



CITY OF CHICAGO

**TRANSPORTATION NETWORK
PROVIDERS AND CONGESTION
IN THE CITY OF CHICAGO**



LORI E. LIGHTFOOT
MAYOR OF CHICAGO





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CITY OF CHICAGO
LETTER FROM THE MAYOR



Dear Chicagoans,

Our city, like many others across the nation, has experienced a significant uptick in traffic congestion across all vehicle types, including from the rapid growth of Transportation Network Providers (TNPs), or ride-hailing services. Over the past three years alone, the number of TNP trips has grown by 271 percent, and that number continues to steadily increase. The impact on our infrastructure and the mobility of residents and visitors who rely upon Chicago's streets for commerce or transportation can be felt downtown every day. I hear this concern from residents everywhere I go.

I believe that solving Chicago's congestion issues will be a shared effort over time, and that we must move to a network of safe and reliable options that serve every community. That's why, over the last few months, the City has been assessing data on TNPs' contributions to congestion to inform a policy that is aimed at mitigating congestion and improving the quality of life of Chicagoans. As part of our research, the City has extensively explored approaches taken by other cities tackling the same issues and data from independent researchers and transportation policy experts. It is clear that there are no signs of decline in the number of TNP miles driven in the city, and therefore the City must act.

I propose a two-step approach to begin mitigating traffic congestion. One, we will partner with an independent industry expert to conduct a comprehensive congestion pricing study that will look at every community and how congestion impacts it. Second, we will take initial steps to deploy new, targeted regulations on the growing ride-hailing industry to ensure the companies pay their fair share of the toll they are taking on our roadways. The goal of these new regulations is to ultimately incentivize riders to select more sustainable forms of transportation where feasible, especially during peak periods when the city faces high levels of gridlock on downtown roadways.

I believe that these are important steps forward and a necessary means for addressing the congestion issues that plague downtown and represent much-needed action to help Chicagoans get around more easily and efficiently. These steps will be an important foundation towards an evidence-based, resident-focused transportation policy that works for everyone for years to come.

Sincerely,

A handwritten signature in black ink that reads "Lori E. Lightfoot". The signature is fluid and cursive.

Lori E. Lightfoot
Mayor of Chicago

TRANSPORTATION NETWORK PROVIDERS' CONTRIBUTIONS TO CONGESTION IN CHICAGO

The negative environmental and social impacts of traffic congestion include increased air pollution, lost time commuting for residents and increased traffic collisions. While Transportation Network Providers (TNPs), or ride-hailing services, are not the sole reason for increasing congestion and gridlock in Chicago, our analysis shows that they are a significant contributing factor warranting action. The most common TNP trips occur between or within the most congested areas of the city across all vehicle types. As a lower-capacity, low-efficiency travel option, TNPs add wear-and-tear on road infrastructure and contribute to greater vehicle emissions. Moreover, a substantial portion of these trips occur in areas that are well-served by the City's more efficient and affordable public transit system.

Recent analysis of TNP trip data submitted to the City reveals the following trends in TNP use in Chicago:

1. Between 2015 and 2018, the annual number of TNP trips in Chicago has grown 271 percent, and the TNP miles traveled with passengers have increased 344 percent.
2. Half of all trips citywide begin or end in the downtown area, and nearly a third of those trips both start and end in the downtown area.
3. TNP trips in the downtown area on weekdays between 6am and 10pm increased 309 percent between 2015 and 2018.
4. Approximately 26 miles of road space is occupied in the downtown area by TNPs during a typical evening rush period.
5. TNP trips are a significant contributing factor to CTA ridership loss.
6. The influx of TNP trips during rush periods in the downtown area are a substantial factor impacting CTA bus speeds.

Outlined in more detail are the overarching trends in TNP use that pose critical challenges to the City's transportation network.

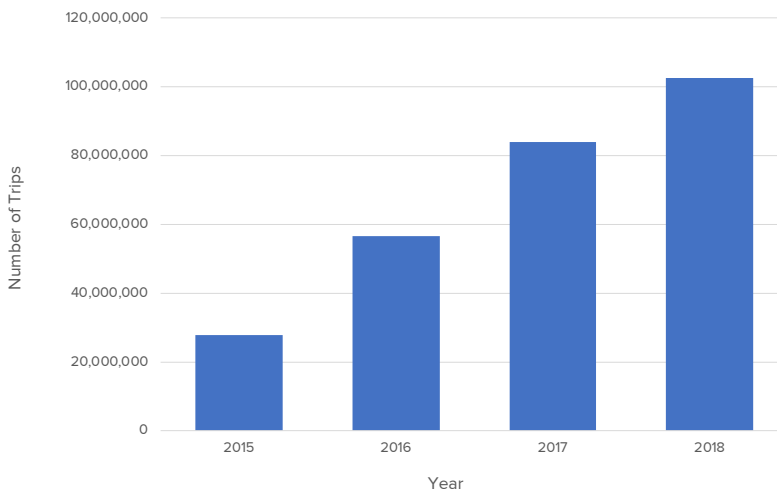


TRENDS IN TRANSPORTATION NETWORK PROVIDER USE IN CHICAGO

TREND 1: TNP TRIPS AND ANNUAL MILES TRAVELED HAVE RAPIDLY INCREASED SINCE TNPS BEGAN OPERATING IN THE CITY

TNP trips have increased by an average of 58 percent annually. Since 2015, the Illinois Department of Transportation (IDOT) estimates that annual vehicle miles traveled in Chicago have increased 5 percent. In 2018, 102.5 million TNP trips either started or ended in Chicago, as compared to 27.6 million TNP trips in 2015, the first full year the City received trip data from TNPs. This rapid expansion of TNP trips has exacerbated congestion, increased transportation emissions and contributed to the decrease in public transit ridership in areas of high TNP concentration and also significant transit service.

