

Thursday, March 27 at 12:00 PM

# Behind the Dashboard: Exploring the NYC TLC Factbook

**Presented by:**

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NYC Taxi and Limousine Commission

Visit [open-data.nyc](https://open-data.nyc) to view the full program.



# Agenda

- Overview of key terms
- Trip Data
- Introduction to the NYC TLC Factbook
- Data dive-in (explanation and page demo)
  - Green Rides Initiative page



# Introduction to TLC



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# The Taxi & Limousine Commission

- Licenses and regulates NYC's taxi and for-hire industries
- Over 178,000 drivers, 116,000 vehicles, and almost 1,000,000 trips a day





## Key Terms



Yellow Taxis



Green Taxis (SHLs)



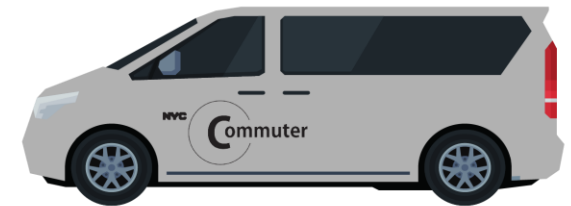
Paratransit



Traditional FHV



High-Volume FHV



Commuter van

# Trip Data



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# The Underlying Data

- Trip data submission requirements for FHV bases and taxi providers.
- Trips are published on NYC Open Data and the agency website.
- For privacy concerns we only publish partial data (fields and tables).

NYC OpenData

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About Data Related Content

Actions Export

023 Yellow Taxi Trip Data

Search

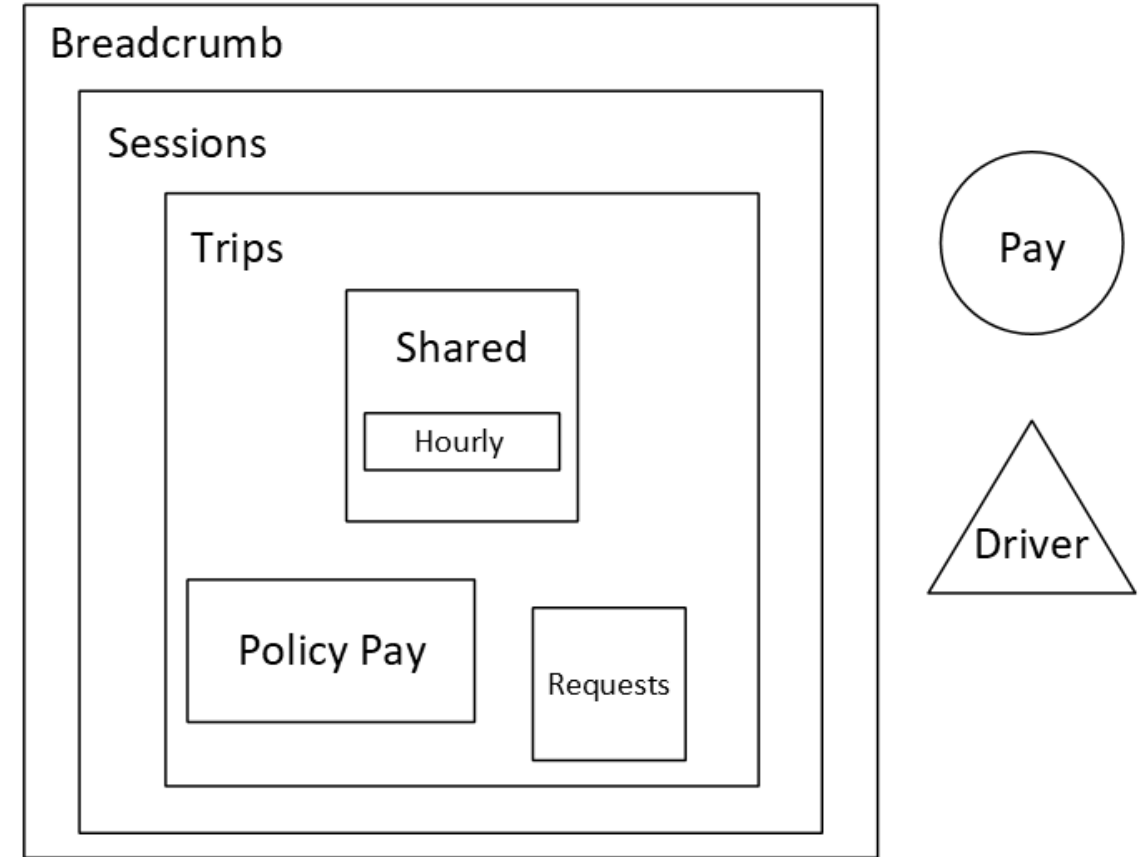
id...	tpep_pickup_datetime	tpep_dropoff_datetime	passenger...	trip_distance	RatecodeID	store_and_fwd_flag	PULocationID	DOLocationID	paym...	fare_ε
2	01/01/2023 12:32:10 AM	01/01/2023 12:40:36 AM	1	0.97	1	N	161	141	2	
2	01/01/2023 12:55:08 AM	01/01/2023 01:01:27 AM	1	1.1	1	N	43	237	1	
2	01/01/2023 12:25:04 AM	01/01/2023 12:37:49 AM	1	2.51	1	N	48	238	1	
1	01/01/2023 12:03:48 AM	01/01/2023 12:13:25 AM	0	1.9	1	N	138	7	1	
2	01/01/2023 12:10:29 AM	01/01/2023 12:21:19 AM	1	1.43	1	N	107	79	1	

