How Working from Home boosted Golf

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Executive Summary (1/2)

1) Working from Home (WFH) has powered a huge boom in golfing

2) Golfers are playing more golf on weekdays, for example 143% more on Wednesday in 2022 vs 2019

3) Golfers are playing more mid-afternoon, for example 278% more on Wednesday 4pm in 2022 vs 2019

Executive Summary (2/2)

The most likely explanation is employees are golfing as breaks while working from home (WFH)

So is Golfing while WFH bad?

It depends – if employees make up the time later (as in Bloom, Han and Liang 2023) then this does not reduce productivity. Indeed, national productivity during/post pandemic has been strong.

If employees remain productive this indeed could be good. Golf courses are getting higher usage by spreading playing across the day and week, avoiding weekend and pre/post work peak-loading. This will raise "Golf productivity" – the number of golf courses played (and revenue raised) per course.

This improved usage and productivity is likely true for other leisure activities like shopping, gyms, sports and personal services.

So WFH may be improving national productivity by using personal assets – golf course, shops, gyms, hairdressers etc – more efficiently. This size of this may also be large – in our Golfing data productivity is up about 50%, and these "leisure activities" are a substantial component of GDP
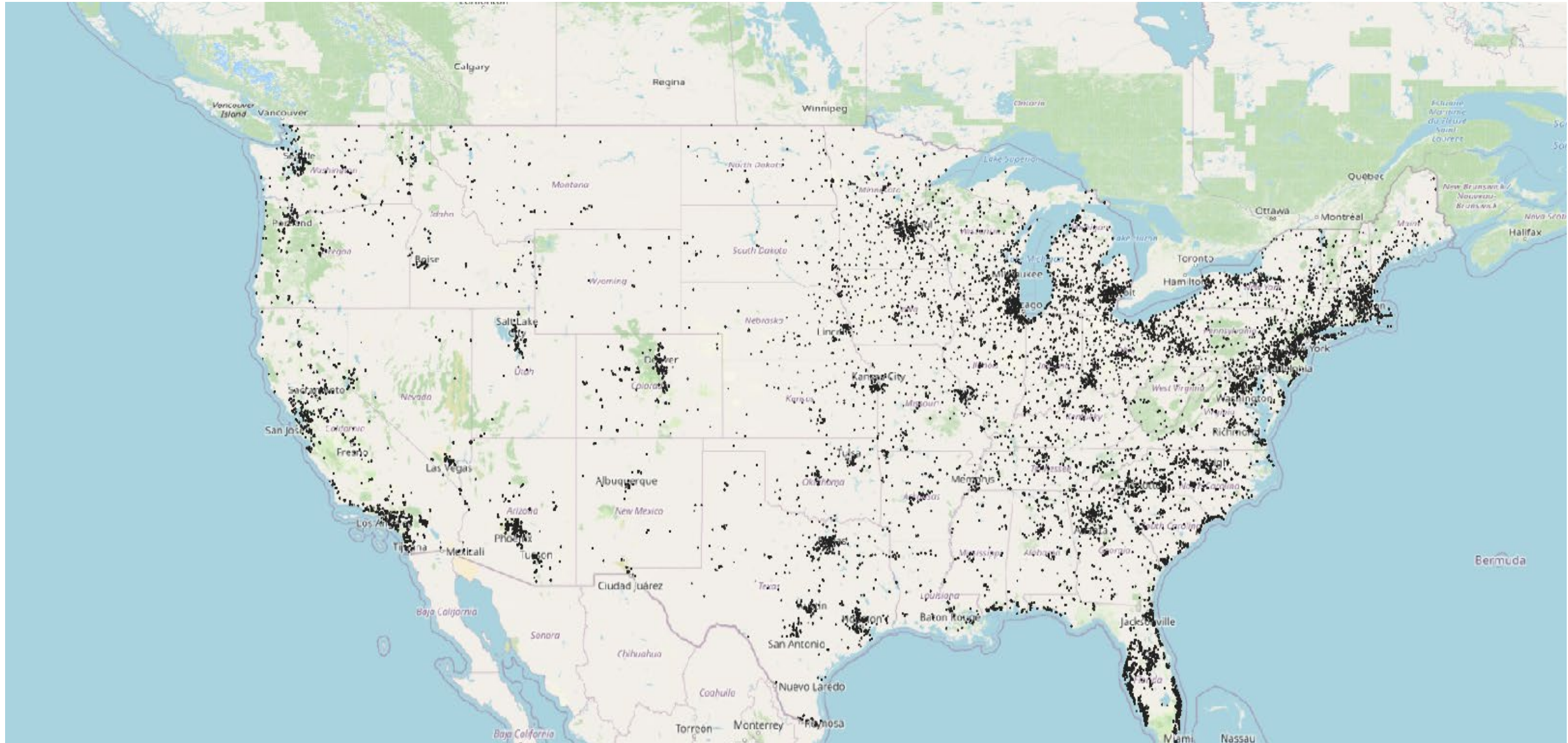
Methodology