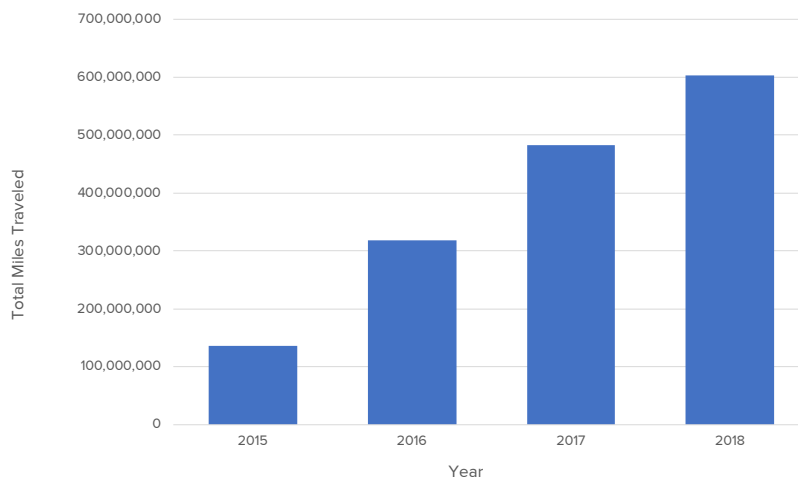
Figure 1. Total Annual TNP Trips, 2015-2018



Source: City of Chicago Department of Business Affairs and Consumer Protection (BACP)

The number of vehicle miles driven by TNPs with passengers has increased 344 percent, from 135.9 million miles in 2015 to 603.4 million miles in 2018. The actual number of TNP miles driven in Chicago is estimated to be much greater. A recent Fehr & Peers study commissioned by Uber and Lyft estimates that additional miles driven while a driver waits for a ride request or is driving to pick up a passenger accounts for 40 percent of TNP vehicle miles in the Chicago metro region. This behavior is particularly concerning, as it is adding to overall congestion while providing no tangible transportation value to residents.

Figure 2. Total Annual Miles Traveled by TNPs, 2015-2018



Source: BACP

In addition to contributing to congestion, the increasing vehicle miles driven by TNPs leads to significant infrastructure, environmental and social costs for the City and its residents:

- More traffic requires the City to heighten coordination during rush periods and peak times at major locations such as airports and event spaces. Increased traffic also puts more wear and tear on roads. Road resurfacing is already a significant cost to the City with estimates at \$1 million per mile, while resurfacing one block of residential road is estimated at \$80,000.
- The transportation sector accounts for 25 percent of Chicago's greenhouse gas emissions and the growth in TNP trips contributes to growing emissions. Absent of TNP idling, driving without a passenger, or vehicle flow rates, it is estimated that TNP miles have contributed 246,563 metric tons of greenhouse gas emissions over the past year alone. These emissions total the equivalent of 27.4 million gallons of gasoline burned, or more than 42,509 homes' electricity for an entire year.
- Vehicle emissions are a leading contributor of fine particulate matter pollution (PM2.5), which is already high in Chicago relative to state and national averages. Exposure to this type of pollution increases the risk of premature death for Chicagoans, especially among vulnerable populations and those with underlying health conditions.
- A 2018 CTA ridership survey revealed that TNPs are substituting for public transportation. Of customers who use TNPs, 48 percent would have taken CTA if TNPs did not exist, and 31 percent said they take TNPs more since riding CTA less. Every rider shifting from a bus or a train to a TNP service adds to congestion and mobile source emissions.

