

A Minimum Compensation Standard for Seattle TNC Drivers

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Report for the City of Seattle

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Abstract

We examine the pay and hours of drivers working for transportation network companies (TNCs) in Seattle and propose a minimum driver compensation standard. Current gross driver hourly pay is approximately \$21.53. After expenses of \$11.80, a driver nets \$9.73 an hour, much less than the minimum wage. A third of all of drivers work more than 32 hours per week and provide 55 percent of all trips. More than four-fifths of full-time drivers purchased their vehicle primarily or partly to provide TNC services. Nearly three-fourths rely on TNC driving as their sole source of income.

The proposed standard matches the independent contractor equivalent of Seattle's **\$16.39** hourly minimum wage for large employers. The standard also includes **\$1.17 per mile** for drivers' expenses of acquiring, maintaining, and operating vehicles used to transport passengers, for health insurance for those who do not have any, and mandatory payroll taxes and license fees required of independent contractors. Gross compensation, including expenses, would be **\$28.19 per hour**.

The proposed compensation standard would increase hourly gross compensation by approximately 30 percent and increase net hourly compensation by more than 60 percent. About 84 percent of Seattle drivers would receive increases. The compensation standard pays drivers for their time and expenses during all of their working time, per the City's enabling legislation. The compensation standard will reduce racial inequality in Seattle, since TNC drivers make less than most Seattle workers and black drivers constitute a much larger share of the TNC workforce than of the Seattle workforce as a whole.

The costs of the compensation standard will be partly absorbed by reductions in the industry's high commissions, improvements in managing drivers and their vehicles (which now carry passengers only about half the time they are on the street), and small fare increases. Commissions could easily be reduced from their current 25-30 percent to 15 percent, the current cap in Seattle for food delivery services. Policymakers may also want to consider an alternative version of the pay standard, which adds provisions for rest breaks, paid sick leave, paid time off, workers' compensation, unemployment insurance, and retirement savings.

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Table of Contents

Highlights and outline of this report	1
The Covid-19 pandemic.....	3
Section 1 Introduction and background.....	4
Purpose of this report.....	4
Data and methods.....	6
Trends in TNC trip levels, drivers, and vehicles	7
Geographic patterns within Seattle	11
The Seattle minimum wage and wage structure	14
The evolution of Seattle’s regulatory environment for TNCs	15
Section 2 The TNC industry’s business model.....	17
The TNC industry in Seattle—a duopoly	17
Drivers as independent contractors	20
The role of excess capacity	21
Summary.....	22
Section 3 Seattle TNC drivers.....	23
Results from the American Community Survey.....	23
The 2020 Seattle TNC Driver Survey: sample and representativeness.....	25
Comparison of TNC driver demographics in the Seattle driver survey and the ACS.....	27
TNC driver labor supply	30
Summary.....	35
Section 4 Current TNC driver earnings	36
Uber-provided earnings data.....	36
Earnings data from the Seattle Driver Survey.....	38
Section 5 TNC driver expenses.....	41
Driver expenses by vehicle type and averaging on a per mile basis.....	41
Licensing and vehicle registration fees and vehicle excise tax.....	42
Vehicle operating expenses	43
Health insurance and independent contractor taxes	46
Summary.....	47
Section 6 Proposed TNC driver compensation standard	48
Elements of the minimum compensation standard in the enabling legislation	48
Ensuring that drivers are paid for all of their working time	51

Minimum compensation standard	52
Net and gross hourly earnings compared to the proposed standard	55
Summary.....	58
Section 7 The effect of the pay standard on TNC drivers, companies, and passengers.....	59
Effects on the drivers	59
Effects on the TNC companies	61
Effects on passengers.....	65
Summary.....	65
Section 8 Summary and conclusions	66
Afterword: Estimating the effects of Covid-19 and Covid-19-related economic shocks.....	68
References	69
Appendices	71
Appendix 1 Seattle TNC Driver Survey Method	71
Appendix 2 Seattle TNC Driver Expenses	74

Highlights and outline of this report

1. *This report examines the pay and conditions of drivers working for transportation network companies (TNCs) in Seattle and proposes a driver compensation standard.*
 - This standard matches the independent contractor equivalent of Seattle's **\$16.39** hourly minimum wage for large employers.
 - The standard also includes **\$1.17 per mile** for drivers' expenses of acquiring, maintaining, and operating vehicles used to transport passengers, for health insurance for those who do not have any, and mandatory payroll taxes and license fees required of independent contractors.
 - Gross compensation, including expenses, would be **\$28.19 per hour**.
 - Current gross driver hourly pay is approximately \$21.53; after expenses of \$11.80, a driver nets \$9.73 an hour.
 - The proposed pay standard would increase hourly gross compensation by approximately 30 percent and increase net hourly pay by more than 60 percent.
 - Approximately 84 percent of Seattle drivers would receive pay increases.
 - Driver pay for a typical trip of 12 minutes and four miles would increase from \$8.25 to \$11.40.
2. *The compensation standard pays drivers for their time and expenses when they have passengers in their vehicles.*
 - It applies a scaling factor to compensate drivers fairly for the entire time their apps are on, per the enabling legislation.
 - The City would reduce the scaling factor as the TNCs better manage the drivers and their vehicles. Driver pay would then increase further, with more rides per hour.
3. *Our data come primarily from two sources.*
 - An online survey completed by over 6,500 licensed TNC drivers; and summary data requested by the City from the TNCs. The online survey covered the week of December 2-8, 2019 and uses earnings and trip data accessed from drivers' Uber and Lyft apps.
 - Uber partly responded to the City's data request; Lyft declined. Uber provided useful summary data for 11 months through October of 2019.
 - Earnings and other results from the two data sets were similar for Uber drivers.
4. *A third of all of the drivers surveyed drive more than 32 hours per week and provide 55 percent of all trips.*
 - Casual drivers working fewer than 20 hours a week provide only 19 percent of trips.
 - More than four-fifths of all drivers purchased their vehicle primarily or partly to provide TNC services.

- Nearly three-fourths rely on TNC driving as their sole source of income.
 - About half drive for both TNCs.
5. *The costs of the compensation standard will be partly absorbed by reductions in the industry's very high commissions, improvements in the industry's efficiency, and small fare increases.*
 - TNCs use their market power to realize high commissions (25 to 30 percent) and to keep driver pay low. Commissions could easily be reduced to 15 percent, the current cap in Seattle for food delivery services.
 - The industry is inefficient; the drivers' vehicles carry passengers only 49 percent of the time the drivers are on the street.
 - The standard incentivizes TNCs to use their drivers more efficiently.
 - The efficiency gains would be shared with the drivers, better aligning their interests with those of the companies.
 6. *The compensation standard will reduce racial inequality in Seattle because*
 - TNC drivers are paid less after expenses than most Seattle workers, and
 - Black drivers constitute a much larger share of the TNC workforce than of the Seattle workforce as a whole.
 7. *The improved utilization of drivers' time and their vehicles would reduce the number of vehicles on Seattle's streets, while still meeting passenger demand.*
 8. *Policymakers may also want to consider an alternative version of the pay standard.*
 - This option adds provisions for rest breaks, paid sick leave, paid time off, workers' compensation, unemployment insurance, and retirement savings.
 9. *The Covid-19 pandemic has sharply reduced demand for TNC services.*
 - During the upcoming slow economic recovery, more workers will seek to become TNC drivers than will be required.
 - This imbalance provides added justification for a minimum compensation standard. Once the pandemic ebbs more fully, the need for a standard will still remain.

Section 1 describes the purpose of this report, summarizes Seattle's citywide minimum wage requirements, describes the growth and geographical evolution of the TNC industry in Seattle, and reviews the evolution of the City's regulatory environment for TNCs. Section 2 examines the TNC industry business model, the nature of competition between the TNCs, and the tension between the TNCs and the drivers created by the industry's business model. Section 3 analyzes the driver workforce, demographics, and labor supply behavior, drawing from an extensive on-line survey of Seattle TNC drivers. Section 4 itemizes the vehicle and related operating and licensing expenses borne by Seattle drivers and develops an estimate of average expenses per

mile for TNC vehicles. Section 5 draws from two data sets—our online survey and data provided by Uber—to examine the level of driver earnings.

Section 6 details two versions of a driver minimum compensation standard, explains the basis and cost for each component, discusses the structure of the proposed minimum compensation formula, and indicates how it could incentivize the TNCs to make more efficient use of drivers' time and vehicles. It also analyzes how much earnings would have to increase to meet these proposed minimum compensation standards. Section 7 analyzes the likely impacts of the proposed compensation standard on drivers, the TNCs, and passengers. Section 8 provides a summary and conclusions and discusses how Covid-19 has affected the industry.

The Covid-19 pandemic

The City of Seattle's legislation authorizing this report was enacted in November 2019; the City commissioned this report shortly thereafter, with an expected completion date of March 31, 2020. While the sudden emergence of the Covid-19 pandemic in early 2020 has disrupted the economic context in still-evolving ways, and delayed the production of this report, it has not altered the rationale for the driver compensation standard or our analysis.

As a result of the pandemic and its economic disruptions, consumer demand for TNC service plummeted and is likely not to recover for some time. But after the crisis moderates, the nature of TNC service and the dynamics between the companies and the drivers are likely to remain similar to what they were before. The argument for a minimum compensation standard, along the lines of the recommendation presented in this report, will remain. The standard is needed to ensure that drivers will be fairly compensated as well as to encourage the TNCs to better manage the supply of drivers and match the available and potential consumer demand. In the short run, the recovering course of consumer demand may mean that fewer drivers will be required than would seek to drive. This imbalance will provide an additional reason for a minimum compensation standard.

Section 1 Introduction and background

This section describes the purpose of this report, the methods, and data we use to study Seattle's Transportation Network Company (TNC) industry and establishes the context for a minimum compensation standard. The context includes Seattle's minimum wages and wage structure, the growth and evolution of Seattle's TNC industry, and the evolution of Seattle's regulatory environment for TNCs

Purpose of this report

The City of Seattle solicited this report to inform the development of a minimum compensation standard for TNC drivers. For-hire vehicle trips dispatched through the use of a mobile phone app first appeared in Seattle in 2011, growing gradually at first to an estimated 2,000 drivers in March of 2014, then surging to more than 30,000 drivers within four years.¹ App-dispatch for-hire vehicle drivers, referred to as TNC drivers in this report, are treated by the two largest TNCs (Uber and Lyft) as independent contractors, not employees. Based on this independent contractor status, the TNCs assert that drivers are not covered by local, state, or federal minimum wage or overtime laws, do not have the protection of most other labor standards, and are not covered by social insurance programs, such as workers' compensation or unemployment insurance.²

We previously conducted a study of TNCs in New York City (Parrott and Reich 2018). Our study showed that New York City drivers, absent a required minimum compensation standard, earn less than the independent contractor equivalent of the applicable minimum wage and that they are inadequately compensated for the expenses they incur to provide TNC passenger services.³

Seattle drivers have long reported that they are paid less than the Seattle minimum wage.⁴ Previously, however, systematic data has not been available to analyze the overall TNC driver workforce and driver compensation, either gross or net of their expenses.⁵

Uber and Lyft, the major TNCs operating in Seattle, maintain that most of their drivers enter the field because the flexibility provided gives them an opportunity to work for a few hours each

¹John Cook, "Confession of an Uber driver: An inside look at Seattle's new private driver service," Geekwire, August 12, 2011; Reid Wilson, "Seattle becomes first city to cap Uber, Lyft vehicles," The Washington Post, March 18, 2014.

²For the first time, the March 2020 federal Coronavirus Aid, Relief and Economic Security Act (CARES) provided federally-funded unemployment benefits to independent contractors.

³James A. Parrott and Michael Reich, "An Earnings Standard for New York City's App-based Drivers: Economic Analysis and Policy Assessment," Report for the New York City Taxi and Limousine Commission, July 2018.

⁴See, e.g., Kara Kostanich, "Seattle rideshare drivers protest low wages," KOMO News, May 9, 2019.

⁵One of the major TNCs has made extensive data on TNC services available to selected academic researchers. But both major companies have balked at providing data to government entities that would facilitate an informed assessment of driver earnings. For this study, in response to a request by the City of Seattle, Uber provided summary driver earnings data. Lyft declined to provide data in response to a similar request.

week to supplement earnings from another job or while attending school or caring for family members.⁶ Nonetheless, as we show in this report, driving provides the principal job and source of income for a large proportion of Seattle TNC drivers. And more than half of Seattle TNC drivers work for both Uber and Lyft.

As directed by the City of Seattle, this report presents an economic analysis “to determine a minimum compensation standard for TNC drivers that is comprised of at least the equivalent of the ‘hourly minimum wage’ [for large employers]... plus reasonable expenses.”⁷ For purposes of this ordinance, TNCs are treated as if they were large companies for whom the applicable hourly minimum wage for 2020 is \$16.39.⁸ “Reasonable expenses” are specified as expenses incurred by TNC drivers to provide TNC services, including (but not limited to) such items as depreciation, lease payments, maintenance and repairs, tires, gasoline, oil, insurance, and license and vehicle registration fees.⁹

The enabling legislation specifies that a number of factors should be considered for incorporation into the compensation standard. These include: employer-side federal payroll taxes covering Social Security and Medicare that independent contractors must pay; workers’ compensation and unemployment insurance premiums that are required of all employers; compensation for paid-sick and safe time and rest breaks that are required for employees in Seattle; health insurance; and other mandatory and discretionary costs that TNC drivers currently bear.

With regard to the measurement of driver working time, the ordinance defines “TNC services” to mean “services related to the transportation of passengers that are provided” by a TNC driver while logged in to the driver platform, including services provided while waiting for a trip request (“available platform time”), driving to a passenger location (“dispatch platform time”), and transporting a passenger (“passenger platform time”). In the parlance of the TNC industry, these three segments of time logged onto the platform are called, respectively, P1, P2 and P3.¹⁰ We follow this terminology here.

The enabling ordinance also calls for this report to evaluate “the impacts of any proposed minimum compensation standard on TNCs, TNC passengers, and TNC drivers, including TNC driver earnings and work hours.”¹¹

⁶ For example, in May 2019, Lyft stated, “Lyft drivers’ hourly earnings have increased over the last two years, and they have earned more than \$10B [nationwide] on the Lyft platform. Over 75 percent drive less than 10 hours a week to supplement their existing jobs.” Lauren Feiner, “Uber drivers will go on strike over pay and benefits ahead of the company’s \$90 billion IPO,” CNBC News, May 7, 2019.

⁷ Section 14.31.060, City of Seattle, Municipal Code, Chapter 14.31, “Transportation Network Company Driver Minimum Compensation Ordinance,” Ordinance 125977 adopted November 25, 2019.

⁸ The Seattle minimum wage for large employers with more than 500 employees is adjusted each January 1 to reflect the change in the rate of inflation based on the Seattle-Tacoma-Bellevue Area Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W.)

⁹ Paragraph 10, section 14.31.060.

¹⁰ Section 14.31.020.

¹¹ Section 14.31.060, City of Seattle, Municipal Code, Chapter 14.31.

The scope of our charge is limited. This report does not assess the condition of the taxi and flat-rate for-hire car service industry in Seattle, the effects on public transit, or traffic congestion and environmental issues. Compliance monitoring and enforcement measures are important parts of the policy, but beyond the scope of this report.

Data and methods

Exhibit 1 identifies the main data sets we consulted in preparing this report. These include King County driver, trip and vehicle data, demographic data from the American Community Survey, our own online survey of Seattle TNC drivers, and limited data provided by Uber.

The City sought comprehensive driver earnings information from both TNC companies. Uber did provide weekly summary earnings data, but Lyft did not provide any driver earnings, trip, or working hours data. Moreover, neither company provided data on earnings at driver and trip levels, nor data on all working hours. As a result, we rely primarily upon the survey we conducted of Seattle TNC drivers. The survey provided us with earnings, hours, and trip data, as reported by the drivers themselves and separately on the drivers' TNC apps, for the first week of December 2019. We also use summary data for earnings provided by Uber. The data sources will be described further in the sections that follow.

Exhibit 1 Data consulted in this report

Description	Data source
King County TNC administrative driver, trip and vehicle data TNC trips, aggregate counts and origin/destination by zip code TNC, taxi and non-app FHV drivers and vehicles, annual counts Analysis of Seattle TNC trips by neighborhood	King County Records and Licensing Services Division Seattle Department of Transportation
ACS demographic data on King County "taxi drivers" by occupation	U.S. Bureau of the Census, American Community Survey, 2016/18 sample
Seattle TNC driver survey , January 2020 --demographic characteristics --information on driving characteristics (weekly hours, etc.) --vehicle information and expenses --driver earnings, online hours, and trips reported from TNC apps for week of Dec. 2-8, 2019	Online survey of TNC drivers conducted for this report
Uber-provided driver earnings , weekly summaries, first week of each month November 2018 to October 2019 Top ten TNC vehicle types, ranked by mileage	Uber Uber and Lyft
Data requested from Uber, but not received --total # of drivers, # of trip miles and trip minutes --total driver working or online time --distribution of passenger fares Data requested from Lyft, but not received, same list as above PLUS --distribution of driver pay	

In contrast, our report for the New York City Taxi and Limousine Commission (TLC) benefited from having comprehensive company-provided driver earnings and trip information. These data were available through the TLC’s data-sharing arrangement with Lyft, Uber, Via, and Juno. To effectively implement a minimum driver compensation standard in Seattle, the City will require more extensive TNC information on an ongoing basis.

Trends in TNC trip levels, drivers, and vehicles

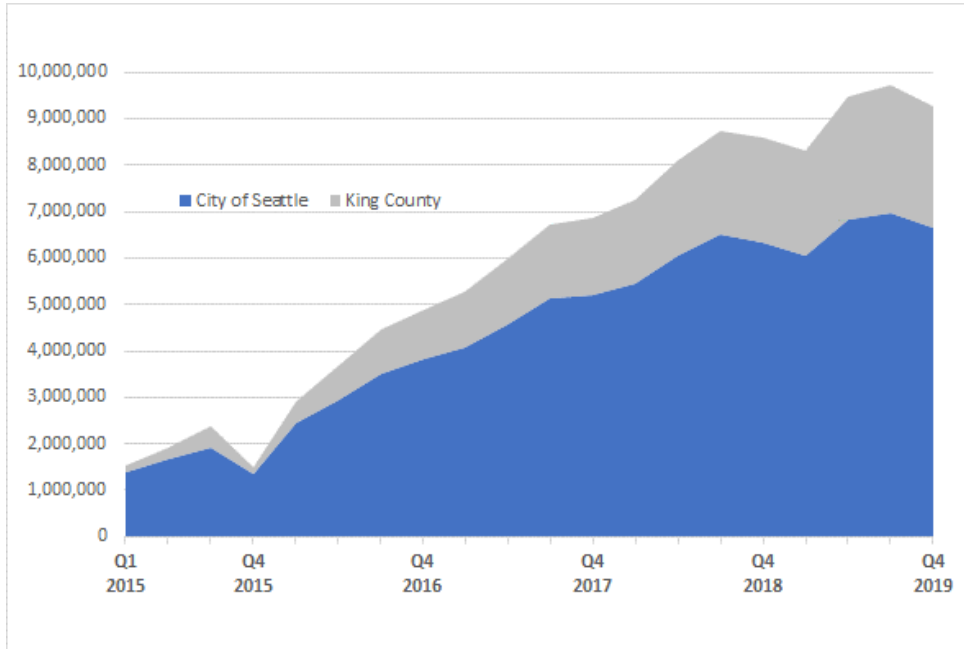
We discuss first trends in the number of TNC trips in Seattle and trends in the number of drivers and vehicles. We then examine changes in recent years in the geographic location of TNC trips.

Exhibit 2 shows trends in the annual number of TNC trips in Seattle and in King County from 2015 to 2019. We show trends for both areas because King County licenses TNC drivers and vehicles that operate in the City of Seattle, and because almost all Seattle drivers also provide trips in King County areas outside of Seattle. One important location, the Seattle-Tacoma Airport, is located in King County, but outside of Seattle.

As Exhibit 2 indicates, trips that originated in Seattle accounted for 72 percent of the combined city-county TNC trips in 2019. For comparison, the city comprises about one-third of the

population of King County. The average quarterly number of TNC trips in Seattle rose more than four-fold from 2015 to 2019, from 1.6 million trips in 2015 to 6.6 million trips in 2019. For the

Exhibit 2 TNC trips (quarterly) City of Seattle and King County



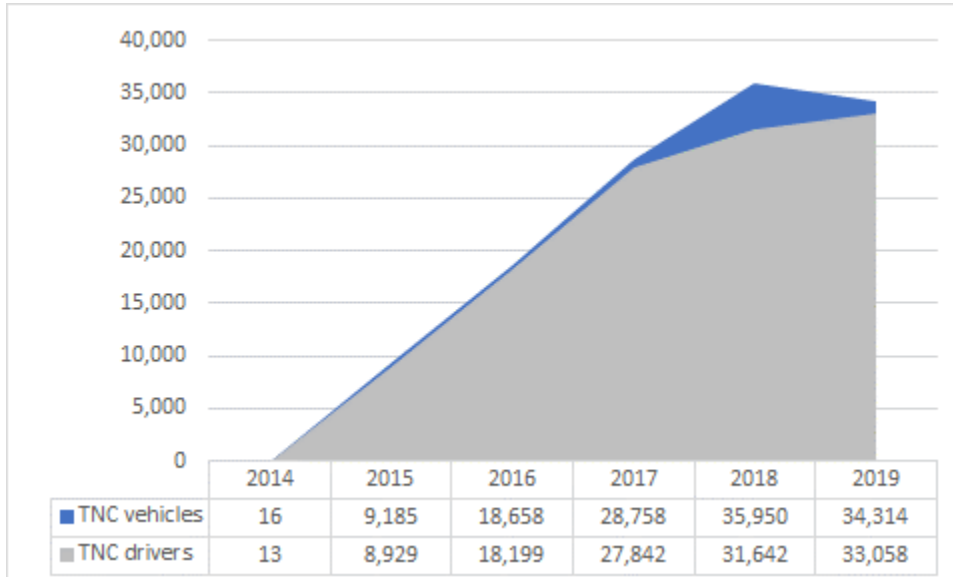
Source: King County Records and Licensing Services Division.

entire year of 2019, Seattle TNC trips numbered 26.5 million, or an average of over 500,000 each week. Non-Seattle originating King County TNC trips rose even faster than those originating in Seattle, from a quarterly average of about 0.25 million trips in 2015 to 2.5 million trips in 2019.

We turn next to trends in the number of TNC drivers and vehicles. As Exhibit 3 shows, the number of TNC drivers licensed by King County, almost all of whom provide services in Seattle, rose from a mere 13 in 2015 to 33,000 in 2019, with particularly rapid growth between 2014 and 2017. The number of vehicles licensed by King County similarly rose sharply before declining by about 1,600 between 2018 and 2019. The number of TNC drivers and vehicles were similar in 2019.¹²

¹² In 2018, King County changed the method used to count vehicles from license plate number to VIN number. This methodology change contributed to a slight decline in the number of vehicles in 2019.

Exhibit 3 TNC drivers and vehicles, King County 2014-2019



Source: King County Records and Licensing Services Division.

