% finding taxi service to be poor, and 44% finding livery service to be poor. Only 8% of respondents found taxi service to be good, and 9% found livery service to be good. Of note is that TNC companies do not provide dedicated WAV service (which the question was specifically asking about), and as such it is difficult to discern whether respondents were referring to non-WAV TNC rides, or rating the access as “poor” because the companies do not provide WAV service.

3.4 Response Time and WAV Fleet Size

Only taxis and TNC companies provide on-demand service, livery service must be arranged in advance (though advance can be mere minutes before pickup depending on driver availability).

The fact that the majority of vehicles on the road (both personal and for-hire) are not wheelchair accessible means that not every vehicle can provide WAV service. If all taxi, livery, and TNC fleets were wheelchair accessible, there would be no difference in response time between wheelchair and ambulatory customers. However, as indicated in Sections 2.8 and 2.10, WAVs generally do not make up more than 25% of taxi fleets (one fleet reported 50%, but with most being used to service non-on-demand trips), and in most cases are a small percentage of vehicles, with many companies owning only a handful of WAVs or none. As such, response times for WAV taxi service tend to be longer than those for non-WAV service given that the total pool of vehicles available to provide service is smaller (a WAV can provide service to customers regardless of need for wheelchair access, while non-WAV are restricted to ambulatory passengers). As discussed, the one taxi company for which on-demand WAV data was received indicated that 77% of WAV trips arrived within 30 minutes, as opposed to 94% for non-WAV trips, and this was considered to be very good service within the industry, this was the company with WAVs making up 50% of their fleet. One possible reason for slower response times and lesser availability of WAV for taxi fleets that do own WAV is that many of the vehicles are also reportedly used under contracts to hospitals, other organizations, or to service the state’s contract for NEMT, which may leave fewer

vehicles or time slots available for on-demand WAV trips, however, this is uncertain. A lack of data made it difficult to ascertain how WAVs were actually deployed by the companies

An additional issue noted by one taxi company is that WAV demand as well as taxi demand generally is lower during overnight hours, and that it was costly to operate a WAV during off-peak hours. Advocates, however, stressed the need for equitable service at all times of day.

Long wait times for persons with disabilities was identified as a challenge to access by 87% of the advocate survey respondents, with 42% specifically identifying lack of available WAV in the service area as a challenge.

3.5 Vehicle Design

One of the topics focused on in stakeholder interviews for this study was vehicle design. This became a focus when one of initial advocates interviewed pointed out that a true equivalence of services was not fully possible—particularly when using the metric of response times—unless the number of WAVs on the road was equal to the total number of vehicles available. In subsequent interviews the grand majority of stakeholders across the spectrum of participants agreed with this simple logic, and they shared several related details:

- Preferred vehicles included:
 - MV-1 (no longer available new, but still traded on the used market. Production ceased in 2016, meaning they are legal to use as taxis in Connecticut until 2024).
 - Toyota Sienna (conversion required)
 - Dodge Caravan (conversion required)
- TNC staff said that demand for WAV ride services available to the general public was between 0.5 and 2 percent of total demand for rides. This demand, they said, varied considerably by market.
- TNC staff noted that the viability of contracting local companies is possible, and active in the Austin, Houston, and Los Angeles markets, but is sometimes fraught by the availability of WAVs in those local companies, particularly at particular times when demand for NEMT on those companies other contracts was high.

The following sections detail the three vehicles identified as particularly effective in the provision of wheelchair accessibility.

3.5.1 The MV-1

Manufacturer: Mobility Ventures
Price: \$50,000 - \$58,000 (2016)

In particular, the MV-1 vehicle, which is no longer manufactured today, bears some discussion in this report's mission to explore equivalency, as it was hoped by many that it would provide an avenue to true equivalency of taxi fleets in the U.S. When it was manufactured, it was the only

passenger vehicle in the U.S. that was specifically designed for wheelchair accessibility. It was designed to accommodate 2 wheelchairs and also accommodate able-bodied passengers with equal comfort. One of the two wheelchairs accommodated was positioned next to the driver, forward-facing, giving the opportunity for conversation as well as an equity between driver and passenger.

The MV-1's design was appreciated by advocates and it was purchased by fleets in many major cities, including Chicago, New York, and Washington D.C., becoming a symbol of accessibility in many brochures concerning the accessibility of those cities' taxi fleets. The vehicle was also purchased and praised by some of Connecticut's largest taxicab and livery service owners who were interviewed in this study. They called it versatile, reliable, and respectful of their passengers. Connecticut's largest taxi company, M-7, owns several dozen MV-1s, and they and some other CT taxi companies are actively looking for more, the last of which (manufactured in 2016) will age out of legal use for taxis in the state in 2024. Taxi company owners asked the state to consider extending the legal use of these vehicles by taxi companies to 10 years, which allow their use until 2026. A 10-year age limit for taxis would be equivalent to the existing 10-year age limit of TNC fleet vehicles.

The reason the MV-1 is no longer manufactured, despite its popularity with taxi fleets (who purchased 60% of the vehicles that were produced), is complicated, but we were unable to establish that it was related to the vehicle's performance in sales or otherwise. It is instead tied with the fate of the companies that manufactured it, in particular AM General, which relies primarily on government contracts for its products (including the HUMVEE).

The MV-1 was originally designed by the Miami-based Vehicle Production Group (VPG), who contracted long-time federal contractor AM General to begin building them in its Mishawaka, Indiana plant in 2011. When VPG's finances fell below a minimum condition in a \$50 million US Department of Energy loan in 2013, AM General purchased the loan for \$3 million, and then negotiated with the DOE to take over VPG's assets. AM General resumed production of the MV-1 in 2014 under a new wholly owned company named "Mobility Ventures", but production ceased again in 2016 for reasons we could not discover from news reports. In 2017, AM General left the commercially-available vehicle business entirely, and sold the Mishawaka plant to the Chinese company Seres (then known as SF Motors), who told the South Bend Tribune at the time that they would retool the plant to build electric vehicles. In 2019, those plans were abandoned, and the 435 workers who were employed at the plant in 2017 were reported to be down to around 50 as of late 2019. The plant is still idle.

The plight of the MV-1 is mentioned here to emphasize our recommendation that the State of Connecticut encourage the federal government to incentivize accessible vehicle designs that are versatile. If a vehicle was available commercially that was as attractive for personal use as well as WAV use, or at least as useful for serving regular passengers just as well as WAV passengers, it would provide an avenue to true equivalency of service. Without such a vehicle design, the app-

hailed vehicle for hire industry, whether TNC or Taxi, cannot hope to achieve true equivalency of response time.

3.5.2 Toyota Sienna Conversion (side-ramp)

Manufacturer: Toyota Motor Corporation

Price:	Vehicle:	\$35,600 - \$45,000
	Conversion:	<u>\$26,400 - \$29,200</u>
	Total:	\$62,000 - \$74,200

The Toyota Sienna van with side-ramp was mentioned by several interviewees, including both advocates and taxi company owners, as their preferred vehicle design among those currently available new. They were praised for their reliability.

Conversion price was based on the side-ramp conversions available from the BraunAbility company. Rear-ramp conversion was not seen as ideal for taxi services by interviewees.

3.5.3 Dodge Caravan Conversion (Side-Ramp)

Manufacturer: FCA US LLC

Price:	Vehicle:	\$29,370 - \$33,000
	Conversion:	<u>\$13,900 - \$28,600</u>
	Total:	\$43,270 - \$61,600

The Dodge Caravan with side-ramp conversion was mentioned by a few interviewees, including both taxi company owners and one TNC company, as their preferred vehicle design among those currently available new. They were cited as a more affordable option.