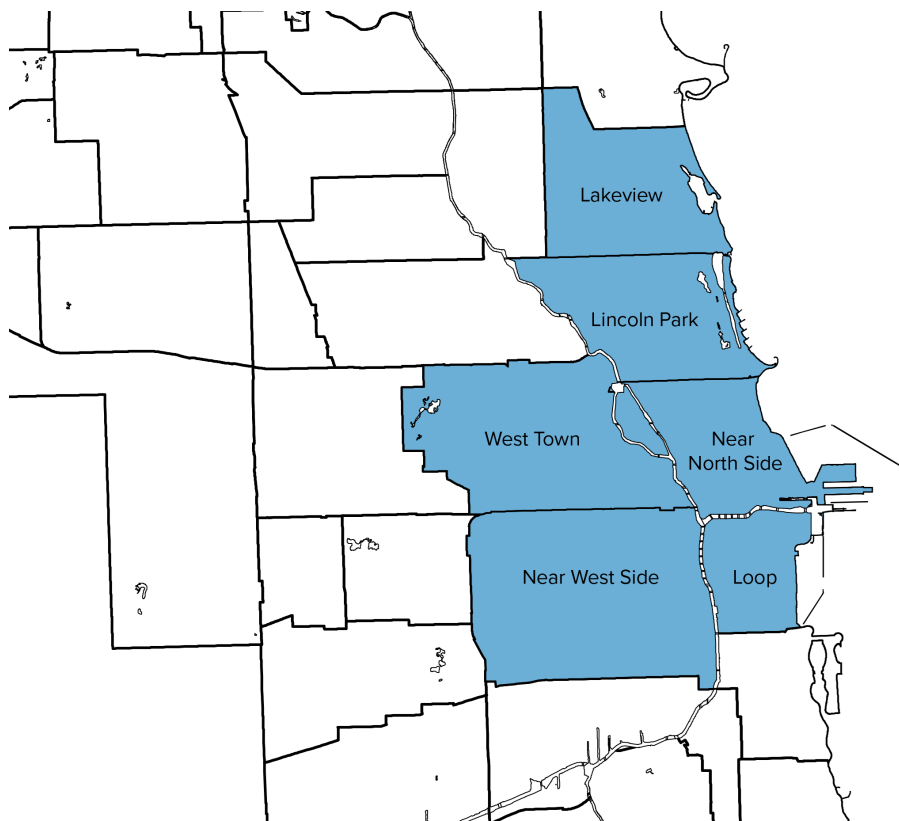


TREND 2: TNP CONGESTION IS MOST PRONOUNCED IN AREAS OF THE CITY THAT ALREADY FACE TRAFFIC CHALLENGES

Congestion and TNP trips are most pronounced in areas of the city with strong economic activity, high property values and household incomes and a concentration of social and cultural institutions. TNP trips are more likely to start or end in the Loop or occur between or within Near North Side and Near West Side community areas. From March 2018 to February 2019, the top 10 most common TNP routes traveled between community areas were the following:

1. Near North Side and Loop
2. Near North Side and Near North Side
3. Near North Side and Near West Side
4. Lincoln Park and Near North Side
5. Near West Side and Loop
6. West Town and Near North Side
7. Near North Side and Lakeview
8. Lincoln Park and Lakeview
9. Near West Side and Near West Side
10. West Town and Near West Side

Map 1. Chicago Community Areas Where the Top Ten Most Common TNP Trips Occurred, March 2018-February 2019

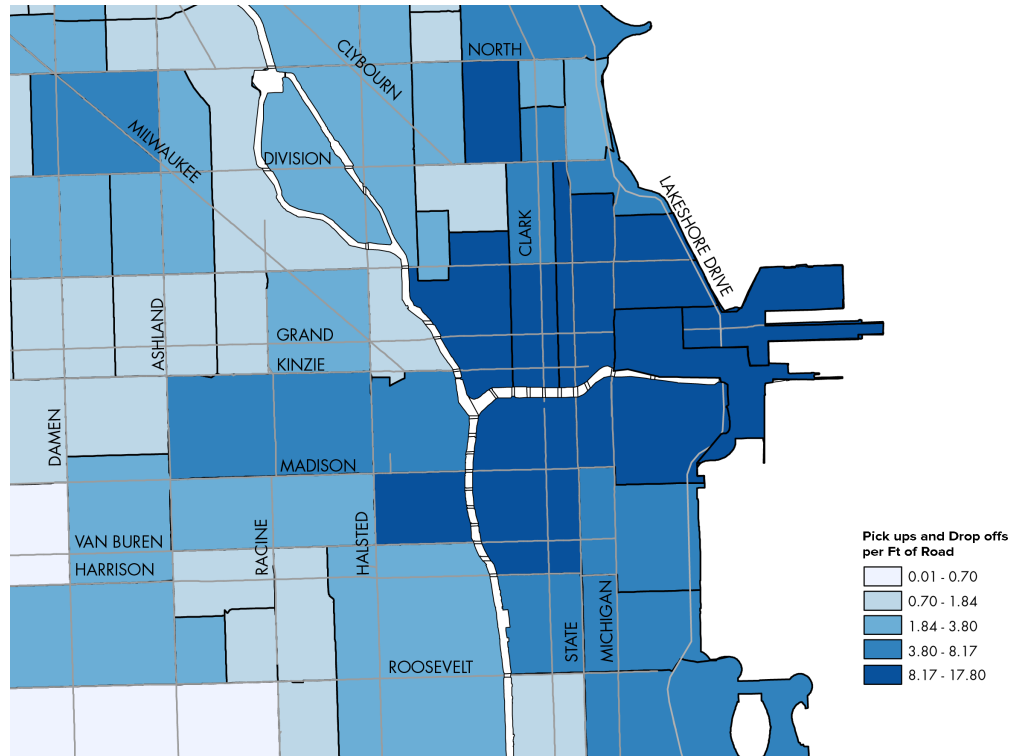


Source: BACP

¹March 2018- February 2019 represents the last 12 months of the most comprehensive data the City had available for this analysis.

This analysis considered trips by census tract and found that most trips occur in the downtown area, defined in this study as areas known as the Central Business District and the West Loop. This area consists of both TNP and overall congestion and offers rich alternative transportation options.