Records per page 50 1 to 50 of 38,310,226



# TLC Trip Records Data

- The TLC collects associated records such as: sessions, driver pay, shared rides and WAV requests.
- Combining different sources allows for detailed information on TLC regulated industries.
- Leverage the combination of data for the creation of aggregated metrics.





# The NYC TLC Factbook



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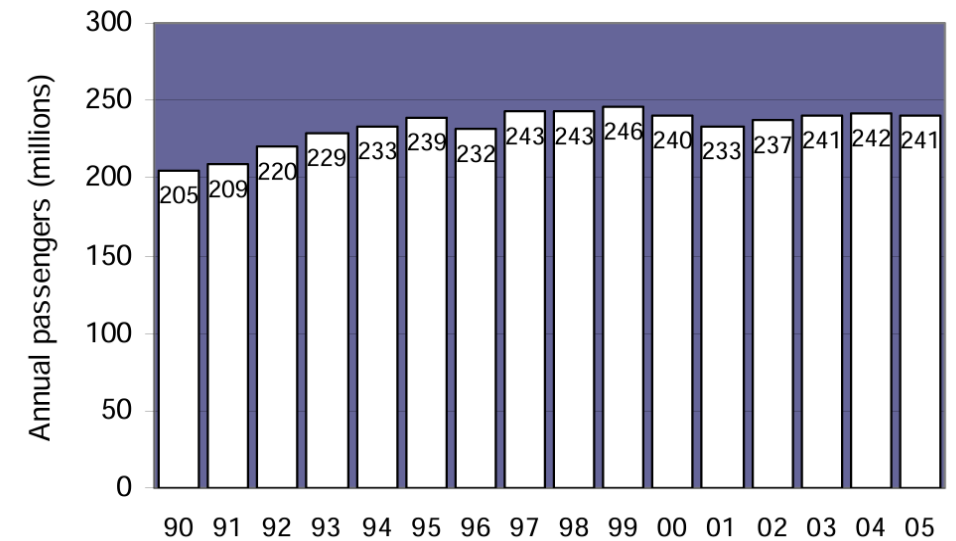
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# Evolution of The TLC Factbook

- Dates to +30 years.
- Published through PDF files.
- PowerBI transition in 2023.
- Moved to monthly updates.
- 8 different interactive reports on our PowerBi.

**Figure 1.**  
**Taxi ridership,**  
**annually,**  
**1990-2005.**

Source: Schaller Consulting analysis of taximeter and odometer readings taken during taxi inspections.