Conversion price was based on the side-ramp conversions available from the BraunAbility company. Rear-ramp conversion was not seen as ideal for taxi services by interviewees

4 Recommendations for Achieving Substantial Equivalency

The recommendations that follow are provided here in response to the State of Connecticut's Public Act No. 17-140, An Act Regulating Transportation Network Companies and Taxicabs. The goal of this study, as stated in the act is, "to study how to implement and fund a level of service from taxicabs and transportation network companies to individuals with disabilities that is substantially equivalent to the level of service provided to other members of the general public."

In particular the act directed that this study explore how to provide a service that is substantially equivalent in:

- Response time
- Fares
- Geographic Area of Service
- Hours and Days of Service

It also directed this study to explore the use of a TNC per-ride surcharge to provide TNCs and taxicab certificate holders with reimbursement for the purchase of WAVs or WAV conversions, as well as incentives for drivers to spend the extra time required to serve people with disabilities.

As noted above, anecdotally and in a survey distributed to advocates, we heard that there is a great variety of experience for individuals with disabilities seeking taxis across the state—in geographic availability and response time. Hours of availability were difficult to discern without data, but one taxi company owner admitted that it is particularly difficult to provide WAV service late at night, when in some cases even non-WAV taxis have few riders now that TNCs have taken over much of the nightlife part of the business; given the choice between running a non-WAV or WAV taxi for a limited number of late night trips, taxi fleets prefer to operate cheaper non-WAV vehicles and sacrifice the ability to pick up wheelchair customers in exchange for lower operating costs. The only equivalency we heard from our interviews was in fares, and that was limited to those who used taxi services (livery services did have disparate prices for WAV rides vs. non-WAV rides). Though not explicitly mentioned, it should be noted that based on our fare comparison, WAV customers are in effect forced to pay higher fares as they cannot access often cheaper TNC fares.

Though this study concerns both TNCs and Taxis as well as Livery companies, we also noted that they are each regulated very differently. As such each will need to be addressed differently by these recommendations. Our study found that WAV service is not available at all from TNCs in Connecticut, and that it is available from some taxicab companies only in some parts of the state, but not from others.

Nationally, we noted that TNCs now contract WAV services out to other companies that have WAVs in several large cities. However, they almost exclusively contract these services to national-level companies such as MV Transportation (Uber) or First Transit (Lyft). We learned from our interviews with taxi companies that many of them have relied on NEMT or similar services in order to survive the onset of TNCs. Requiring the TNC's to provide WAV services is likely to result in a contract with First Transit or another large provider, which would increase their competitive advantage over local companies (our interview with one of the TNCs revealed that they prefer national contractors as there are often "difficulties" and additional administrative costs when dealing with multiple smaller contractors). A move to support a large competitor against small ones may be politically untenable.

No Connecticut taxi company with WAV service spans the entire state. On the contrary, while there are a few larger companies, Connecticut still has many small taxi companies with 12 or fewer taxis. Many of the more successful Connecticut-based companies are already contracted to Veyo to provide NEMT services. These companies are also contracted to provide WAV and non-WAV service to entities including hospitals, nursing homes, and other facilities. Some taxicab companies are vying to get into stretcher services as well. Bringing in a national competitor could be harmful to this survival tactic. So could empowering one of Connecticut's larger taxi companies to break their geographic bounds and grow to the size necessary to serve all of the state's TNC's WAV needs.

It could be argued that TNCs should provide WAV service themselves, however, their business model does not include ownership of any vehicles, and it has proven difficult to incentivize WAV ownership among their drivers. Given this deficiency and their fierce opposition to vehicle ownership, there is a justification for a tax or surcharge.

Similar to TNCs taxis should provide WAV services themselves as well, however their business has been significantly impacted by TNCs, which have been given the advantage of being regulated differently by the state. As a result, they are struggling to survive. However, one of their strategies for survival has been providing services to those left out by TNCs, including people who are unbanked or who need extra care and/or WAVs. Here there appears to be opportunity to support their adaptation financially.

4.1 Recommendation 1: Working Group

Convene a working group composed of relevant organizations and individuals invested in improving access to WAVs for persons with disabilities to review the framework of these recommendations and determine their details. This group should include:

- **Disability advocates, mobility access organizations**
- **Drivers and their unions**
- **Taxi company owners**
- **TNC representatives**

- **Representatives of the state’s NEMT contractor**
- **Relevant state and city officials**

Any new program greatly benefits from leaders in the community who have bought into and support it. This can only be achieved by building agreement on current conditions through the sharing of information, and using community input to build a workable program. Achieving clear results will require focus, which can be helped in any group context by transparency as to the group’s role as providing input only, while also identifying who or what body will ultimately make final decisions. Strong facilitation can encourage a group to provide clear input that is on topic, and dissuade people from getting too specific or tangential.

4.2 Recommendation 2: WAV Fleet Growth, TNC Surcharge, Direct App Access from TNC to WAV Taxi

Recommendation 2 has multiple parts. It is part of our recommendation that these parts be implemented together. If implemented separately they would likely have detrimental effects.

4.2.1 Recommendation 2.1: WAV Fleet Growth

Require all taxi companies to gradually grow their wheelchair accessible fleet, with the long-term goal of 100% accessibility, in order to benefit from the service area protections currently provided by CTDOT

The only model we came across in our research and interviews where an actual equivalency of service was provided was that of the United Kingdom, where in London and many other cities, large and small, all taxicabs are required to be wheelchair accessible. By the same token, the higher the percentage of taxis there are that are wheelchair accessible, the closer equivalency is. In the Connecticut case, TNCs will remain inaccessible to those in fixed wheelchairs, and thus taxicabs will be carrying the burden of providing a service that is equivalent even though they are at a significant disadvantage in many ways. As was explored in Section 3.5, WAV vehicle design options are limited in the U.S. to conversions, but this recommendation would also provide a future market for any company wishing to build or import WAV taxi vehicles in the future.

Should it come to pass, possible resources for importing vehicles similar to the MV-1 include the companies currently producing taxi cabs for the London market, all of which are WAVs. The London EV Company (LEVC), owned by Geely, is currently planning to market their LEVC TX vehicles globally according to their website. The vehicles have already been sold in the Netherlands and Germany. LEVC’s main competitor Ecotive produces a similar vehicle called the “Ecotive Metrocab.”

More importantly, requiring an increasing percentage of WAVs for taxi fleets helps resolve another problem. Currently, companies that do not provide WAV service can still prevent companies that do provide WAV service from expanding into their service areas. Raising the percentage of WAVs

available in all companies would help correct this geographic disparity. This also relates to Connecticut's NEMT services, which suffer from low availability of WAV contractors in rural areas.

Taxi companies are suffering financially due to the advent of TNCs and the Covid-19 Pandemic. The extra costs of acquiring WAVs versus traditional cabs would need to be provided for, and this is the purpose of recommendation 2.2 discussed below.

Many taxicab companies are already secondary contractors on the state's NEMT contract, and are engaged in other WAV services, however they would benefit from increased marketing that Uber, Lyft and other TNCs could provide, that is the purpose of recommendation 2.3.

Determining the percentage

The percentage of WAVs required in every taxi fleet should be determined by amount of funds made available to help companies purchase them and should be reviewed on an annual basis.