Results

Use AI analysis of Satellite images to identify the locations of golf courses across the US

Golf courses are easy to identify for AI – multiple long green strips, often sand, fairway and green etc

Applying this we identify 3,400 golf courses across the US

Use Anonymized Vehicle and Phone GPS data

The Markup

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The Breakdown
Who Is Collecting Data from Your Car?

July 27, 2022 08:00 ET

A firehose of sensitive data from your vehicle is flowing to a group of companies you've probably never heard of

Ryan Raphael

"INRIX does not transfer or exchange raw data to data customers. We analyze anonymous and aggregated data and create products out of it, then distribute those products to customers. Identities of individuals are irrelevant for our business. We don't store personal identifiers that can be tied back to an individual to help ensure no personal data is discovered." —Mark Daymond, CTO & data protection officer at INRIX

How the Data Flows

The following is a typical data flow scenario for a vehicle with a factory-installed cellular connection.

Once a driver gets into a car, dozens of sensors emit data points that flow to the car's computer: The driver door is unlocked; a passenger is in the driver's seat; the internal cabin temperature is 86° F; the sunroof is opened; the ignition button is pressed; a trip has started from this location.

These data points are processed by the car's computers and transmitted via cellular radio back to the car manufacturer's servers.

As the trip continues, additional information is collected: the vehicle location and speed, whether the brakes are applied, which song is playing on the entertainment system, whether the headlights are on or the oil level is low.

The data then begins its own journey from the car manufacturer to companies known as "vehicle data hubs" and on through the connected vehicle data marketplace.

This GPS and cell phone data can indicate golf course trips

- Use INRIX car GPS and cell-phone location for 140m journeys a day in the US

- Define visits to golf courses as durations of between 2 to 6 hours to the golf course

- Generate course level trip data by start hour from April 2019 to November 2022

- Combine across all 3,400 golf courses to create US national figures

Visits defined as 2 to 6 hours within the area of the golf-course and car park – example for a typical golf course
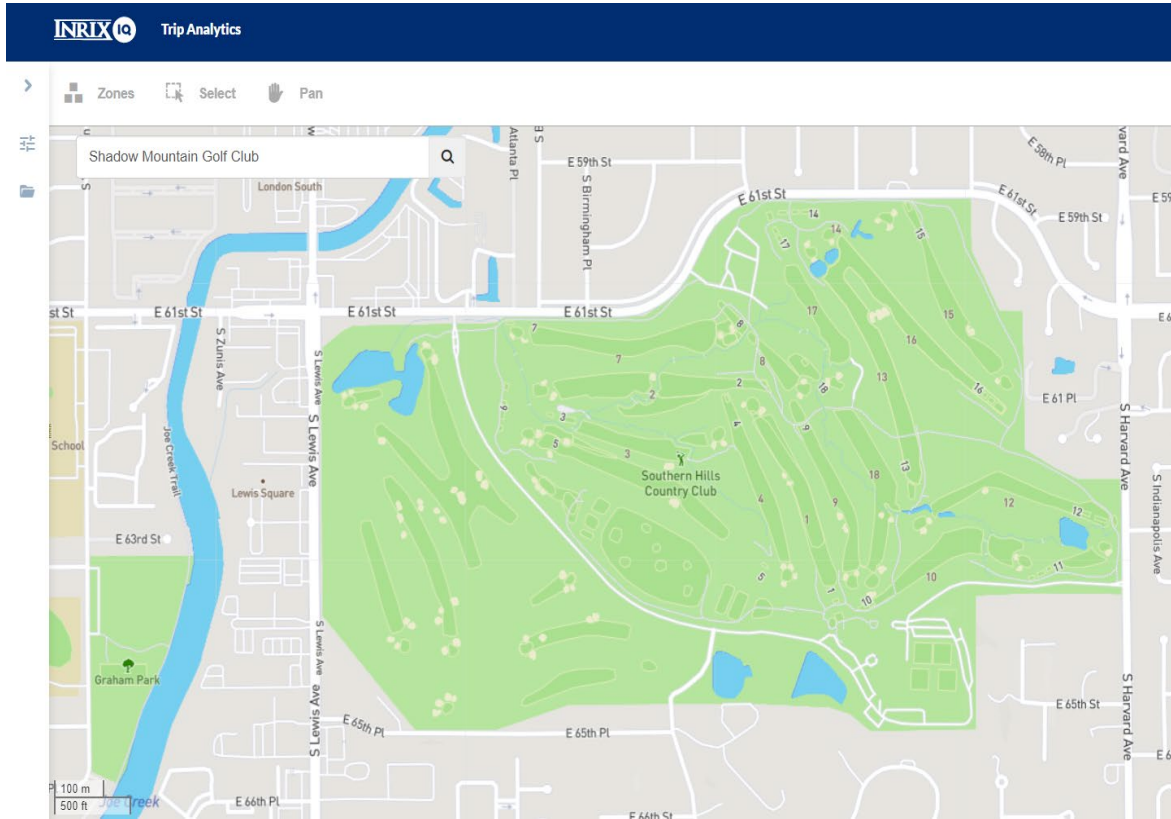
Golf course on a street map