The New York City Taxicab Fact Book , Schaller Consulting March 2006



# Workflow of The TLC Factbook

- Dynamic
- Iterative
- Cross-functional



# TLC Factbook Demo



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# Deep Dive into the Green Rides Initiative Page



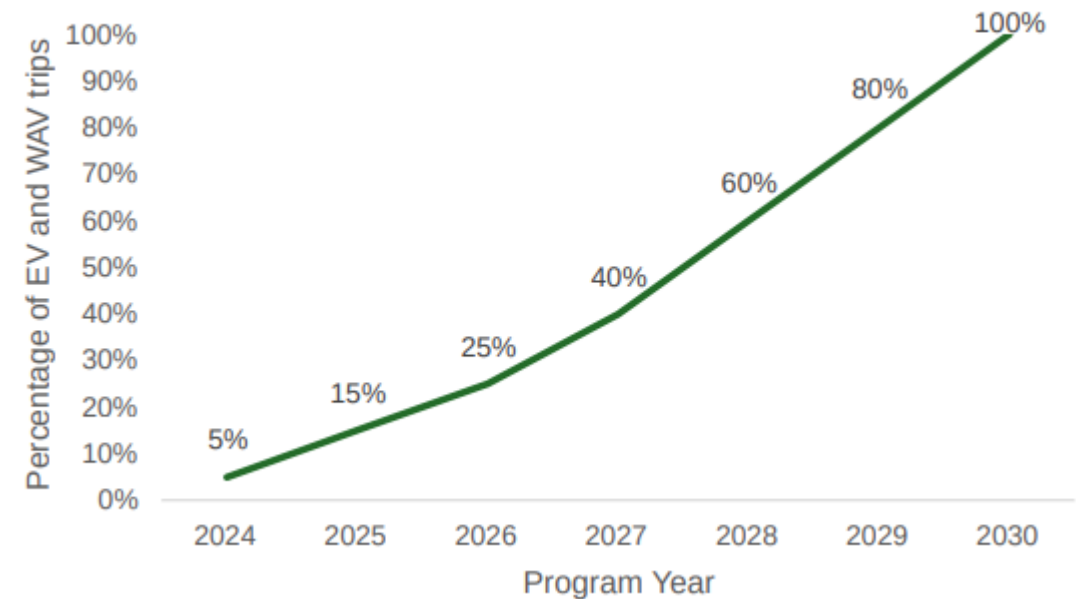
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# GRI Background

The Green Rides Initiative requires New York City's rideshare trips to be conducted by either zero-emission or wheelchair accessible vehicles by 2030, setting yearly benchmarks designed to ensure a smooth and efficient transition to a cleaner, more accessible fleet.



# GRI Data

- Create an aggregate table that contains all relevant columns trip counts and percentages completed by electric vehicles (EVs), non-EVs, wheelchair accessible vehicles (WAVs), & non-WAVs at the company-month level
  - Get fuel type from historical vehicles table
  - Join with Uber and Lyft trip records, then aggregate
  - Runs as a monthly scheduled job on Databricks
- Bring in data to Power BI using a direct connection to Databricks
  - From Green Rides aggregate table, use SQL queries to further aggregate/slice the data for each metric/visual



# GRI Metrics & Visuals

- GRI policy provided baseline of many of the metrics we wanted to display
- KPI cards
  - Baseline (2023) industrywide % of EV & WAV trips
  - Year-to-date figures by company
- Plotly bar chart for % breakdown by company/industry
- Line charts tracking overall %, EV trips and WAV trips over time

```
-- calculates year-to-date ev and wav % for each company
SELECT
    YEAR(metric_month_start) AS `year`,
    initcap(company) as company, -- proper case company name
    SUM(ev_and_wav_count) / SUM(total_trips)
    AS ev_and_wav_percent
FROM aggregates.greenrides
-- dynamically calculate which year to use based
-- on current date (1 month lag)
WHERE YEAR(metric_month_start) = YEAR(DATEADD(MONTH, -1, CURRENT_DATE))
GROUP BY year(metric_month_start), company;
```