The number of TNC vehicles in Seattle and King County is far greater than the number of traditional taxis.¹³ In 2019, the number of TNC vehicles was more than 40 times the number of taxis. The number of taxis grew slightly between 2014 and 2018. But then the number of taxis fell by nearly a quarter in 2019, from 1,108 to 841. The City and the County also license flat-rate vehicles providing a service similar to taxis but with a fixed flat fare based on origin and destination. The number of these vehicles was also constant, at about 470, from 2014 through 2017. It then fell to 211 by 2019.

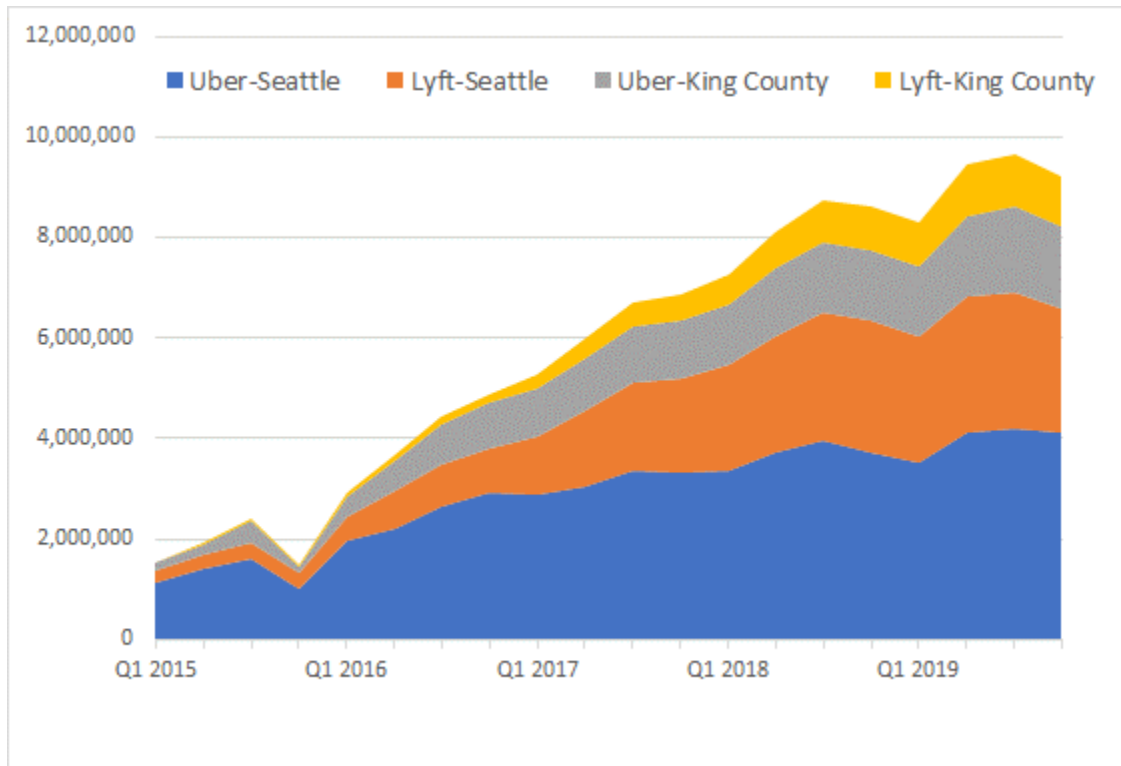
The main TNC companies in the U.S., Uber and Lyft, also dominate Seattle private urban transportation. The two companies together accounted for 99.9 percent of all TNC rides originating in Seattle, until Via arrived on the scene in 2019. Via's 155,300 trips that year accounted for six-tenths of one percent of the citywide TNC trip volume.

Exhibit 4 shows that Uber's early near-monopoly on TNC trips has given way to a duopoly with two trip-providers, Uber and Lyft. In the early TNC years (2015-16), Uber drivers provided 80 percent of all trips, with Lyft at 20 percent. In 2018 and 2019, Uber's share of trips was 60 percent, with Lyft at 39 percent.¹⁴ These market shares are very close to each company's market shares in the entire urban U.S.

¹³ Data on taxis in this paragraph are from King County, Records and Licensing Services Division.

¹⁴ In the fourth quarter of 2019, the latest quarter of data as this report is being written, Uber's share rose slightly to 62 percent, Lyft's share eased to 37 percent and Via's share first crossed the 1 percent threshold. King County, Records and Licensing Services Division.

Exhibit 4 Uber and Lyft trip volume, quarterly, Seattle and King County



Source: King County Records and Licensing Services Division

Comprehensive data on TNC trip volume among U.S. cities is not publicly available. However, Seattle likely ranks among the ten largest TNC markets. (Seattle is the 18th largest city in the U.S. by population, and the Seattle metropolitan area is the 15th largest metro area.)

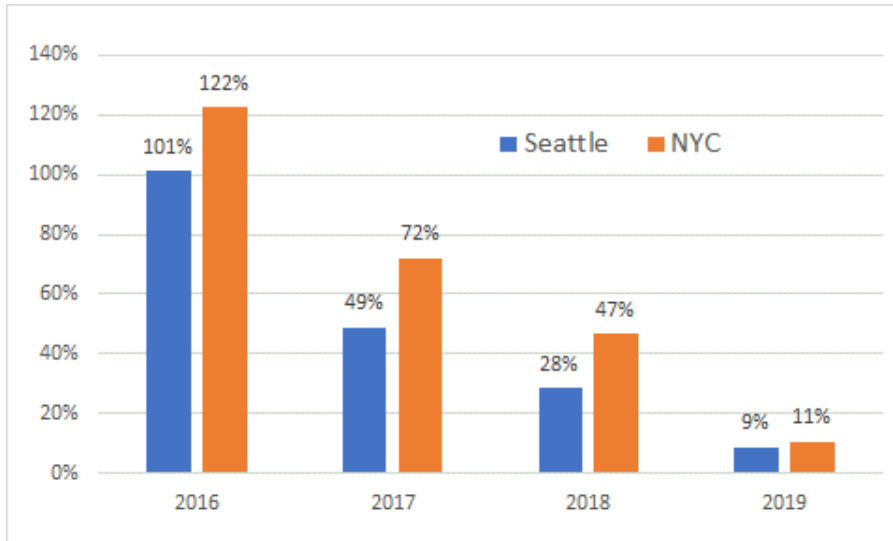
Transportation expert Bruce Schaller has estimated that nine large and densely-populated metropolitan areas accounted for 70 percent of 2.6 billion TNC trips nationally in 2017. Among selected cities, Schaller’s 2017 data showed only four cities (New York City, San Francisco, Washington, DC, and Boston) with more TNC trips than Seattle.¹⁵ A 2019 study by transportation consultants Fehr & Peers conducted for Lyft and Uber reported that TNCs in only five metro regions (Los Angeles, San Francisco, Chicago, Washington, DC, and Boston) registered more vehicle miles traveled than the Seattle area in September 2018.¹⁶

¹⁵ Schaller Consulting, “The New Automobility: Lyft, Uber and the Future of American Cities,” Brooklyn, NY, July 25, 2018, pp. 7-9.

¹⁶ Melissa Balding, Teresa Whinery, Eleanor Leshner, and Eric Womeddorff, *Estimated TNC Share of VMT in Six U.S. Metropolitan Regions*, Fehr & Peers, August 6, 2019, and “Clarifications,” October 2, 2019. The Fehr & Peers study did not include New York City.

As Exhibit 5 shows, the number of Seattle TNC trips rose by 101 percent in 2016 and continued to grow rapidly, albeit at more moderate growth rates in 2017 (49 percent) and 2018 (28 percent). The annual number of TNC trips reached 26.5 million in 2019, only nine percent greater than in 2018.

Exhibit 5 Annual TNC trip growth, Seattle and New York City, 2016 to 2019



Source: King County Records and Licensing Services Division; New York City Taxi and Limousine Commission.

Trip growth in other large cities also moderated from the triple-digit growth rates of earlier years. Exhibit 5 compares trip volume growth for New York City, the nation’s largest market, with that of Seattle. TNC trip volume grew 11 percent in 2019 in New York City, despite a number of policy regulations implemented in 2018 and 2019. New York City imposed a “freeze” on new TNC vehicle registrations in mid-August 2018, implemented a minimum TNC driver pay standard in early February 2019, and at the same time introduced a \$2.75 per trip congestion surcharge for trips beginning or ending within the core central business district of Manhattan.¹⁷ Nonetheless, trip volume growth in the two cities was quite similar in 2019.

Geographic patterns within Seattle

Similar to trip patterns observed in other large cities, TNC trips in the Seattle area grew first in the Downtown business district, in the South Lake Union tech business hub, and in nearby areas. Most trips initially took place within the core business areas or involved commuting trips between high-income residential areas and downtown and South Lake Union office buildings. While most trips are still concentrated in these core areas, in recent years trips have expanded more in more moderate-income neighborhoods and outlying areas.

¹⁷ Because there was a rush to license additional vehicles prior to the effective date of the August 2018 vehicle cap in New York City, the number of TNC vehicles on city streets and trip volume continued to grow for several months. The congestion charge was imposed by the State of New York to raise funds for mass transit.

The table and map shown in Exhibit 6 provide the starting and ending locations for TNC trips for the fourth quarter of each of 2017, 2018, and 2019. The last two columns of the table also display percent changes over the prior year. Besides continued growth in trips to and from Seattle-Tacoma Airport (SeaTac), 2018 and 2019 trip volumes grew the most in neighborhoods in Southeast Seattle and West Seattle, and elsewhere in King County outside of Seattle. Overall, comparing the fourth quarter of 2019 with the fourth quarter of 2018, trip volume rose 4.7 percent in Seattle and 16.4 percent elsewhere in King County. However, total Seattle trip volume was still two-and-a-half times that of the rest of the county in the fourth quarter of 2019.

Exhibit 7 presents the trip data for five common route patterns (based on an analysis by the Seattle Department of Transportation). Downtown trips shown in the first row include trips within Downtown (about 550,000 in the fourth quarter of 2019) but exclude trips to or from the airport—those trips are included in the airport row. Trips in the two business districts, the University District, and the higher-income neighborhoods surrounding Lake Union accounted for roughly three-fourths of all trips in the last quarter of 2019. Note that the passengers on these routes generally have a relatively high ability and willingness to pay higher fares.

In the fourth quarter of 2019, approximately 300,000 trips were between Downtown Seattle (or immediate vicinity) and SeaTac and about 780,000 trips were between anywhere in Seattle and the airport.¹⁸ Airport trips accounted for 8.8 percent of all trips in Seattle and King County in the last quarter of 2019, up from 7.4 percent in the last quarter of 2017.

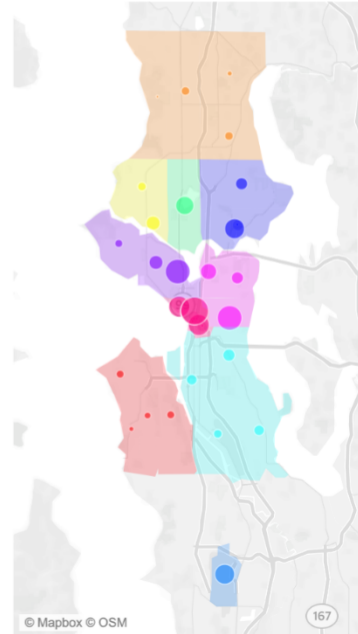
¹⁸ The 300,000 number of trips between Downtown and the Seattle-Tacoma Airport were provided by the City of Seattle and is not separately shown in either Exhibits 6 or 7. The trip data are identified by zip code of the origin and destination; some of the trips classified here (in the text or Exhibits 6 and 7) as “airport” trips might be for locations within the same zip codes as the Seattle-Tacoma airport.

Exhibit 6 TNC trips, Seattle and King County

Starting and Ending Trips

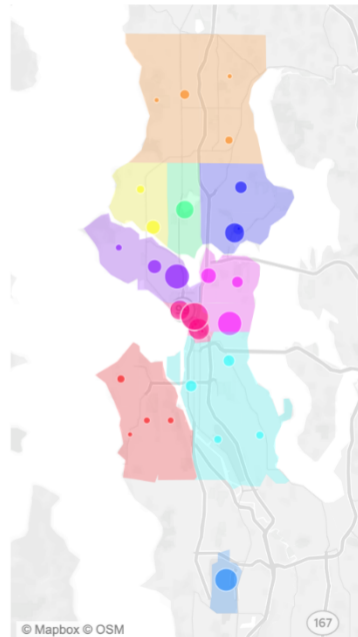
Starting Location

	Recorded Trips			YOY Change	
	2017_q4	2018_q4	2019_q4	2018_q4	2019_q4
● Downtown	1,582K	1,916K	2,018K	+21% ↗	+5% ↗
● Central District/Capitol Hill/Montlake	984K	1,175K	1,176K	+19% ↗	
● South Lake Union/Queen Anne/Magnolia	820K	990K	1,048K	+21% ↗	+6% ↗
● U-Dist/Roosevelt/Wedgwood	522K	650K	656K	+24% ↗	+1% ↗
● SeaTac Airport	326K	448K	560K	+37% ↗	+25% ↗
● SE Seattle/Mount Baker/Beacon Hill/Rainier Valley	361K	481K	571K	+33% ↗	+19% ↗
● Green Lake/Fremont	320K	387K	388K	+21% ↗	
● Ballard/Crown Hill	265K	325K	337K	+23% ↗	+4% ↗
● North Seattle	212K	235K	250K	+11% ↗	+6% ↗
● West Seattle/Alki	167K	214K	244K	+28% ↗	+14% ↗
● King County Other	1,250K	1,103K	1,334K	-12% ↘	+21% ↗



Ending Location

	2017_q4	2018_q4	2019_q4	2018_q4	2019_q4
	● Downtown	1,493K	1,783K	1,880K	+19% ↗
● Central District/Capitol Hill/Montlake	932K	1,095K	1,092K	+17% ↗	
● South Lake Union/Queen Anne/Magnolia	822K	964K	1,022K	+17% ↗	+6% ↗
● U-Dist/Roosevelt/Wedgwood	526K	635K	639K	+21% ↗	+1% ↗
● SeaTac Airport	470K	531K	604K	+13% ↗	+14% ↗
● SE Seattle/Mount Baker/Beacon Hill/Rainier Valley	366K	470K	556K	+28% ↗	+18% ↗
● Green Lake/Fremont	317K	378K	378K	+19% ↗	
● Ballard/Crown Hill	265K	319K	330K	+20% ↗	+3% ↗
● North Seattle	211K	244K	260K	+15% ↗	+6% ↗
● West Seattle/Alki	175K	216K	244K	+23% ↗	+13% ↗
● King County Other	1,221K	1,252K	1,523K	+2% ↗	+22% ↗



Source: City of Seattle.

Exhibit 7 Common TNC trip routes, Seattle and King County

Routes	Recorded Trips			YOY Change	
	2017_q4	2018_q4	2019_q4	2018_q4	2019_q4
Seattle to/from Downtown	2,458K	2,931K	3,047K	+19% ↗	+4% ↗
Seattle cross-town (non Downtown)	1,469K	1,784K	1,831K	+21% ↗	+3% ↗
Seattle within Same Area	905K	1,115K	1,161K	+23% ↗	+4% ↗
Seattle to/from Other King County	321K	352K	420K	+10% ↗	+19% ↗
Seattle to/from Airport	516K	666K	780K	+29% ↗	+17% ↗
Other	1,284K	1,110K	1,475K	-14% ↘	+33% ↗

Note: The first row includes trips wholly within Downtown, and those intra-Downtown trips are not included in the third row, “Seattle within Same Area.” Trips between Downtown and the airport are included in the fifth row, and not in the first row. “Seattle within Same Area” refers the nine Seattle areas shown in Exhibit 6. The sixth row, “Other,” includes all other King County trips not included in any of the above rows.

Source: City of Seattle.

This pattern of a large and growing number of airport trips is important because Seattle’s regulatory reach does not extend to trips that originate outside Seattle. Thus, a minimum pay standard could result in drivers being paid more on trips from Seattle to SeaTac than the reverse, assuming King County takes no similar action. The trip data that was supplied to the City by Uber, which we discuss in Section 6 below, does not include trips that originated at SeaTac, nor does it account for the often large TNC driver wait times at SeaTac.

The Seattle minimum wage and wage structure

Building on its leadership role among cities in establishing a higher minimum wage floor, the City of Seattle seeks to establish a minimum compensation standard for TNC drivers that is the independent contractors’ equivalent of the hourly minimum wage for all Seattle, after taxes and expenses that independent contractors incur. As Exhibit 8 indicates, Seattle has the highest hourly minimum wage of any large city in the U. S. The city’s \$16.39 hourly minimum applies to Schedule 1 entities—employers with more than 500 employees. In this report we treat Lyft and Uber as Schedule 1 entities based on their worldwide employee count, their worldwide driver count, or a combination thereof.

New York City, the only U.S. city with a minimum compensation standard for TNC drivers, currently has a \$15.00 an hour minimum wage for all employees. As of February 1, 2020, the New York City minimum driver pay standard is \$17.47 an hour (up from the 1st year level of \$17.22). The New York City pay standard also adds reimbursement for business expenses and includes provisions for paid leave and the employer share of Social Security and Medicare taxes that independent contractors are required to pay. The New York City driver pay standard is indexed annually for changes in the New York City metro area’s Consumer Price Index. (The New York State minimum wage applicable in New York City is not indexed.)

Exhibit 8 2020 Minimum wage levels, selected large cities



Source: Official City websites.

Seattle leads other cities not only in its minimum wage, but also in recent pay increases throughout the wage distribution, as Zipperer (2018) points out.¹⁹ Nevertheless, wage inequality is much greater than in most large U.S. cities.

The evolution of Seattle’s regulatory environment for TNCs

Washington State law grants municipalities the authority to regulate TNCs.²⁰ In March of 2014, the Seattle City Council passed an ordinance creating a cap of 150 drivers per TNC. Uber opposed these efforts and sought a referendum on the ordinance. Ultimately, Uber and Lyft participated in a joint mediation and negotiation with the City and existing taxi and flat rate vehicle representatives to reach an agreed-upon regulatory framework to be adopted in the City

¹⁹ <https://www.epi.org/blog/six-reasons-not-to-put-too-much-weight-on-the-new-study-of-seattles-minimum-wage/>
²⁰ RCW 46.72.001.

Code. The City Council then passed Ordinance 124524, which implemented the terms agreed upon in the mediation.²¹

Following the mediation, King County passed an ordinance implementing similar terms and an inter-local agreement between Seattle and King County governs driver and vehicle licensing regulations and data sharing. Under this regulatory framework, the County regulates drivers while the City regulates vehicles. The companies are required to submit, on a quarterly basis, data on each trip, listing the origin and destination by zip code, and information on collisions, crimes against drivers, and consumer complaints. Beginning in July 2020, the City will levy three fees totaling 75 cents on each TNC trip originating within the Seattle city limits: one to cover the cost of regulating the industry; one to fund wheelchair-accessible taxis; and a “Fare Share” component to fund affordable housing construction, mass transit improvements and driver protections.²²

In December 2015, the City Council passed an ordinance that established collective bargaining for TNC drivers on the terms and conditions of their work with TNCs. Uber and Lyft challenged the ordinance in Federal Court. In April 2020, the parties settled the lawsuit and the collective negotiations ordinance never became effective.²³

In April 2018, the City Council passed a resolution calling on the TNCs to voluntarily share data by May 31, 2018 on driver working time; trip volumes; distances traveled in P1, P2, and P3; fare information; and driver earnings.²⁴ In January of 2020, Uber provided a limited version of such a data request for use in connection with our study. Lyft has yet to share any driver earnings and related data with the City of Seattle.

In contrast to the case in Seattle, since 2018 the TNCs have regularly provided extensive data on driver earnings and trips to the New York City Taxi and Limousine Commission. While several large cities in the U.S. and around the world require TNCs to provide trip data, relatively few currently require companies to provide data on driver earnings.²⁵

²¹ See Seattle Rules for Transportation Network Companies, <https://www.seattle.gov/business-regulations/taxis-for-hires-and-tncs/transportation-network-companies>. A cap on the number of drivers was not part of the negotiated agreement.

²² Monica Nickelsburg, “Seattle raises fees for Uber and Lyft rides with new tax, passes minimum wage for drivers,” Geekwire, November 25, 2019.

²³ City of Seattle, “City, U. S. Chamber of Commerce, Raiser LLC Agree to Dismiss Collective Negotiations Lawsuit,” Press Release, April 10, 2020.

²⁴ Sarah Anne Lloyd, “Seattle City Council votes to take a closer look at ride-hailing services,” Curbed Seattle, April 9, 2018.

²⁵ In addition to New York City, Mexico City requires TNCs to provide driver earnings data. Meera Joshi, Nicholas Cowan, Olivia Limone, Kelly McGuinness, and Rohan Rao, “E-Hail Regulation in Global Cities,” Rudin Center for Transportation, New York University, November 2019.

Section 2 The TNC industry's business model

This section examines the network-based business model of the Seattle TNCs and identifies two problematic features that the proposed minimum compensation standard would address. These features are an oligopolistic market structure, in which drivers are independent contractors supplying their own vehicles; and a competitive dynamic that encourages excess capacity and under-utilization of drivers' time and capital investments and keeps their pay low.

The TNC industry in Seattle—a duopoly

The app-dispatch for-hire vehicle industry in Seattle consists almost entirely of two TNCs—Uber and Lyft. Both companies use broad-based smartphone technology and matching algorithms to connect networks of passengers with networks of drivers. The TNCs have developed a network-based urban transportation system whose ease of use and coverage exceeds that of traditional taxis. Convenience results from the creation of dense local networks connecting riders and drivers directly, upfront fixed pricing, an easy payment system and quick response times. Supported by considerable venture capital, TNCs aggressively used incentives to attract drivers and passengers. Once a dense network capacity was established, TNC services expanded rapidly.

The TNCs have made significant upfront investments in the technology platform for the app and in the engineers and programmers who maintain it. But once a critical network density was achieved, the marginal cost of expanding service declined sharply. The low cost of further expansion is greatly facilitated by relying on drivers who are treated as independent contractors. The drivers supply their own vehicles and who finance their operation. Each TNC can increase its profit margins by spreading their fixed costs over more revenue-generating trips. This dynamic as well as the profit-disrupting effects of price cuts provide strong incentives to compete on the basis of market share rather than on price.

While Uber developed an early lead in many large cities in the U.S., Lyft has followed closely behind. Benefiting from its own ample supply of venture capital, Lyft has succeeded in securing a significant market share in most cities. In Seattle, Lyft doubled its TNC market share from 2015 to 2017 and now has a 39 percent share, comparable to its nationwide share.

Uber and Lyft together completely dominate Seattle's TNC market, with a combined 99 percent market share for app-dispatched trips. The two companies also dominate the Seattle area's taxi and for-hire vehicle industry; in 2019, there were only 841 licensed taxicabs and 211 non-app for-hire vehicles in Seattle and King County, compared to well over 30,000 licensed TNC vehicles.²⁶

²⁶ King County Records and Licensing Services Division.