CTDOT should update their taxi and livery licensing database system to record whether licensed vehicles are accessible. This would be a critical piece of the infrastructure necessary to track taxi companies' compliance with the WAV target.

4.2.2 Recommendation 2.2: TNC Surcharge for WAV

Create a TNC surcharge that will go into a fund that supports WAV acquisition and/or by-the-hour leasing, driver incentives, driver training, and technical assistance for small companies.

The most agreed upon policy alternative amongst our interviews with advocates, drivers, taxicab company owners, and TNC representatives – with only a few exceptions – was creating a fund that would incentivize WAV availability. This model is also successfully used in several large cities with a similar pilot program being developed—though not by legislative means—in Massachusetts, via the MBTA, using funding from that state's TNC surcharge. Chicago, Portland Oregon, and Washington D.C. are the cities mentioned most often as exemplary. If the goal of recommendation 2.1, is to make Connecticut's taxi fleet fully accessible, recommendation 2.2 provides a funding resource.

The viability of a surcharge on TNC trips has been established by the existence of a surcharge in many other states and municipalities. The amount of the surcharge in those other locations is quite diverse and in excess of what Connecticut has implemented thus far. For WAV services in Connecticut, the level of the surcharge will help determine the effectiveness and speed of the program in achieving the accessibility goal. Currently, the state of Connecticut charges TNCs a \$5,000 annual permit fee, and a \$0.30 per-trip fee goes toward the state's general fund. Many states charge a higher annual permit fee—as high as \$111,250 (in Colorado). Massachusetts charges a per-trip fee that is \$1.00, and alternatively several states assess a surcharge that is a percentage of the total fare of each ride. Those percentages vary from 1% (Alabama and South

Carolina) to as high as 7% (Rhode Island). The majority of states direct these per-trip fees to their general funds in order to allow flexibility in their use.

Viability of a surcharge in Connecticut

Since the surcharges mentioned above are viable for TNCs in several other states that they are currently operating in (many are in the 4-5% of total fares range including states with both rural and urban character), we can safely assume they are viable for those same TNCs operations in Connecticut. There is justification in a higher surcharge in the need for a more equitable WAV service expressed by advocates interviewed in this study to account for the higher costs of WAV vehicles, additional training required, and the additional time spent by drivers assisting passengers. All of these are costs that the TNCs, due to their business model, currently avoid and would continue avoiding by paying this fee. The fee's purpose would be to hold harmless and benefit those who do have the ability to meet these needs and establish a comprehensive transportation system in the state. We recommend that the state determine the TNCs total fares and their total number of trips to determine the surcharge strategy that will generate the most funds. As WAV availability is increased, the surcharge amount could be revisited or reallocated to other transportation system needs.

Spending the fund/incentivizing WAV availability

The purpose of the fund is to encourage companies and/or individuals in Connecticut to purchase and/or lease WAVs that serve able-bodied customers just as well as those who need WAVs. A wide availability of WAVs on the street is what would help approach a level of substantial equivalency, and a flexible vehicle helps ensure that WAVs will not go unused due to low demand (see section 3.5 on Vehicle Design). Because many taxi companies also use their vehicles for their livery services, and/or for servicing the state's NEMT contract through the TNC Veyo, a WAV may not be available for an on-demand taxi trip if it is in use already. Helping with the purchase of a vehicle does not alone ensure that it will be available for taxi services when the need arises, and as such, incentives to ensure WAVs are available for taxi dispatch is necessary as well, such as a per-hour available or per-ride subsidy. In the same vein, training costs and additional time required by drivers must also be considered.

In our discussions with stakeholders and other research, we have found that funds have been used to promote WAV availability in several ways:

- **To assist in the purchase of WAVs or WAV conversions that are also comfortable and attractive for those not in wheelchairs. Typically, these incentives include the entire cost of a WAV conversion or the additional cost of a WAV as compared to a traditional vehicle.** (Care should be taken not to limit the vehicle design or choice of conversion type used, such as by limiting the total amount or specifying particular designs. Any specifications should instead be based on outcomes, such as specifying the types of wheelchairs that must be accommodated rather than which vehicle or conversion designs are approved.)

Note that CTDOT does have past experience assisting taxi companies with WAV purchases via the New Freedom Program.

- **To help fund driver training such as the Community Transportation Association of America PASS training.**
- **To help fund certification programs that certify trained drivers.**
- **To provide a per-trip incentive for WAV drivers/contractors, to account for their additional time spent assisting riders and infrastructure and training costs. (Chicago)**
- **To provide a per-hour-available incentive for WAV drivers/contractors who are logged into a TNC's app. (Massachusetts)**

Though we did not encounter this in other models, we would also recommend that Connecticut explore:

- **Technical Assistance for smaller taxi companies**, particularly assistance with implementing app-based hailing and WAV services.
- **Creating a leasing program for WAVs in partnership with a rental car company such as Avis, which has partnered with Lyft to do the same in other parts of the country.**

Many of the surcharge models we found and explored for this study are still relatively new, and most were implemented by cities. California and Massachusetts were the only states we found engaged in attempts to provide equity in TNC WAV services. Advocates disapproved of California's model as it allowed TNCs to avoid paying fees despite not providing equivalent services. Massachusetts is engaged in a pilot to increase WAV presence on TNC apps by providing a per-hour subsidy—a strategy that was created by a need for greater WAV availability in its TNC-provided paratransit program. This same issue was identified by Veyo, Connecticut's NEMT contractor (also a TNC), as they expressed that any strategy that would help increase WAV availability in the state would be beneficial to their work.

We found no existing model of a program that provided a substantial level of equivalency in rural areas of any state, where WAV availability is low and existing taxi companies, are often not providing WAV services or app-based hailing for any customers.

Pilot Program(s) to Explore Effective Incentives

Because so little work has been done elsewhere on achieving equivalency for people with disabilities in TNCs and Taxis statewide, and because Connecticut's current WAV availability and industry context is unique, we ultimately recommend using pilot programs to explore potential incentives and subsidies using the funds provided by the surcharge recommended above. Incentives should be measured by their effectiveness at increasing the number of WAVs available in traditional taxi services, and ensuring that they are incentivized in all geographies of the state. This may require additional incentives in the state's most rural counties. In particular, we suggest

prioritizing subsidizing vehicle purchases for companies and vehicle leasing for individual drivers, along with or explicating tied to a per-hour available subsidy for WAVs in taxi fleets.

4.2.3 Recommendation 2.3: Direct App Access from TNC to WAV Taxi

Require TNCs to directly connect from their apps to *geographically accurate* taxi apps, clickable dispatch phone numbers, and other “most efficient” ways to contact a WAV service when WAV service is requested.

In Connecticut today a customer who requests a WAV via Uber or Lyft is directed to a static page that lists all available WAV services in the state. That list does not include any links to the apps that many Connecticut taxi services have, or websites, or clickable phone numbers. It does not use the geo-location that the TNC has gathered from the customer to indicate which services are appropriate for the area they are in. It is a static list that is difficult to navigate for anyone, and perhaps more so for many of those who have disabilities.

In many cases however, depending on the location a customer is in, the choice of WAV providers is limited, and thus a much simpler connection for the customer could theoretically be provided with some effort on the part of the TNCs. That effort is justified in light of the fact that they do not provide an equitable service for those who require fixed wheelchairs. Their apps could be made to provide a quick connection to a service that does provide WAV service by app, web, or phone dispatch.