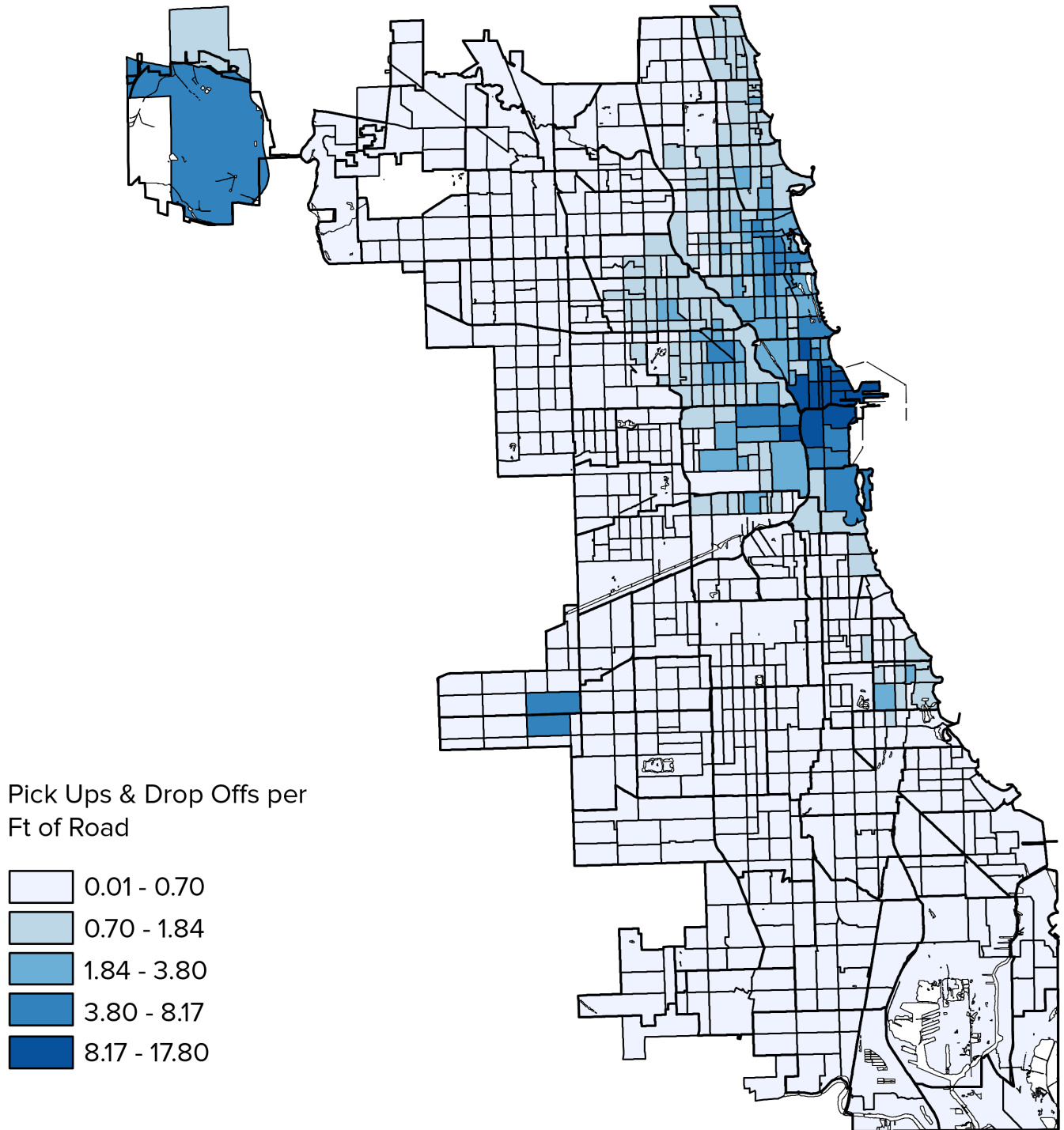
Map 2. Downtown Area that Experiences the Highest Density of TNP Congestion, March 2018-February 2019



Source: BACP

The downtown area experiences the highest density of TNP congestion, with 21.7 times more trips per foot of road than the rest of the city. Between March 2018 and February 2019, 49 percent of all TNP trips started and or ended in the downtown area, and 32 percent of those trips both started and ended in the downtown area. Displayed in Map 3 is the density of TNP trips adjusting for the length of road per census tract.

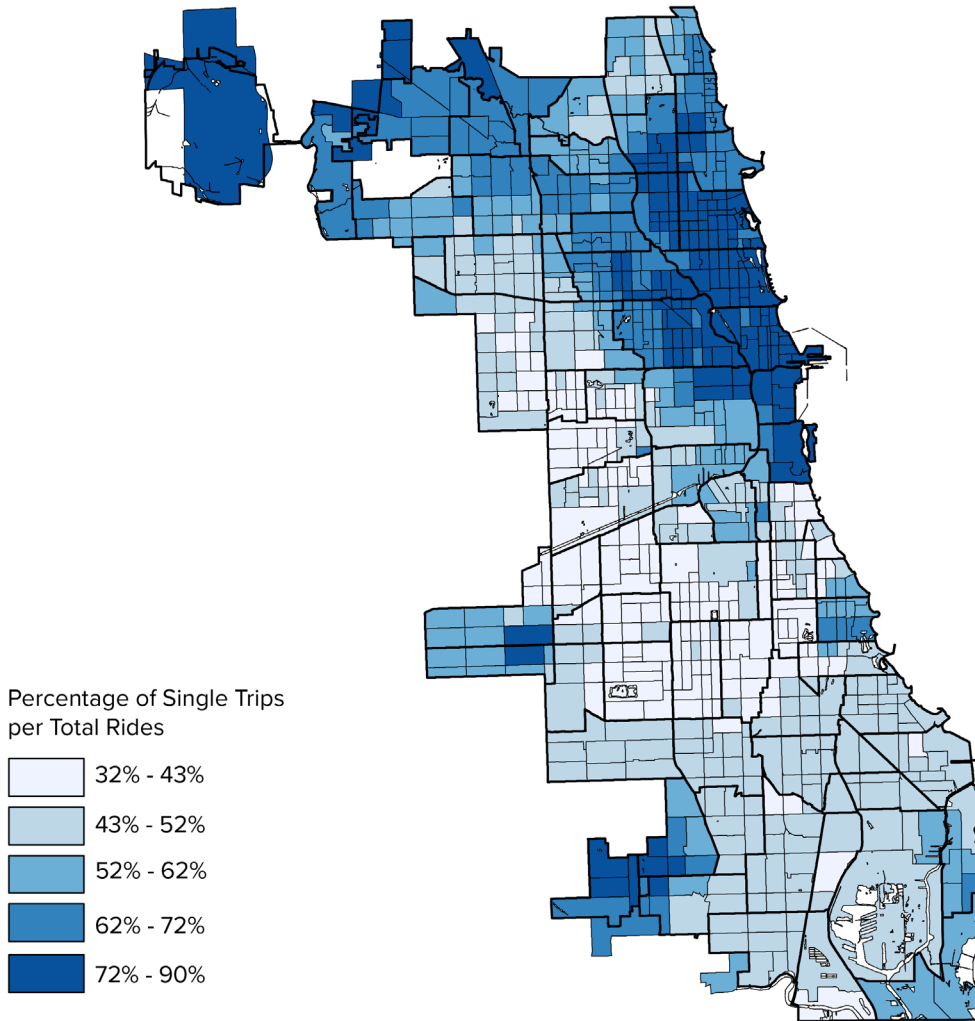
Map 3. Total TNP Trips by Census Tract Per Foot of Road,
March 2018-February 2019



