



Analyzing TNC Usage in San Diego Using Data from a Smartphone-Based Household Travel Survey

Mark Bradley & Christopher Coy

TRB Innovations in Travel Modeling
June 27, 2018 | Atlanta

#### **Acknowledgements**









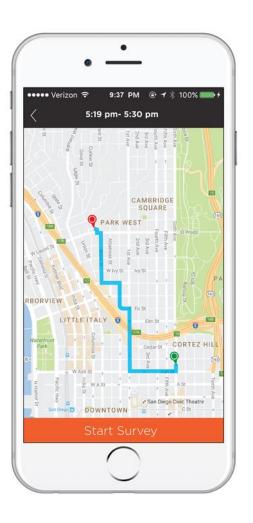


#### **Overview of the SANDAG Survey**

- Carried out in for 2016-17
- 6,199 households
- About 70% smartphone-based
- Up to 7 days of travel data
- Over 273,000 trips
- 1,730 TNC trips (& 250 taxi trips)

#### **COMPARISON:**

NHTS data has 122 TNC & taxi trips from 2,775 San Diego households





## TNC trips more likely to be out of region or airport related.

	TNC	Taxi	All Modes
Outside region	14%	32%	4%
In region, to/from airport	5%	7%	0.3%
In region, non-airport	81%	61%	96%



### The purpose of TNC trips\* varies by weekend vs. weekday.

Weekend TNC Trips

Mostly for social/recreation/meals

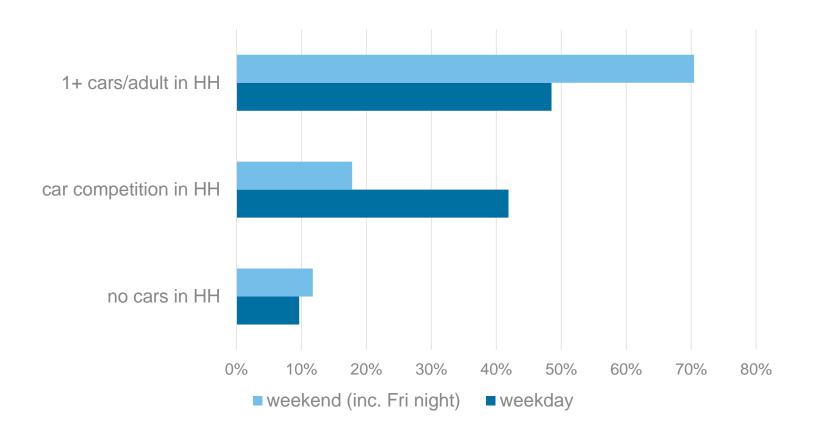
**Weekday TNC Trips** 

#### More mixed across purposes

Almost 50% of non-home destinations are work or school

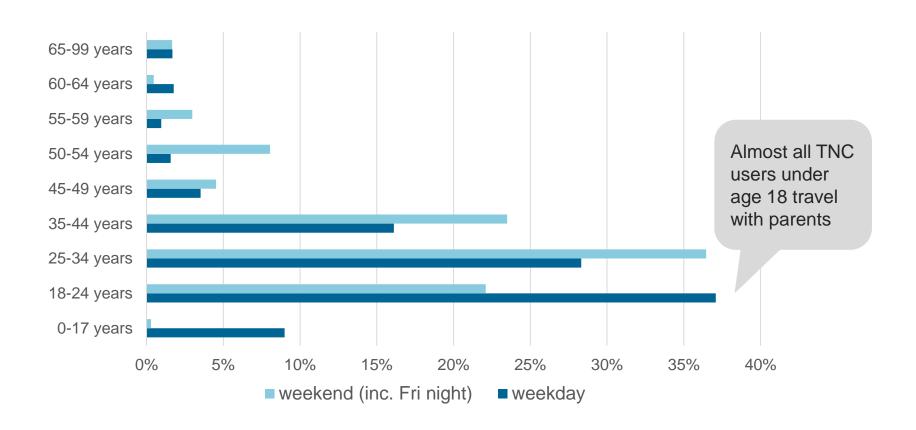


### Car competition in the household is more than twice as common for weekday TNC users.





## People under age 25 make 45% of weekday TNC trips, but only 22% of weekend TNC trips.





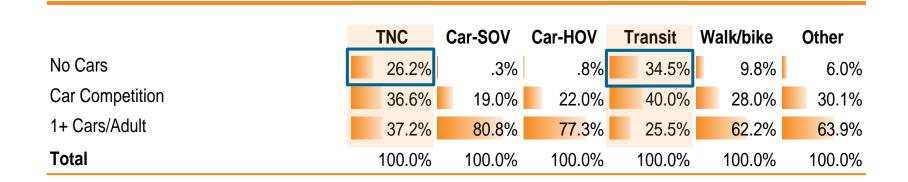
## The fraction of TNC users under age 35 is higher than transit and much higher than other modes.