Currently Public Act 17-140 requires that TNCs “provide potential TNC riders with an opportunity to indicate that they need a wheelchair accessible TNC vehicle,” and that it must “direct” that rider to an alternate provider “if it cannot arrange such a ride.” Because of the vague wording of this part of the act, the TNCs are fulfilling it in the easiest manner possible, with a static list of all providers in the state. A more careful wording could require that they provide the most efficient and quick connection to the WAV providers that provide WAV service in the area that they are in, using links and buttons rather than static information. This could be verified and policed by the WAV providers, by allowing them to report to CTDOT if the most efficient link, in their view, is being provided.

This recommendation is low cost to all involved, but it may not resolve the geographic inequities. It is an imperfect solution, but likely an improvement on current conditions. It is imperfect because many current taxi providers in Connecticut do not have apps, do have WAVs, and are protected from competition from other companies that do provide these services by the current CTDOT regulatory framework.

Alternative solutions:

Require TNCs contract to WAV providers directly

A possible alternative to requiring an efficient link from TNC apps to local services is to have TNCs contract directly to WAV providers. In other markets across the country, the only way TNCs have

been able to reliably provide WAV service is to contract with companies that operate WAV fleets, such as the national companies MV Transportation (contracted by Uber) and First Transit (contracted by Lyft). Both are national companies with very large service areas that span many states and cities. The Connecticut marketplace for WAVs does not include these same national providers. The largest taxi services that offers WAV service is M7 Taxi, and their growth is geographically limited by current regulations. Lyft does contract to smaller providers in limited markets, but not on the statewide scale. Interfacing with a large number of small companies to cover an area would include significant administrative costs that the TNCs might be resistant to.

4.3 Recommendation 3: Data Collection

Improve data collection for TNCs, Taxis and Livery services

A number of states and municipalities are requiring data from TNCs along with their surcharges. Often this includes origin and destination data, and in some cases response time and indications of WAV requests.

In order to measure how equitable WAV service is compared to traditional service, we recommend that TNCs and taxis be required to provide data that can be used to measure progress and provide the existing conditions data this report was unable to find. This data should include:

- Time requested, time picked up and time dropped off, date, origin and destination for each ride as well as whether or not a WAV was requested for that ride.
- All WAV requests that are connected to another service, and which service they “clicked” on or were otherwise electronically referred to, including their time and date
- Number of WAVs within each taxi and livery fleet

4.4 Recommendation 4: WAV Driver Endorsement

Create a new endorsement that certifies WAV drivers

There are many exemplary companies in Connecticut that provide more training than is typically required by the insurance companies and hospitals they contract with. However, if the state is encouraging additional WAV purchases by companies that typically operate traditional services, it would be prudent to ensure the proper training is acquired by any driver of a WAV. The current industry standard is the CTAA PASS training that can be acquired online with additional in person training on equipment. Locally, M7 Taxi has an excellent driver training program, according to several interviewees. In collaboration with advocates and mobility managers in the state, Connecticut should implement a new driver endorsement that certifies that the proper training and knowledge has been acquired.

5 Use of TNCs for Medicaid Non-Emergency Medical Transportation

5.1 Non-Emergency Medical Transportation (NEMT)

5.1.1 What is NEMT?

According to the United States Centers for Medicare & Medicaid Services, non-emergency medical transportation (NEMT) is any ride for an eligible individual to and from the doctor's office, the hospital, or another medical office for Medicaid-approved care that does not involve a medical emergency. Individuals qualify for NEMT if 1) they do not have a car that works or do not have a driver's license, or 2) they have a physical or mental disability or are unable to travel or wait for a ride alone. NEMT coverage may vary based upon individual situation and needs, or coverage and approval requirements for specific state agencies.³¹ NEMT services can be provided for both Medicaid and Medicare recipients separately through their respective programs.

5.1.2 Medicaid NEMT Service Models

States are granted a considerable amount of flexibility in developing the structure for providing Medicaid NEMT in their state. However, all states employ one or more of the following models:

In-House Management – The state agency responsible for Medicaid can choose to manage the service themselves. The agency authorizes, schedules, and assigns trips to providers. The state agency is responsible for confirming Medicaid eligibility and for ensuring that providers meet all licensing, training and safety requirements. Providers are reimbursed through a fee-for-service model where they submit reimbursement requests to the state for services rendered.

Brokerage – The state agency contracts with a broker to administer the program. Brokers may be for-profit companies, not-for-profit organizations, or human services agencies. The broker is responsible for confirming eligibility, scheduling trips and assigning trips to providers. The broker takes responsibility for ensuring that providers meet all licensing, training and safety requirements and pays the providers on a fee-for-service basis. The state reimburses the broker either using either a pure capitation payment (fixed rate per eligible member per period), or a mixture of capitation and fee-for-service. Depending on the state, brokers may operate statewide or there may be separate brokers for different regions.

Managed Care Organization (MCO) – Some states contract with one or more managed care organizations to manage all health care use, cost and quality of services for Medicaid members on a capitated payment basis. The state may choose to “carve in” NEMT into the agreement so that provision of NEMT is entirely the responsibility of the MCO along with their healthcare

³¹ <https://www.cms.gov/Medicare-Medicaid-Coordination/Fraud-Prevention/Medicaid-Integrity-Education/Downloads/nemt-factsheet.pdf>

responsibilities. The MCO then contracts with brokers and/or directly with providers using a variety of models.

Some states apply mixed NEMT models on a regional basis.

5.2 Use of TNCs for NEMT

5.2.1 National Trends

The use of TNCs (such as Uber and Lyft) to provide NEMT trips is a growing trend nationwide. While the approach taken differs on a state by state level, typically the TNCs partner either directly with state-wide Medicaid programs, such as the Arizona Health Care Cost Containment System (AHCCCS) or through private Medicaid NEMT brokers such as LogistiCare, American Logistics Corporation, or Veyo. TNCs often collaborate with these agencies to offer rideshare as a component of their NEMT services. Veyo is relatively unique in its approach in that it functions both as a broker and TNC, providing its own network of independent drivers to cover a growing market sector on which other TNCs have begun to focus.

As of mid-2020, online research shows that at least six states have begun implementing TNCs for Medicaid NEMT services on a statewide basis. Lyft, for instance, now operates in the states of Georgia, Michigan, Tennessee, Virginia, Missouri, and Arizona. Additionally, some regional brokers have begun partnering with Lyft on a somewhat smaller scale, including several counties in New York and California and various cities across 31 states. TNCs such as Lyft and Uber have also entered the market for medical appointment-related services beyond NEMT through private partnerships with hospitals and other healthcare providers on a more local level. This includes a recent partnership between Yale-New Haven Hospital and Uber to provide ride-sharing transportation options related to a new healthcare facility as part of a larger medical mobility plan.³²

5.2.2 Compatibility of TNCs with NEMT Service Models

Often, cost savings are cited as a driving factor for incorporation of TNCs into the NEMT sphere, however in a recent article from Kaiser Health News regarding the implementation of Lyft into Medicaid NEMT services in Arizona, a representative of the brokerage agency concluded that at that time the service “did not substantially reduce costs in most areas of the state”.³³ Reported evidence from the states that utilize this type of partnership have found that the primary benefit is that this system frees up specialized vehicles used by non-TNC providers (such as wheelchair accessible vehicles) for those who require it, while increasing available supply for ambulatory patients, thus enhancing service availability for all patients. Rideshare is typically just a subset of available options for patients, given that those with more specialized needs, such as wheelchair

³² <https://portal.ct.gov/OHS/Press-Room/Press-Releases/2019-Press-Releases/OHS-Approves-Yale-CON>

³³ <https://khn.org/news/uber-and-lyft-hitch-onto-medicaid/>

accessibility, will require specialized transportation to accommodate those needs and can still be served by other contracted providers.