Source: BACP

Areas of already high congestion and demand for TNPs are also areas where riders are less likely to be sharing trips. Most TNP trips in high congestion areas like downtown are requested as a single trip, versus a shared trip, in which riders are matched with others traveling in the same direction to “share” the ride. For instance, in the downtown area, 77 percent of trips are requested as single trips, meaning the downtown area has both the highest congestion of TNP trips and a high proportion of single trips occurring. Single TNP trips amplify the impact on the City’s transportation network in the downtown area and other congestion centers across the city.

Map 4. Percentage of Total TNP Trips Requested as Single Trips by Census Tract, March 2018-February 2019

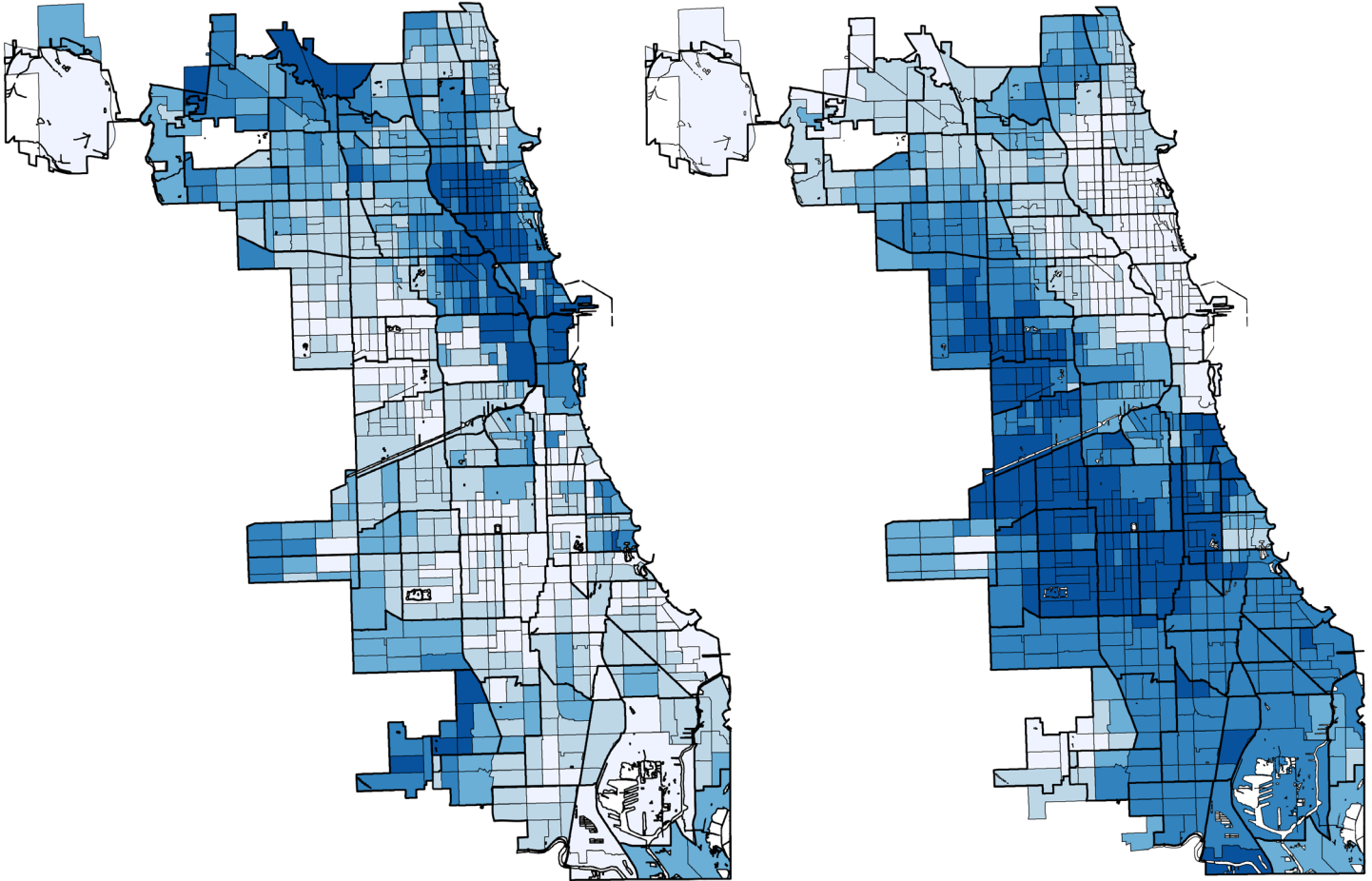


Source: BACP

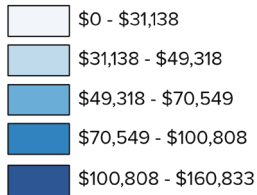
Conversely, shared trips are more likely to be requested outside the downtown area, particularly for trips originating or ending in neighborhoods below the area median income, which are concentrated on the South and West Sides of the city. Areas downtown and on the north, near north and near west sides of the city with higher median income households have a greater rate of single trips.