Area defined as the golf course for GPS location purpose, Includes car-park, buildings and playing area
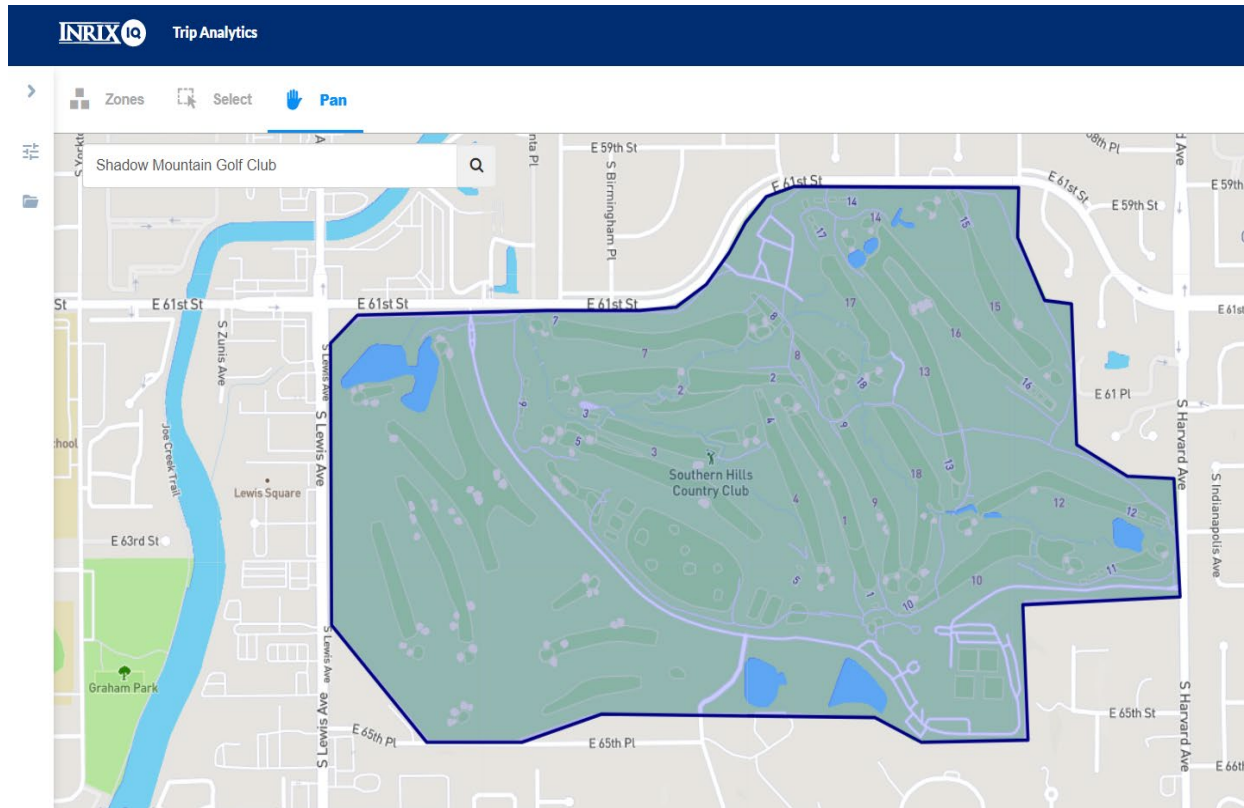
Methodology