The nature of competition in a duopoly—an industry characterized by two dominant firms—has long been studied in economics. The standard duopoly model was first developed in the nineteenth century by the French mathematician Antoine Cournot. Two firms produce the same product and have similar cost structures. Each must take account of how the other will react to a change in its own pricing and market share behavior.²⁷

As in economics textbooks, while both firms possess significant market power, they also compete with each other for drivers and passengers. Companies in a competitive industry—one with many sellers—do not possess pricing power. They face an industry-wide given price for their services. In contrast, a company in a duopoly has price-setting power, but it must also take into account the effects of its price and output strategies on the behavior of its competitor.

As a result of this interactive process, companies in a duopoly generally match each other's prices, in order to avoid a price war that would be ruinous for both. American economist Paul Sweezy noted in 1939 that duopolists prefer a strategy of “live and let live” to one of cutthroat competition.²⁸ They compete instead over market shares. However, their market power gives them significant latitude to set prices at a higher level than would obtain in a more competitive industry—although at the cost of reducing overall demand. It also gives the two TNCs the ability to exercise significant influence over drivers and their compensation.

Their market power allows the TNCs to charge drivers high commissions and to obtain high mark-ups over costs, compare to the case for a competitive industry.²⁹ Duopolists also retain considerable market power over their workers. As we explain further below, economics textbook analyses indicate that duopolists will keep wages lower than the amount that would obtain in a competitive labor market.

To summarize to this point, coexisting duopolists are able to reap substantial profits and to keep pay low. Both Uber and Lyft have consistently reported large quarterly losses overall. However, many of these losses do not stem from urban ride-sharing, but from investments in other lines of business—from scooters, restaurant delivery, and autonomous vehicles—and from losses in some geographical areas and expansion into others. Uber's most recent quarterly financial report breaks out its returns on ride-sharing operations: this line of business generated positive earnings. The core urban ride-sharing business in the U.S. has long generated positive earnings for the companies.

TNCs set and collect passenger fares through their apps and deduct a commission before paying

²⁷ See, e.g., <https://policonomics.com/cournot-duopoly-model/>

²⁸ Paul Sweezy, “Demand Conditions under Conditions of Oligopoly,” *Journal of Political Economy*, 1939.

²⁹ Robert Hall, “New Evidence on the Markup of Prices over Marginal costs and the Role of Mega-Firms in the U.S. Economy,” NBER WP 24574, 2018.

their drivers. In the early years, commission rates were relatively fixed, often in the 20-25 percent range. In recent years, drivers have increasingly complained that commissions have tended to rise and vary arbitrarily. Although rigorous data are not available, it seems likely that the drivers' share of passenger fares has declined.³⁰

Evidence for rising commissions also comes from investment analysts. Internet-based market intermediaries refer to their commissions relative to the total value of transactions as the "take rate." Investment analysts have noted the steadily rising take rates for Lyft and Uber. For example, Deutsche Bank analysts estimated that Lyft's net take rates were 18.0 percent in 2016, 23.1 percent in 2017, 26.8 percent in 2018, and 30.4 percent in 2019. Before the pandemic began, they projected that take rates could rise to 32 percent or more in 2020.³¹

The Deutsche Bank analysts noted that after the two companies completed their initial public offerings (IPOs) in March and April of 2019, they raised passenger fares. The analysts characterized this action as: "raising prices—a by-product of rational competition"; that is, among duopolists.³²

As Stanford economist Robert Hall (2018) has emphasized, large mark-ups of price over marginal costs indicate market power. While commissions are figured relative to total revenues, mark-ups are net profits relative to operating costs.

We do not have Seattle-specific data on TNC commissions, locally generated revenues, or local operating costs. ³³ However, in our 2018 New York City report we were able to estimate that Uber's local profits were six times that of its local operating costs, i.e., that it enjoyed a 600 percent mark-up.³⁴ The TNCs are able to generate such sizable mark-ups, in part, because drivers are bearing a significant portion of the business' operating costs.

If the two firms in a duopoly simultaneously face the same upward cost increase, such as the imposition of a pay floor for their workers, they are both likely to pass on much of the cost increase in the form of a price increase. The amount of the pass-through depends, in part, on the elasticity of demand for that good or service. Elasticity of demand refers to the sensitivity of

³⁰ "Drivers highlighted data collected from dozens of Seattle rideshare drivers that was compiled by the Teamsters Local Union 117. The report shows drivers are now paid an average of 69 percent of what riders pay. That's compared to the 80 percent that drivers when Uber and Lyft first came to Seattle." Kara Kostanich, "Seattle rideshare drivers protest low wages," KOMO, May 9, 2019.

³¹ Deutsche Bank Research, "Looking for a Lyft—Initiate with Buy rating," September 5, 2019, pp. 3-4, 31. Uber's core rideshare gross-take rate for 2018 was reported at 26.2 percent, lower than Lyft's gross take rate of 32.8 percent for that year mainly because Uber includes taxes, fees and tolls in its measure.

³² *Ibid.*, p. 4.

³³ For this study, the City of Seattle had requested that Uber and Lyft provide data on passenger fares and commissions, but neither company supplied that information.

³⁴ Parrott and Reich (2018).

demand to price changes. When demand is relatively inelastic, it will not fall as much as a price increases. Under these conditions, each firm maximizes its profits by absorbing some of the cost increase in lower mark-ups. Moreover, in a duopolistic industry the firms have more room to cut commissions rather than absorb the consequences of a price increase. We come back to this issue in Section 7, where we discuss how TNCs might respond to a driver pay increase.

Drivers as independent contractors

The TNCs consider drivers to be independent contractors rather than employees. The companies set the fares and the number of new drivers credentialed to drive using their apps. Until recently, the drivers set their own schedules and total number of work hours. The companies rely on algorithms in the app to manage the labor time of drivers who supply their own vehicles and who also pay for all driving-related expenses.³⁵ In March 2020, Lyft started urging its Seattle drivers to schedule their time on the app in advance.³⁶

As we already noted, driver payment is not always a fixed proportion of the passenger fare. The proportion depends on a number of company policies, such as promotions for drivers and riders, rush-hour pricing, and route-based pricing. Driver hourly pay will also vary considerably with how much of each hour the drivers transport passengers. Trip demand varies by time of day—with peaks during morning and evening rush hours, in the evenings, and on weekends.

In a TNC duopoly, the reliance on drivers as independent contractors is inherently exploitative, in the sense that driver pay for the same work will be lower than if drivers were employees and many firms were competing for drivers. Many drivers have made upfront investments in their vehicles that lock them into the industry, so they cannot easily move to higher-wage jobs elsewhere. And many drivers are new immigrants, who would have difficulty entering other jobs. Moreover, independent contractors are not covered by the minimum wage and other labor standards protections, and do not receive the benefits mandated or provided voluntarily to employees. Thus, Morgan Stanley analysts estimated that classifying California TNC drivers as employees rather than independent contractors would mean the companies would need to increase labor compensation by 37 percent over current levels.³⁷

The TNC business model is unusual in that the drivers are responsible for a major capital asset—the vehicles. While the TNCs enjoy economies of market scale, benefiting from low marginal costs for expanding services, drivers experience no economies of scale as the industry expands that otherwise might exist if there were employer-owned fleets of vehicles, fleet

³⁵ Alex Rosenblat, “The Truth About How Uber’s App Manages Drivers,” *Harvard Business Review*, 2016; and Alex Rosenblat and Luke Stark, “Algorithmic Labor and Information Asymmetries: A Case Study of Uber’s Drivers,” *International Journal of Communication*, 2016, 10: 3758 - 84.

³⁶ <https://thehub.lyft.com/blog/priority-driving-times>.

³⁷ Morgan Stanley Research, “The ABCs of AB5,” September 5, 2019, p. 3.

insurance rates, and other economies in purchasing tires, repair services or cellphone services.

From 2014 to 2018, when overall payroll job growth was strong and unemployment rates fell to historic lows, the industry was still able to recruit thousands of new drivers. Their success reflects the high number of part-time drivers who need to supplement pay in their other jobs and the limited employment options facing immigrant men without a four-year college degree. The companies in the past also provided one-time incentives to new drivers; but following their IPOs in early 2019, they have reduced both driver and passenger incentives.^{38 39}

The role of excess capacity

The variability in hours among existing drivers, the relative under-utilization of drivers, and the recruitment of new drivers has allowed the companies to play the dominant role in determining driver pay. The companies compete with each other primarily by minimizing passengers' wait times and, to a lesser extent, by decreasing fares.

To achieve quick response times, the companies require many idle drivers to be available at any given moment and at many locations. This model creates a gap between the drivers' desires to maximize their earnings —by maximizing trips per working hour—and the companies' desire to minimize response times. In other words, the current TNC business model relies on keeping driver utilization low, which then keeps drivers' hourly pay low as well. The Deutsche Bank analysis of Lyft's operations pointed out that there was considerable room for the company to reduce the time drivers wait for a dispatch.⁴⁰

The only floor on driver pay consists of what economists call the reservation wage—the wage the drivers could obtain in other options, after taking into account the costs of switching jobs (losing their considerable investments in their cars and their job-specific skills) and their probability of finding another job. These switching costs mean that their reservation wage might be below the minimum wage that obtains elsewhere in the local labor market.

The current business model works well for the companies so long as the supply of driver working hours exceeds the demand for rider trip hours. The companies can then compete for passengers by keeping their wait times low, even beyond the value of the saved time for the riders. The companies then need a supply of available drivers in order to maintain low response

³⁸ The companies have also emphasized the total pay that drivers receive and underplayed the costs associated with driving. Some drivers also have not been fully aware of those costs or the risks associated with upfront investments in their vehicles.

³⁹ Deutsche Bank reported that Lyft reduced its reliance on driver and passenger incentives from 11 percent of gross bookings in the third quarter of 2018 to eight percent in the second quarter of 2019. Deutsche Bank, p. 5

⁴⁰ Deutsche Bank, p. 7-8.

times for their network of riders.⁴¹

The increasing proportion of drivers who work with more than one TNC has not changed this dynamic. These multi-app drivers allow each company to draw upon available drivers who work primarily for one of the other companies. This feature helps sustain the likelihood that there will be shared domination by two companies.

Summary

The three components of the TNC industry's business model—its duopolistic structure, treating drivers as independent contractors, and intentional excess capacity—generate three corresponding market failures. First, high company mark-ups over local operating costs indicate significant market and pricing power. Second, this market power extends to control over their drivers, allowing them to treat drivers as independent contractors. In addition, the drivers' investments in their vehicles make it difficult to switch their work to other industries. This barrier keeps driver supply high and driver compensation lower than it would be otherwise. Third, inefficient utilization of driver working hours results in lower driver compensation and more cars on the streets. Each of these failures would be remedied by the proposed minimum compensation standard.

⁴¹ A New York Times article from 2017 has an interesting interactive graphic that illustrates that “faster pickup times mean more idle drivers,” See Noam Scheiber, “How Uber Uses Psychological Tricks to Push Its Drivers’ Buttons, The New York Times, April 2, 2017. <https://www.nytimes.com/interactive/2017/04/02/technology/uber-drivers-psychological-tricks.html>

Section 3 Seattle TNC drivers

This section discusses the demographic and labor supply characteristics of Seattle TNC drivers and their economic status. We first examine the American Community Survey (ACS), which is conducted by the U.S. Census Bureau, to compare TNC drivers to the overall Seattle and King County workforce. We then describe the results of our own driver survey to shed light on the drivers' labor supply decisions. We find that: (1) the TNC companies were able to expand rapidly in a fast-growing metropolitan region by tapping into a workforce drawn mainly from immigrant males without a four-year college degree; (2) while many drivers are part-time, full-time drivers account for the bulk of trips; (3) many of those who drive as their primary job live in poverty or near-poverty and rely heavily on public assistance programs; and (4) most drivers own their vehicles and purchased them primarily or partly for the purpose of providing TNC services.

Results from the American Community Survey

The three-year 2016-8 American Community Survey (ACS) counted 5,678 “taxi drivers” in King County. The ACS classifies workers according to their primary job. The taxi driver occupational title comes closest to that of TNC driver and is likely the occupation that a TNC driver would identify when responding to the ACS. As noted earlier, there are relatively few licensed taxicabs or non-TNC for-hire-vehicle drivers in King County; TNC drivers thus account for 95 percent of the total drivers for 2016-18. As this section will show, about half of the drivers are full-time; driving for a TNC is their sole source of income. The other half drive on a part-time basis and therefore are excluded from the ACS “taxi driver” category.

As Exhibit 9 indicates, compared to all payroll workers in King County, TNC drivers are much more likely to be male, black, or foreign-born. The differences within each of these demographic categories between drivers and all workers is substantial: 50 percent of drivers are black, compared to only five percent of all workers. Drivers are nearly three times more likely to be immigrants than all King County workers and are more likely to be of prime working age, 25-54, than all workers. Seventy percent of all TNC drivers have less than a four-year college degree compared to 49 percent of all King County wage and salary workers.

Many of these characteristics of Seattle TNC drivers—more heavily males of color, less-educated, and more likely foreign-born—are often associated with restricted job opportunities and lower pay. As noted later in this section, only 10 percent of Seattle area immigrant males without a four-year college degree hold a professional or managerial job and 85 percent earn less than \$40,000 annually.⁴²

Moreover, the ACS data paint a clear picture of economic hardship for many TNC drivers. One-fourth of all drivers have household incomes below the federal poverty line, and nearly another quarter are between 100 and 200 percent of federal poverty. (In 2019, the federal poverty level

⁴² Analysis of American Community Survey data, 2017 5-year sample. IPUMS USA, University of Minnesota, www.ipums.org.

for a three-person family was \$21,330.) Four times as many TNC drivers have incomes below 200 percent of federal poverty as all King County payroll employees (47 percent vs. 12 percent of all employees). Thirty percent of drivers receive federal supplemental nutritional assistance (also known as food stamps), while only seven percent of all King County wage and salary workers are on food stamps. (See Exhibit 10.)

Exhibit 9 TNC drivers and all workers, King County, 2016-18

	<u>TNC drivers</u>	<u>All employed</u>
<u>Estimated number</u>	5,678	1,242,048
	<u>percent distribution</u>	
<u>Gender</u>		
Male	89	55
Female	11	45
<u>Age</u>		
18-24	5	10
25-54	81	72
55 and older	13	18
<u>Race-ethnicity</u>		
White non-Hispanic	27	63
Black	50	5
Hispanic, Asian and other	23	32
<u>Foreign-born share</u>	72	27
<u>Education (age >24)</u>		
High school or less	30	21
Some college	40	28
Bachelor's or higher	30	51

Notes: King County residents; categories may not sum to 100% due to rounding

Source: pooled 2016-18 American Community Survey, IPUMS USA, University of Minnesota, www.ipums.org.

As Exhibit 10 shows, TNC drivers are particularly unlikely to have health insurance—27 percent have no health insurance, while 37 percent have incomes low enough to qualify for Medicaid coverage. Thus, nearly two of every three drivers either qualify for Medicaid or have no health insurance—a status more than five times as severe as for all King County wage and salary jobs.

Exhibit 10 TNC drivers and all employees, King County, 2016-18

	<u>TNC drivers</u>	<u>All employed</u>
	<u>percent distribution</u>	
Poverty status of household		
0-100% of federal poverty	24	4
100-200% of federal poverty	23	8
greater than 200% of federal poverty	53	88
Receiving Supplemental Nutritional Assistance	30	7
Health Insurance Coverage		
Medicaid	37	6
Medicare	9	3
Employer provided (includes spousal coverage)	24	82
Purchase own insurance	10	8
Uninsured	27	6

Source: Source: pooled 2016-18 American Community Survey, IPUMS USA, University of Minnesota, www.ipums.org. For 2019, the federal poverty level for a three-person family was \$21,220. For a four-person family, it was \$25,750.

Despite Seattle’s pre-2020 record of strong job growth and a high minimum wage, the job opportunities available for less-educated immigrant males generally are low-paid. The five-year 2013-17 ACS counted 91,000 immigrant males with less than a four-year college degree in King County. Only 10 percent of this cohort had a professional or managerial job; 50 percent of all workers in this group were in occupations with median annual earnings of \$30,000 or less, and another 35 percent had median earnings between \$30,000 and \$40,000.⁴³ Among this cohort, transportation occupations had median earnings of \$26,900 and were the second-largest source of jobs, after construction. Even immigrant males with a four-year college degree or better had extremely low wages in transportation occupations—their median earnings were \$27,000 versus \$100,000 overall. Thus, many immigrant men likely were drawn into driving for TNCs by the promise of better pay than in alternative prospects in food services, building services, retail sales, and construction.

The 2020 Seattle TNC Driver Survey: sample and representativeness

To inform this report, the City of Seattle commissioned an independent survey of TNC drivers. The survey was administered by a national communications and survey research firm, PRR, based in Seattle.⁴⁴ It was fielded in January 2020 using Qualtrics, a well-known online survey platform. PRR sent an online questionnaire to email addresses for all TNC drivers (31,543)

⁴³ American Community Survey, 5-year 2017 sample. Both employees and self-employed were included in this occupational analysis.

⁴⁴ <https://prrbiz.com/>

licensed by King County as of late 2019. Appendix 1 provides more detailed information on the fielding of the 53-question survey. The survey included questions about driving for a TNC, vehicle expenses, and demographic characteristics. It asked respondents to enter summary information from their Uber and/or Lyft app regarding their driving activity during the week of December 2-8, 2019.

The survey elicited reasonable response rates. About two percent (734) of the emailed surveys bounced back; 9,379 responses were received. We eliminated returned surveys with no completed answers and used Qualtrics quality control metrics to screen for possibly fraudulent responses and likely duplicates. After cleaning the survey sample there were 7,394 surveys. For the first substantive question, “which company do you drive for?” there were 6,789 responses, 21.5 percent of the universe of driver email addresses to which the survey was sent. By comparison, the driver surveys that informed Hall and Krueger’s 2018 article on Uber drivers had response rates of around 10 percent. Predictably, response rates in the Seattle survey varied across the survey, with response rates tapering off toward the end, depending on the topic and ease of responding. In the discussion and exhibits that follow, we report the number of responses for each question or set of questions analyzed.

The key question about “usual weekly working hours” elicited 6,554 responses (20.8 percent). Questions on demographic characteristics, which appeared toward the end of the survey, elicited responses from about 12 percent of the driver universe. We trimmed responses to questions asking about earnings (and related data reported on drivers’ Uber and Lyft apps) and expenses to eliminate reporting errors and other outliers. Some of the questions asked drivers to consult their driving record using their Uber or Lyft app for the week of December 2-8, 2019. These questions elicited a smaller but still substantial response rate: about 2,022 drivers (6.6 percent of the sampling universe). The drivers who responded to these questions account for a disproportionate share (13 percent or 92,000) of all Seattle-King County trips provided during the survey week.

Given the racial, ethnic, and linguistic diversity of the driver universe, the survey was translated into seven languages (Spanish, Simplified and Traditional Chinese, and four East African languages—Amharic, Oromo, Somali, and Tigrinya), with targeted outreach at community locations to inform drivers about the survey.

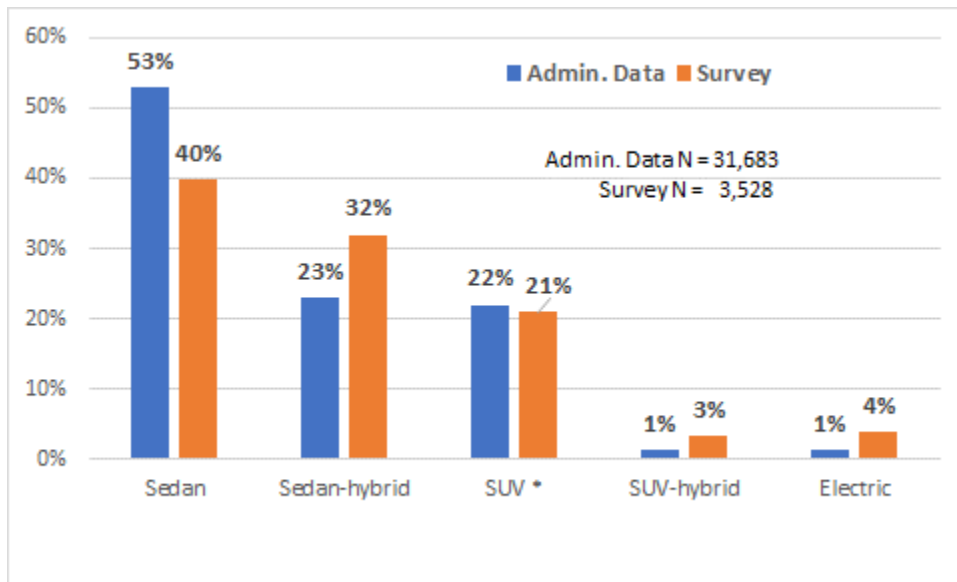
We used a number of methods to check the representativeness of the survey. The first compares the vehicles used by survey respondents to administrative records compiled by King County to license vehicles for TNC services. We identified five broad types of vehicles—sedan, sedan hybrid, SUV, SUV-hybrid, and electric. Exhibit 11 shows the distribution of vehicle types for the set of TNC vehicles licensed in King County and the vehicles used by survey respondents. Seventy-six percent of the set of King County licensed TNC drivers have a sedan or hybrid sedan, compared to 72 percent of Seattle TNC survey respondents. Survey respondents and all King County licenses reported similar shares of SUVs, 21 and 22 percent, respectively. The percentage who drive a hybrid SUV or electric vehicle was very low in both groups.

Our second check on the representativeness of our survey respondents compared the geographical location of driver residences in the King County administrative data and among our

survey respondents. In particular, we compared zip codes among the drivers who appear in both datasets. These results found a close correspondence in the relative frequency of zip codes and their proximity among the drivers in both data sets.⁴⁵

Finally, we compared the gender and age distributions of TNC drivers in the survey with the ACS data we presented above. These results (not shown here directly but compare Exhibits 9, 12, and 14) indicated close alignments between the two datasets.⁴⁶

Exhibit 11 Distribution of TNC vehicle types—administrative data and driver survey results



Source: King County Licensing and Records Division; City of Seattle Jan. 2020 TNC Driver Survey.

Comparison of TNC driver demographics in the Seattle driver survey and the ACS

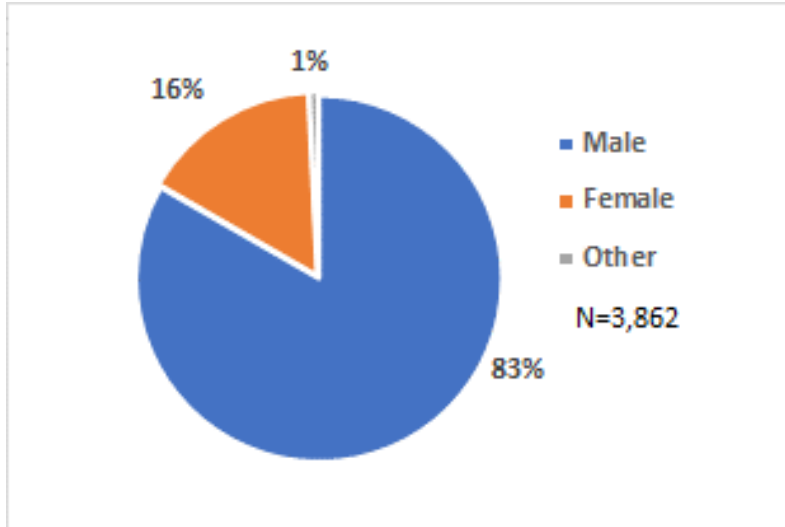
As Exhibit 12 shows, sixteen percent of survey respondents were female, slightly more than the 11 percent in the ACS data. The ACS data are for 2016-18; the driver survey indicates a gradual increase in female TNC drivers in recent years. While there are high overall shares of the driver population who are persons of color in the ACS data (73 percent) and among survey respondents (55 percent), the share of drivers identifying as black non-Hispanic was slightly less than half

⁴⁵ We ranked the zip codes for respondents to the survey and King County’s list of TNC drivers—18 of the top 20 zip codes by frequency of drivers were the same in the survey and the County’s list. In the driver survey, the top 20 zip codes accounted for 39 percent of all those indicating a zip code and the top 20 zip codes in the county list represented 45 percent of all drivers.