Shared TNP trips are a more efficient mode of travel, reducing excess idling and duplication of single trips, and thereby reducing TNP congestion and the increased emissions of single occupancy TNP trips. As previously stated, 25 percent of the City’s greenhouse gas emissions result from the transportation sector, and it is critical that the City pursue policies to combat increasing transportation emissions.

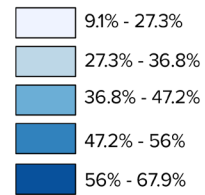
**Maps 5. and 6. Median Household Income by Census Tract,
2017 5-Year Estimates (Left); Percentage of TNP Trips Requested as Shared Trip
by Census Tract, March 2018-February 2019 (Right)**



Median Household Income
US Census 2017-5 Year Estimates



Percentage of Shared Trips
per Total Rides

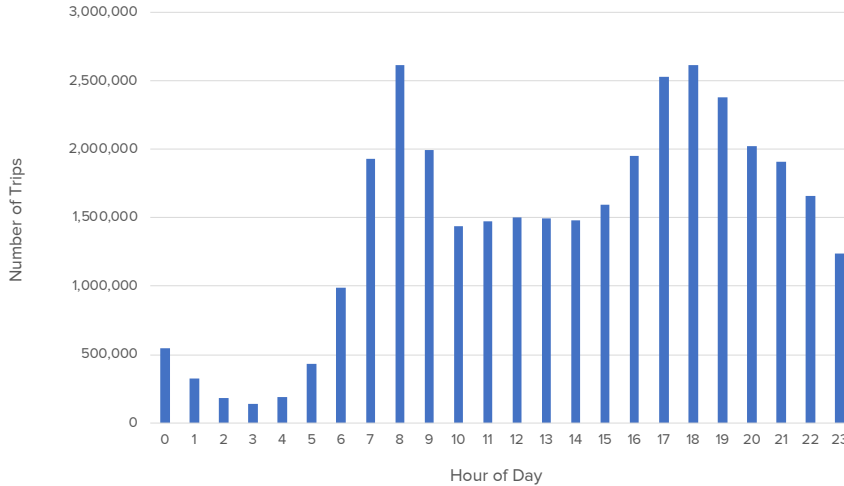


Source: Map on left (U.S. Census, American Community Survey 5-Year Estimates), Map on right (BACP)

TREND 3: MOST TNP TRIPS IN THE DOWNTOWN AREA OCCUR DURING PEAK TRAVEL TIMES

TNP trips are highest both in areas where and at times when vehicle travel is particularly a challenge due to a significant number of vehicles on the road already. The downtown area has sustained TNP use all day during the week and experiences the highest number of TNP trips during the morning and evening rush periods. TNP trips significantly increase weekdays in the downtown area between 6am and 7am and similarly decline between 10pm and 11pm. Of all downtown area trips on weekdays, 61 percent occur between 6am and 10pm.

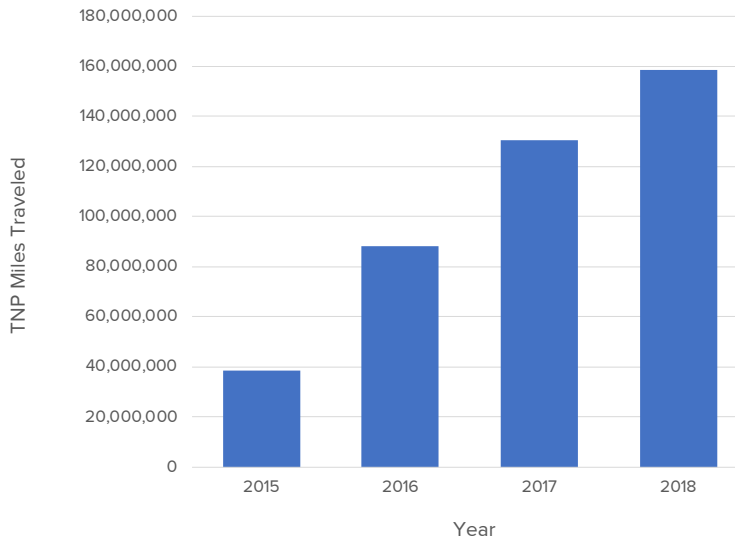
Figure 3. Annual Weekday TNP Trips in Downtown Area by Hour of the Day, 2018



Source: BACP

Between 2015 and 2018, the total miles traveled with passengers in the downtown area between 6am and 10pm has grown 309 percent from 38.7 million miles to 158.4 million miles. The actual number of TNP miles traveled is much higher, as these figures do not include miles driven while a driver waits for ride requests or is en route to pick up a passenger.