Results

Golf course trips have increased post pandemic, up 52% in August
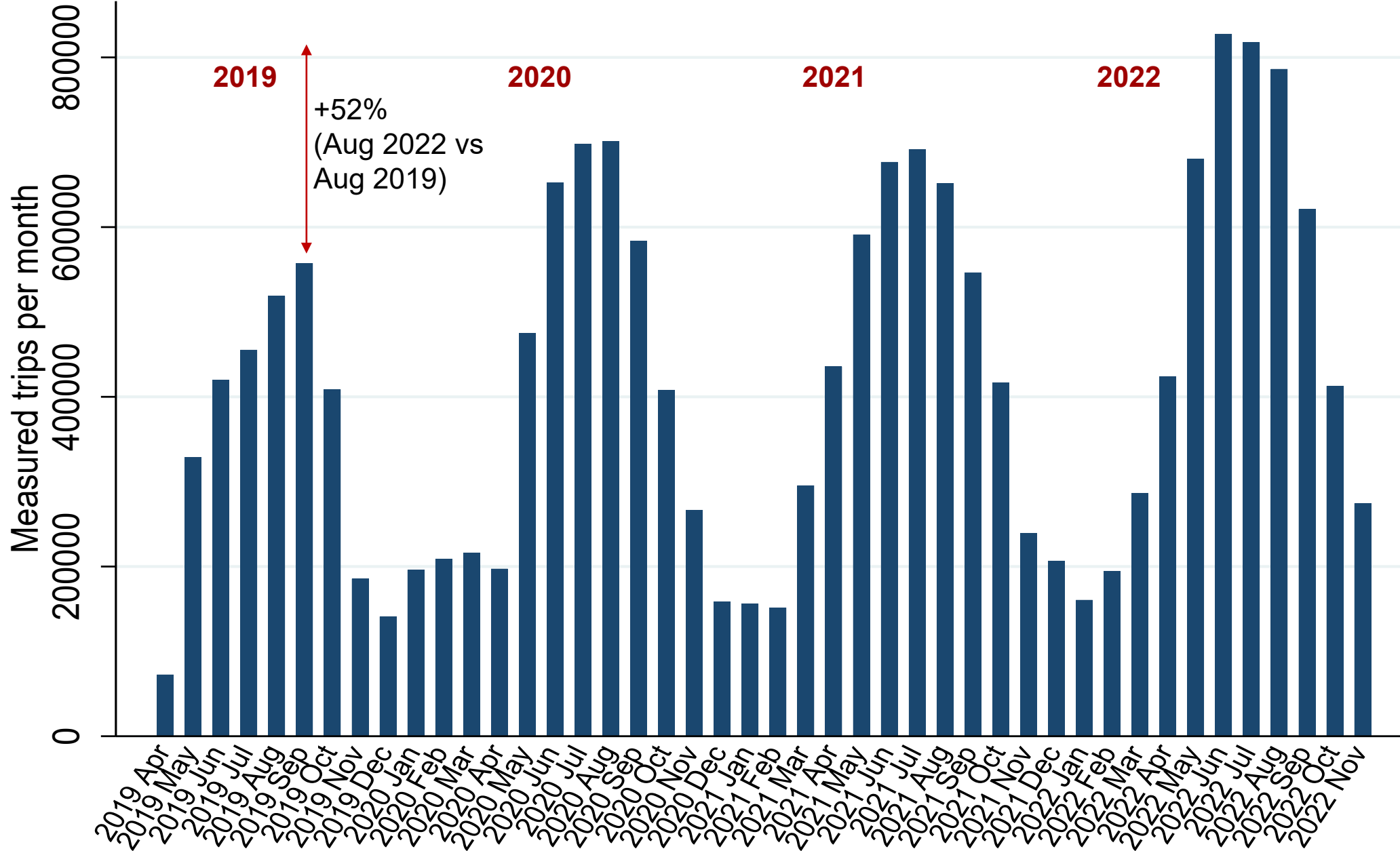
Note: Data for a sample of trips. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phones with location tracking turned-on. The trip needs to be to one of the 3,400 S\satellite identified gold courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.