⁴⁶ In order to moderate the length of the survey, we did not ask about educational attainment, household income or health insurance coverage and so we could not check the representativeness of the data along those dimensions.

that for the survey (23 percent) compared to the ACS (50 percent.) The black share of all King County employees is very small (five percent).

Exhibit 12 Gender, Seattle TNC drivers

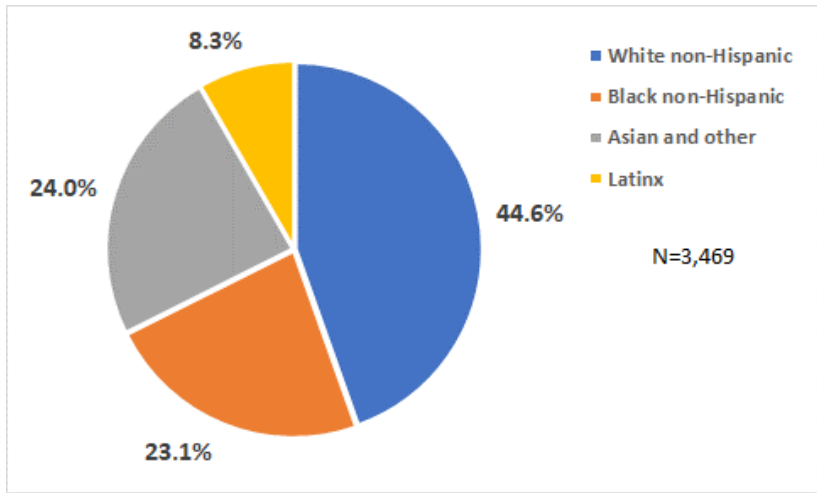


Source: City of Seattle Jan. 2020 TNC Driver Survey.

As Exhibit 13 shows, nearly a quarter (24 percent) of drivers responding to the survey were Asian, American Indian, Alaskan Native, Hawaiian, or Pacific Islander, or other or of mixed race. The Hispanic or Latinx share was 8.3 percent. In the ACS data for King County taxi drivers, the Hispanic share was combined with Asian and other to improve statistical reliability—the combined share was 23 percent vs. a combined share of 32 percent in the survey.

The under-representation of blacks among survey respondents may result from language access issues; many drivers are recent immigrants from East Africa. While the survey was translated into four languages spoken in Ethiopia, Eritrea, and Somali (Amharic, Oromo, Somali, and Tigrinya) these communities proved hard to reach. Non-Hispanic whites constituted 45 percent of survey respondents compared to a 27 percent share in the ACS data.

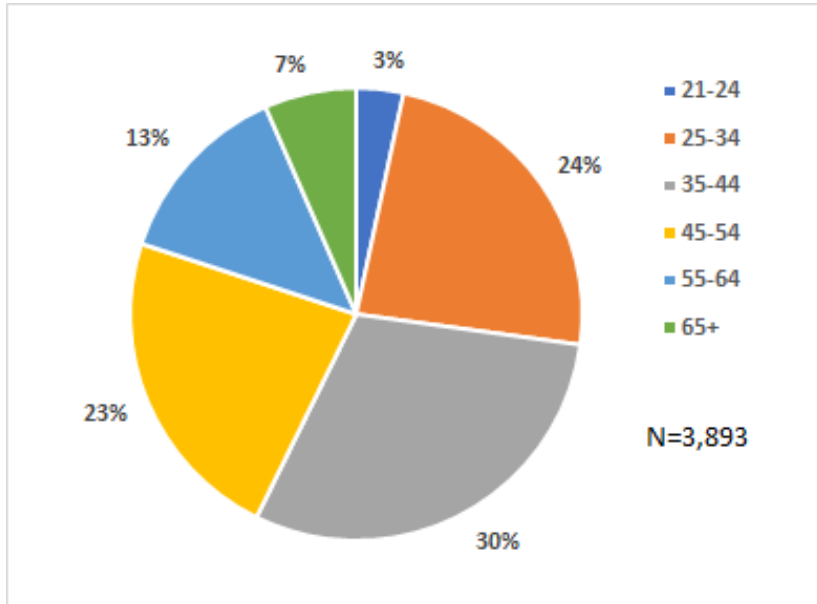
Exhibit 13 Race-ethnicity, Seattle TNC drivers



Source: City of Seattle Jan. 2020 TNC Driver Survey.

As Exhibit 14 shows, very few TNC drivers are young (under the age of 25), while the share of drivers 55 and over was higher among survey respondents (20 percent) than in the ACS data (13 percent). Over three-quarters of all TNC drivers in both the survey and the ACS data are in the prime working age range, 25-54 years old.

Exhibit 14 Age distribution, Seattle TNC drivers



Source: City of Seattle Jan. 2020 TNC Driver Survey.

TNC driver labor supply

TNC services have grown rapidly in Seattle over the past five years, adding over 30,000 drivers (some may previously have driven taxis). During this same period, the city's population rose faster than in any other large city in the U.S. Payroll jobs in the Seattle metro area grew by 230,000, or 15 percent from 2014-19.⁴⁷ Strong growth in many high-paying industries helped push the Seattle metro area's unemployment rate down from four percent in 2016 to 2.8 percent in 2019.⁴⁸ Seattle also led the nation in raising its hourly minimum wage, reaching \$15.00 for all large employers on January 1, 2018.

In the context of a surging Seattle economy, the TNCs were able to expand quickly by attracting immigrant males with less than a four-year degree in the U.S. as drivers, many of whom typically face limited opportunities for well-paying payroll jobs. The Seattle driver population contrasts sharply with the driver profile described in one of the often-cited early analyses of TNC drivers, by economists Jonathan Hall and Alan Krueger. This study found that the demographic characteristics of Uber drivers in a 2015 sample of U.S. cities paralleled the overall workforce in those cities.⁴⁹ As noted earlier, the Seattle driver work force is much more heavily immigrant, of color, and with far fewer four-year college graduates than the overall King County workforce.

Hall and Krueger also emphasized that more than half of all Uber drivers typically drove 15 or fewer hours a week. According to the Seattle Driver Survey, only a third of drivers log less than 20 hours a week. And, as the ACS data cited earlier showed, among Seattle-area drivers whose primary occupation is to drive passengers, many live in or near poverty and have earnings low enough to qualify them for Supplemental Nutrition Assistance or Medicaid.

As Exhibit 15 shows, over half of Seattle drivers work for both Lyft and Uber. Having two apps open at the same time increases the likelihood a driver will get a dispatch and generate earnings. But such multi-apping also generates additional burdens for the driver. A multi-app driver has to juggle two TNC brands and two apps (making sure to log out of the second app while providing a trip under the first app), and doubles the effort needed to track their earnings to ensure they are properly compensated.

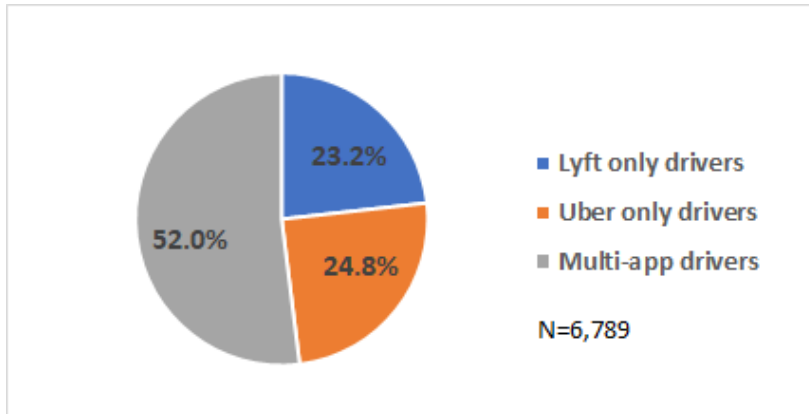
Given the large number of multi-app drivers, TNC companies typically understate the hours that their own TNC drivers work each week. The companies cannot know how many hours their drivers spend carrying passengers for the other company. As drivers reported in the survey, their combined weekly hours working for both companies are much higher than is usually acknowledged by the companies.

⁴⁷ Gene Balk, "Decade in demographics: top 5 changes in the Seattle area," *Seattle Times*, December 30, 2019; payroll employment from the Bureau of Labor Statistics, Current Employment Survey.

⁴⁸ U.S. Bureau of Labor Statistics.

⁴⁹ Jonathan V. Hall and Alan B. Krueger, "An Analysis of the Labor Market for Uber's Driver-Partners in the United States," *ILR Review*, May 2018, pp. 705-732.

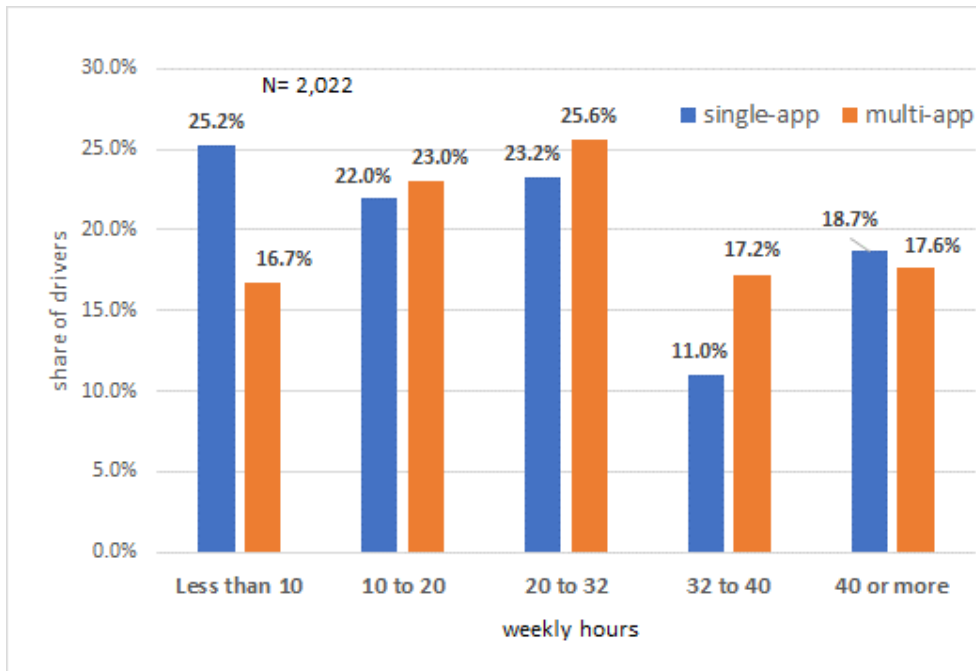
Exhibit 15 Over half of Seattle TNC drivers work for both Lyft and Uber



Source: City of Seattle Jan. 2020 TNC Driver Survey.

The best indication from the Seattle driver survey of weekly hours is provided by the data drivers reported from their apps for the week of December 2-8, 2019. This method provided actual hours online during that week and allowed us to compile total weekly hours for multi-app drivers. As Exhibit 16 shows, while one in four single-app drivers drive less than 10 hours a week, only one in six multi-app drivers drive that little. Thirty percent of single-app drivers are full-time at 32

Exhibit 16 Weekly hours, Seattle TNC drivers, single-app and multi-app drivers

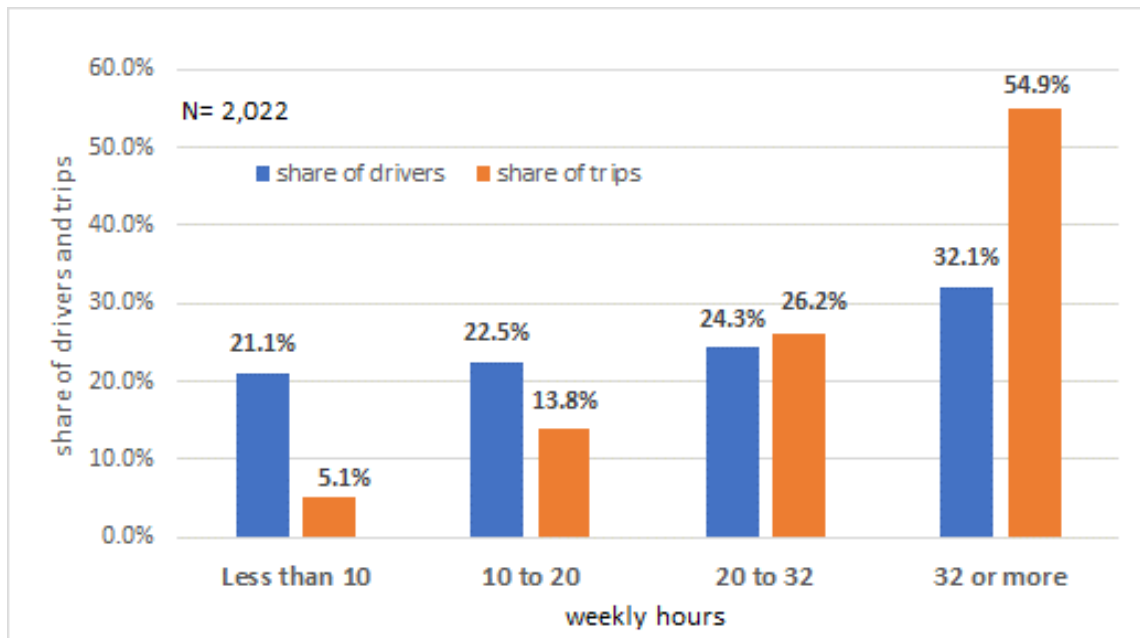


Source: City of Seattle Jan. 2020 TNC Driver Survey.

hours or more a week, but 35 percent of multi-app drivers are full-time. Some drivers might appear to Uber or Lyft to be part-time drivers since each company lacks visibility into the work the drivers performed for the other company. Taking all drivers together—both single- and multi-app—nearly a third (32 percent) usually drive 32 hours or more per week. Another 24 percent drive between 20 and 32 hours a week.

As Exhibit 17 shows, full-time drivers account for over half of all trips. The data that the drivers recorded on their TNC apps for the week of December 2-8, 2019 indicate that full-time drivers (those reporting 32 or more usual weekly hours) accounted for nearly 55 percent of all trips provided by drivers responding for that week. As Exhibit 17 also shows, casual drivers (those usually driving less than 20 hours per week) represented nearly 44 percent of drivers but provided less than 19 percent of trips during that week. Drivers intermediate between casual and full-time—i.e., those usually driving more than 20 hours but less than 32 hours—accounted for 24 percent of drivers reporting their work activity that week, and they provided 26 percent of the trips recorded by survey respondents for that week.

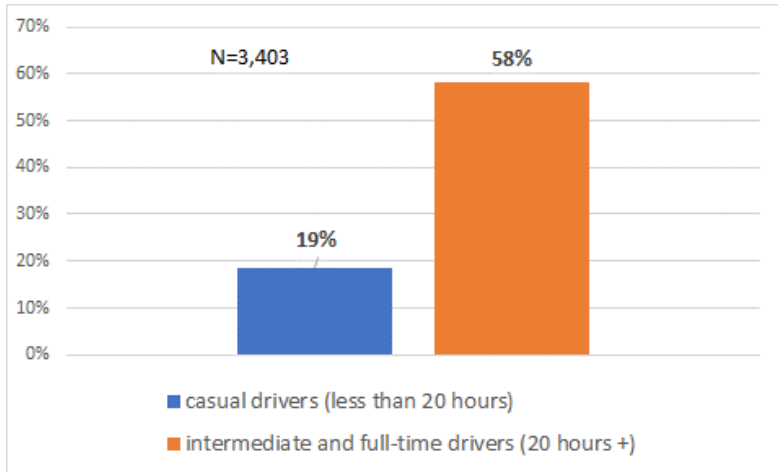
Exhibit 17 Full-time drivers provide more half of all trips



Source: City of Seattle Jan. 2020 TNC Driver Survey.

Exhibit 18 indicates that the majority of intermediate and full-time drivers (20 hours or more a week) depend on TNC driving as their sole source of income, according to the driver survey. While only 19 percent of casual drivers (less than 20 hours per week) say TNC driving is their sole source of income, 58 percent of those driving 20 or more hours weekly depend on driving for their livelihoods, and among full-time drivers the share is 72 percent.

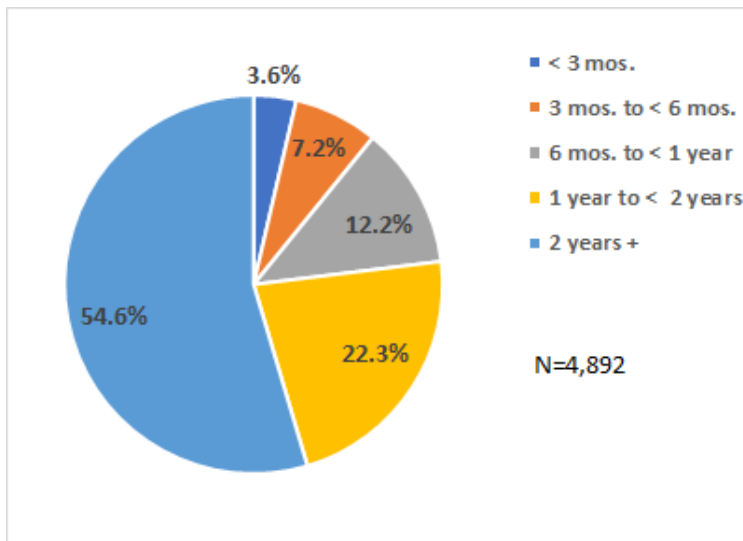
Exhibit 18 More than half of intermediate and full-time drivers rely on TNC driving as their sole source of income



Source: City of Seattle Jan. 2020 TNC Driver Survey.

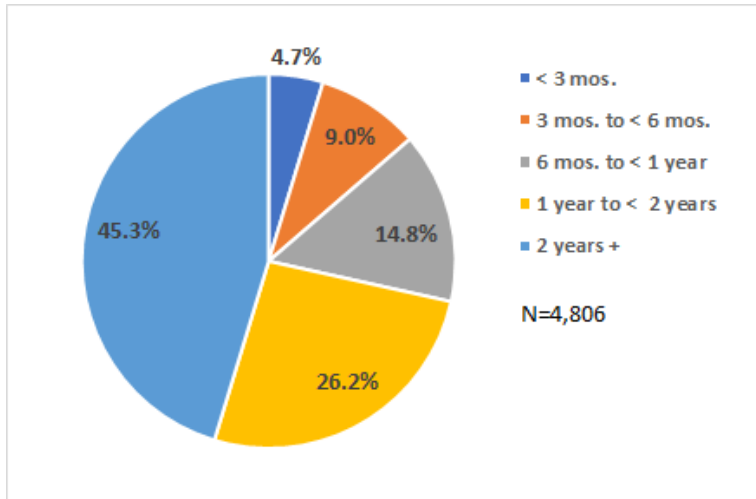
Our finding that driving is a primary means of earning a livelihood for nearly three-fourths of full-time drivers is underscored by responses to the question of how long drivers had been working for Uber or Lyft. Exhibit 19 shows that 55 percent of Uber drivers reported they had been working two years or more for the company. Exhibit 20 shows that 45 percent of Lyft drivers had been driving for Lyft for that long.

Exhibit 19 Tenure as a Seattle Uber driver



Source: City of Seattle Jan. 2020 TNC Driver Survey.

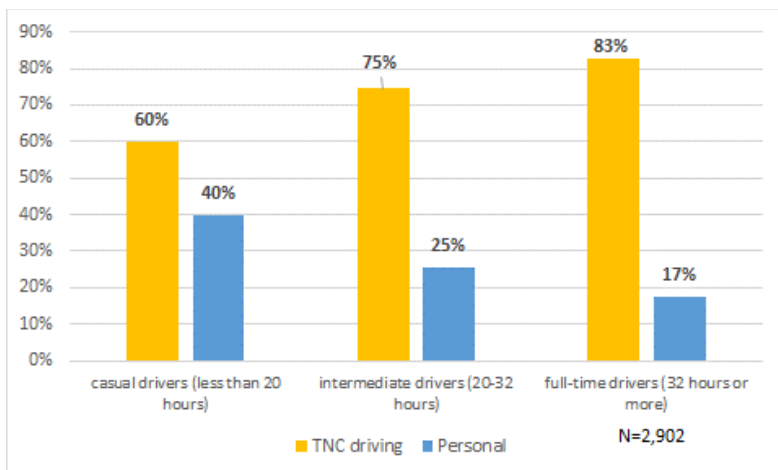
Exhibit 20 Tenure as a Seattle Lyft driver



Source: City of Seattle Jan. 2020 TNC Driver Survey.

As it currently operates, the TNC industry relies on drivers to make the capital investment in vehicles needed to provide passenger services. Typically, the TNC companies contend that the marginal cost of operating a vehicle to provide TNC services is nominal, since most drivers already own their own car. While five out of every six drivers (83 percent) report that they own their own vehicles, 70 percent of those owners are still paying for their cars. However, the Seattle Driver Survey reveals that nearly three-fourths (72 percent) of these TNC driver-owners purchased their vehicles primarily or partly for the purpose of providing TNC services. And as Exhibit 21 shows, among full-time drivers, 83 percent reported purchasing their vehicles to provide TNC services. Only 17 percent indicated they purchased their vehicles primarily for personal reasons. This finding supports the conclusion that more than half of the intermediate and full-time drivers providing the bulk of TNC trips primarily strive to earn their living by providing TNC services.

Exhibit 21 Most TNC drivers acquired a vehicle to earn money driving



Source: City of Seattle Jan. 2020 TNC Driver Survey

Summary

This section has reviewed the demographic characteristics of TNC drivers in Seattle and King County, discussed their precarious economic status, and summarized new information from an extensive online driver survey. Seattle TNC drivers are much more likely to be male, black, or foreign-born than workers in King County. About 30 percent have a four-year college degree, much less than the 51 percent share among all workers in King County. Compared to all workers, TNC drivers are four times more likely to live in poverty or near-poverty, more than four times as likely to receive supplemental food assistance and six times more likely to rely on Medicaid. Twenty-seven percent of TNC drivers report having no health insurance.

TNC companies were able to expand rapidly in a fast-growing metropolitan region by tapping into a workforce drawn mainly from immigrant males without a four-year college degree. Job opportunities for such workers are generally limited to low-paying positions (often with few benefits) in sectors such as food services, building services, retail sales, and construction.

