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# Understanding Shifts in Household Travel

*A Comparative Analysis of Surveys from the Houston Region*

*presented to*

*2025 Modeling Mobility Conference*

*presented by*

*Cambridge Systematics, Inc.*

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# Background and Agenda

A Longitudinal Look at Household Travel in Houston

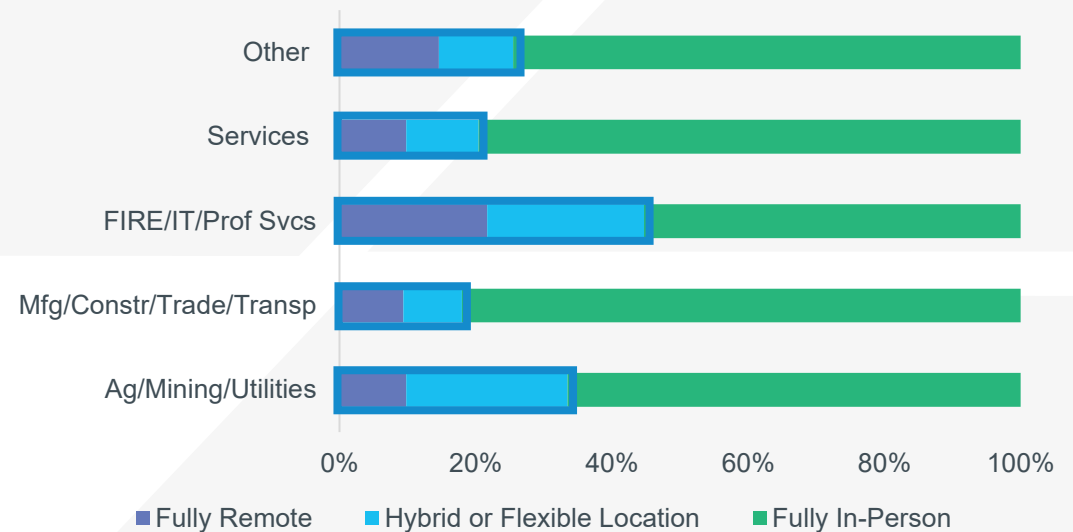
- In 2024, CS analyzed data from the **Texas Department of Transportation's (TXDOT) 2023–2024 HTS of the Houston-Galveston Area Council's (HGAC) region.**
- HGAC's **previous survey** was conducted from **2007–2009.**
- Today's Agenda:
  - » COVID-19 & Work-Based Travel
  - » Household & Discretionary Travel
  - » Mode Shifts
  - » Survey Methodology Evolution
  - » Key Takeaways

# COVID-19 and Work-Based Travel

## The Lasting Impact of Remote and Hybrid Work

- Sharp decline in daily commuting.
- Remote work adoption varies:
  - » Industry: Professional/technical vs. service/manual.
  - » Income: Higher-income = more flexibility.
- Peak-hour demand structurally reduced.

### 2023-2024 Employed Persons Remote/Hybrid Work Characteristics by Industry



Source: 2023-2024 TxDOT HTS of HGAC Region, Analysis by Cambridge Systematics

# Household and Discretionary Travel

## E-Commerce, Shopping Trips, and Deliveries

### ➤ 2007-2009

- » Large/high-income households generate more trips.

### ➤ 2023-2024

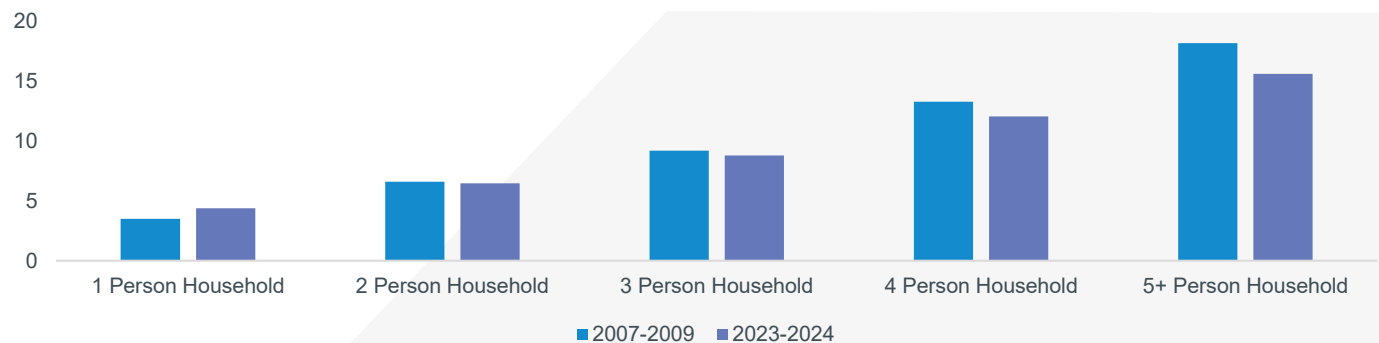
- » Plateau effect: Higher-income households trip making.
- » Less home-based shopping/retail trips – 11.4% to 10.4% of person trips.