The golf increase has been powered by mid-week golfing, which rose by an incredible 83% vs 2019
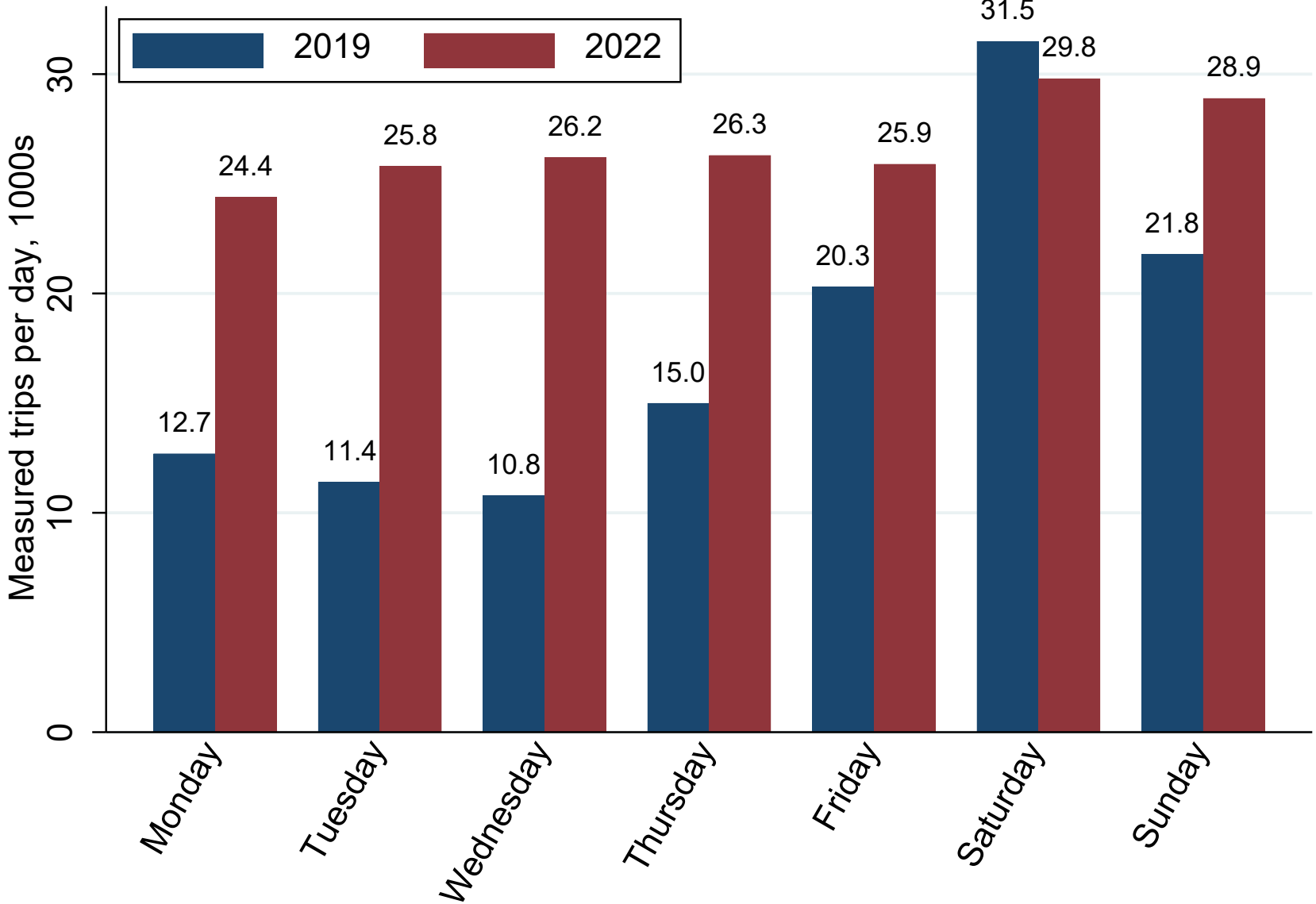
Note: Data for August 2019 and August 2022 for a sample of trips. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phones with location tracking turned-on. The trip needs to be to one of the 3,400 satellite identified gold courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.