Exhibit 22 below summarizes several important characteristics of Seattle TNC drivers. Most of the TNC trips are driven by full-time drivers.

Exhibit 22

Seattle TNC trips mainly provided by full-time drivers who purchased their vehicles to earn a living driving for hire

- * 52% of drivers work for both Lyft and Uber.
- * 32% drive full-time (32 hours or more per week) and these full-time drivers provide 55% of all trips.
- * 24% of drivers work intermediate hours (20 to 32 hours a week) and provide 26% of all trips.
- * 44% of drivers are casual drivers working fewer than 20 hours a week and provide only 19% of all trips.
- * 83% of drivers own their vehicles and 83% of full-time drivers purchased their vehicle mainly to provide TNC services.
- * 72% of full-time drivers rely on TNC driving as their sole source of income
- * 50% of drivers have been driving for TNCs for 2 years or more.

Source: City of Seattle Jan. 2020 TNC Driver Survey.

Section 4 Current TNC driver earnings

This section examines the current earnings of Seattle TNC drivers and compares them to the two proposed minimum compensation standards discussed in the previous section. We first discuss two data sources that we use in this analysis—summary earnings data provided by Uber (Lyft declined to provide earnings data), and earnings data derived from the January 2020 Seattle Driver Survey. Using these two datasets, we analyze the earnings for all drivers who reported earnings below the minimum pay standard. We then estimate the average compensation increase that would bring these drivers up to the proposed minimum standard.

Uber-provided earnings data

At the request of the City of Seattle, Uber provided summary data on driver earnings for the first week of each month from November 2018 to October 2019. The weekly data included mean and standard percentile distribution (10th, 25th, 50th, 75th, and 90th percentile) data points for gross weekly driver earnings; P1, P2, and P3 trip segments; and average speeds for these three trip segments. The gross earnings data included trip-related payments, trip-level incentives, and prorated shares of weekly non-trip-specific promotions. Tolls were not included in the reported earnings data, and tips were reported separately. The data provided was only for TNC drivers who were *not* also delivering food through UberEats.⁵⁰

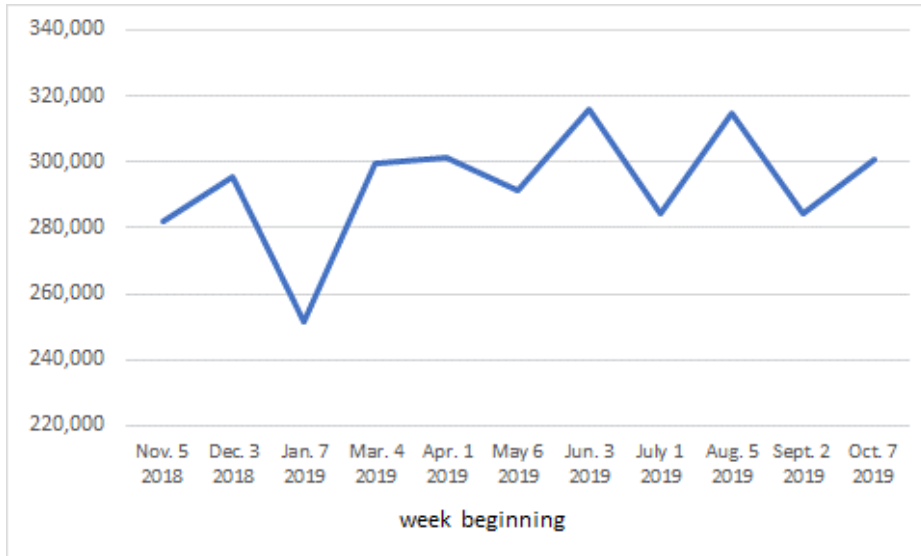
The data Uber provided to the City of Seattle reflects the time and distance of trips that originate in the city (even if ending outside the city limits). If a trip that begins in the city is provided by a driver who is outside the city limits when receiving the dispatch, only the P2 time and distance within the city limits is included in the Uber-provided data. The data provided by Uber does not include data for trips originating outside the city that end inside the city.

In response to a similar data request submitted to Lyft by the City of Seattle, Lyft provided only fleet composition data for the top 10 vehicles providing TNC services in Seattle.

TNC activity was restricted during one of the Uber-provided earnings data weeks—the week beginning February 4, 2019—because of a severe winter snow storm. Trip volume for that week fell to about 40 percent below the average for the other weeks, distorting the pattern of usual driver earnings. We therefore excluded that week from the analysis. Exhibit 23 shows the relative consistency of trip volume for the other 11 weeks in the Uber data set. The Uber data covered an average of 292,000 trips for each of those 11 weeks.

⁵⁰ The data submitted by Uber only partly responded to the City’s request. Data items not provided include total number of drivers, number of trip miles and minutes, distribution of driver trip miles, distribution of passenger fare data, longitudinal data for drivers on trip miles and minutes, and driver pay. Uber, and Lyft, did submit a list of the ten vehicle models providing the largest shares of trip miles, but not the full fleet composition data requested.

Exhibit 23 Weekly trip volume for Uber-provided driver earnings data

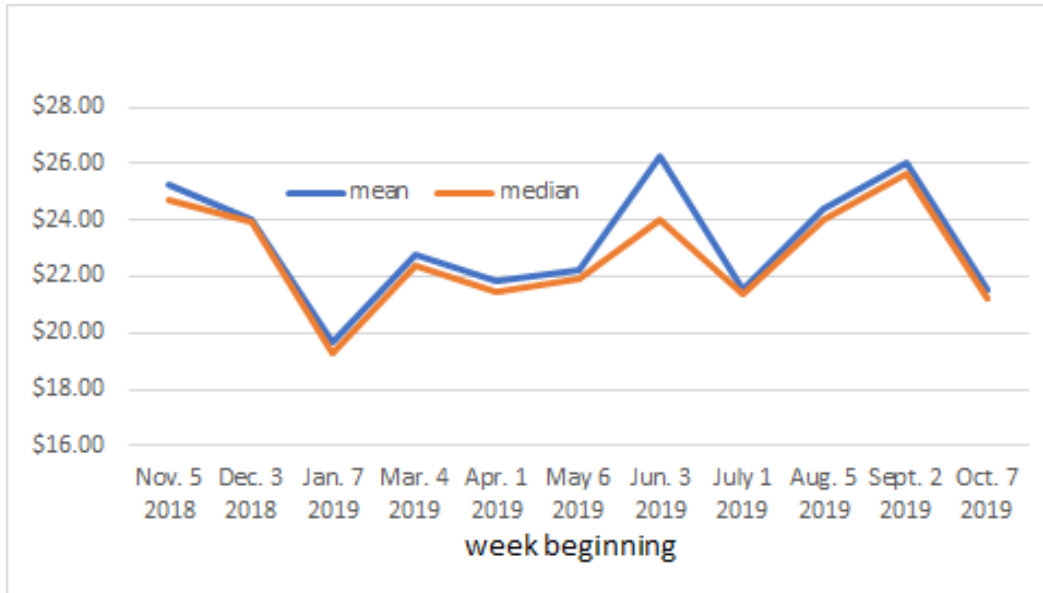


Source: Uber-provided earnings data.

We were able to approximate gross (before expense) hourly earnings for Uber drivers from the weekly earnings and time segment data provided by Uber. Aggregating P1, P2, and P3 weekly values gave us working time. Over the course of the 11 weeks, the mean and median hourly earnings were very stable and close. Indeed, as Exhibit 24 indicates, the average of the median hourly gross earnings over the 11 weeks (\$22.71) is only two percent less than the average of the mean values (\$23.23). In the analysis that follows, we rely on average hourly earnings from the Uber-provided data. One can use the distribution of weekly earnings data and the distribution of weekly hours to generate a “distribution” of hourly earnings, but it is not a distribution of individual driver hourly earnings, and it is predictably a relatively flat distribution since it is based on grouped data rather than individual data in which there is considerable variation (as seen below in the discussion of the individual earnings data from the Driver Survey.)⁵¹

⁵¹ To inform this study, the City of Seattle requested that Uber and Lyft provide data on the distribution of individual driver hourly earnings. Neither company complied with that request; Uber did provide the weekly earnings data described above. Uber did not provide information on how extensively they refined the driver earnings data, other than indicating that they only provided data for trips originating within Seattle as noted earlier. They did report that they excluded P1 times for drivers who were located outside Seattle city limits when dispatched a trip originating within the city limits. In driver earnings data for individual drivers that Uber provided to the New York City Taxi and Limousine Commission, the distribution of earnings more closely resembled the pattern of the app data reported in the Seattle Driver Survey (see Exhibit 30.)

Exhibit 24 Mean and median gross hourly earnings, Uber drivers, Nov. 2018-Oct. 2019



Source: Uber-provided earnings data.

Earnings data from the Seattle Driver Survey

The driver survey, administered in early January 2020, asked TNC drivers to record summary data from their Uber and Lyft apps for their working time (trips, times, and gross earnings) during the week of December 2-8, 2019. We chose a week that was recent in time to the date the survey was fielded and that would be representative of an average week. Subsequent weeks in December had increased trip volumes related to the holiday period.

After excluding outliers, the survey provided useable earnings data from 2,022 drivers. These respondents included 465 single-app Uber drivers (driving just for Uber), 591 single-app Lyft drivers (driving just for Lyft) and 966 multi-app drivers (drivers working for both Uber and Lyft). The app-recorded data from these drivers included 92,028 trips during the survey week. That number represents 13 percent of the 708,000 average weekly trips provided by Uber and Lyft drivers in Seattle and King County during the fourth quarter of 2019.

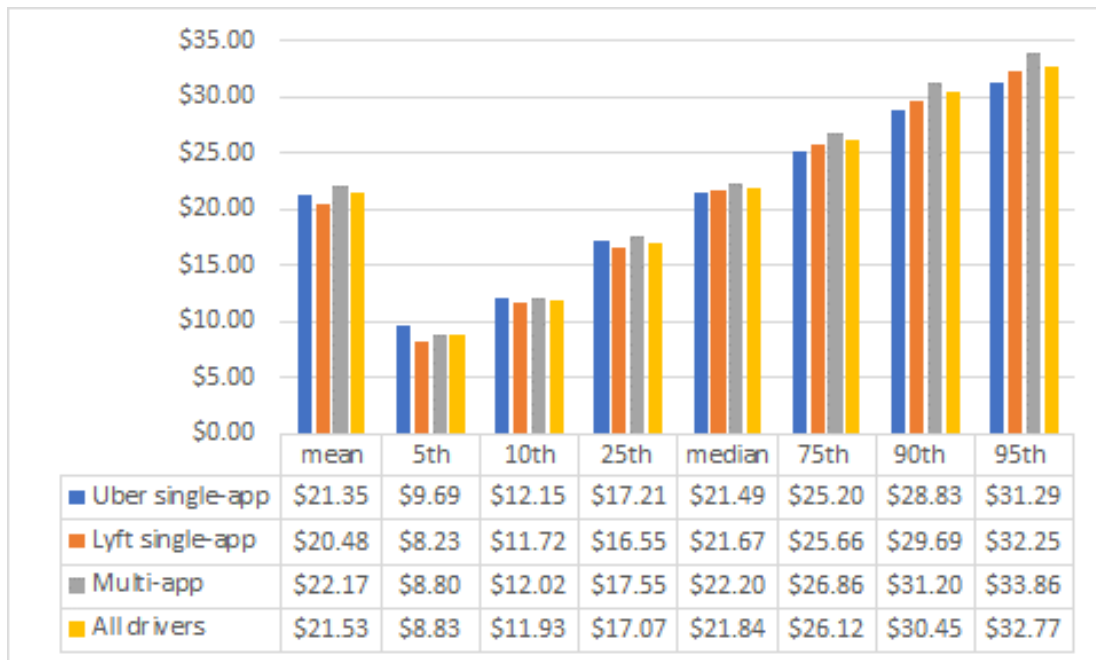
The drivers reported data on earnings as they appeared on company records posted in the drivers' apps on their cellphones. This feature enhances our confidence in the validity of the data. On the other hand, the survey data covers only one week, while the Uber-provided data covers 11 one-week periods over the course of a 12-month span.

Single-app drivers accounted for slightly more than half of all trips reported by drivers in the survey earnings sample. Uber and Lyft single-app drivers together provided 50.5 percent of the trips performed by drivers in the earnings sample, with each providing a roughly comparable volume of trips. Multi-app drivers provided the other 49.5 percent of trips.

To calculate hourly earnings for drivers based on the survey data, we used data for online time and total weekly earnings. We also analyzed data on the number of trips and added data reported on the Uber app on promotions or bonuses to gross earnings for Uber drivers. Lyft does not separately report data on driver promotions, and we assume they no longer rely heavily on promotions to incentivize drivers.⁵² We divided weekly driver earnings by “online time” to estimate hourly earnings.

The survey unintentionally double-counted the P1 times of multi-app drivers when they had activated both apps. This double-counting showed up in much higher average trip times (P1+P2+P3 divided by number of trips) among multi-app drivers than among single-app drivers for both Uber and Lyft. In contrast, average trip times were extremely similar between Uber and Lyft single-app drivers (31.7 minutes for Uber single-app drivers and 32.8 minutes for Lyft single-app drivers) but were six to seven minutes longer for multi-app drivers (38.6 minutes). We therefore reduced online time for multi-app drivers to approximate the average trip durations (P1+P2+P3) of single-app drivers. The hourly earnings estimates in Exhibit 25 for multi-app drivers reflect this adjustment.

Exhibit 25 Distribution of TNC drivers’ before-expense gross hourly earnings reported on driver apps



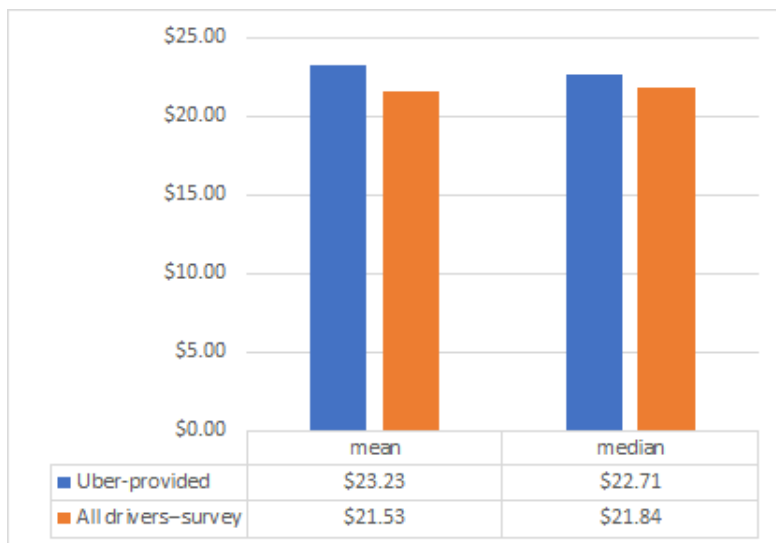
Source: Seattle Driver Survey

⁵² Nevertheless, if Lyft does include promotions in the earnings it reports to drivers, the earnings analysis would include any such promotions.

Multi-app drivers had higher mean and median hourly earnings than single-app drivers. Lyft single-app drivers included many with low hourly earnings, for example, with a 10th percentile earnings figure of \$11.72. Lower hourly earnings may partly be a function of inexperience related to being relatively new as a driver, whose pay rates may also be lower than for longer-tenure drivers. As Exhibits 19 and 20 showed, Lyft has a greater share of drivers with less than six months on the job compared to Uber (13.7 percent vs. 10.8 percent).

Exhibit 26 displays the average and median hourly earnings from our two sources. The means are \$23.23 in the Uber-provided data and \$21.53 for all drivers in the survey reporting data from their apps. Median hourly earnings differed by less than four percent between the two sources: \$22.71 in the Uber-reported data and \$21.84 in the survey data. Recall that the driver survey data cover only one week (December 2-8, 2019) while the Uber-provided data cover a 12-month span

Exhibit 26 Mean and median hourly earnings in Uber-provided data and in the Seattle Driver Survey



Sources: Uber-provided earnings data and Seattle Driver Survey

ending in October 2019. The average hourly earnings in the Uber data varied from week to week. Uber-provided average earnings of \$21.54 for the week of October 7, 2019, the last reported by Uber, differs by only 30 cents from the average earnings in the app-reported survey data.

In summary, the two data sources provide quite similar estimates of Seattle TNC driver average hourly gross earnings.

Section 5 TNC driver expenses

TNC drivers bear the entire responsibility for providing, maintaining, and operating the vehicles they use to deliver TNC passenger services. To estimate the *net* earnings of TNC drivers, we account thoroughly for all their driving-related expenses.⁵³ This section estimates average TNC driver costs for acquiring and operating their various types of vehicles, as well as their licensing expenses. To estimate an overall average operating expense, we weight the results by the most common vehicle types. We express these estimates on annual, weekly, and per mile bases. Some drivers purchase their vehicles to provide TNC services, while others use vehicles they already owned. Our estimates of the per-mile amount reflect the cost of operating a vehicle as well as the wear and tear on the vehicle, which applies to part-time drivers as well.

Our estimates draw from a number of sources: the Seattle TNC Driver Survey; administrative information on licensing and related costs; and standard industry sources. Total driver expenses also include provision for health insurance and independent contractor taxes. As discussed in the next section, the total per mile figure itemized in this section is not the expense amount that appears in the compensation standard developed in Section 5; the standard employs an adjustment to reflect all miles traveled, as mandated by the enabling legislation. Total expenses will also factor in the analysis of after-expense driver earnings in Section 6.

Driver expenses by vehicle type and averaging on a per mile basis

The Seattle TNC fleet includes a range of vehicle types. Since acquisition and operating expenses vary by vehicle type, we estimate a weighted average expense for vehicle costs. The weights cover three types of vehicles—non-hybrid sedans, hybrid sedans, and SUVs (both hybrid and non-hybrid). We obtained the weights using data on miles driven by vehicle type provided by Uber and Lyft, and data on the universe of vehicles licensed to provide TNC services in Seattle and King County.⁵⁴

The Toyota Prius, a hybrid sedan, topped both lists, accounting for 38 percent of Uber miles and 26 percent of Lyft miles. The King County administrative data, which included over 30,000 TNC vehicles licensed as of the end of 2019, indicated that 53 percent were non-hybrid sedans and 23 percent were hybrid sedans. Given the concentration of TNC miles provided by the Toyota Prius, we re-weighted the distribution of the universe of sedans to reflect the disproportionate role of hybrid sedans relative to non-hybrid sedans. In compiling the expense factor, we used a weight

⁵³ Under Seattle’s Wage Theft Ordinance, an employer must reimburse an employee “for all necessary expenditures or losses incurred by the employee in direct consequence of the discharge of the employee’s duties.” Section 14.20.010 City of Seattle, Municipal Code, Chapter 14.20 (definition of “compensation.”)

⁵⁴ Uber and Lyft both provided lists of the top 10 vehicles by miles traveled. The top 10 vehicle makes and models accounted for 67 percent of all miles logged by Uber drivers, and 56 percent of Lyft miles. These lists included only sedans (hybrid and non-hybrid.), as there were no SUVs among the top 10. Drivers use a variety of SUV makes and models, with no single make-model combination accounting for a sizable share of miles driven. Since less than 10 percent of SUVs in the universe of TNC vehicles were hybrid SUVs, we did not separately analyze their expenses. We did not count electric vehicles; they represented less than one percent of all TNC vehicles.

of 45.0 percent for hybrid sedans, 31.6 percent for non-hybrid sedans, and 23.4 percent for SUVs. Within each of the three vehicle types, costs were weighted to reflect the fact that the driver survey indicated that 55 percent of TNC vehicles were purchased used and 45 percent purchased new.

Full-time drivers working 32-plus hours per week in our Seattle driver survey reported that they drove an average of about 35,000 miles yearly while providing TNC services.⁵⁵ Since expenses for costs such as maintenance vary depending on miles driven, we use expenses for full-time drivers to get a more accurate estimate of operating costs relative to miles driven. To convert the annual expenses into a per mile expense, we divide the annual expenses for these drivers by 35,000 miles. The per-mile expenses apply equally to part-time and full-time drivers.

From the driver survey we know that nearly three-fourths of all TNC drivers purchased their vehicles primarily or partly to drive for hire, and that 70 percent of purchasers were still paying for their vehicle. Drivers who use a vehicle they already own for TNC services should be reimbursed proportionately, based on mileage, for such costs as insurance, maintenance, and fuel, as well as for the additional wear and tear and depreciation on their vehicle. Adding miles on a car lowers its residual value because it reduces or uses up part of a vehicle's useful life. Moreover, as we will explain further in Section 5, Seattle's enabling legislation requires that drivers should be compensated for all the miles they drive in connection with TNC services, not just when they have a passenger in their vehicle.

Licensing and vehicle registration fees and vehicle excise tax

Seattle TNC drivers incur five types of fees: driver's license fees, business license fees, vehicle registration fees, vehicle inspection fees, and a vehicle excise tax. All drivers in Washington State must have a driver's license and pay a vehicle registration fee. The City of Seattle requires that TNC drivers have a City business license (\$110 per year). TNC drivers must also have a TNC license issued by King County. The cost of a TNC license is covered by a per-trip fee paid by the TNC companies to King County.⁵⁶

Washington State vehicle registration fees vary with vehicle weight and Transportation Benefit District. Our estimate of annual vehicle registration costs of \$148.25 assumes a sedan registered in Seattle (an SUV would be \$20 higher).

Vehicles used for TNC services must be inspected annually, with the \$55 inspection fee paid by the driver. All vehicles registered in King, Pierce (to the south of King County), and Snohomish

⁵⁵ According to Uber- provided data, Uber vehicle speed, when averaged over an entire working hour, was 16.4 miles per hour over the 11 weeks of submitted data. At that average speed, a driver working 41 hours a week for 52 weeks would log about 35,000 miles. (A 12th week of data provided by Uber was set aside since driving activity that week was atypical due to a heavy snowstorm.)

⁵⁶ The total per-trip TNC fee for trips originating in Seattle was raised by the City from 24 cents to 75 cents in November 2019, scheduled to take effect on July 1, 2020. Eight cents covers the license fee and other regulatory costs, 10 cents goes to a Wheelchair Accessible Services Fund, and 57 cents is a "Fare Share" component to fund affordable housing construction, mass transit improvements, and driver protections.

(to the north of King County) Counties must also pay a Regional Transit Authority (RTA) motor vehicle excise tax annually.⁵⁷ The amount of the excise tax is based on the manufacturer's suggested retail price (MSRP) and a depreciation schedule set by state law that is based on the age of the vehicle.

Appendix 2 presents the components of the licensing, vehicle registration, and excise tax expenses that we have estimated for the typical TNC driver. These components sum to \$571 annually, or 1.6 cents per mile based on average annual mileage of 35,000.