### Household Trip Rates by Household Income



Source: 2007-2009 HGAC HTS, Analysis by TTI; 2023-2024 TxDOT HTS of HGAC Region, Analysis by Cambridge Systematics

### Household Trip Rates by Household Size



Source: 2007-2009 HGAC HTS, Analysis by TTI; 2023-2024 TxDOT HTS of HGAC Region, Analysis by Cambridge Systematics

# Mode Shifts and Survey Evolution

## New Options and New Data Collection

### ➤ 2007–2009

- » Auto-dominated, transit modest, walk/bike small.

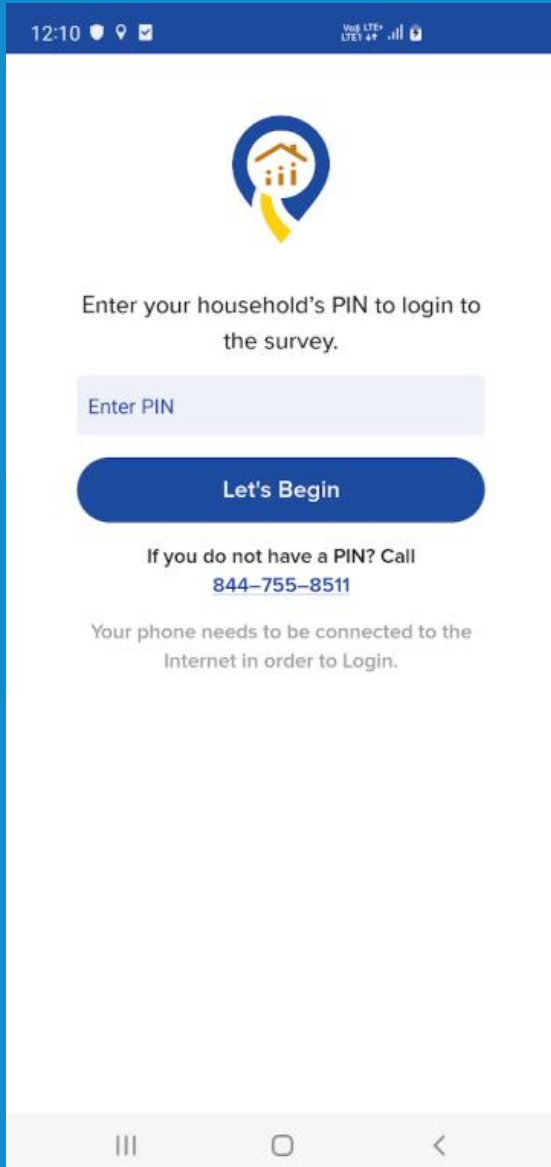
### ➤ 2023–2024

- » Auto-dominated.
- » TNCs integrated into travel mode choices.

### 2023-2024 Trip Mode Share by Trip Purpose

Mode	2007-2009	2023-2024
Auto	93%	90%
Walk/Bike	3%	3%
Public Transit	0%	1%
Taxi/TNC	N/A	1%
School Bus	4%	4%
Other	0%	1%

Source: 2023-2024 TxDOT HTS of HGAC Region, Analysis by Cambridge Systematics



# Survey Methodology Evolution

## A Snapshot Across Two Eras

- 2007–2009:
  - » Paper diaries + passive GPS devices.
  - » GPS Device participation lower among low-income households.
- 2023–2024:
  - » Online portal + smartphone GPS-based application.
  - » More precise data, lower burden, but equity challenges remain.



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**Thank You for Your Time**

Please reach out with additional questions or queries.