# GRI - Other Metrics We Considered



Last Updated:  
12/18/2023 3:31:25 PM

## Green Rides Initiative

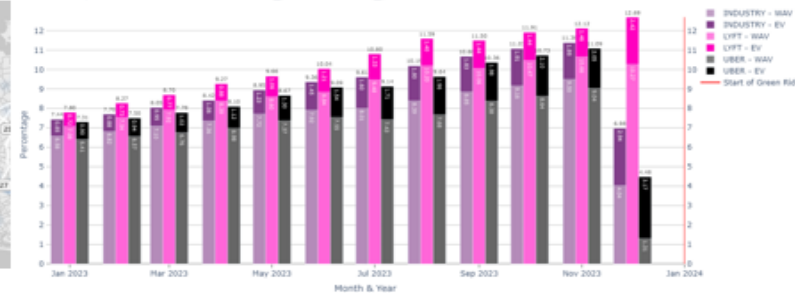


The **Green Rides Initiative** requires New York City's rideshare trips to be conducted by either zero-emission or wheelchair accessible vehicles by 2030, setting yearly benchmarks designed to ensure a smooth and efficient transition to a cleaner, more accessible fleet. Beginning in 2024, 5% of all FHV - High Volume trips will need to be through vehicles that are either zero-emission or wheelchair accessible.

Distribution of Charging Stations



Grouped and Stacked Bar Chart for ev\_percent and wav\_percent



% of High Volume Trips Completed by Evs industrywide (2023)

1.54%

% of High Volume Trips Completed by WAVs industrywide (2023)

7.61%

% of High Volume Trips Completed by Evs industrywide (Year-to-Date)

x%

% of High Volume Trips Completed by WAVs industrywide (Year-to-Date)

y%

% of High Volume Trips Completed by Evs industrywide (November 2023)

1.91%

% of High Volume Trips Completed by WAVs industrywide (November 2023)

9.16%

October 2023 total carbon savings (metric tons CO2 using EPA averages)

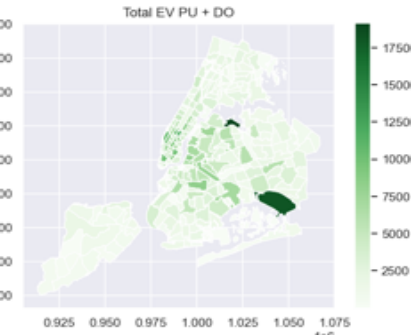
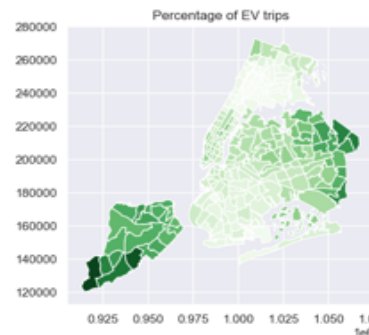
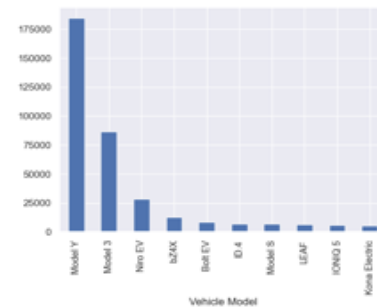
460

October 2023 carbon savings (metric tons CO2 per driver)

0.26

**KPI CARD**  
Placeholder for taxicab(s) with most EV PU = DO (by count or percentage)

**KPI CARD**  
# of Evs this month that completed at least 1 HV trip  
1800



**KPI CARD**  
Month change in # Evs that completed at least 1 HV trip  
500



# Technologies Used

- Python (Plotly library)
- Querying a table on Databricks in Power BI
  - Catalog Explorer -> your table -> click Open in Power BI Desktop button to download connection file
  - In Power BI -> Get Data -> Azure Databricks -> input fields with the ones in the downloaded connection file
- Power BI bookmarks (next slide)

## Connect to partner



### Microsoft Power BI

You can use Partner Connect to connect Power BI to a Azure Databricks cluster or SQL warehouse. Download and open the connection file (.pbids) to start Power BI. You must have Power BI version 2.99.563.0 or above installed.

