Transportation Network Companies (TNCs) in the Washington Region

Transportation Planning Board

April 6, 2018

Washington Metropolitan Area Transit Authority
Purpose

- How big are Transportation Network Companies (TNCs) like Uber and Lyft in the Washington Region?
- How are they impacting our transportation system?
- How can we better understand them?
Background

- Uber, Lyft, Via, etc. began arriving in our region in 2012
  - UberX in 2015

- TNCs now an important part of the mobility landscape

- But the public sector has very little data on their impacts:
  - Overall size, congestion, VMT, transit ridership impacts, travel markets served, rider info
TNC’s Growth Nationally

- TNC plus Taxis’ ridership will soon exceed all local U.S. bus ridership combined.

Growth and Impacts of New Mobility Services, Bruce Schaller, TRB 2018 Annual Meeting
TNC’s Growth Has Been Meteoric Here

42,000 Uber drivers in DC in 2017

Average response times in D.C in 2016: 5-7 minutes

Figure 5: Active U.S. Driver-Partners Over Time, by City


Washington Metropolitan Area Transit Authority

Washington Post, Dec. 3 2017

Washington Post, March 10 2016

Uber growth chart (gross revenue) 2014-2016, in billions

Uber Revenue and Usage Statistics, 2017
How Big are TNCs in Other Cities?

In cities where data is available, TNCs are moving hundreds of thousands of trips per day.

- 255,000 trips per day in San Francisco County (20% of all VMT)\(^1\)
- 300,000 trips per day in City of Chicago\(^2\)
- 650,000 trips per day in New York City\(^3\)

For Comparison, Trips per Day

- Metrorail: 650,000
- Metrobus: 400,000

Person-trips into DC core, 6:30-9:30am: 400,000\(^4\)

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1. TNCs Today: A Profile of San Francisco Transportation Network Company Activity, SFCTA, June 2017
2. Estimate based on City of Chicago’s revenue projections from 15-cent increase in its per-trip TNC fee (100 million trips/yr)
3. NYC Taxi and Limousine Commission data for November 2017, vehicle trips per day on Uber + Lyft, assumed 1.5 persons per vehicle
4. MWCOG Cordon Count, 2013
How Big Are TNCs in the Washington Region?

By scaling the data from three other cities, we estimate that TNCs could be moving 200,000 to 400,000 trips per day in the Washington region.

<table>
<thead>
<tr>
<th>City</th>
<th>TNC Passenger Trips/Day</th>
<th>Population</th>
<th>Equivalent TNC Passenger Trips/Day in Our Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Chicago</td>
<td>450,000</td>
<td>2.7 million</td>
<td>600,000</td>
</tr>
<tr>
<td>New York City</td>
<td>630,000</td>
<td>8.5 million</td>
<td>300,000</td>
</tr>
<tr>
<td>San Francisco City/County</td>
<td>255,000</td>
<td>900,000</td>
<td>250,000 in D.C. + Arlington</td>
</tr>
<tr>
<td>Washington Region</td>
<td>?</td>
<td>3.7 million</td>
<td><strong>Best Guess: 200K – 400K</strong></td>
</tr>
</tbody>
</table>

Washington region defined as WMATA Compact Area: 3.7 million people in DC, Arlington, Alexandria, Montgomery County, Prince George’s County, Fairfax County, Fairfax City, and Falls Church.
TNC Demand Patterns

TNC usage matches transit commute patterns closely during the week.
Then it takes off in the evenings and weekends.