A potential additional concern with the use of traditional TNCs such as Uber and Lyft are the operating and pricing models under which these companies operate. TNCs are far more prevalent in denser communities with a wider pool of potential drivers and may be more capable of providing NEMT services in these types of communities while not being able to adequately serve more rural communities. Additionally, TNCs, at least in the commercial sector, are able to cancel rides unexpectedly or alter pricing based on periods of high demand. These factors could have serious implications for medical services and cost to the state or broker. As such, it would either be difficult to estimate the expected cost to a state's Medicaid system and the potential impact of trip cancellation on the provision of medical services, or the TNCs would have to accept restrictions on their operating model.

In many cases, to allow for TNCs to operate as NEMT providers, states have reduced regulations and requirements for drivers. For example, in 2019, the Florida legislature passed a NEMT services related bill that allows TNCs to operate within the NEMT market with requirements for drivers on par with those for standard TNC providers. According to the legislative staff analysis of the bill, the text of the bill states that "requirements for TNCs providing NEMT may not exceed those imposed under s. 627.748, F.S., which governs TNCs, except as necessary to conform with state and federal Medicaid requirements. The bill requires drivers of TNCs providing NEMT to comply with the Level I background screening requirements for Medicaid NEMT providers but allows TNCs to use alternative background screening procedures for its drivers that are functionally equivalent to a Level I background screening as approved by AHCA."³⁴ The bill effectively allows TNCs to provide basic levels of screening and requirements for drivers, even those providing trips for covered Medicaid services which in some cases require specialized care, increased privacy, and HIPAA compliance to the minimum standards required by state or federal law.

Systems that utilize TNCs for NEMT also must maintain a system for handling requests for service. In most cases, utilization of TNC services for NEMT differs from the way it functions in the commercial realm, requiring passengers to connect to Uber, Lyft, or others via their health plan or transportation broker to maintain HIPAA compliance and ensure that all patient needs are met.

Ultimately, the use of TNCs as a component of a system to provide NEMT services is often just that, a component. Unspecialized TNCs such as Uber and Lyft, while actively engaging with private brokers and states are not likely to have the capacity, vehicle types or training to meet all NEMT needs for all customers in all regions. This is exhibited also by Connecticut's NEMT contractor Veyo, which uses a mix of its own independent contractor drivers and local taxi companies to service the contract. TNCs can be a component of a larger NEMT system, specifically adapted to provide curb-to-curb service for Medicaid patients without significant

³⁴ <https://www.flsenate.gov/Session/Bill/2019/411/Analyses/h0411z1.HMR.PDF>

accessibility needs. Specialized transportation, such as for those with wheelchairs, mobility issues, or who require door to door service would still necessitate specialized transportation providers.

5.2.3 Impacts of TNCs on NEMT costs

While the prevalence of system wide cost savings from using TNCs for Medicaid NEMT has not been assessed as of yet, a recent investigation into a partnership for Medicare NEMT (as opposed to Medicaid NEMT) between CareMore Health, Lyft, and American Logistics Corporation that spanned 18 counties across four states, found that in just over one year, the share of curbside rides served by Lyft grew from nothing to 91%, and estimated that Lyft-based rides cost approximately 39% less than non-Lyft rides. CareMore also reported that on-time performance, wait times, and overall patient experience metrics all improved over the same time span. It is important to note, however, that this study focused primarily on “curbside” service, which includes little to no specialized training or equipment needed and can be somewhat unreliable in areas that are more rural in nature. The report does note, however, that “the cost-savings generated by switching to Lyft for C2C (curbside) rides can help support increased access to NEMT for patients requiring specialized services”.³⁵ Additionally, a recent Medicare NEMT pilot program in New York City to investigate a partnership between Lyft and National MedTrans Network concluded that rides exhibited improved response times, improved data collection, improved patient satisfaction, and maintained costs at a comparable or reduced level.³⁶

5.3 NEMT in Connecticut

5.3.1 History of Connecticut NEMT Service Models

Prior to 2011, most Medicaid recipients in Connecticut received NEMT through several regionally based MCOs that were responsible for all Medicaid healthcare and transportation services. The MCOs, in turn, contracted with brokers to provide NEMT. At the same time, the Department of Social Services (DSS) also operated a brokerage program for a limited number of Medicaid recipients who were not assigned to an MCO. In 2011, the model for all Medicaid services was reorganized and all NEMT was consolidated into one statewide administrative services organization which functions alongside separate statewide medical, mental health and dental administrative services organizations. In 2012, DSS awarded a statewide NEMT brokerage contract to a for-profit national NEMT broker. In 2018, the previous broker was replaced by the current broker, Veyo.

5.3.2 Current Connecticut NEMT Brokerage

NEMT in Connecticut is currently run on a brokerage model, with services provided by Veyo, a for-profit broker. The contractor provides transportation options for qualifying residents enrolled

³⁵ <https://www.healthaffairs.org/doi/10.1377/hblog20180907.685440/full/>

³⁶ <https://www.lyft.com/blog/posts/nationalmedtrans-concierge>

in the state Medicaid program (HUSKY Health) through mileage reimbursement, provision of public transit passes, and using contracted providers and independent drivers. The service is currently offered only to those members who have no other means of traveling to and from scheduled healthcare appointments. Veyo primarily functions via a centralized call center which is open between 7:00 AM and 6:00 PM Monday-Friday for reservations. Beyond these operating hours, they offer 24/7 service for urgent needs and post-business hour hospital discharges. Most trips require advance scheduling to ensure a ride. In Connecticut, there is no cost to the patient to use these services.

Transportation brokers typically provide services using a network of contracted providers such as taxi companies and other livery services who provide services using wheelchair accessible vehicles. Veyo is unique among brokers in that it also functions as its own TNC. Its network of Independent Driver Providers (IDPs) is used to supplement services for curbside-to-curbside ambulatory trips provided by a statewide network of traditional contract providers. In 2019, Veyo's system included 760 IDPs, who function similar to a traditional TNC in that they form a network of third-party operators using their own vehicles to provide service. Distinct from traditional TNC services, Veyo requires training for its drivers specifically designed for NEMT service, whereas traditional TNC drivers are not subject to these requirements. Veyo's requirements include HIPAA-compliance, background checks, regular drug testing and specialized training in CPR and other first aid techniques.³⁷ Veyo requires that IDPs be dedicated solely to NEMT service during the window of time during which they are providing NEMT service so they cannot also be taking trips from other TNCs. By functioning as its own TNC, Veyo can also terminate its contract with any IDP for poor performance, whereas if contracting with a traditional TNC, a broker would have no control over who is an NEMT driver.

Also worthy of note, one of Veyo's contract providers, Arrive, is also a TNC who specializes in NEMT and whose drivers are dedicated to NEMT service and receive training similar to that of Veyo's IDPs. Unique among TNCs, according to DSS, Arrive does provide some wheelchair accessible vehicles.