[Learn more](#)

Compute ⓘ

tlc-analytics

Download connection file

Cancel

### Azure Databricks

Server Hostname ⓘ  
*Example: example.azuredatabricks.net*

HTTP Path ⓘ  
*Example: sql/protocolv1/o/1814582234607533/7508-187377-agent704*

Advanced Options (optional)

Default catalog (optional) ⓘ  
*Example: abc*

Database (optional) ⓘ  
*Example: abc*

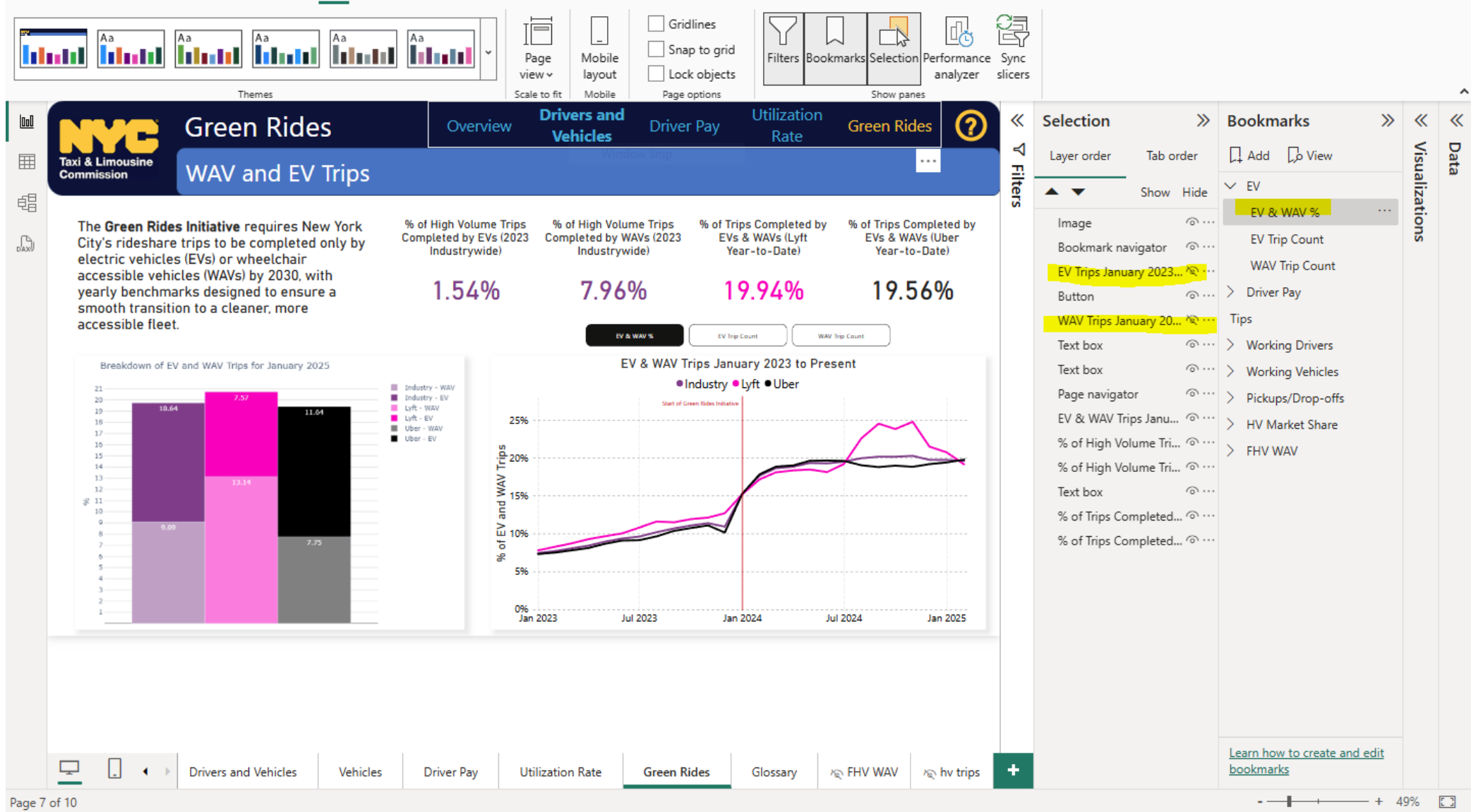
Automatic Proxy Discovery (optional) ⓘ

Native query (Requires: Default catalog) (optional) ⓘ  
*Example: select \* from db.schemaname.tablename*

OK Cancel

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# What's next?

- More pages
- Refine & update
- We're hiring!





# Questions?



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# Thank you!

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