	TNC	Car-SOV	Car-HOV	Transit	Walk/bike	Other
Under 5 years old	.7%	.0%	10.1%	.1%	5.0%	6.9%
5-15 years	5.4%	.0%	24.7%	1.7%	11.0%	16.3%
16-17 years		.9%	2.7%	1.2%	2.5%	5.5%
18-24 years	31.9%	9.7%	6.1%	25.4%	12.6%	14.0%
25-34 years	24.0%	17.2%	12.6%	19.1%	14.3%	11.9%
35-44 years	12.1%	18.2%	15.2%	7.7%	13.9%	14.1%
45-49 years	2.3%	12.6%	10.4%	9.6%	9.0%	6.2%
50-54 years	.9%	11.6%	4.7%	5.4%	6.8%	10.4%
55-59 years	1.2%	9.1%	2.8%	6.8%	7.1%	3.2%
60-64 years	17.2%	6.7%	2.8%	9.3%	5.1%	2.4%
65-74 years	1.1%	10.6%	4.7%	8.3%	9.2%	8.3%
75 years or older	3.2%	3.4%	3.1%	5.4%	3.5%	1.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

 The fraction of users over age 45 is much lower than all other modes, even walk and bike



# Car ownership of TNC users is not quite as low as for transit users, but lower than for all other modes.





## Compared to transit users, some TNC users have higher incomes

	TNC	Car-SOV	Car-HOV	Transit	Walk/bike	Other
Under \$30,000	28.8%	10.3%	11.0%	41.6%	20.9%	16.4%
\$30,000-\$59,999	24.2%	18.4%	18.3%	19.3%	19.3%	24.6%
\$60,000-\$99,999	11.0%	23.7%	24.2%	21.1%	18.9%	17.1%
\$100,000-\$149,999	24.8%	21.2%	21.2%	8.3%	17.3%	25.1%
\$150,000 or more	10.5%	17.4%	17.9%	3.4%	14.9%	7.8%
Prefer not to answer	.7%	9.1%	7.4%	6.3%	8.7%	9.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TNC trips and users are similar to transit along most other dimensions

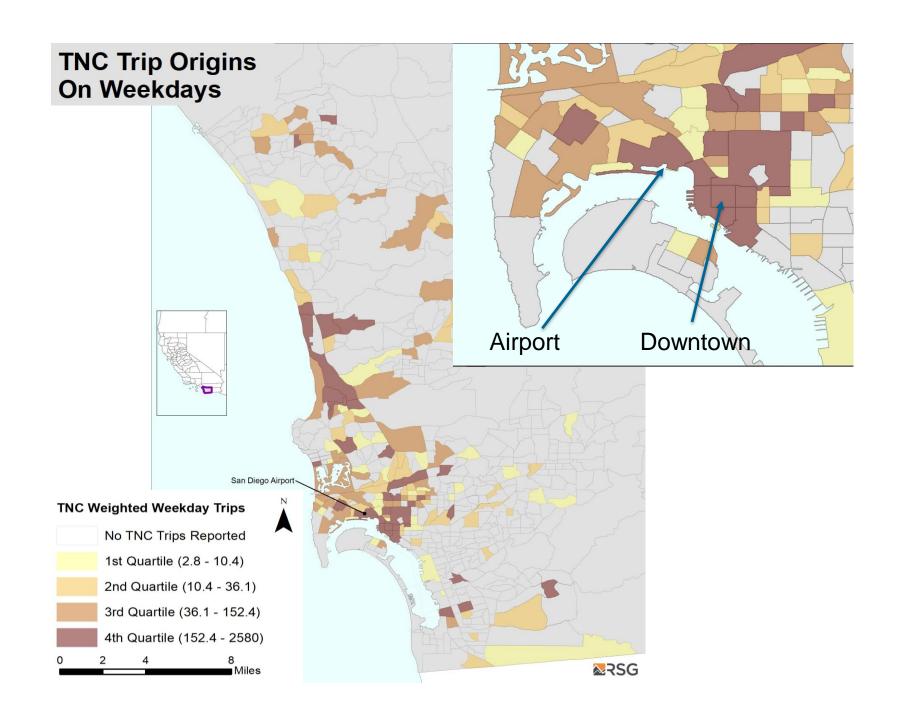


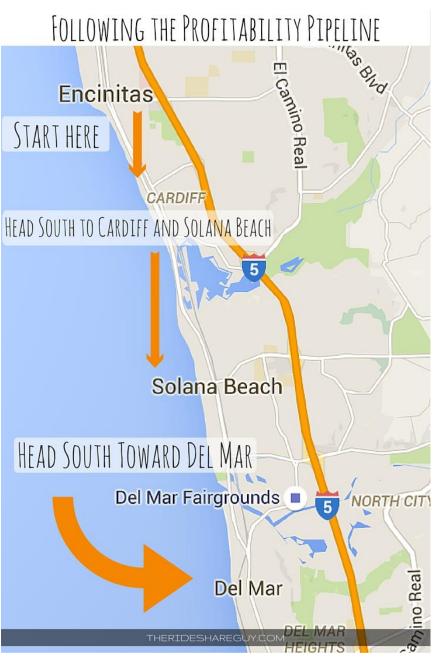
#### Also, compared to transit users, some TNC users live in areas that are not very well served by transit.

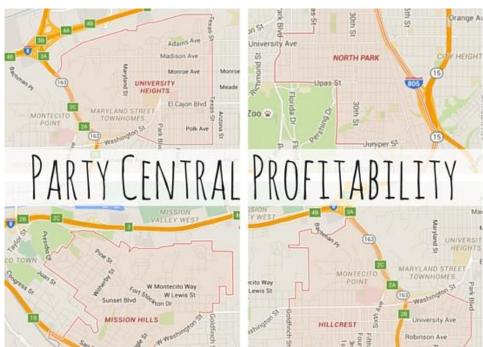
All trips split into quintiles by transit stop density within walking distance of the trip origin

	TNC	Car-SOV	Car-HOV	Transit	Walk/bike	Other
Lowest Quintile	19.3%	17.6%	20.9%	4.1%	15.8%	24.2%
Second Quintile	13.9%	20.0%	22.2%	9.2%	17.3%	21.3%
Third Quintile	14.8%	19.5%	19.3%	12.7%	15.3%	17.8%
Fourth Quintile	17.5%	22.0%	19.5%	21.4%	19.1%	13.7%
Highest Quintile	34.5%	20.9%	18.1%	52.6%	32.5%	23.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%









#### DOWNTOWN PROFITABILITY PIPELINE



#### **Questions**