Vehicle operating expenses

The U.S. Internal Revenue Service (IRS) annually updates a study of the fixed and variable costs of operating an automobile. They use these costs to calculate the deductible costs of operating a vehicle for business purposes. The IRS has determined that the standard mileage rate for the business use of a vehicle is 57.5 cents for 2020, 0.5 cents lower than the 2019 rate. When filing their federal income tax returns, TNC drivers are able to use the IRS standard mileage rate to deduct vehicle expenses from their gross earnings from TNC driving. They use these amounts to determine the net business income amount on which they owe income taxes.⁵⁸ Deducting vehicle expenses to determine net business income means that drivers are not paying income tax on their reimbursable vehicle expenses incurred while providing TNC services. Reimbursement for the driver's outlay for vehicle expenses is thus not a form of income for drivers.

The IRS mileage rate provides a useful benchmark. However, we develop here an estimate of vehicle expenses for Seattle that is based on local factors specific to the Seattle TNC industry.

Vehicle purchase and wear-and tear The largest single expense for a TNC driver is the cost of the vehicle itself, or the cost of wear and tear on a vehicle already owned. We estimated vehicle costs by modeling the purchase of new and used vehicles through 48-month financing at a three percent annual interest rate.⁵⁹ We modeled the purchase of a new 2020 vehicle and a 2018 used vehicle, taking the most popular vehicle in each of the three product types, and assumed the entire purchase price was financed along with the 10.4 percent sales tax applicable in Seattle for

⁵⁷ This tax helps fund construction and operation of regional mass transit services. <https://dor.wa.gov/find-taxes-rates/other-taxes/regional-transit-authority-rt-a-tax>

⁵⁸ <https://www.irs.gov/newsroom/irs-issues-standard-mileage-rates-for-2020>.

⁵⁹ The driver survey results for monthly car payments underestimated the true cost of ownership due to a survey design oversight. Our survey neglected to ask about vehicle loan duration and down payments which would reduce the amount that needed to be financed and reduce the monthly payment. The vehicle payments reported in our driver survey apparently reflected a combination of a significant down payment and long-term loans (six or seven years) that exceeded the 4-5-year useful life of the vehicles logging 35,000 miles annually.

vehicle purchases. For example, the annual car payments for a 48-month loan at three percent interest were \$8,628 for a 2020 Toyota Prius and \$6,780 for a 2018 Prius.⁶⁰

We weighted the annual car payment amounts for each of the three vehicle types using the proportions in our survey data for used (.55) and new (.45), and then by the overall product type weights we cited above (.450 for hybrid sedans, .316 for non-hybrid sedans and .234 for SUVs). As Exhibit 27 shows, the weighted average result is \$8,006, or 22.88 cents per mile, based on 35,000 miles per year. This per mile vehicle payment amount is an accurate estimate of the costs of using a vehicle for TNC purposes even for drivers who own their cars outright. All drivers incur a cost in wear and tear regardless of ownership status; this factor is reflected in the

Exhibit 27 Average Seattle TNC Vehicle and Licensing Expenses

Expense Category	Specific Expenditure	Annual	Weekly	Per Mile
Per mile costs based on 35,000 miles per year				
Licensing, vehicle registration fees & tax *		\$571	\$10.98	0.0163
Operating costs	Vehicle acquisition	\$8,006	\$153.97	0.2288
	Gas	\$3,289	\$63.25	0.0940
	Vehicle maintenance	\$2,261	\$43.48	0.0646
	Insurance	\$2,466	\$47.42	0.0705
	Cellphone	\$1,560	\$30.00	0.0446
	Vehicle cleaning	\$140	\$2.69	0.0040
Operating costs	Subtotal	\$17,722	\$340.81	0.5064
TOTAL VEHICLE AND LICENSING EXPENSES		\$18,293	\$351.80	0.5227

* see Appendix for Licensing cost components and summary explanation for operating cost components

Source: Authors' estimates based on Seattle TNC driver survey; TNC and King County data on TNC vehicle types; U.S. Department of Energy; Energy Information Administration; local and state government websites from licensing and registration costs; and cost information from websites of Seattle area car dealers, phone service providers, and car wash companies.

⁶⁰ We used the Bank of America auto loan calculator and found new and used car prices on the website of a large Seattle-area Toyota dealer. For the sedan, we used a 60-40 blended price for Toyota Camrys and Corollas, the second and third most widely used vehicles on the TNC lists, and for the SUV, we used a 60-40 blended price for Toyota Highlanders and RAV4s, the two most widely used SUVs according to the universe of TNC vehicles maintained by King County. Including a down payment would have lowered the monthly loan payment but the value of the down payment would need to be amortized over the 48-month assumed useful vehicle life.

depreciation component in the IRS business mileage allowance. Driving on a full-time basis for four years (the duration of the car loan) will essentially use up the value of the vehicle—at the end of the four years, it will have only a nominal book value. Depreciation reflects the decline in the value of a vehicle due to wear and tear.⁶¹

Fuel costs To estimate fuel costs, we used 10 of the most popular models in each of three vehicle type categories (sedan, hybrid sedan, and SUV). We obtained their average city-driving miles per gallon (MPG) rating for the years 2014-17 from the U.S. Department of Energy Fuel Economy website. We then weighted those results by vehicle type (as described above in the case of car payments). Average MPG ratings ranged from 23.5 for SUVs to 51.75 for hybrid sedans. Considering the steep drop in gas prices thus far in 2020, we used the year-to-date average Seattle retail price for regular gasoline of \$2.97 for the first 17 weeks in 2020. We then applied that price to the MPG ratings to determine average annual gas cost. These amounted to \$3,289, or 9.4 cents per mile (based on 35,000 annual miles).⁶² This estimate is included in the third row of Exhibit 23.

Insurance and other costs TNC companies are required to maintain commercial insurance coverage for all TNC-affiliated vehicles to cover vehicles while they are active on an app-based TNC dispatch. TNC drivers are also required to maintain their own vehicle insurance to provide coverage when they are not being used to transport passengers.⁶³ For vehicle maintenance and insurance costs, we used results from our driver survey, for those driving 20 hours per week or more (since they provide the bulk of trips), and by vehicle category, and we derived an overall average by weighting expenses by vehicle type. This resulted in average annual maintenance costs of \$2,291 and insurance costs of \$2,437, expressed as 6.5 cents and 7.0 cents per mile, respectively.

Customer ratings of drivers are an integral feature of TNC services. To enhance their chances of getting high ratings, drivers need to keep their vehicles clean.⁶⁴ A modest allowance of \$140 a year for cleaning is included in vehicle expenses. This adds 0.4 cents per mile.

⁶¹ Our 22.88 cents per-mile vehicle acquisition cost is lower than the 27.0 cents per mile depreciation component of the IRS standard business mileage allowance. See IRS Notice 2020-05 accessible through a link in the IRS announcement of the 2020 standard mileage rate. <https://www.irs.gov/newsroom/irs-issues-standard-mileage-rates-for-2020>.

⁶² Since electric vehicles were less than one percent of the universe, they were excluded from the estimates of fuel costs. MPG ratings from: U.S. Department of Energy, www.fueleconomy.gov. Gas costs for averaged for the 17-week period ending April 27, 2020, from U.S. Energy Information Administration (downloaded on May 4, 2020.), https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_Y48SE_w.htm.

⁶³ <https://www.seattle.gov/business-regulations/taxis-for-hires-and-tncs/transportation-network-companies/tnc-drivers#insurance>

⁶⁴ Both Lyft and Uber websites mention vehicle cleanliness as a factor in driver ratings.

TNC drivers require a recent, large format cell phone with unlimited data, voice, and text service. Thus, we include the expense estimates for one recent vintage phone, with large screen and an unlimited service package. That cost comes to \$30 per week, or 4.5 cents per mile.⁶⁵

Adding all of the expenses together, we obtain an annual average TNC vehicle expense of \$18,293 dollars, based on 35,000 miles a year. The annual total translates to weekly expenses of \$351.80, and 52.3 cents per mile for all drivers.

Health insurance and independent contractor taxes

As explained in Section 3, 27 percent of drivers do not have health insurance and an additional 37 percent have incomes low enough to qualify for Medicaid coverage. Relatively few drivers are currently able to purchase their own health insurance. At a minimum, drivers' compensation should include provision to purchase health insurance for those who do not have employer-provided health insurance. The ACS data indicate that about one in four (24 percent) of drivers now have employer-provided health insurance, presumably through a spouse. Taking these considerations into account, we include expenses of \$3,766 annually for health insurance, or 10.76 cents per mile.⁶⁶

Since the TNCs currently consider drivers to be independent contractors, we add to the expense amount a provision for independent contractor taxes. These taxes include the employer share of federal payroll taxes covering contributions for Social Security and Medicare, and Washington State-required gross receipts business taxes.⁶⁷ These components work out to be 8.35 cents per mile for payroll taxes and 1.12 cents per mile for the State business tax.

We bring the various expense categories discussed in this section together in Exhibit 28, showing total Seattle TNC driver expenses of \$25,374 a year for a full-time driver, or a mileage amount of 72.5 cents that would apply for all TNC drivers. As discussed in the next section, this figure is not the expense amount that appears in the compensation standard; an adjustment in the standard is made to reflect all miles traveled.

⁶⁵ Phone costs include purchase of a Samsung S10 large format screen phone (\$750), and AT&T Unlimited data, voice, and text service @ \$65/month. <https://www.att.com/plans/unlimited-data-plans/>

⁶⁶ This is based on 75 percent of the cost of individual coverage at \$418.50 per month (\$5,022 annually) for a silver plan for a male, non-smoker in their early 40s in King County.

⁶⁷ The federal employer payroll tax rate is 6.2 percent for Social Security and 1.45 percent for Medicare. The Washington State gross receipts tax rate has a \$24,000 threshold but is payable on the entire gross receipts, including expenses. It is calculated here as applied to the \$16.39 minimum wage equivalent amount, the total amount for vehicle operating and licensing expenses, and on the federal payroll tax amount.

Exhibit 28 Total Seattle TNC driver expenses

Expense Category	Specific Expenditure	Annual	Weekly	Per Mile
Per mile costs based on 35,000 miles per year				
Licensing, vehicle registration fees & tax		\$571	\$10.98	\$0.0163
Vehicle operating costs		\$17,722	\$340.81	\$0.5064
Health insurance costs		\$3,766	\$72.42	\$0.1076
Independent contractor taxes		\$3,315	\$63.74	\$0.0947
	Employer share Federal FICA	\$2,923	\$56.20	\$0.0835
	Washington gross receipts tax	\$392	\$7.54	\$0.0112
TOTAL SEATTLE TNC DRIVER EXPENSES		\$25,374	\$487.96	\$0.7250

Source: Authors' estimates (see Exhibit 27 and text and notes.)

Summary

We used Seattle and Washington State data and requirements to estimate the business expenses of a full-time TNC driver who drives 35,000 miles per year. Our estimates take into account that some drivers purchase their vehicles to conduct TNC business, while others use vehicles they already owned. Total expenses include provision for health insurance and independent contractor taxes. We convert total annual drivers' expenses to a per-mile amount (72.5 cents) that would apply to part-time drivers as well.

Section 6 Proposed TNC driver compensation standard

This section discusses the components and mechanics of our proposed Seattle minimum TNC driver compensation standard. The compensation standard has two components: an hourly component, and an expense component. We discussed the basis for the expense component in the previous section. Here we present two alternatives for the hourly component: a core hourly standard (Option A), and a second option (Option B). Each specifies a payment floor to ensure that driver pay compensates the driver for the entire amount of working time, as required by the enabling legislation, not just the time a passenger is in the vehicle or the time driving to pick up a passenger.

The core (Option A) minimum compensation standard is the current \$16.39 an hour Seattle minimum wage.⁶⁸ The second version (Option B) of the compensation standard totals \$19.76 an hour. It adds provisions for rest breaks, paid sick and safe time, workers' compensation, and unemployment insurance that are required of traditional employers, as well as discretionary benefits, such as retirement savings, that are frequently provided by employers.

Elements of the minimum compensation standard in the enabling legislation

If Seattle TNC drivers were classified as employees, they would be covered by, among other provisions, state and federal minimum wage and overtime pay, benefits from coverage under state workers' compensation and unemployment insurance programs, as well as Seattle local labor standards. The classification status of TNC drivers as employees or independent contractors has been hotly contested in many states in recent years, often with protracted legal battles that limit worker protections. New York City and Seattle have structured minimum compensation standards as a statutory right for some workers classified by hiring entities as independent contractors.⁶⁹

Under Washington State law, the City of Seattle is authorized to regulate for-hire drivers and for-hire transportation services. The local Seattle enabling ordinance states that “establishing a minimum compensation standard will help ensure that the compensation that thousands of drivers who provide vital transportation services in Seattle every day receive for their services is sufficient to alleviate undue financial pressure to provide transportation in an unsafe manner,” and “the establishment of a minimum compensation standard better ensures that drivers can perform their services in a safe and reliable manner and thereby promotes the welfare of the people.” Further, the legislation posits that “drivers who have the protection of a minimum compensation standard will be more likely to remain in their positions over time” and that “such experienced drivers will improve the safety and reliability of the TNC services ... and thus

⁶⁸ For 2020, \$16.39 is the applicable Seattle minimum wage for “Schedule 1” employers (i.e., large employers with more than 500 employees.)

⁶⁹ In 2018, Seattle passed a Domestic Workers Bill of Rights ordinances which provides minimum wage, rest break, and meal break protections for domestic workers regardless of their classification as employees or independent contractors. See City of Seattle, Municipal Code, Chapter 14.23.

reduce safety and reliability problems created by frequent turnover in the TNC services industry.”⁷⁰

The minimum compensation standard is intended to ensure that drivers are able to cover their vehicle and related “non-mileage” expenses and earn the independent contractor equivalent of Seattle’s minimum hourly wage. Our proposals thus include two components for each trip: a per minute component to compensate for work time, and a per mile component to cover expenses. In addition, the legislation specifies a number of other factors that should be considered in specifying the compensation standard.⁷¹

We present two versions of a minimum hourly compensation standard. Option A is the core standard. Option B includes additional elements that employers are required to provide under State law and other benefits that employers frequently provide to employees. Policymakers may want to include some or all of the Option B elements in a final pay standard.

As we have stated, the time component of Option A provides the \$16.39 Seattle minimum wage. The expense component includes health insurance benefits and taxes. Under the federal Affordable Care Act, large employers are required to provide employee health insurance. As we discussed in Section 4, we include a payment for health insurance in the expense component of the pay standard. We also include two independent contractor taxes—the State public utility gross receipts tax that applies above a \$24,000 receipts level on all gross receipts in transportation services, including provision for expenses and the employer share of federal payroll taxes.

Exhibit 29 shows that Option B includes six elements, in addition to the \$16.39 Seattle minimum wage that comprises Option A. Washington State requires that employees be provided a paid rest period of at least 10 minutes for every four-hour period. This benefit amounts to 4.17 percent for each hour, which the pay standard would compensate the drivers. The City of Seattle requires all employees to have paid sick and safe time of one hour of paid sick leave per every 30 hours worked. Workers’ compensation insurance and unemployment insurance are both employer requirements under State law. Paid family medical leave is a State program that is mandatory for employers and has an opt-in provision for self-employed individuals. While a pension or retirement savings plan is not required under federal or State law, most large employers do provide some form of at least an employee tax-advantaged retirement savings program.

⁷⁰ Section 14.31.060, City of Seattle, Municipal Code, Chapter 14.31, “Transportation Network Company Driver Minimum Compensation Ordinance,” Ordinance 125977 adopted November 25, 2019.

⁷¹ For the list of such factors, see Section 14.31.020 “Definitions,” City of Seattle, Municipal Code. In section 14.31.060, “Evaluation of TNC driver minimum compensation,” the ordinance also calls for consideration for inclusion in the minimum compensation standard “access to benefits, such as medical, disability, and life insurance, retirement benefits, paid leave, and other benefits for TNC drivers.” Paragraph 13, section 14.31.060.

Exhibit 29 Seattle TNC Option B driver minimum compensation standard

Option B = Option A (\$16.39 minimum wage) + (rest breaks, paid sick and safety time, workers' compensation, unemployment insurance, paid family medical leave, and retirement savings)

compensation standard component	explanation	rate per hour	hourly amount
Option A			
Seattle "hourly minimum wage"			\$16.39
Option B = Option A + (paid sick and safety time, workers' compensation, unemployment insurance, paid family medical leave, and retirement savings)			
Rest breaks	State law: paid rest period of at least 10 minutes for every four hours worked	4.17%	\$0.68
Paid sick and safe time (PSST)	City ordinance: 1 hour per 30 hours	3.33%	\$0.55
Workers Compensation	2020 hourly amount for taxi cab companies		\$0.64
Unemployment Insurance	2019 taxi service UI tax rate per ESD	1.14%	\$0.19
Paid family medical leave	Self-employed opt-in (includes 12-week temp disability), State of Washington	0.25%	\$0.04
Retirement savings	Average for BLS national private transportation occupations *	7.74%	\$1.27
TOTAL--Option B, Driver Minimum Compensation Standard			\$19.76

* Bureau of Labor Statistics, Employer Costs for Employee Compensation, December 2019.

Source: Authors' analysis.

Exhibit 29 shows the hourly cost associated with each of the compensation elements and explains the basis for determining the cost of each element. The sum of these six elements is \$3.37, which when added to the \$16.39 minimum wage totals \$19.76.

We include these compensation elements in Option B pursuant to the enabling ordinance asking City policymakers to determine how best to create a compensation or benefits structure that considers each of these items. Each of these elements could be included directly in the pay standard either by increasing the hourly pay factor by the amount indicated, or by the City mandating that payments be made on behalf of drivers into insurance pools or benefit plans that would be administered by the State, or by one of the TNCs, or by a separate entity established for

that purpose. Workers' compensation insurance and unemployment insurance are both State-administered insurance programs. Since the administration of benefit plans by the companies on behalf of multi-app drivers would pose significant administrative challenges, the City of Seattle could consider establishing a separate entity to administer certain of the benefits, such as paid sick and safe time, health insurance, and a retirement savings program.

Ensuring that drivers are paid for all of their working time

The Seattle enabling ordinance also makes explicit that drivers should be compensated for all of the time they are logged onto one of the TNC company apps. The ordinance states that driver pay should cover “TNC services . . . related to the transportation of passengers that are provided by a TNC driver while logged in to the driver platform, including services provided during available platform time, dispatch time, and passenger platform time.”⁷²

At present, TNCs compensate drivers only on the basis of P3 (passenger time) for each trip.⁷³ The ordinance calls for drivers to be paid for P1 (“platform time,” or the time a driver is waiting for a dispatch) and P2 (“dispatch time”) as well. Similarly, drivers currently receive payment only while transporting passengers to their destinations, but not for cruising mileage during P1 or travel during P2 to the pick-up location. The ordinance requires that drivers be compensated for P1 and P2 mileage as well for P3 mileage. To ensure compliance, the proposed standard adjusts P3 time and mileage components to reflect P1 and P2 as well.

To determine each of the three working time segments, we use data provided by Uber and Lyft app data reported on the Seattle Driver Survey. For Uber drivers we also use the weekly average P1-2-3 times over the course of each of the 11 weeks in the Uber-provided data. We calculate the P1-2-3 time shares, and then average them over the 11 weeks. For Lyft drivers we use the total working time that drivers reported on the survey from their app for the week of December 2-8, 2019, and “booked time,” or P2 plus P3. Using the Lyft app data, we were able to estimate the P1 time share and then approximated the P2 and P3 components using the shares for those two elements in the Uber data. These results are reported in Exhibit 26.

Our time segment shares for Uber and Lyft drivers are not directly comparable. The Lyft data are just for one week while the Uber data are average over 11 weeks, one from each month spread over the course of a year. Nonetheless, they constitute the best approximations we can make given the data available to us. Unlike Uber, Lyft did not provide any data on time segments. The Uber app does not provide drivers any data on individual time segments.⁷⁴

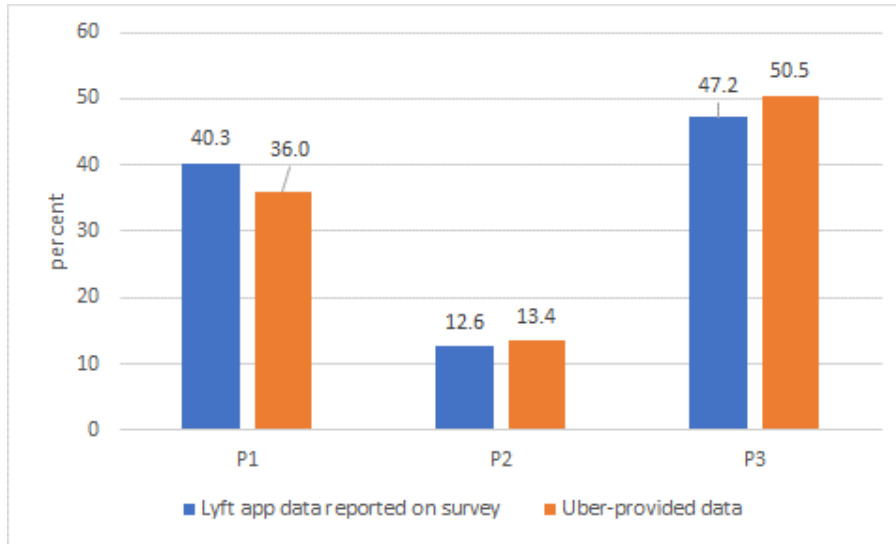
⁷² City of Seattle, Municipal Code, Section 14.31.020.

⁷³ While some reports indicated that Lyft piloted a program to compensate drivers based on P2 and P3 (see <https://therideshareguy.com/lyft-new-driver-pay-structure>), Lyft representatives informed the City that this program was never fully implemented.

⁷⁴ While the driver survey contained questions on the average duration of time segments, the Lyft P1 responses did not match the Lyft app data. We therefore use only the more reliable app data.

As Exhibit 30 shows, the P3 time share was 50.5 percent for Uber drivers and 47.2 percent for Lyft drivers. Weighting these time shares by each company's shares of total 2019 trips results in an average P3 share of 49.2 percent.

Exhibit 30 Driver working time segments (percent)



Sources: Uber-provided data and the Seattle Driver Survey.

We then estimate the share of P3 *miles* using the time segments reported in Exhibit 26 and applying Uber-provided average speeds during the P1, P2, and P3 trip segments. Finally, we weight the Uber and Lyft P3 miles by their shares of 2019 trips. The result: the P3 share of all trip miles is 62.2 percent. The P3 share of miles traveled is much higher than the time share since average speeds during P3 are higher (20.6 mph) than during platform (cruising) time (P1, 13.1 mph) or dispatch (pickup) time (P2, 9.4 mph).

The next sub-section shows how the P3 shares of working time and mileage enter into the calculation of a minimum compensation standard per trip.

Minimum compensation standard

The compensation standard has a working time and an expense component. Similar to the current practice in compensating drivers, the working time and expense components are based upon the P3 time and mileage. However, per the enabling Seattle legislation, compensation for P3 must be sufficient to compensate drivers for time and expenses during P1 and P2 as well. Arithmetically, we divide by the P3 shares of miles and time to scale up the mileage and time payments to account for P1 and P2.

Using the actual P3 time share value might help convey how the formula works. The P3 time share is 49.2 percent. Dividing by 49.2 percent is the same as multiplying one divided by 49.2 percent, which equals 2.03. The hourly compensation rate of \$16.39, divided by 60 minutes in an hour, equals 27.3 cents per minute. Multiplying the per minute value times 2.03 scales the passenger time component up to 56 cents per trip minute. Fifty-six cents multiplied by the P3 time for a trip yields the time component of the compensation standard for a trip.