5.3.3 Connecticut NEMT Service Statistics

Veyo provides monthly reports that are publicly available on the DSS website.³⁸ On those reports, trips are categorized by four trip types: Ambulatory, Mileage Reimbursement, Public Transit and Wheelchair. Of these, only ambulatory and wheelchair trips involve Veyo actually paying a contractor or IDP to provide a trip. Mileage reimbursements are simply cash payments to recipients to compensate for being driven to an appointment, while public transit trips are monthly passes provided to recipients who are able to use public transit to access medical services. All wheelchair trips (trips requiring a wheelchair accessible vehicle) are provided by contract

³⁷ <https://veyo.com/can-a-tnc-join-the-nemt-space/>

³⁸ <https://portal.ct.gov/DSS/Health-And-Home-Care/Non-Emergency-Medical-Transportation/Documents>

providers (including Arrive), while ambulatory trips (trips by which the passenger is able to access transportation without any special assistance) are split between contact providers and IDPs.

The total number of trips provided by Veyo over a 16-month period between March 2019 and June 2020 (the most recent month with data available) exhibited consistent trends in terms of total ridership, on-time percentage, trip type breakdown (Table 5-1) , and by transportation provider type breakdown. Total trips remained relatively steady, with the maximum occurring in October 2019 totaling 446,030 trips, and a pre-pandemic low of 398,278. Total trips dropped down slightly during the beginnings of the COVID-19 pandemic to as low as 287,657 trips in May 2020. The percentage of trips that arrive on time is consistent across the sample period, ranging between 89 and 93 percent on-time for all trips, though a noticeable drop in performance was noted in late 2019 (Figure 5-1).

Figure 5-2 shows that the majority (over 60%) of NEMT trips in Connecticut are reimbursements for individuals using public transit to access their healthcare appointments and less than 4% require mileage reimbursement. Of the roughly 30% to 40% of trips provided by contract providers and IDPs, approximately 80% are ambulatory trips. (During the early months of the pandemic it is believed that many public transit passes issued went unused, accounting for the increased percentage of reported public transit trips at that time.)

Considering all ambulatory plus wheelchair trips, Figure 5-3 shows the breakdown between contract provider and IDP provided trips. The share of trips provided by IDPs increased steadily through the spring and summer of 2019 but appears to have leveled off at about 20% in 2020. Even if wheelchair trips were removed, the share of ambulatory trips provided by IDPs would be much smaller than the share provided by traditional contract operators.

DSS has been working with Veyo to enhance on time performance, which has hovered around 89% to 90% for the initial leg of each trip, according to DSS. DSS has indicated the on-time performance for IDPs is slightly higher than it is for contract providers, though it is unclear whether that is due to the specific characteristics of the trips assigned to IDPs, rather than to inherently better performance by IDPs. DSS has also recently allowed Veyo to begin paying providers based on performance in order to improve the on-time statistics.

Taxi and TNC Service Levels for Individuals with Disabilities Study

Connecticut Department of Transportation

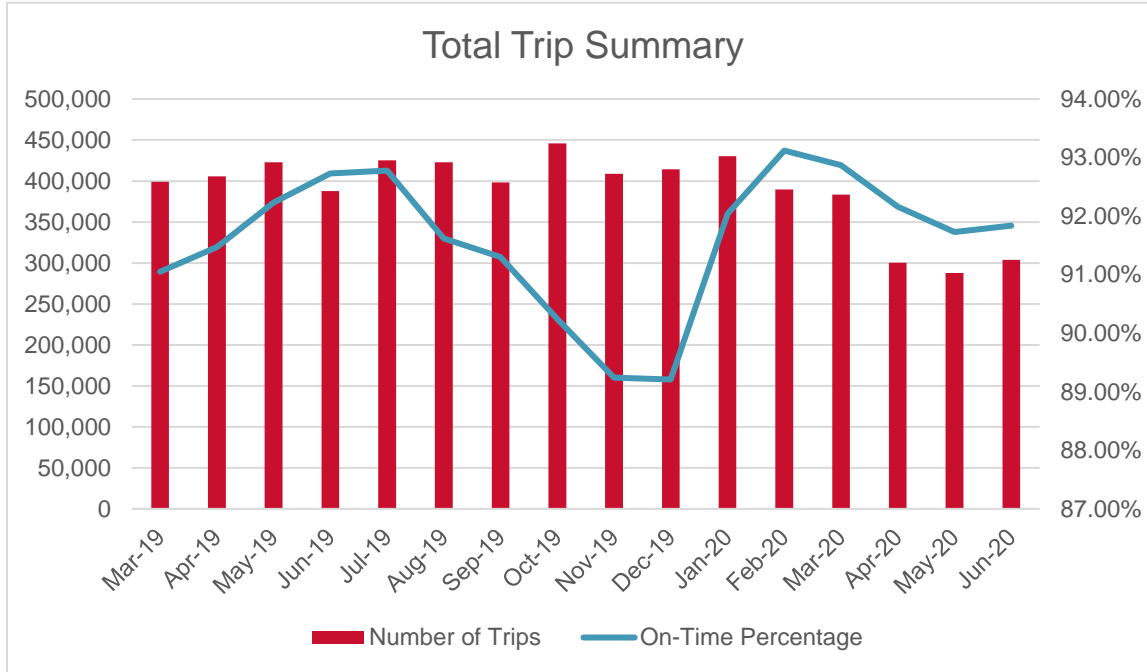
Table 5-1: Overview of NEMT trips in Connecticut

	Total Trips	On-Time Percent	Trip Distribution by Type (% of Total)*			
			Ambulatory	Mileage Reimbursement	Public Transit	Wheelchair
June 2020	303,875	91.84%	50,549 (16.6%)	3,183 (1.0%)	234,849 (77.3%)	15,292 (5.0%)
May 2020	287,657	91.73%	39,449 (13.7%)	2,618 (0.9%)	233,723 (81.3%)	11,856 (4.1%)
April 2020	300,350	92.16%	41,258 (13.7%)	3,236 (1.1%)	243,129 (80.9%)	12,724 (4.2%)
March 2020	383,285	92.87%	95,295 (24.9%)	6,399 (1.7%)	259,838 (67.8%)	21,743 (5.7%)
February 2020	389,867	93.12%	112,937 (29.0%)	8,041 (2.1%)	243,720 (62.5%)	25,152 (6.5%)
January 2020	430,357	92.04%	119,642 (27.8%)	12,426 (2.9%)	271,519 (63.1%)	26,716 (6.2%)
December 2019	414,230	89.21%	103,169 (24.9%)	14,081 (3.4%)	272,612 (65.8%)	24,243 (5.9%)
November 2019	408,656	89.24%	104,591 (25.6%)	15,382 (3.8%)	264,232 (64.7%)	24,280 (5.9%)
October 2019	446,030	90.24%	120,595 (27.1%)	17,863 (4.0%)	279,799 (62.8%)	27,541 (6.2%)
September 2019	398,278	91.30%	104,725 (26.3%)	15,487 (3.9%)	253,946 (63.8%)	23,901 (6.0%)
August 2019	422,693	91.62%	112,741 (26.7%)	16,398 (3.9%)	267,771 (63.4%)	25,508 (6.0%)
July 2019	425,380	92.78%	111,643 (26.3%)	16,295 (3.8%)	271,510 (63.9%)	25,559 (6.0%)
June 2019	387,831	92.73%	107,820 (27.8%)	15,234 (3.9%)	240,527 (62.1%)	23,795 (6.1%)
May 2019	423,044	92.23%	120,470 (28.5%)	15,143 (3.6%)	261,653 (61.9%)	25,778 (6.1%)
April 2019	405,614	91.47%	122,025 (30.1%)	13,701 (3.4%)	243,966 (60.1%)	25,922 (6.4%)
March 2019	398,918	91.05%	126,805 (31.8%)	12,692 (3.2%)	234,239 (58.7%)	25,182 (6.3%)