The weekday golf increase happened throughout the day, peaking at a 278% increase at 4pm on Wednesday

Note: Data for August 2019 and August 202 for a sample of trips. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phon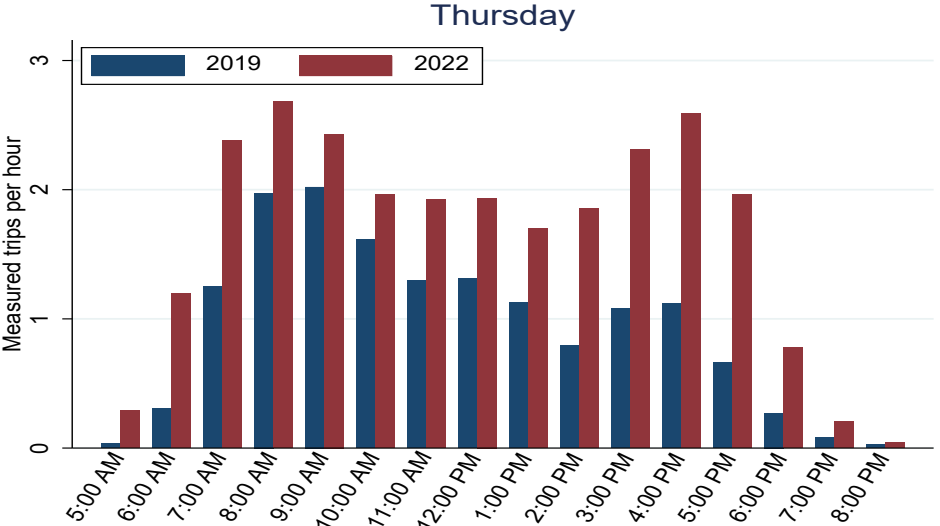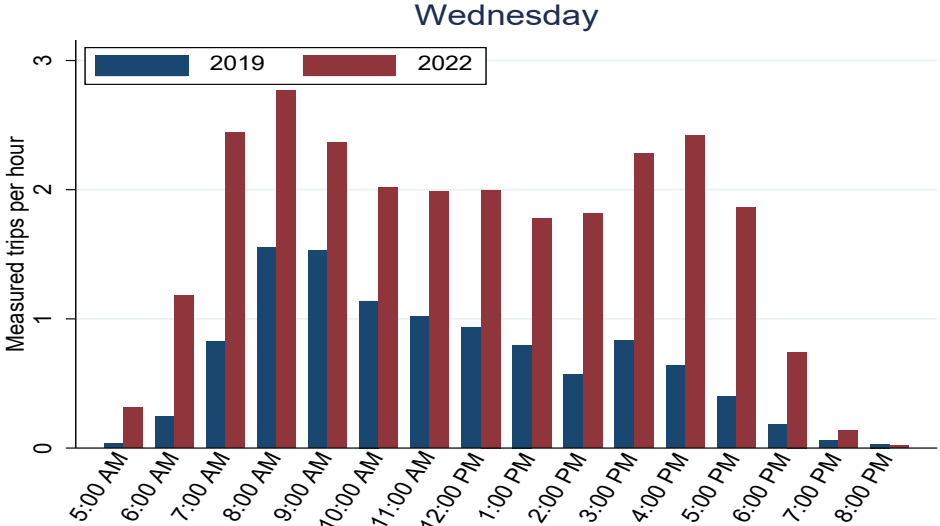