

# E-commerce behavior does not replace in-person shopping trips, even in post-pandemic years

Ashley Asmus  
Claire Goldhammer  
Samantha Williams  
Youme Yai



## EXECUTIVE SUMMARY

Accelerated increases in e-commerce behavior have impacted household travel behavior, generating growth in the number of orders delivered. It is unknown whether these increased deliveries are associated with fewer in-person shopping trips. Data from recurrent household travel surveys allow for investigation of the following questions:

- Do deliveries of online orders replace or add to in-person shopping trips?
- Has the relationship between in-person shopping trips and deliveries changed across pre- and post-pandemic periods?

## SAMPLE OVERVIEW



<b>Washington</b> Puget Sound Regional Council (Regional)	<b>Utah</b> (Statewide) • 2023: 11,183	<b>Minnesota</b> Met Council (Regional) • 2019: 7,516 • 2021: 7,905 • 2023: 3,749	<b>North Carolina</b> Triangle (Regional) • 2021: 1,120 • 2022: 1,140
• 2017: 3,275 • 2019: 3,044 • 2023: 3,661			

## DATA COLLECTION METHODOLOGY

Address-based sampling and targeted non-probability sampling

Online or Telephone: Collects 1 day of travel data

rMove App: Collects 7 days of travel data

rMove App captures passive data via user movements

Record trip details, including purpose and mode

Daily surveys collect day-specific or typical behaviors, such as deliveries to home

## KEY FINDINGS

After the pandemic, household delivery rates **increased** while in-person shopping rates have **returned to pre-pandemic levels** (Figure 1).

For each survey's most recent timepoint, households were **more likely to receive a delivery on a typical weekday than to make an in-person shopping trip**:

- Minnesota: 32% more likely
- North Carolina: 95% more likely
- Washington: 37% more likely
- Utah: 34% more likely

## RESULTS

Figure 1. More residents received deliveries in the post-pandemic era than made in-person shopping trips

Percent of households making online shopping trips or receiving a package delivery on a typical weekday (weighted).