Source(s): Veyo DSS Monthly Reporting Package (June 2020), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (December 2019), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (September 2019), Veyo Healthcare Logistics

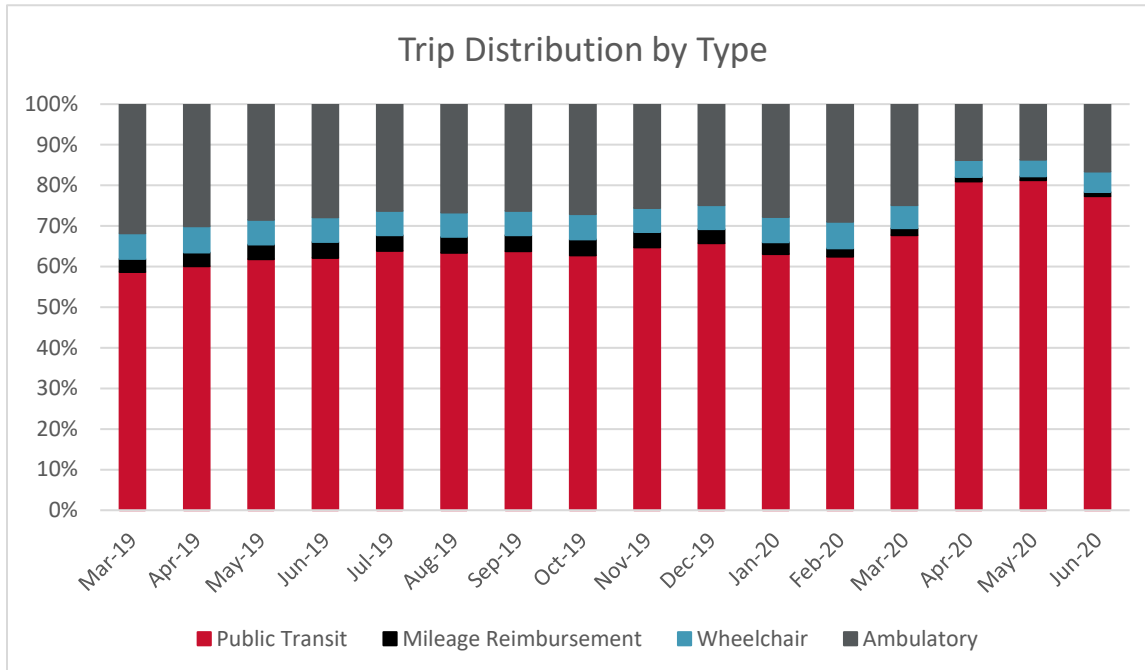
*Counts do not always equal total reported trips.

Figure 5-1. Summary of NEMT Trips in Connecticut



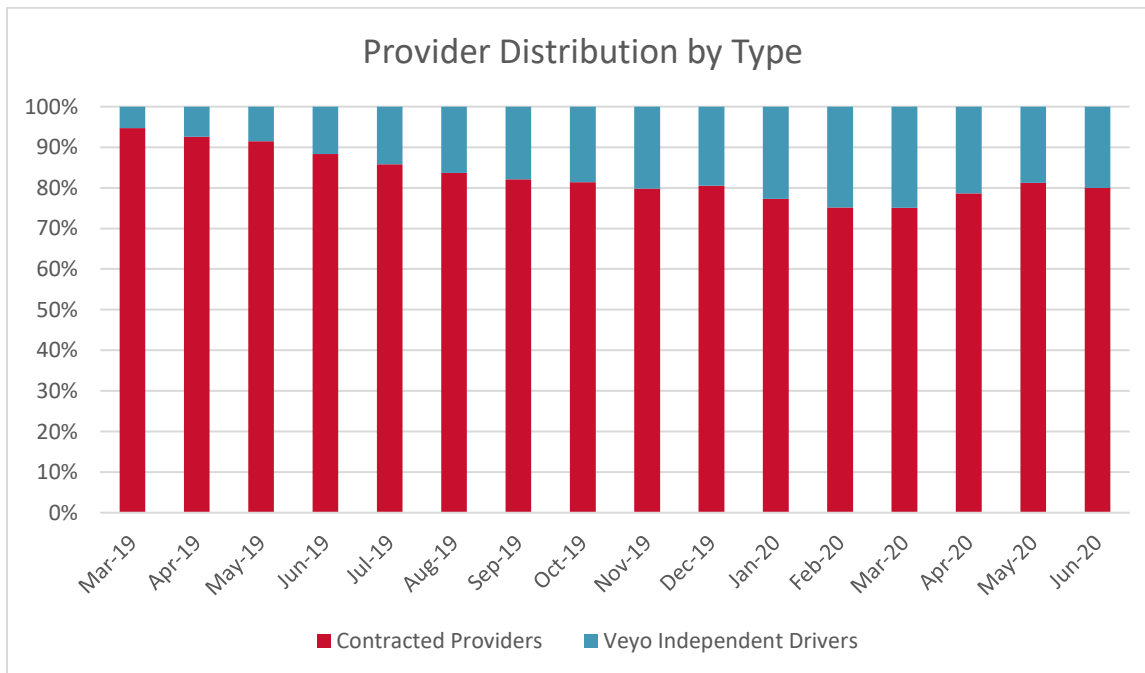
Source(s): Veyo DSS Monthly Reporting Package (June 2020), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (December 2019), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (September 2019), Veyo Healthcare Logistics

Figure 5-2. NEMT Trips in Connecticut by Type



Source(s): Veyo DSS Monthly Reporting Package (June 2020), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (December 2019), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (September 2019), Veyo Healthcare Logistics

Figure 5-3. NEMT Trips in Connecticut by Provider Type



Source(s): Veyo DSS Monthly Reporting Package (June 2020), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (December 2019), Veyo Healthcare Logistics; Veyo DSS Monthly Reporting Package (September 2019), Veyo Healthcare Logistics

5.4 Potential Challenges in Using TNCs for Connecticut Medicaid NEMT

5.4.1 Coordination with the Current Broker

Given that the current broker coordinates its own network of independent drivers with more stringent training procedures regarding the safety and security of its passengers, it is less likely that it would have incentive to carve out a portion of this market for traditional TNCs. Traditional TNCs entering the NEMT market have often paired with national brokers to offer their services. (For example, Uber Health has partnered with American Logistics in many geographies, and Lyft has partnered with LogistiCare in others.) Veyo has followed a different strategy, developing its own network of IDPs over which it has far greater control to ensure quality of service and safety of its customers. It does not appear that Veyo is interested in partnering with TNCs who may not be willing to adhere to its policies.

5.4.2 Compatibility of TNC Operating Models

Several features of the traditional TNC operating model may not be compatible with the NEMT market. These include the app-based, real-time and driver choice nature of scheduling, TNC customer rating systems, and the largely urban focus of TNCs.

The app-based, on-demand format of most TNC operations may not sufficiently cover all demographics who utilize NEMT services, such as older populations or those with cognitive or physical disabilities who may be unable to use these applications. Most NEMT rides in Connecticut are set up via telephone by calling into a call center that sets clients up rides in advance for patients to ensure 1) the patient is eligible, 2) pick up and drop off points are exact, 3) timing of rides will get patients to their appointments on time, and picked up in a timely manner following their conclusion, and 4) any specialized needs are met. While other TNCs have established Smartphone applications that allow others to request rides on behalf of a customer, many users may still not have access to these types of applications.