We calculate the expense component using the 72.5 cents per mile estimate we discussed in Section 4. The amount a driver is compensated for passenger miles must cover the costs of all miles driven related to a given trip—including those traveled while waiting for the dispatch and the distance traveled to pick up a passenger. To scale the expense factor, the denominator is now 62.2, the estimated percent share of total mileage logged while transporting the passenger. One divided by 0.622 equals 1.607. Multiplying 72.5 cents time 1.607 yields an expense rate of \$1.17 per mile. This \$1.17 is applied to the P3 miles of a trip to yield the expense component of the compensation standard.

To summarize, the minimum compensation standard combines a time component and an expense component. These provide a time rate and a mileage rate that are applied to P3 time and miles for a TNC trip.

- (1) **time component:** $(1/.492) * \$0.273 = \0.56 per trip minutes
- (2) **mileage component:** $(1/.622) * \$0.725 = \1.17 per trip miles

The time and the mileage components combine to yield the compensation for the driver for each trip (including the P1 and P2 times and miles associated with providing that trip).

Note that the minimum driver compensation formula is not the passenger fare, nor is it a mandated method the companies need to utilize to determine driver pay. It is the minimum amount a driver is paid for every trip. This amount provides the standard to determine that the company's pay to drivers complies with the ordinance. Companies can continue to determine their own compensation method, and the driver and the company can agree to a payment method that yields higher compensation for any trip and the company may provide incentives in addition to the minimum to encourage drivers to work at certain times or on certain routes.

Exhibit 31 provides an example of the standard, using a typical trip of four miles and 12 minutes.

Exhibit 31 The Proposed Driver Compensation Standard

The compensation standard provides TNC drivers with the independent contractor equivalent of the Seattle \$16.39 hourly minimum wage for large employers (**the time component**) and compensates the driver for vehicle and related expenses (**the expense component**). The expense component includes independent contractor payroll taxes and health insurance.

The time and expense components are each multiplied by trip time and distance (P3), as in current practice. The standard includes a scale adjustment to ensure that drivers are compensated not just when passengers are in their vehicles, but also for all app time and driving expenses, as mandated in the enabling legislation.

$$(\$0.56 * \text{trip minutes}) + (\$1.17 * \text{trip miles}) = \text{payment per trip}$$

time component *expense component*

Here's how a driver would be compensated for a typical TNC passenger trip of **12 minutes and 4 miles under the proposed compensation standard:**

$$(\$0.56 * 12 \text{ minutes}) + (\$1.17 * 4 \text{ miles}) = \text{\$11.40 trip payment}$$

By comparison, in January 2020, the driver* was paid a lower amount for the same trip:

Rate structure: base pay of \$1.13; \$0.20 per minute; \$0.20; \$1.18 per mile

$$\$1.13 + (\$0.20 * 12 \text{ minutes}) + (\$1.18 * 4 \text{ miles}) = \text{\$8.25 trip payment}$$

*Some drivers might receive less than this rate.

Dynamics that improve industry efficiency

The enabling legislation also calls for consideration of “incentives for TNCs to reduce available platform time” (P1).⁷⁵ We therefore highlight here a dynamic element of the compensation standard. The companies can reduce the P1 share by increasing the P3 share (assuming no change in the P2 share). As we discuss in Section 7, they can do so by better managing the number of drivers and their vehicles.

Our 1/P3 scaling factor provides an incentive for companies to better manage drivers to reduce the share of working time (and miles) spent cruising and increasing the share of working time

⁷⁵ Section 14.31.060, City of Seattle, Municipal Code, Chapter 14.31, “Transportation Network Company Driver Minimum Compensation Ordinance,” Ordinance 125977 adopted November 25, 2019.

(and miles) a driver has a passenger in the vehicle. We propose that the scaling factor be revisited periodically (every quarter, half-year, or year) to account for reductions in P3.

The incentive for the company is that raising the P3 share reduces the amount they need to pay drivers per trip. Driver pay would still increase, since they would be getting more trips per hour of working time. Without the standard, the interests of the companies and the drivers are in conflict with each other. With the standard, their interests become much better aligned.

Reducing P1 and P2 through more efficient management of drivers, all else equal, would also reduce miles driven, the number of vehicles on the road, and greenhouse gas emissions by gasoline-powered vehicles.

Net and gross hourly earnings compared to the proposed standard

We next turn to considering how net and gross hourly earnings compare to the proposed compensation standard. Up to this point, our earnings discussion has focused on gross earnings—before expenses.

As Exhibit 32 indicates, the survey’s app-reported earnings for both Uber and Lyft drivers show that 10 percent of drivers would have after-expense earnings of less than \$1, and half of all drivers net \$10 or less per hour. Only app-reported earnings from the survey at the 90th percentile rise above the Seattle minimum wage. Adding the \$11.80 average hourly expense figure to the Option A minimum compensation standard of \$16.39 results in \$28.19 an hour. This total is the amount of gross hourly earnings needed for a driver to cover expenses and be paid the independent contractor equivalent of the Seattle minimum wage.

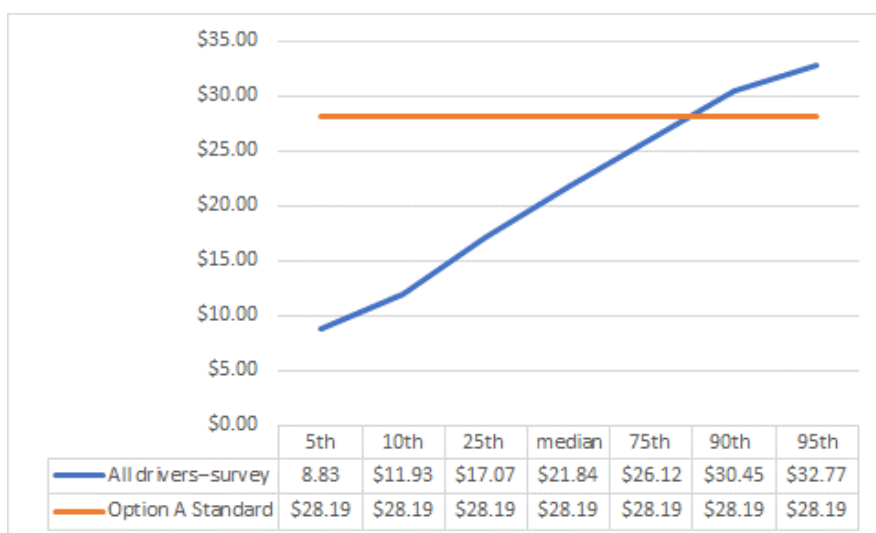
Exhibit 32 After-expense TNC driver hourly earnings



Sources: Authors’ analysis of Uber-provided earnings data and Seattle Driver Survey

Exhibit 33 displays how many drivers fall below the minimum compensation standard. Based on the app earnings data recorded in the survey, 84.1 percent of all TNC drivers had gross hourly earnings below the standard. Since the earnings data provided by Uber was not at the individual driver level, we were not able to estimate how many drivers had earnings below the minimum compensation level.

Exhibit 33 Distribution of hourly TNC driver earnings relative to the \$28.19 compensation standard Option A



Sources: Authors' analysis of Seattle Driver Survey

Exhibit 34 is similar to Exhibit 33, except that it shows gross earnings in relation to the Option B minimum compensation standard of \$31.56. At best, only a small portion of all drivers, likely only about seven percent, have earnings at or above this higher threshold.

To provide a sense of the pay increase needed to bring all Uber and Lyft drivers up to the proposed Option A standard, Exhibit 35 shows the average hourly earnings for all drivers paid below the minimum, by weekly hours as reported from the drivers' apps. The exhibit shows results for five groups of drivers, according to their weekly driving hours. The variation in average hourly earnings across these weekly hour bins varies from \$18.54 to \$20.53. This result indicates that hourly earnings do not vary systematically among casual, part-time, and full-time drivers. Average hourly earnings are lowest among the very casual (less than 10 hours weekly) drivers, and highest among those working 32-40 hours a week. However, average earnings falloff by over a dollar an hour for drivers logging 40 hours a week or more compared to those

Exhibit 34 Distribution of hourly TNC driver earnings relative to the \$31.56 compensation standard Option B



Sources: Authors’ analysis of Uber-provided earnings data and Seattle Driver Survey

driving 32-40 hours. The long-hour drivers had the highest share of those earning below the proposed minimum (87.5 percent), compared to 82.3 percent for drivers working 32-40 hours.

How much would compensation need to increase to raise the earnings of all the drivers who currently earn less than the \$28.19 Option A hourly level to the Option A standard? We estimate that drivers currently below this minimum would need an average increase of 42.7 percent. If we include in this calculation those drivers currently paid at or above the proposed minimum, aggregate driver pay would need to rise by 33.2 percent.

Exhibit 35 Distribution of TNC drivers below the \$28.19 minimum compensation level by hours and by percent increase needed to reach the minimum

weekly hours	number of drivers	average hourly earnings	% increase needed to reach minimum
Less than 10	353	\$18.54	52.1%
10 to less than 20	376	\$19.84	42.1%
20 to less than 32	417	\$19.97	41.2%
32 to less than 40	233	\$20.53	37.3%
40 or more	322	\$19.34	45.8%
All drivers below \$28.19 minimum pay standard	1,701	\$19.76	42.7%

Sources: Authors’ analysis and Seattle Driver Survey (hours and earnings from the app data)

Summary

As directed by Seattle’s enabling legislation, the proposed pay standard specifies the minimum compensation that a driver should be paid to provide for all vehicle and related expenses and to be compensated for their entire working time at the independent contractor equivalent of the Seattle minimum wage for large employers.

We provide two versions of the minimum compensation standard. Option A is the Seattle minimum wage equivalent of \$16.39 an hour. A second version, Option B, incorporates benefits specified in the City’s legislation, including rest breaks, paid sick and safe time, workers’ compensation, unemployment insurance, retirement savings, and paid family medical leave. (Health insurance and independent contractor taxes are included in the expense factor.) Option B totals \$19.76 per hour.

The two components of the minimum compensation formula—the time factor and the expense factor—ensure that drivers are paid for time and mileage expenses while waiting for a dispatch (P1) and traveling to the pickup location (P2), as well as for passenger trip time (P3). By including the costs of time and miles from P1 and P2 when scaling up P3 payments, the companies are required to pay for this time and miles. This cost incentivizes the companies to economize on P1 and P2.

Drivers will then have more trips per working hour, which will increase their hourly pay. Also, reducing the time that drivers do not have passengers in their vehicles will reduce excessive vehicle usage, and therefore reduce traffic congestion and greenhouse gas emissions. This incentive structure thus better aligns the interests of the companies, the drivers, and the broader public.

This section has also assessed the extent to which current driver pay practices provide drivers with sufficient earnings to meet the proposed minimum compensation threshold. We find that the gross earnings of 84 percent of drivers fall below the minimum compensation standard. Drivers’ before-expense hourly earnings average \$21.53 an hour based on the survey data, while gross compensation of \$28.19 an hour is needed to cover expenses and meet the core (Option A) minimum compensation level. Average hourly earnings are \$19.76 for the 84 percent of drivers falling below the minimum. The pay of these drivers would need to increase an average of nearly 43 percent to raise their earnings to the \$28.19 level. On an aggregate pay basis, driver pay would need to increase by 33 percent to raise all drivers to the minimum compensation level.

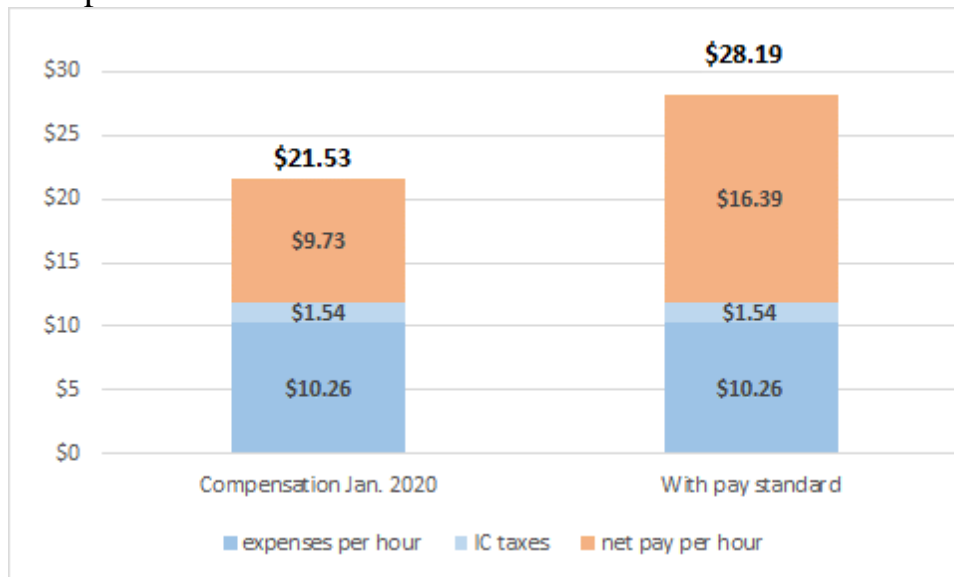
Section 7 The effect of the pay standard on TNC drivers, companies, and passengers

Here we extend our analysis of how the Seattle driver compensation increases will affect driver behavior, the TNC companies and their passengers.

Effects on the drivers

Pay In previous sections of this report, we have estimated the increase in average hourly pay that would result from the minimum compensation standard. Gross pay before the standard was \$21.53, according to the Driver Survey, while expenses were \$10.26 and independent contract (IC) taxes were \$1.54, leaving \$9.73 as net pay.⁷⁶ Exhibit 36 shows the implications of the pay standard for increasing drivers' gross and net hourly pay, based on Option A. With this standard, gross pay would increase 31 percent to \$28.19, while net pay would increase 68 percent to \$16.39.⁷⁷ The proposed increase would go to increasing net pay.

Exhibit 36 Gross and net driver hourly compensation, January 2020 and with proposed compensation standard



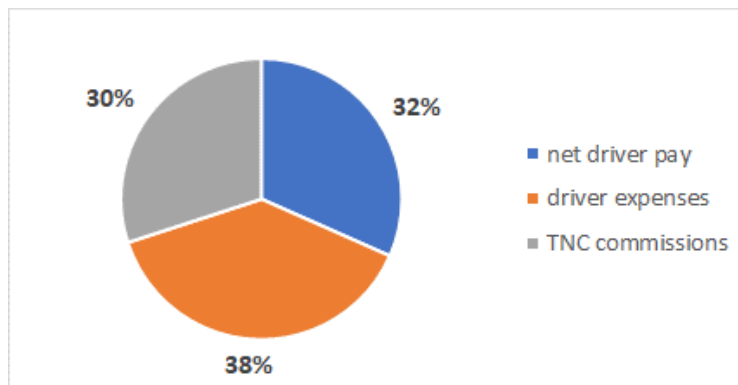
Source: Authors' analysis.

⁷⁶ Drivers are currently paying the independent contractor taxes and all of the vehicle operating and licensing expenses detailed in Section 4. The one expense item they may not be currently paying is health insurance—some are buying their own health insurance, but as indicated in the American Community Survey data, about nearly two-thirds are relying on Medicaid or are uninsured.

⁷⁷ These are predictions. According to the New York City Taxi Limousine Commission, and confirmed in our own forthcoming report (Koustas, Parrott and Reich 2020), overall driver pay in New York City increased by about the same amount, although smaller than presented here, as we had predicted in our New York City report. (Parrott and Reich 2018, Parrott et.al. 2019)

Applying average hourly earnings and average trips per hour from the app-reported data in the driver survey, we scale up those values by the annual trip counts for 2019 to estimate that gross driver pay for both major TNCs totaled about \$306 million in 2019. Vehicle and related expenses borne by drivers absorbed about 55 percent of that amount (\$168 million), leaving net annual earnings of \$138 million. If TNC commissions are about 30 percent, as indicated in investment analysts' reports, Seattle TNC commissions would have totaled about \$131 million in 2019, nearly as much as drivers' net earnings. Aggregate fare revenue, combining gross driver pay and commissions, would then have totaled about \$437 million. Exhibit 37 presents the distribution of the passenger fare among driver expenses, driver net pay, and commissions.

Exhibit 37 Driver pay and TNC commission shares of Seattle passenger fares



Source: Authors' analysis.

Driver labor supply Previous national research on Uber drivers, summarized in our report to the New York City Taxi and Limousine Commission (Parrott and Reich 2018), shows that higher pay will increase the labor supply of drivers. These studies show that drivers respond to pay increases by working more hours. The best study (Hall, Horton and Knoepfle 2019) compared Uber driver behavior in cities that experienced different amounts of surge-related pay increases. They found that surge-related pay increases per trip at first led to increases in driver pay per hour. But the pay increases then led to large increases in labor supply, reducing driver rides per hour and therefore also reducing driver pay per hour. Driver pay per hour fell back to its previous level within six weeks of the increases in pay per trip.

Drawing from that analysis, we recommended that the New York City Taxi and Limousine Commission include an incentive for companies to better manage the number and availability of drivers. This incentive would increase the efficiency of the industry. The adopted policy in New York City included such incentives and subsequent data indicated that the incentives had

their desired effects. As we explain below, we make the same recommendation to the City of Seattle.

Increased efficiency The structure of the compensation standard will encourage companies to improve the efficient use of driver time and vehicles.⁷⁸ As Section 5 argued, TNCs have not been paying for the P1 and P2 shares of driver working time and expenses. Instead, they have encouraged too many drivers to be available at any given time. They each do so in order to reduce waiting times for their clients, thereby competing with their rival to gain market share. The companies benefit from this inefficient use of the drivers, but do not pay any of the costs, while drivers pay the costs without gaining the benefits. Indeed, as we showed in Section 5, drivers in Seattle do not have passengers in their vehicles about 51 percent of the drivers' working time.

Our pay standard will encourage companies to change their policies to use the drivers and their vehicles more efficiently and for drivers to share in the efficiency improvements.

New York City's recent experience, after it implemented a similar pay standard, is consistent with our analysis. The pay standard there took effect on February 1, 2019. By April of 2019, both Uber and Lyft announced that they would no longer accept new drivers into their system, exactly the response that we had predicted in our report.⁷⁹ Since passenger demand was continuing to grow, this change in policy provided more rides per hour for the incumbent driver workforce. This increase in driver productivity will absorb a substantial part of the cost of the driver pay increase in Seattle as well.⁸⁰

The compensation standard will reduce racial inequality in Seattle, since all TNC drivers are paid less after expenses than most Seattle workers and black drivers constitute a much larger share of the TNC workforce than of the Seattle workforce as a whole.

Effects on the TNC companies

We expect that the pay increases can be readily absorbed through a combination of increased industry efficiency, better management of drivers during low-demand periods, commission reductions, and small fare increases. We have already discussed improvements in efficiency that Seattle could achieve through the pay standard and by creating a further incentive for companies to continue to increase their efficiency over time. The fare increases will depend on

⁷⁸ We develop this argument in some detail in Parrott and Reich (2018).

⁷⁹ Dana Rubinstein, "Uber and Lyft Stop Accepting New Drivers in New York City." *Politico* April 29, 2019. The number of TNC drivers fell soon afterward, according to data on the TLC's website.

⁸⁰ A number of financial institutions (such as Deutsche Bank, unpublished) issued analyses of Uber and Lyft in 2019. They remarked on the possibility for such increased efficiency in response to the New York City pay standard. This productivity effect will still exist in the event overall consumer demand is less than in 2019, as is likely given the current Covid-19 pandemic and the near-term outlook.

the companies' willingness to lower their commissions, and by how much passengers reduce demand when fares rise (or as economists say, by the elasticity of demand).

Better management of drivers during low-demand periods Twenty-one percent of the drivers work less than 10 hours weekly but provide only five percent of all trips. These very casual drivers often work during low-demand periods or in low-demand locations and have the lowest average hourly earnings in our sample. The industry needs to better manage these casual drivers, by encouraging them to work in times and places where more rides are demanded. In New York City, the TNCs have already begun to ration slots during such periods, and to reward drivers with more scheduling options based on the number of trips provided in the previous month.⁸¹

Another group of drivers work more than 40 hours per week because of low pay and a need to earn a target level of income to meet their household expenses. The pay increase will permit these drivers to achieve their target pay level in a smaller number of hours.

Uber and Lyft can easily identify the drivers in each category and should encourage them to adjust their behavior. Doing so will make it easier for the TNCs to meet the pay standard. The companies' rhetoric about driver flexibility should be understood in the context that drivers need to earn an acceptable amount of earnings, and that depends on there being sufficient consumer demand. Flexibility is a hollow notion if it means drivers earn too little. Seattle should do what it can to encourage better management of drivers, such as tightening the maximum number of hours that each driver can be on the road each day.

Commission rates and markups Both Uber and Lyft are reported to collect commissions in Seattle of about 30 percent or more of fares, net of tolls and taxes.⁸² In the early years of TNC operation, drivers were paid a fixed share of the passenger fare. More recently, however, the driver share, and the company commission share vary as determined by the TNCs. Their fare structure—a base amount plus components for time and distance—are exactly the same.⁸³ Both of these patterns indicate the companies are receiving duopolistic profits, well in excess of what companies in competitive industries receive. Moreover, similar networked companies—such as credit card companies—typically charge merchants only two to three percent in commissions for each transaction.⁸⁴

⁸¹ See, for example, Uber's September 2019 announcement to its New York City drivers, <https://www.uber.com/blog/new-york-city/tlc-rule-changes/>

⁸² This range is based on driver anecdotes and on data about commissions in other cities. Uber and Lyft declined to provide us with data about commissions and fares.

⁸³ See Lyft's Seattle fare information at <https://www.lyft.com/pricing/SEA> and Uber's price estimator at <https://www.uber.com/us/en/price-estimate/>.

⁸⁴ <https://paymentdepot.com/blog/average-credit-card-processing-fees/>

The TNCs employ engineers, economists, data scientists and processors, managers, attorneys, lobbyists, communications specialists, and staff who manage the intake of new drivers. Each of these operations requires computers, office space, and support staff. The companies also pay substantial fees to credit card companies to manage their payment systems. On the other hand, the companies do not pay for the drivers' vehicle costs and driver pay is covered by the non-commission proportion of their fares. As we argued in our 2018 TLC report, commissions of 25 to 30 percent likely represent markups over costs of five- or six-fold. These high markups reflect the duopolistic character of competition in the industry.

These considerations suggest that the companies could absorb some of the increased costs of driver pay through reductions in commissions. Indeed, commission rates have fluctuated over time, such as when the companies issue incentives to passengers, although in the post-IPO environment both companies are reducing their passenger incentives. Commissions likely fell for both companies in the months preceding their IPOs in early 2019. In the pre-IPO period, the companies were competing nationally to increase their market share, which heavily influences prospective investors' assessments of the share prices of each company. In our forthcoming study of how the New York City driver pay standard has been absorbed (Kousta, Parrott and Reich 2020), we find that commissions did indeed fall in the period immediately following the imposition of the standard.