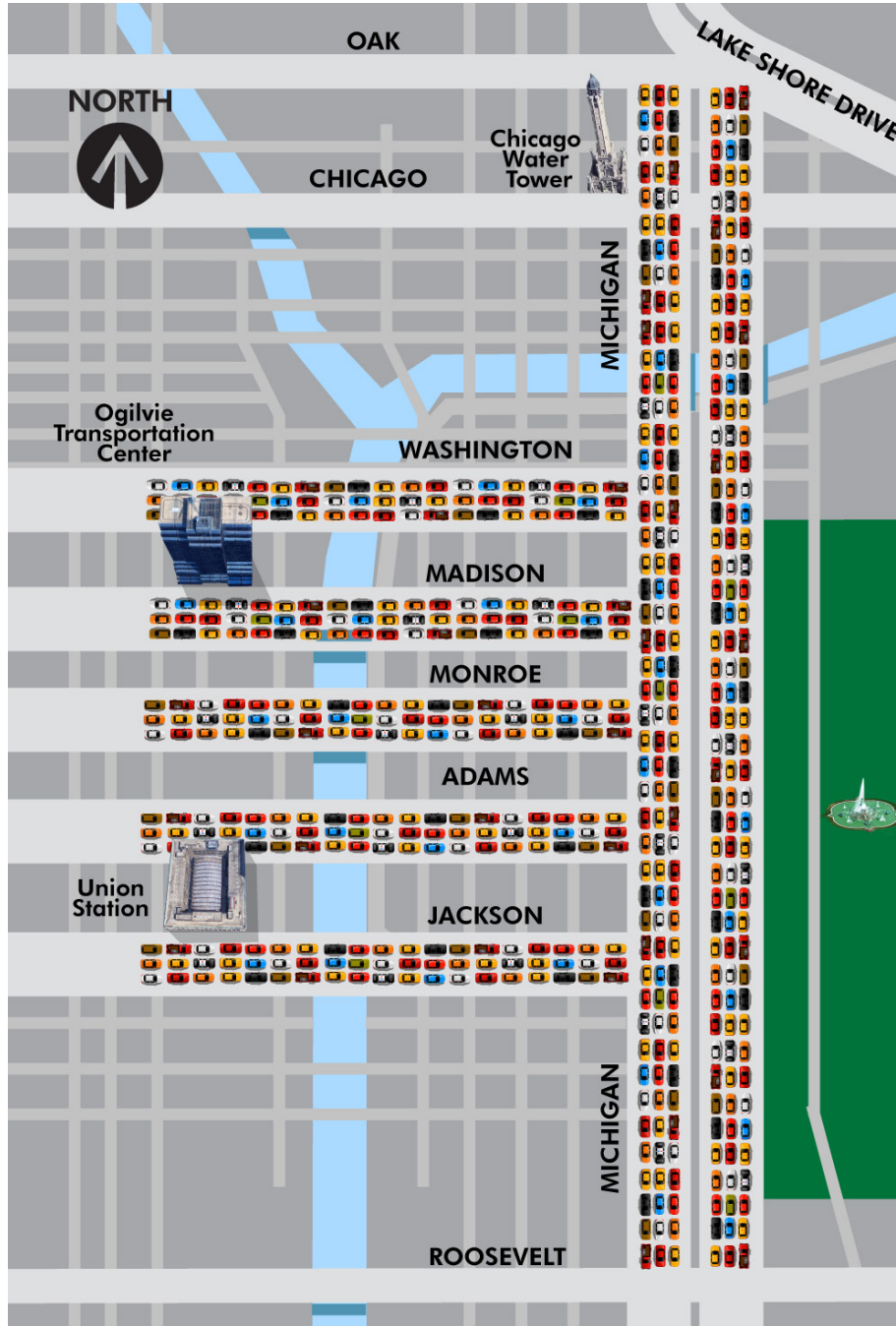
Figure 4. Annual Miles Traveled by TNPs for Trips Starting or Ending in Downtown Area on Weekdays During 6am–10 pm, 2015-2018



Source: BACP

During a typical morning rush period in the downtown area, 8,132 TNP drivers complete 25,807 passenger trips. Likewise, during a typical evening rush period, 9,326 drivers complete 29,817 passenger trips. The number of TNP vehicles completing trips during the evening rush equates to 26 miles of road space occupied in the downtown area, the equivalent of occupying six lanes on Michigan Avenue from Roosevelt Road to Oak Street, and three lanes each on Washington Street, Madison Avenue, Monroe Street, Adams Street and Jackson Street from Union and Ogilvie stations to Michigan Avenue. By comparison, CTA buses occupy 5 times less road space and can carry 3 times more people in and out of the downtown area during the rush period.

Figure 5. Amount of Road Occupied by TNPs in the Downtown Area During a Typical Evening Rush Period



Map is a representation and is not drawn to scale. The road space estimation is based upon an assumption of a 15ft average car length.

TREND 4: THE GROWTH OF TNPS IMPACTS CTA'S RIDERSHIP LEVELS AND SLOWS DOWN TRAVEL SPEEDS

While several factors contribute to CTA's ridership shifts, areas of high CTA ridership loss correspond with areas of high TNP ridership. The community areas where the most TNP trips occur are also areas that have seen significant CTA ridership loss.