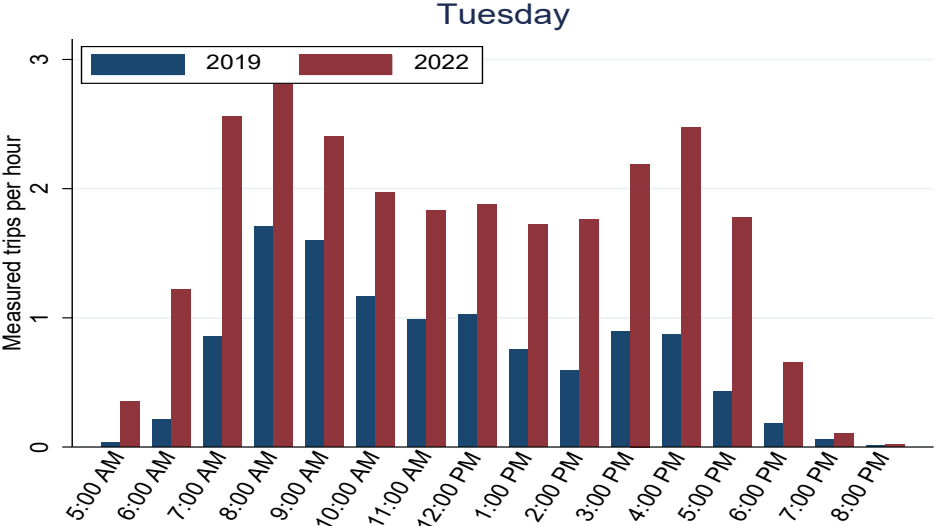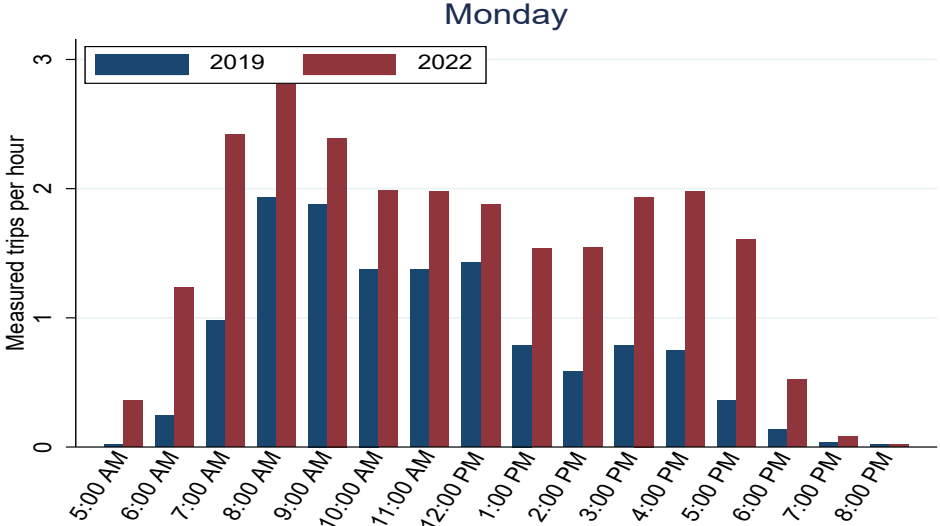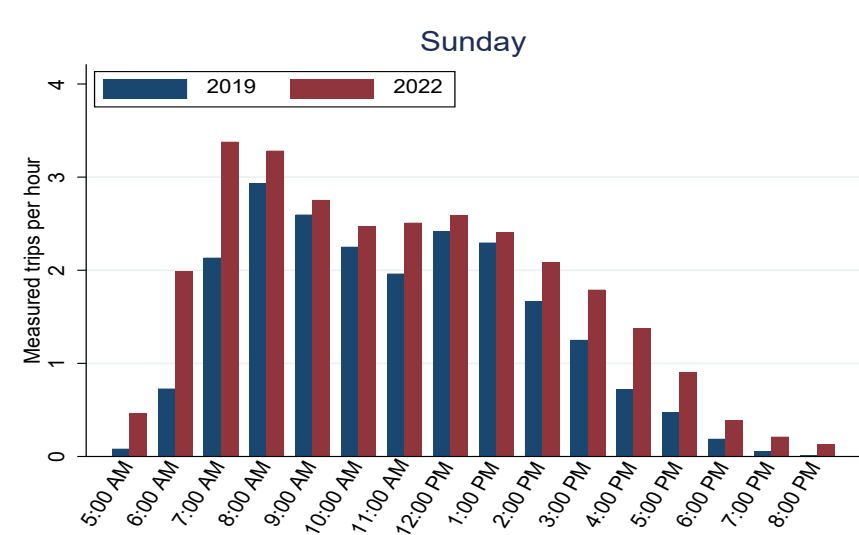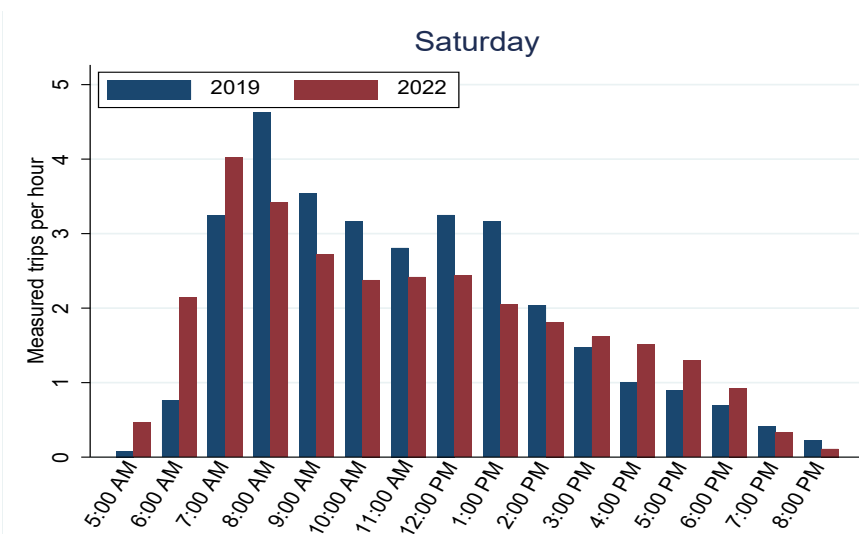es with location tracking turned-on. The trip needs to be to one of the 3,400 satellite identified gold courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.