Moreover, the City of Seattle has already mandated a 15 percent cap on commissions that Delivery Transportation Companies (such as GrubHub, UberEats, DoorDash, and Postmates) can charge restaurants for meal delivery.⁸⁵ San Francisco has also instituted such a cap and New York City is considering one. These commissions average 30 percent in cities without a cap. Despite this regulatory development, Uber has found delivery to be sufficiently profitable that it has proposed acquiring DoorDash.

Will the companies voluntarily reduce their commission rates? They will want to reduce commissions, insofar as they are better off by limiting price increases that would reduce demand and therefore lower their aggregate profits. The City of Seattle could encourage them to go even farther, by pointing out that current commissions are well above levels that would pertain in a more competitive industry.

Aggregate commissions The TNC companies' aggregate commissions will increase even as their commission rates fall. This result follows from the inelastic condition of demand in the industry—to recall, the percent reduction in the number of rides will fall less than the percent increase in price. (We review the evidence for inelastic demand conditions in the next subsection.) Total revenue (fares per ride multiplied by the number of fares) will therefore

⁸⁵ <https://durkan.seattle.gov/2020/04/mayor-durkan-council-president-gonzalez-councilmember-herbold-announce-new-emergency-order-to-cap-third-party-commissions-and-support-local-restaurants-2/>

increase. Consequently, total commissions also increase, while the companies' direct expenses for managing their systems will change very little. In other words, the companies will actually be better off with a minimum driver compensation standard. Or, to put it another way, the companies will have an improved ability to pay for the pay increase.

Effects of fare increases on passenger demand As we mentioned above, economists refer to the change in the quantity of demand for a good in response to a change in its price as the elasticity of demand. When the quantity demanded falls less (in percentage terms) than the percentage increase in price, demand is said to be relatively inelastic. Our estimates from New York City's fare increases in 2019 indicate a demand elasticity with respect to price of -0.68.⁸⁶ In other words, a 10 percent increase in price would result in a 6.8 percent decrease in the quantity of rides requested. This amount signals a relatively inelastic demand.

Another careful econometric study of TNC demand elasticities appears in a study of Uber drivers by Uber's Chief Economist Jonathan Hall, Peter Cohen, and others.⁸⁷ This study used data on 50 million Uber trips in 2015 in four large metro areas: Chicago, Los Angeles, New York, and San Francisco. The authors used variation in surge prices, ranging from 20 percent above regular prices to about seven times as high as regular prices, to estimate how demand responded to price surges. They estimated an overall demand elasticity of -0.55, which did not vary even at surges to twice the regular prices. Cohen et al. report their demand elasticities for each of the cities. Their estimate for New York was -0.61, very similar to the Koustas et. al. (2020) estimate, despite being derived by different methods and different points in time.

Interestingly, the Cohen et al. elasticities were lower than average (more inelastic) in both Los Angeles (-0.33) and San Francisco (-0.52). These two cities are more similar in density, traffic speed, and availability of close substitutes (mass transit and taxis) to Seattle than is New York City. Using TNC vehicle miles traveled in 2018 in Los Angeles and San Francisco (Fehr & Peers 2019, Table 2), we calculate that the weighted average of each city's elasticity is -0.40. We use this elasticity in our calculation of how much price increases will affect demand for TNC rides.

This evidence suggests that passenger demand will fall and that the number of driver hours will also fall. If fares increase five percent, and the demand elasticity is -0.40, then the number of driver hours will fall by two percent. As we have suggested, the companies can achieve this

⁸⁶ Koustas, Parrott and Reich 2020, forthcoming. This estimate used data on many millions of rides, broken down by peak and off-peak times and by busy and not so busy routes. Its limitation is that Seattle is different from New York City. The inelastic character of TNC demand in New York City was also estimated by a number of bank research departments, albeit using crude estimation techniques.

⁸⁷ Cohen et al. 2016, <https://www.nber.org/papers/w22627.pdf>. Alvarez and Argente estimate demand elasticities for Mexico City; Castillo 2020 estimates a demand elasticity of -0.19 for Uber services in Houston. Conditions in these cities are not comparable to those in Seattle.

reduction in driver hours by limiting the number of new drivers, as has already occurred in New York City.

Effects on passengers

Seattle's TNC riders will experience a fare increase. As we have suggested, the amount of the increase will depend on how much of the costs of the pay increase are absorbed by increased efficiency, by better management of labor, and by reductions in company commissions—as well as by the price elasticity of demand for TNC rides.

Consumer convenience is a major factor in the demand for app-dispatched car services. The pay standard is not likely to measurably affect that convenience. The average app response time to a passenger request is five minutes (300 seconds). According to Cohen et al. (2016), a 10 percent increase in driver utilization rates (which would be substantial) would likely increase response times by six percent, which amounts to only 18 seconds. It does not seem likely that riders will notice such a small increase.

Summary

The proposed minimum compensation standard would raise driver pay considerably, enabling drivers to achieve the independent contractor equivalent of the Seattle minimum hourly wage and fully cover their ongoing vehicle and related expenses. The TNC companies could absorb the pay increase through a combination of commission reductions, greater efficiency, and small passenger fare increases. The pay standard should result in better utilization of drivers' time and their vehicle investment and reduce the number of vehicles on the street from what otherwise would be the case.

Section 8 Summary and conclusions

The purpose of this report is to present an economic analysis “to determine a minimum compensation standard for TNC drivers that is comprised of at least the equivalent of the ‘hourly minimum wage’ ... plus reasonable expenses.”

Our economic analysis first examines the industry’s business model. Three components of the TNC industry’s business model—its duopolistic structure, treating drivers as independent contractors, and intentional excess capacity—generate three corresponding market failures. First, company mark-ups over local operating costs are higher than is required for the industry to operate effectively, reducing the proportion of revenue that the industry shares with its drivers. Second, the drivers’ investments in their vehicles make it difficult to switch their employment to other industries. This barrier keeps driver pay lower than it would be otherwise. Third, inefficient utilization of driver working hours results in lower driver pay per hour and more cars on the streets. We argue that each of these failures would be remedied to some extent by the proposed minimum compensation standard.

Regarding the compensation standard, the applicable hourly minimum wage for 2020 is \$16.39. “Reasonable expenses” are expenses incurred by drivers to provide TNC services, including (but not limited to) such items as depreciation, lease payments, maintenance and repairs, tires, gasoline, oil, insurance, and license and vehicle registration fees.

The enabling legislation specifies that a number of factors should be considered for incorporation into the compensation standard. These include: employer-side federal payroll taxes covering Social Security and Medicare that independent contractors must pay; health insurance; workers’ compensation and unemployment insurance premiums that are required of all employers; compensation for paid sick and safe time and rest breaks that are required for employees in Seattle; and other mandatory and discretionary costs that TNC drivers currently bear.

The core minimum pay standard is designed to yield \$16.39 per hour, the current Seattle minimum wage, after covering vehicle costs and independent contractor taxes (the employer share of payroll taxes and state business taxes). An alternative version of the pay standard (Option B) totals \$19.76 an hour. It adds provisions for rest time, paid sick and safe time, workers’ compensation, and unemployment insurance that is required of traditional employers, as well as discretionary fringe benefits such as retirement savings frequently provided by employers.

Drivers’ before-expense hourly earnings average \$21.53, according to drivers’ apps as reported in the Driver Survey. (Uber-provided data for an earlier period indicated slightly higher average hourly earnings of \$23.23.) Gross earnings of \$28.19 an hour are needed to cover expenses and meet the core minimum compensation level. Based on both earnings sources, an extremely high percentage of all drivers are currently paid well below the \$28.19 minimum compensation

standard. The survey-reported earnings data show that 84 percent of all drivers earn less than the \$28.19 level. To raise the pay of all drivers to at least \$28.19 an hour would mean a 33 percent increase in total driver pay.

The proposed minimum compensation standard would raise driver pay considerably, enabling drivers to achieve the independent contractor equivalent of the Seattle minimum hourly wage and fully cover their vehicle and related expenses, and to pay for individual health insurance coverage. The TNC companies could absorb the pay increase through a combination of commission reductions, greater efficiency, and passenger fare increases. The pay standard should result in better utilization of drivers' time and their vehicle investment and reduce the number of vehicles on the street from what otherwise would be the case, with benefits in reduced greenhouse gas emissions.

The policy would raise the earnings of Seattle TNC drivers by an aggregate of about \$100 million. This increase in driver income would in turn generate further consumer spending in the Seattle area, boosting consumption demand. In contrast, the industry's roughly \$130 million in Seattle-based commissions (total commissions will increase with moderately higher fares) will mainly leak out of the local economy. The estimated increase in consumer spending is small, compared to the size of the city's economy, but it is positive and not negligible in the neighborhoods where drivers live. The compensation standard will reduce racial inequality in Seattle, since black drivers constitute a much larger share of the TNC workforce than of the Seattle workforce as a whole.

Afterword: Estimating the effects of Covid-19 and Covid-19-related economic shocks

Consumer demand for TNC service has plummeted during the Covid-19 pandemic. But after the crisis moderates, the nature of TNC service and the dynamics between the companies and the drivers are likely to remain similar to what they were before. Hence, the rationale for a minimum compensation standard, along the lines of the recommendation presented in this report, will remain. The standard is needed to ensure that drivers will be fairly compensated, and to encourage the TNCs to better manage the supply of drivers and match the available and potential consumer demand. In the short run, the recovering course of consumer demand may mean that fewer drivers will be required than would seek to drive. This imbalance provides added justification for a minimum compensation standard.

Any forecast of the duration of a pandemic and the related effects on the Seattle TNC industry must begin with a strong caveat: much is still too unknown to permit confident forecasts. Nonetheless, some lingering effects over the rest of 2020 and subsequent years are already evident. First, the size of the industry has already fallen severely, as much as 70 to 80 percent at this writing. Second, the U.S. and Seattle economies have experienced an extraordinary shock, with many economists (including Federal Reserve Board Chair Jerome Powell and the Congressional Budget Office) predicting a very slow and protracted recovery through at least the end of 2021.

These shocks have laid bare the need for worker protections, such as health insurance, paid sick leave, workers' compensation, and unemployment insurance. They have also displaced many non-TNC workers who will want to enter the industry as drivers. City government and the TNC companies have important roles to play to ensure that the industry and the city are not further inundated by new drivers, and that the most casual drivers, many of whom have other jobs, do not displace drivers who depend on TNC driving for their and their families' livelihoods.

Unlimited free entry into the taxi industry led to chaos in the 1930s, with drivers literally fighting each other for passengers.⁸⁸ These conditions led to regulations in every major city limiting the number of taxis. We suggest that the driver pay standard and perhaps related regulatory measures can help create a TNC industry that works for drivers, passengers, and the TNC companies.

⁸⁸ Veena Dubal, "The Drive to Precarity: A Political History of Work, Regulation, and Labor Advocacy in San Francisco's Taxi Industry and Uber Economics," *Berkeley Journal of Employment and Labor Law*, 38, 2017, p. 73; Graham Hodges, *Taxi! A Social History of the New York City Cabdriver*, Johns Hopkins University press, revised edition, 2020.

References

- Alvarez, Fernando, and David Argente 2019. Consumer Surplus of Alternative Payment Methods: paying Uber with Cash." Becker Friedman Institute WP 2019-96. University of Chicago.
- Balding, Melissa, Teresa Whinery, Eleanor Leshner and Eric Womedorff 2019 "Estimated TNC Share of VMT in Six U.S. Metropolitan Regions, Fehr & Peers, August 6, 2019.
- Castillo, Juan 2020. "Who Benefits from Surge Pricing?" Job Market Paper, Stanford University, Department of Economics.
- Cohen, Peter, Jonathan Hall, Steven Levitt and Robert Metcalfe 2016. "Using Big Data to Estimate Consumer Surplus: The Case of Uber. NBER WP 22627.
- Deutsche Bank Research 2019, "Looking for a Lyft—Initiate with Buy rating," September 5, 2019.
- Dubal, Veena 2017, "The Drive to Precarity: A Political History of Work, Regulation, and Labor Advocacy in San Francisco's Taxi Industry and Uber Economics," Berkeley Journal of Employment and Labor Law, 38.
- Hall, Jonathan V., John Horton and Daniel Knoepfle 2018. "Work Intensity: Labor Market Equilibration: Evidence from Uber." Unpublished paper.
- Hall, Jonathan V., and Alan Krueger 2018. "An Analysis of the Labor Market for Uber's Driver Partners in the United States." *ILR Review* 71, 3: 705-732.
- Hall, Robert 2018. "New Evidence on the Markup of Prices over Marginal Costs and the Role of Mega-Firms in the US economy." NBER WP 24574.
- Hodges, Graham 2020, *Taxi! A Social History of the New York City Cabdriver*, Johns Hopkins University press, revised edition.
- Koustas, Dmitri K., James A. Parrott, and Michael Reich 2020, "Driver Pay and the Gig Economy: Evidence from New York City Before and After Regulatory Changes," unpublished paper.
- Joshi, Meera, Nicholas Cowan, Olivia Limone, Kelly McGuinness, and Rohan Rao 2019, "E-Hail Regulation in Global Cities," Rudin Center for Transportation, New York University, November 2019.
- Parrott, James A., and Michael Reich 2018 "An Earnings Standard for New York City's App-based Drivers: Economic Analysis and Policy Assessment," Report for the New York City Taxi

and Limousine Commission, Center for New York City Affairs and the Center on Wage and Employment Dynamics, July.

Parrott, James A., Michael Reich, Jason Rochford, and Xingxing Yang 2019 “The New York city App-based Driver Pay Standard: Revised Estimates for the New Pay Requirement,” Report for the New York City Taxi and Limousine Commission, Center for New York City Affairs and the Center on Wage and Employment Dynamics, January.

Schaller Consulting 2018, “The New Automobility: Lyft, Uber and the Future of American Cities,” Brooklyn, New York.

Morgan Stanley Research 2019 “The ABCs of AB5,” September 5.

Rosenblat, Alex 2016. “The Truth About How Uber’s App Manages Drivers,” *Harvard Business Review*.

Rosenblat, Alex 2018 Uberland: How Algorithms Are Rewriting the Rules of Work, University of California Press.

Rosenblat, Alex and Luke Stark 2016. “Algorithmic Labor and Information Asymmetries: A Case Study of Uber’s Drivers,” *International Journal of Communication*, 10: 3758 - 84.

Sweezy, Paul 1939 “Demand Conditions under Conditions of Oligopoly,” *Journal of Political Economy*.

Zipperer, Ben 2018 “Six Reasons Not to Put Too Much Weight on the New Study of Seattle’s Minimum Wage,” Economic Policy Institute, Working Economics Blog, October 22.

Appendices

Appendix 1 Seattle TNC Driver Survey Method

The City of Seattle commissioned an independent communications and survey firm, PRR, to develop and conduct an online survey of Seattle TNC drivers. The survey was administered online using Qualtrics, a highly regarded online survey platform used by researchers around the world. The survey was fielded in January of 2020. PRR compiled the survey results and the authors of this report cleaned and analyzed the survey data.

Email addresses for 31,543 TNC drivers licensed by King County as of late 2019 were provided to PRR. Most of the drivers on the list were active drivers—licenses are good for one year. Phone numbers were included for many drivers on the list. The survey was translated into seven languages: Spanish, Simplified and Traditional Chinese, and four East African languages, (Amharic, Oromo, Somali, and Tigrinya). To ensure that non-English speakers were given the opportunity to participate, targeted outreach at community locations was conducted to inform drivers about the survey. In-language recruitment was conducted in Amharic, Chinese (both Simplified and Traditional), Oromo, Somali, Spanish, and Tigrinya and included a mix of purposive and snowball sampling, and was conducted online, by text messages, and in-person. The English language version of the 53-question survey is included in this Appendix.

Recruitment in English occurred by email and text messages. PRR sent two email invitations through Qualtrics. This first invitation went to all 31,543 email addresses, was opened by 12,263 (39.8%), 4,049 clicked through (33%), and 734 (2.3%) invitations bounced back. In the Qualtrics platform, responses were anonymous so PRR sent the second reminder email to the entire list (minus those that had bounced back.) The second email invitation went to 30,855 email addresses; it was opened by 10,258 (33.4%), was clicked on by 1,831 (17.8%), and bounced from 103 (0.3%). PRR sent three text message invitations to 25,492 phone numbers (these were the primary phone numbers that drivers listed), however 1,538 of the phone numbers had errors (were either no longer active or cannot receive text messages), so the text messages were sent to a total of 23,954 phone numbers. PRR sent one additional text message invitation to 13,949 phone numbers (these were the secondary phone numbers that drivers listed), and 1,555 of those phone numbers had errors (because they were no longer active or did not receive text messages) so the message was sent to a total of 12,394 phone numbers.

A total of 9,379 users opened the survey: 4,239 came through an SMS invite, and 5,141 came through the anonymous URL (this number included email invitations, in-language recruitment, and any snowball sampling). Of those who opened the survey, 8,715 answered at least one question. Qualtrics quality control metrics were used to screen for possibly fraudulent response

and likely duplicate responses.⁸⁹ Using Qualtrics metrics for Recaptcha, Ballot-Box Stuffing, and Fraud scores, 487 surveys were excluded. Relevant ID Duplicate scores were the basis for excluding another 834 surveys. These cleaning steps left us with 7,394 surveys.

Of the 7,394 surveys in the cleaned sample set, 95.7 percent (7,075) were in English, 1.8 percent in Spanish, 1.6 percent in Traditional Chinese, 0.2 percent in Simplified Chinese, and a combined total of 0.7 percent in the four East African languages.

For the first substantive question, “which company do you drive for?” there were 6,789 responses, 21.5 percent of the universe of driver email addresses to which the survey was sent. For this type of survey, response rates usually range from 10 to 15 percent, with 20 percent responses not unexpected given the relevance of the subject to the respondents. By comparison, the driver surveys that informed Hall and Krueger’s 2018 article on Uber drivers had response rates of around 10 percent. Predictably, in the Seattle survey response rates varied across the survey, with response rates tapering off toward the end, depending on the topic and ease of responding. Questions on demographic characteristics, which appeared toward the end of the survey, elicited responses from about 12 percent of the driver universe. Exhibits in the text based on survey responses report the number of responses for each question or set of questions analyzed.

We used the interquartile rule (1.5 times IQR) to remove outliers. Responses to questions asking about earnings (and related data reported on drivers’ Uber and Lyft apps) and expenses were trimmed to eliminate reporting errors and other outliers. Some of the questions asked drivers to consult their driving record using their Uber or Lyft app for the week of December 2-8, 2019. These questions elicited a smaller but still substantial response rate: about 2,022 drivers (6.6 percent of the sampling universe.) The drivers who responded to these questions account for a disproportionate share (13 percent or 92,000) of all Seattle-King County trips provided during the survey week. We

We used a number of methods to check the representativeness of the survey. The first compares the vehicles used by survey respondents to administrative records compiled by King County to license vehicles for TNC services. We identified five broad types of vehicles—sedan, sedan hybrid, SUV, SUV-hybrid, and electric. Exhibit 11 in the body of the report shows the distribution of vehicle types for the set of TNC vehicles licensed in King County and the vehicles used by survey respondents. Seventy-six percent of the set of King County licensed TNC drivers have a sedan or hybrid sedan, compared to 72 percent Seattle TNC survey respondents. Survey respondents and all King County licenses reported similar shares of SUVs, 21 and 22 percent,

⁸⁹ See this link for a description of Qualtrics quality control measures: <https://www.qualtrics.com/support/survey-platform/survey-module/survey-checker/response-quality/>.

respectively. The percentage who drive a hybrid SUV or electric vehicle was very low in both groups.

Our second check on the representativeness of our survey respondents compared the geographical location of driver residences in the King County administrative data and among our survey respondents. In particular, we compared zip codes among the drivers who appear in both datasets. These results found a close correspondence in the relative frequency of zip codes and their proximity among the drivers in both data sets.⁹⁰

Finally, we compared the gender and age distributions of TNC drivers in the survey with the ACS data we presented above. These results (not shown here directly but compare Exhibits 9, 12 and 14 in the report) indicated close alignments between the two datasets.⁹¹

⁹⁰ We ranked the zip codes for respondents to the survey and King County's list of TNC drivers—18 of the top 20 zip codes by frequency of drivers were the same in the survey and the County's list. In the driver survey, the top 20 zip codes accounted for 39 percent of all those indicating a zip code and the top 20 zip codes in the county list represented 45 percent of all drivers.

⁹¹ In order to moderate the length of the survey, we did not ask about educational attainment, household income or health insurance coverage and so we could not check the representativeness of the data along those dimensions.

Appendix 2 Seattle TNC Driver Expenses

Expense	Specific Expenditure	Annual	Weekly	Per Mile	Explanation
Per mile costs based on 35,000 miles per year					
Licensing, vehicle registration fees & tax					
	City business license	\$110.00	\$2.12	\$0.0031	\$110 annual fee
	State business license	\$4.80	\$0.09	\$0.0001	One-time \$24 fee, amortize over 5 years
	State drivers license	\$9.00	\$0.17	\$0.0003	\$54 once every 6 years, amortize over 6 years
	TNC driver's license & vehicle endorsement	\$0.00	\$0.00	\$0.0000	Fees covered by TNC trip fee submitted by TNC
	State vehicle registration	\$148.25	\$2.85	\$0.0042	Includes \$24 for vehicle < 4,000 lbs, and \$80 Transportation Benefit District fee
	RTA motor vehicle excise tax	\$244.00	\$4.69	\$0.0070	1.1% of depreciated value determined by formula (e.g., for 2017 Prius w/ orig MSRP=\$26,725)
	Annual vehicle inspection	\$55.00	\$1.06	\$0.0016	Applies annually or every 50,000 miles
Subtotal vehicle registration fees and tax		\$571.05	\$10.98	\$0.0163	
Operating costs					
	Vehicle acquisition	\$8,006	\$153.97	\$0.2288	48-month financing for weighted new & used vehicle types
	Gas	\$3,289	\$63.25	\$0.0940	Average Seattle gas prices 1st 17 weeks 2020, 4-year average city mpg ratings
	Vehicle maintenance	\$2,261	\$43.48	\$0.0646	Survey-based driver expenses
	Insurance	\$2,466	\$47.42	\$0.0705	Survey-based driver expenses
	Cellphone	\$1,560	\$30.00	\$0.0446	Large format phone with unlimited data service plan
	Vehicle cleaning	\$140	\$2.69	\$0.0040	12 car washes
Subtotal operating costs		\$17,722	\$340.81	\$0.5064	
Health insurance costs		\$3,766	\$72.42	\$0.1076	75% (share of drivers without employer-provided health insurance) of the cost of individual coverage @ \$418.50/ month, King County, silver plan for 42-year old male
Independent contractor taxes					
	Employer share Federal FICA	\$2,923	\$56.20	\$0.0835	@ average speed of 16.28 mph calculated to yield FICA amount due on \$16.39
	Washington gross receipts tax	\$392	\$7.54	\$0.0112	@ average speed of 16.28 mph calculated to yield amount of Washington gross receipts tax on \$16.39 plus expenses
Subtotal independent contractor taxes		\$3,315	\$63.74	\$0.0947	
TOTAL SEATTLE TNC DRIVER EXPENSES		\$25,374	\$487.96	\$0.7250	

Source: Authors' estimates based on driver survey, official sources, and other information.