Traditional TNC operating policies allow for real-time scheduling and pick/up drop offs, but for patients who have specific appointment times this functionality could potentially lead to late pickups/drop offs, missed appointments, and miscommunication about any specialized needs or accommodations. Traditional TNCs also allow drivers to cancel or modify rides with little to no notice. For individuals who rely on NEMT to access critical healthcare appointments, the ability for drivers to cancel rides would put them at risk for missing these appointments. Ultimately, drivers in a TNC operation will opt for rides that make the most sense financially and logistically, while drivers operating in the NEMT market are providing a vital medical service which may not be well-served by traditional TNC driver choice focused policies.

Use of a customer rating system, as featured by many TNCs such as Uber and Lyft, can be detrimental in the NEMT marketplace. This is explained by the Center for Consumer Engagement

in Health Innovation in its NEMT guidebook, when it states “rating NEMT users in this way can only lead to discrimination against a wide variety of Medicaid enrollees, including those with behavioral health conditions and those with limited English proficiency”.³⁹ It recommends that any TNC in the NEMT sphere removes this option as to not discriminate against populations who may need these vital services. Eliminating this option for NEMT customers, but not other customers, could in itself result in possible discrimination as drivers may shy away from unrated NEMT customers.

TNCs rely on recruitment of drivers and typically have a far greater density of drivers in urban areas providing a more robust and resilient response to fluctuating demand. NEMT services, however, must cover the entire Medicaid population, whether in urban or rural areas. TNCs may have difficulty providing services in all regions of Connecticut.

5.4.3 TNC Driver Training

Traditional TNC drivers often do not undergo the same level of training that specialized drivers, or drivers for potentially medically sensitive individuals would undergo to ensure passenger safety and privacy. In some cases, states have relaxed driver requirements to incentivize TNCs to enter the NEMT marketplace. For example, in a recent legislative bill passed in Florida allowing TNCs to provide NEMT services, drivers are expected to meet only minimal background checks and screening procedures. In comparison, Veyo IDPs undergo background checks, routine drug and alcohol screening, HIPAA-compliance training, CPR training, ADA compliance training, customer service training, and other medical-specific training to accommodate passengers who may require medically sensitive care, or those who require door-to-door service. Typical TNC drivers perform curb-to-curb service in which passengers are expected to have the physical and cognitive ability to enter and exit the vehicle and get to and from their origin and destination without special assistance. With NEMT riders, this may not always be the case and drivers without advanced training may find themselves ill equipped to provide this service. Without such training the universe of trips that can be assigned to TNCs may be very limited.

5.4.4 Equity and Privacy Concerns

A potential concern with allowing traditional TNCs into the NEMT market is that the independent drivers providing rides will likely provide services for both traditional TNC riders as well as NEMT passengers. For these drivers it may be more desirable to serve a traditional TNC fare, rather than a passenger utilizing NEMT services for a medical appointment. While companies such as Veyo or other dedicated NEMT services have mechanisms in place to prevent this, such as requiring dedicated times for which drivers can only serve NEMT passengers, this opens the door for equity implications if TNC drivers routinely take standard fares rather than NEMT trips. The Center for Consumer Engagement in Health Innovation notes that “there is a risk that the service becomes bifurcated, with TNCs primarily serving ambulatory patients or patients without complex or acute medical needs and traditional NEMT drivers continuing to serve individuals with high or

³⁹ <https://www.healthinnovation.org/resources/publications/body/Ridesharing-and-Medicaid-NEMT-Guide.pdf>

complex medical needs. We are concerned that if this type of two-tiered system emerges, individuals who rely on and need NEMT the most may be prevented from accessing or experiencing the benefits that TNCs can offer.”⁴⁰ Beyond equity concerns, drivers operating for both NEMT and standard fare passengers must ensure that all HIPAA and privacy standards are followed between rides to ensure the privacy and security of protected passengers.

5.4.5 Potential Impacts on Other NEMT Providers

While TNCs are relatively new to the NEMT transportation market, traditional taxi and livery companies have depended on NEMT contracts for decades. While TNCs, including Veyo’s network of IDPs, have recently begun to make inroads into the market, peeling away the easiest to serve trips in the most populated areas, the limitations noted above limit the extent to which TNCs can penetrate the market. Nevertheless, this does impact the market share and potential viability of traditional NEMT contract providers. While early findings from partnerships around the country have not shown conclusive results that TNCs can reduce costs, there may be specific circumstances where TNCs outperform traditional providers. For example, TNCs may prove more nimble in serving unscheduled trips, such as hospital discharges or, as has been observed by DSS in CT, serving “rescue trips” (quickly responding to serve scheduled trips that might be missed due to schedule delays experienced by contract providers).

As in the broader market for transportation, TNCs have the potential to be a disrupter to traditional operating models for NEMT. The taxi and livery companies who are the traditional providers of NEMT contracted services are facing new competition and new challenges in the way that they do business and may need to adapt to react to factors such as the real time app-based nature of TNC operations and leaner cost structures. State Medicaid agencies, on the other hand, will need to understand how TNCs and IDPs are impacting the many locally based taxi and livery companies in order to ensure the overall viability of the NEMT transportation network throughout the state. This could include ensuring that the statewide broker arrange fair compensation for providers who continue to serve higher cost rural area trips that TNCs may have more difficulty serving, as well as providing incentives for on-time performance.

5.5 Recommendation

Opening the NEMT market to non-specialized TNC services is not recommended as it would not necessarily result in improved service and may negatively impact existing taxi and livery markets.

Connecticut’s current NEMT broker, Veyo, currently operates a specialized TNC service through its IDP program. The research conducted did not show that opening the NEMT market to non-specialized TNC services would necessarily result in improved service, and that in fact there are

⁴⁰ <https://www.healthinnovation.org/resources/publications/body/Ridesharing-and-Medicaid-NEMT-Guide.pdf>

clear drawbacks to TNC use for NEMT service given the specialized nature of NEMT transportation, as well as potential impacts to the existing taxi and livery markets.

6 Conclusions

Based on the literature review, taxi/livery/TNC industry context research, existing conditions research, and the interviews, it is apparent that the current for-hire vehicle industry does not provide equivalent levels of service for those with and without disabilities, especially for those that require wheelchair accessible vehicles. These disparities exist in the geographic distribution of service, cost, and vehicle response time. It is recommended that Connecticut work to increase the number of WAVs on the roads by requiring a certain percentage of taxi fleets be accessible, gradually increasing that percentage, and funding their acquisition as well as training and other tactics through a surcharge on TNC trips that are currently not accessible. These recommendations include:

- Recommendation 1: Establish a Working Group
- Recommendation 2.1: Grow the WAV Fleet
- Recommendation 2.2: Establish a TNC Surcharge to Fund Growth of the WAV Fleet
- Recommendation 2.3: Require Direct App Access from TNC to WAV Taxi
- Recommendation 3: Require Data Collection on WAV Service Provision
- Recommendation 4: Establish a WAV Driver Endorsement to Ensure Respectful Service
- Recommendation 5: Do Not Open the NEMT Market to Non-specialized TNC Services

The recommendations serve as a starting point for achieving equivalency of service. They would require further study, with the collaboration of the recommended working group, to establish specific surcharges and WAV fleet goals, and these metrics would require updating on a regular basis post-implementation.