Figure B-18: TNC trip volume by hour and day, Washington DC region

Table B-15: Top zip code flow pairs

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>Hourly Flows</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>20001</td>
<td>20001</td>
<td>160</td>
<td>4103</td>
</tr>
<tr>
<td>20001</td>
<td>20002</td>
<td>164</td>
<td>3860</td>
</tr>
<tr>
<td>20001</td>
<td>20009</td>
<td>158</td>
<td>3850</td>
</tr>
<tr>
<td>20002</td>
<td>20002</td>
<td>166</td>
<td>3781</td>
</tr>
<tr>
<td>20009</td>
<td>20001</td>
<td>158</td>
<td>3630</td>
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<tr>
<td>20002</td>
<td>20001</td>
<td>156</td>
<td>3329</td>
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<tr>
<td>20009</td>
<td>20009</td>
<td>154</td>
<td>2855</td>
</tr>
<tr>
<td>20009</td>
<td>20002</td>
<td>161</td>
<td>2492</td>
</tr>
<tr>
<td>20002</td>
<td>20009</td>
<td>145</td>
<td>2063</td>
</tr>
<tr>
<td>20007</td>
<td>20007</td>
<td>146</td>
<td>1944</td>
</tr>
</tbody>
</table>
TNCs are serving times and places where congestion is high, and transit options are strong. Most trips are in central D.C. and Arlington.
Impacts of TNCs in Other Cities

In New York, the rise of TNCs has coincided with a 15% increase in congestion, and a drop in transit ridership. Ride-sharing is uncommon.

Impacts of TNCs in Other Cities

In Boston, TNCs are eroding ridership at the MBTA and increasing congestion and VMT. 60-70% of trips have 1 rider.

42% of TNC trips are replacing transit trips

The average TNC trip in Boston represents 35 cents of lost fare revenue for the MBTA, exceeding the 20-cent fee.

Travel mode being substituted by ride-hailing services

Why The Public Sector Should Understand TNCs’ Impacts

**Efficient Use of Public Space**
- Are TNCs causing congestion?
- Are Riders Sharing Trips?
- VMT and Emissions

**Public Transit**
- Compete or Complement?
- Filling gaps in service?
- Slowing buses and blocking stops?

**Equity**
- Serving underserved areas/times?
- Impacts to Taxi and TNC Drivers?

**Modeling Travel Behavior**
- Trip purpose, demographics
- Forecasting
Without data on TNCs (trips, riders, impacts), the public sector is unable to understand their impact to the transportation system, and cannot inform public policy responses.
Kinds of TNC Data The Public Sector Needs

<table>
<thead>
<tr>
<th>Trip Volumes</th>
<th>Travel Markets Served</th>
<th>Efficiency Data</th>
<th>Travel Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total trips by:</td>
<td>When and where trips are made</td>
<td>Ridesharing: Riders per Trip</td>
<td>Trip Purpose</td>
</tr>
<tr>
<td>• Time of day</td>
<td>• Origin-Destination</td>
<td>• Productivity: trips per Hour per Vehicle</td>
<td>• Rider Demographics</td>
</tr>
<tr>
<td>• Day of week</td>
<td>• Route taken</td>
<td>• Deadheading</td>
<td>• Reasons for Taking TNCs</td>
</tr>
<tr>
<td>• Month</td>
<td>• Trip Length</td>
<td></td>
<td>• How Trip Would Have Been Taken Otherwise</td>
</tr>
<tr>
<td>• TAZ or other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Jurisdiction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel times</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uber Movement supplies most of this, but is missing trip counts</td>
<td></td>
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</tr>
</tbody>
</table>
Examples of Peer Cities Data Requirements

Seattle
Regulated by Records and Licensing Service. Require 2 years of data, reported quarterly, including
• Total rides provided;
• Rides originated by zip code;
• O/D of each ride by zip code;
• Rides when accessible vehicle requested

California
Regulated by CA Public Utilities Commission
• Service provided by zip code
• Hours logged by drivers;
• Miles logged by drivers

New York City
Regulated by Taxi and Limousine Commission
• Trip logs: date, time and origin for each trip
• Fares paid by transaction
• Number of passengers
• Pickup/drop-off locations by latitude and longitude

Chicago
Regulated by Dept of Business Affairs and Consumer Protection. Require monthly reporting of
• Origin/destination location and time
• Trip request data for any trip requests within City

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