Friday, Saturday and Sunday were popular in 2019 so the increase has been less – indeed Saturday 2022 is below 2019 levels
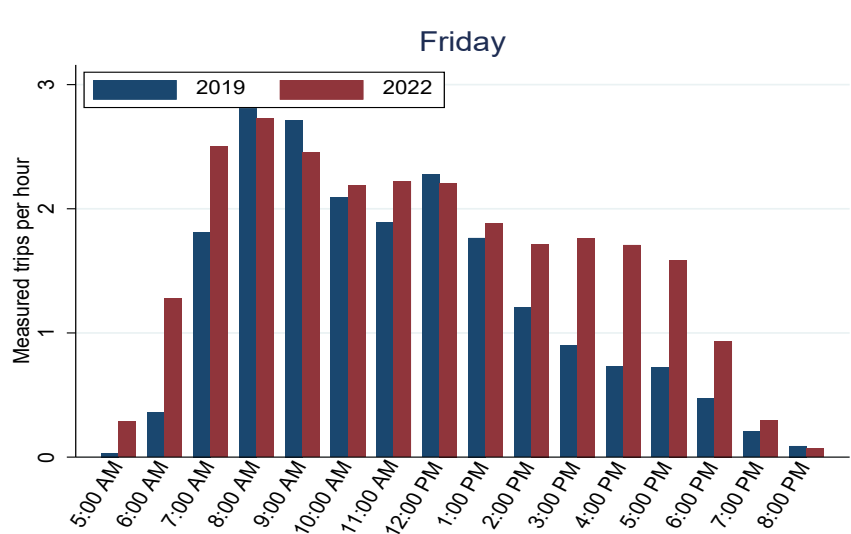
Note: Data for a sample of trips in August 2019 and August 2022. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phones with location tracking turned-on. The trip needs to be to one of the 3,400 satellite identified gold courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.

WFH story comes up in feedback from players interviewed

"*You can't tell the difference between the week and weekend. The place is totally packed all the time every day, late afternoon it's jammed*"

Consulting Manager, Phoenix USA, 25th January 2023

"*We were going to refurbish the course in 2021 but golfing has boomed so much we put this on hold. Every course, every minute is packed now throughout the week, with no more quiet Wednesdays*"

Golf course manager, USA, 23rd February 2023

"*I think my colleague was taking his zoom call from the golf course. He was on mute and video off, but once when he was talking I heard somebody talking about the fairway and strokes*"

Tech Executive, Palo Alto, USA, 29th January 2023

Next Steps

Currently extending the analysis by state, county and zip-code to more closely look for variations by income, education, local variation, lock-down regulation, education levels, industry etc

Also examining other leisure activities that are easy to identify from latitude-longitude coordinates, such as visits to shopping malls in 2022 vs 2019, skiing, tennis etc

Finally, looking at commuting patterns linked to this apparent WFH induced golf surge