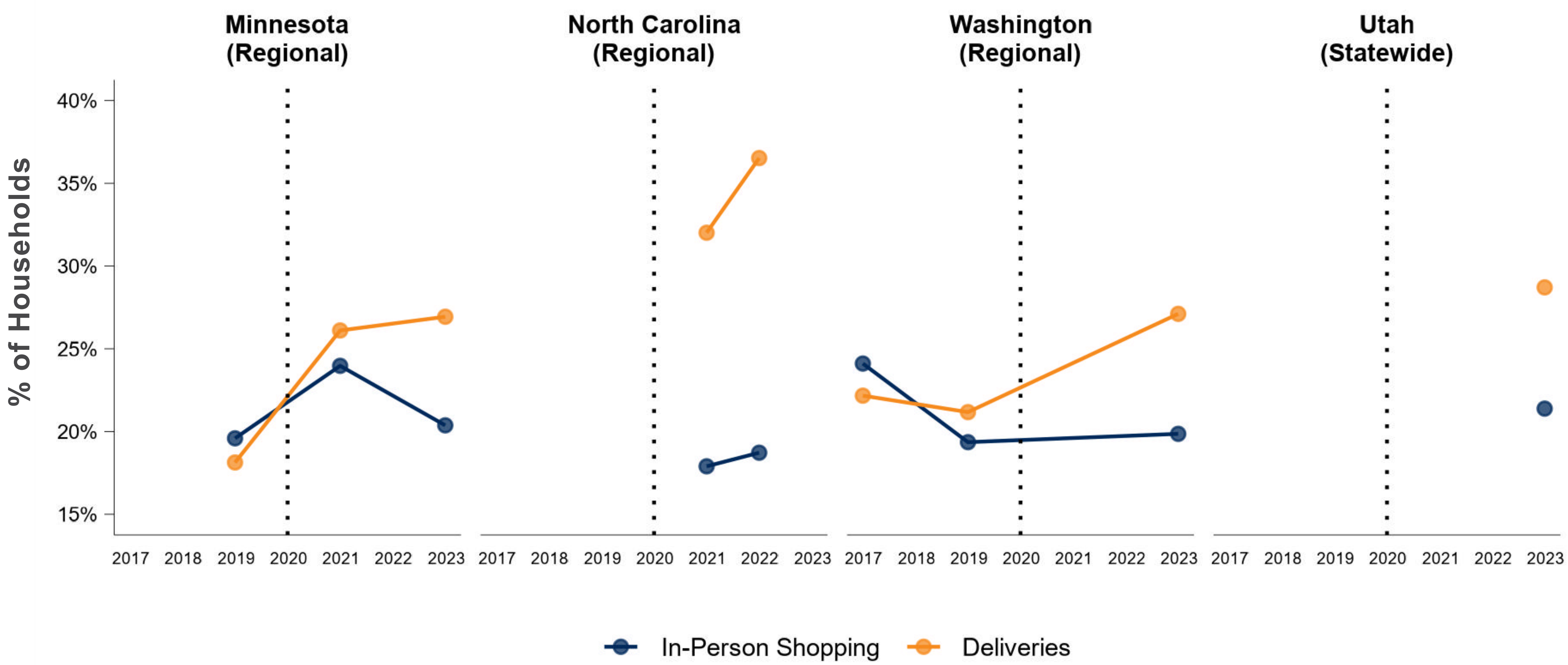


Figure 2. Higher-income residents received more deliveries on a given day relative to lower- and middle-income residents

Percent of households making online shopping trips or receiving a package delivery on a typical weekday (weighted).

