Electric Vehicle Population in Washington DC

Metadata Updated: June 22, 2024

This dataset shows the Battery Electric Vehicles (BEVs) and Plug-in Hybrid Electric Vehicles (PHEVs) that are currently registered through Washington State Department of Licensing (DOL).

1. Vehicles by Year

Quantity of vehicles by year from 2010 to 2025 - visualization reflects the biggest quantity in 2023 with a total of 60,084 vehicles.

In [6]:
```
SELECT ModelYear,
    COUNT(*) AS [Number of Vehicles by Year]
FROM AzureProject.dbo.EVPopulationWA
WHERE ModelYear > 2016
GROUP BY ModelYear
ORDER BY ModelYear;
```

(9 rows affected)
Total execution time: 00:00:01.970

Out[6]:

ModelYear	Number of Vehicles by Year
2017	8650
2018	14340
2019	10933
2020	12149
2021	19531
2022	28116
2023	60084
2024	16963
2025	6

2. Most Popular Electric Vehicle Models

This bar chart highlights the most popular electric vehicle models - this reflects Tesla model Y being the most popular one.

In [18]:
```
SELECT Model,
    COUNT(*) AS VehicleModels
FROM AzureProject.dbo.EVPopulationWA
GROUP BY Model
HAVING COUNT(*) > 2000
ORDER BY VehicleModels DESC
```

(19 rows affected)

Total execution time: 00:00:00.151

Out[18]:

Model	VehicleModels
MODEL Y	39521
MODEL 3	30978
LEAF	13439
MODEL S	7869
BOLT EV	6444
MODEL X	6126
VOLT	4801
ID.4	4337
MUSTANG MACH-E	3758
WRANGLER	3743
PACIFICA	3393
NIRO	3358
PRIUS PRIME	2985
IONIQ 5	2747
BOLT EUV	2650
RAV4 PRIME	2596
X5	2456
R1S	2453
EV6	2378

3. Highest Distribution of Electric Vehicles by County

Visualization displays the distribution of electric vehicles across different counties, showing Seattle with the highest amount.

In [3]:
```
SELECT City,
       COUNT(*) AS NumberOfVehicles
FROM AzureProject.dbo.EVPopulationWA
GROUP BY City
HAVING COUNT(*) > 5000
ORDER BY NumberOfVehicles DESC;
```

(8 rows affected)

Total execution time: 00:00:04.313

Out[3]:

City	NumberOfVehicles
Seattle	31436
Bellevue	9582
Redmond	6883

Vancouver	6744
Bothell	6278
Kirkland	5709
Sammamish	5595
Renton	5584

4. Amount Of Electric Vehicle Types (BEVs vs. PHEVs)

This chart compares the number of Battery Electric Vehicles (BEVs) to Plug-in Hybrid Electric Vehicles (PHEVs), illustrating the proportions of each type in the overall population - Battery Electric Vehicles (BEV) being the highest.

In [4]:
```
SELECT EVType,
       COUNT(*) AS NumberOfVehicles
FROM AzureProject.dbo.EVPopulationWA
GROUP BY EVType;
```

(2 rows affected)
Total execution time: 00:00:04.373

Out[4]:

EVType	NumberOfVehicles
Plug-in Hybrid Electric Vehicle (PHEV)	41720
Battery Electric Vehicle (BEV)	149687

5. Top 10 Manufacturers by Vehicle Count

This query identifies the top 10 manufacturers with the highest count of electric vehicles in the dataset. Results shows Tesla being the manufacturer with more vehicle amounts.

In [21]:
```
SELECT TOP 10
    Make,
    COUNT(*) AS VehicleCount
FROM
    AzureProject.dbo.EVPopulationWA
GROUP BY
    Make
ORDER BY
    VehicleCount DESC ;
```

(10 rows affected)
Total execution time: 00:00:00.104

Out[21]:

Make	VehicleCount
TESLA	84670
CHEVROLET	14321
NISSAN	14220

NISSAN	14259
FORD	10048
KIA	8671
BMW	7993
TOYOTA	7181