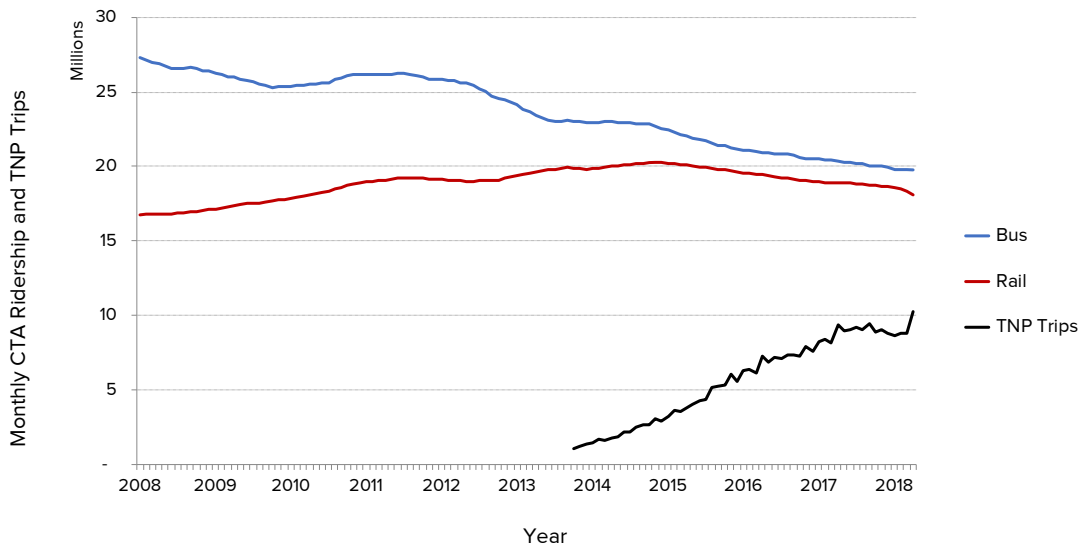
Figure 6: Weekday CTA Ridership Loss Since 2015 by the Most Common Community Areas for TNP Trips

Community Areas Where the Top 10 Most Common Trips Occurred (March 2018 - February 2019)	2018 Weekday CTA Ridership Totals (Bus & Rail)	Percent Change in Weekday CTA Ridership Totals Since 2015
Loop	246,042	-5%
Near North Side	90,885	-8%
Lake View	75,595	-6%
Lincoln Park	62,371	-8%
Near West Side	47,845	-4%
West Town	52,102	-6%

Source: CTA

Since 2015, CTA has lost close to 48 million rides annually. Ridership has decreased on bus as well as rail during this time. In the same period, TNP trips have more than tripled, peaking at 102.5 million rides in 2018. A July 2018 report titled, "The New Automobility: Lyft, Uber and the future of American Cities," concluded that TNP trips are a combination of former personal auto trips or taxi trips, new trips and former walk, bike or public transit trips. Additionally, a 2018 CTA ridership survey revealed that in some cases, TNPs are substituting for public transportation. Of customers who use TNPs, 48 percent said they would have taken CTA if TNPs did not exist, and 31 percent said they take TNPs more since riding CTA less.

Figure 7. CTA Monthly Ridership and TNP Trips, 2008-2018

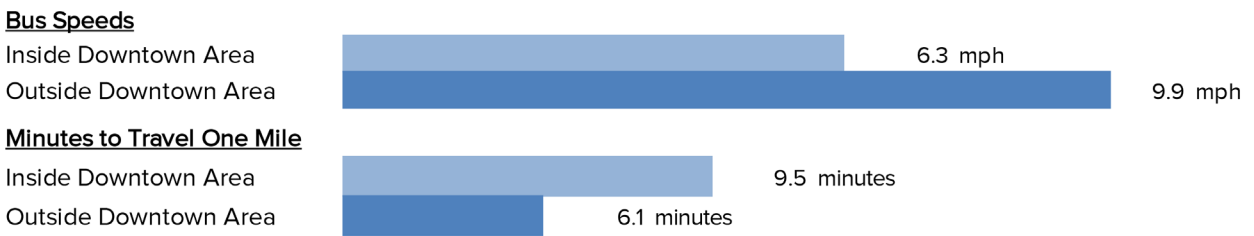


Source: CTA

CTA bus speeds are representative of overall roadway congestion in the downtown area and serve as a proxy for slow vehicular speeds downtown due to worsening congestion. The influx of TNP trips during rush periods in the downtown area, TNP curbside passenger pick ups and drop offs and TNP drivers cruising without passengers, are contributing factors that impact CTA bus speeds.

Currently in congested areas downtown, taking a bus is only twice as fast as walking, while some buses are only 1 mph faster than walking. For example, CTA bus routes the #1 Bronzeville/Union Station and #28 Stony Island, which connect the South Side to the Loop, travel at under 4 mph to cross downtown from Union Station to Michigan Avenue, and the #7 Harrison, which connects the West Side to downtown, is only slightly faster at 5 mph between Union Station and Michigan Avenue. Six different routes on N. Michigan Avenue travel between 3.7 and 4.4 mph.

Figure 8. Median CTA Bus Speeds Demonstrate Impact of Traffic Congestion in the Downtown Area, January–July 2019



Source: CTA

POLICY RECOMMENDATIONS

The City of Chicago imposes a Ground Transportation Tax (GTT) on vehicles for hire in Chicago, including TNPs. The GTT on TNPs is a flat rate paid per trip, regardless of the type of trip request (shared or single). The rate imposed is uniform across the city, except for trips that start or end at Midway Airport, O’Hare Airport, McCormick Place or Navy Pier.

GTT revenues are allocated to the City’s Corporate Fund, which supports basic City operations and services, including those provided by BACP, the Chicago Department of Transportation and other transportation and economic development related operations. In 2018, the City began providing \$16 million annually from the Corporate Fund, funded by GTT revenue, to CTA to fund investments in a high quality camera network and track repairs to improve the speed and reliability of train service throughout Chicago.

Other cities across the country are addressing TNP driven congestion through strategic use of taxes similar to Chicago’s GTT. The City will pursue policies that utilize GTT to increase the frequency of shared TNP trips, shift travelers to higher efficiency, higher occupancy and lower emission modes of transportation, such as public transit, while generating revenue for investment in infrastructure and services for residents. To fully deal with congestion in Chicago caused by all vehicle types, the City will undertake a congestion pricing study to devise a multi-pronged approach to address congestion.