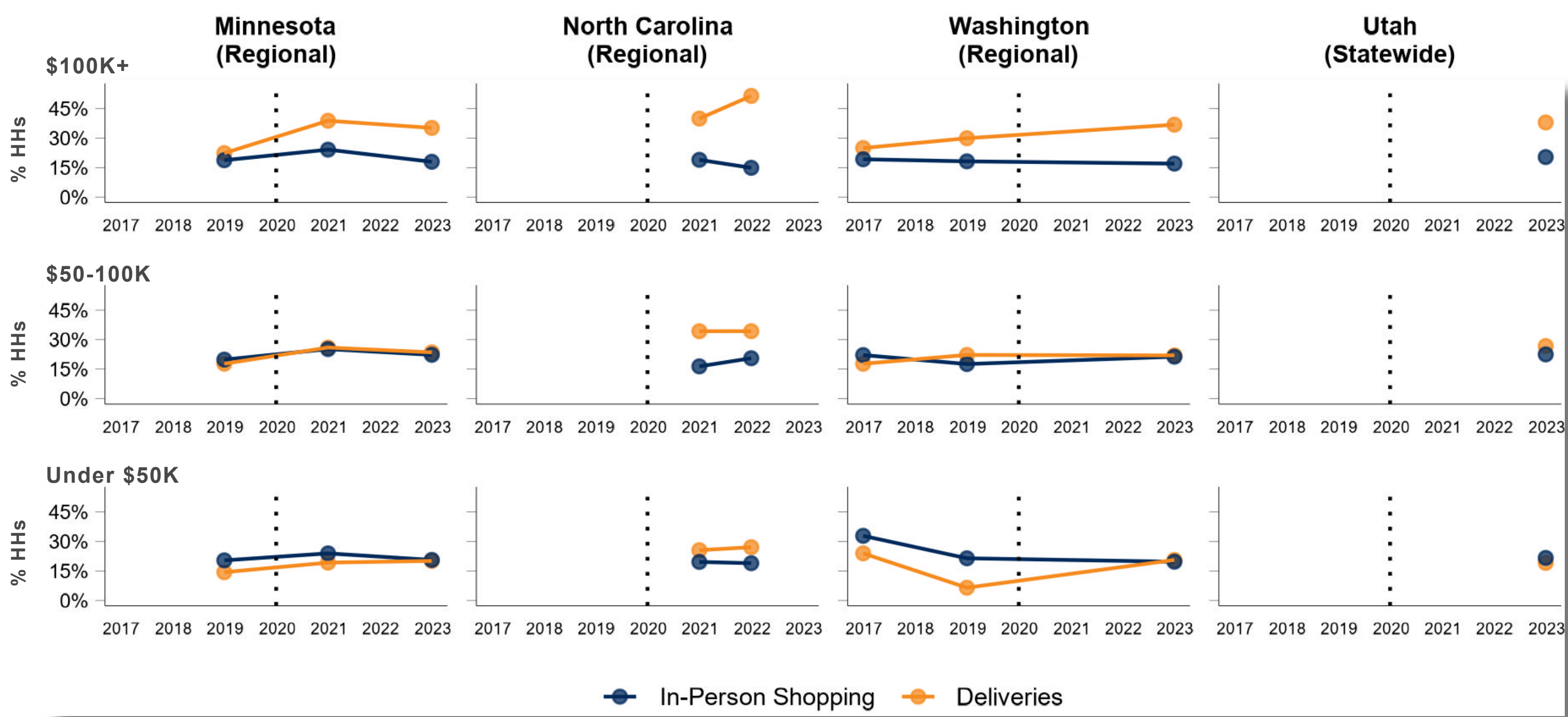
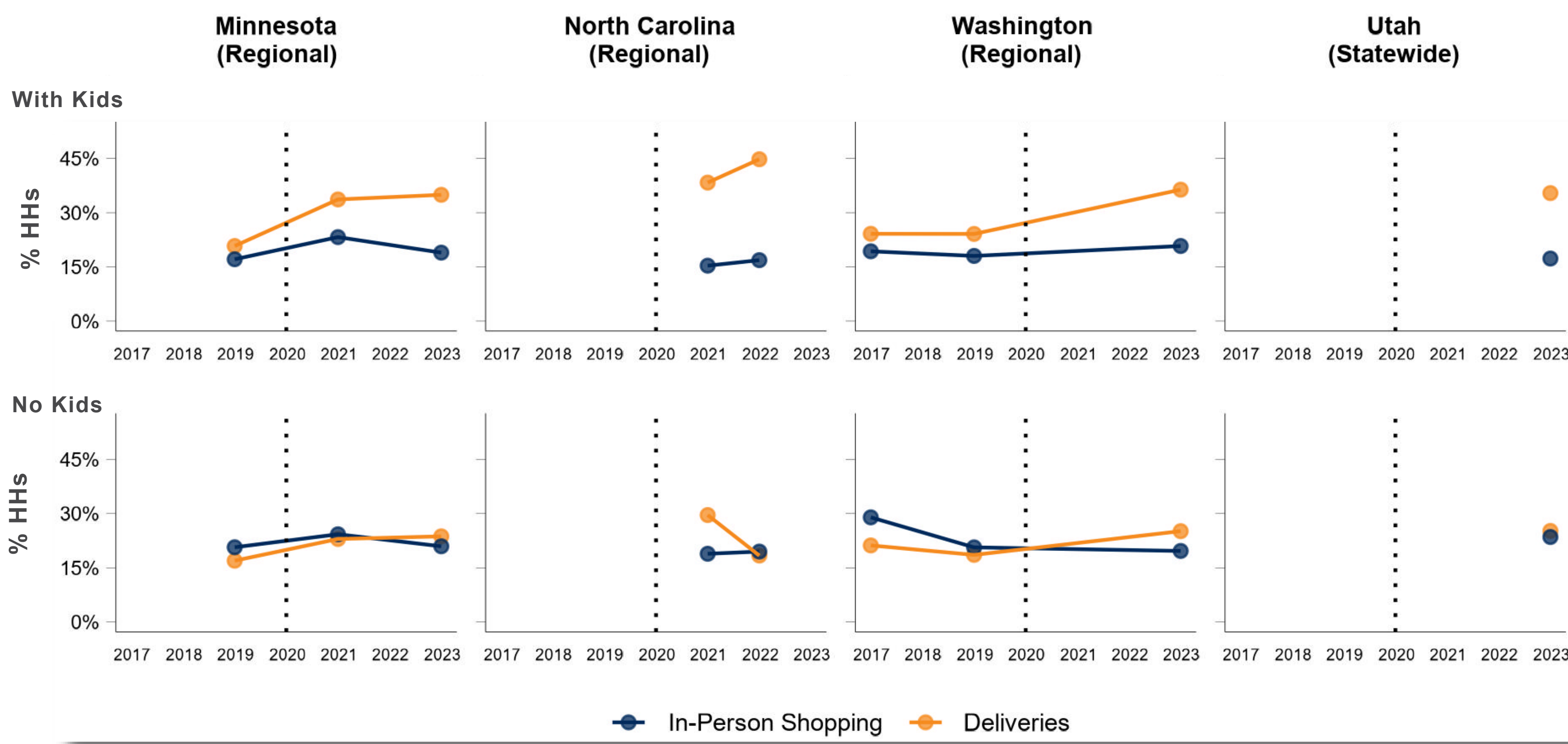


Figure 3. Residents with children saw the largest post-pandemic growth in delivery rates relative to residents without children

Percent of households making online shopping trips or receiving a package delivery on a typical weekday (weighted).



## CONCLUSIONS

- Although frequency of deliveries has increased, they are not replacing in-person shopping trips overall.
- Frequency of deliveries on a given day has increased between pre- and post-pandemic periods.
- Demographic variables, such as household income and the presence of children in the household, impact the relationship between in-person shopping trips and deliveries on a typical weekday.
- Recurrent household travel surveys are vital to providing a holistic picture of how in-person and online shopping behavior changes over time.
- Household e-commerce surveys, either integrated into household travel surveys or conducted as follow-on surveys, can fill the knowledge gap from lacking access to comprehensive commercial last-mile delivery data.