

# IHS Markit – Polk

EPA MOVES/NEI Reporting

STAQS – August 20, 2019

Louisville, KY

# Agenda

- IHS Markit - Polk Overview
- IHSM-Polk MOVES and NEI Reporting Capabilities
- Electric Vehicle Reporting
- Q & A

# IHS, Polk and Markit

- After 142 years as a privately-owned company, Polk was purchased by IHS in July, 2013
- In July, 2016, IHS-Polk merged with Markit, a London-based financial services firm that complements the data and analytical capabilities for the multiple industries we serve



- The combination of Polk's current and historical vehicle registration data combined with IHS forecasting and analytics makes IHSM-Polk a valued partner for automotive reporting and analytics

# IHSM-Polk MOVES REPORTING

- IHSM-Polk Vehicle Registration data is the most complete source for accurate vehicle population reporting for use in MOVES and NEI
- IHSM-Polk has developed a reporting solution for MOVES and NEI reporting as described in the following charts
- EPA has worked closely with IHSM-Polk to continue to develop this reporting process as noted in this recent EPA OTAQ communication:

***“IHSM-Polk data has provided EPA with an alternate source for important information on vehicle populations and activity - an area that is critical for understanding air pollution from cars, trucks and other mobile sources.***

- ***For the NEI, IHSM-Polk data has provided a picture of vehicle counts and age distributions that is consistent across states.***
- ***For MOVES, IHSM-Polk/CARFAX data has provided a new source of information on mileage accumulation, including mileage accumulation for the oldest vehicles.”***

# IHSM-Polk

- IHSM-Polk MOVES/NEI reporting include the following capabilities
  1. For MOVES, IHSM-Polk has mapped the current vehicles registered on the road, to the MOVES Source Codes
  2. For NEI, IHSM-Polk has a complete 51 State population database that includes the following:
    - Vehicle Make, Model, Series, Engine, Fuel type, EV type, etc.
    - **Capability to split VIN GVW Class 2 into 2a and 2b splits**
      - GVW 2 is the largest Weight Class with over 69 million registered vehicles
    - **Vehicle odometer readings at the ZIP Code level (CARFAX)**
  - NOTE: IHSM-Polk data has been used with the past three NEIs (2017, 2014, 2011) to provide snapshots of vehicle population, age distribution, and fuel types



# IHSM-Polk MOVES Reporting - VIN GVW 2a and 2b by State

State	2a	2b	Total
ALABAMA	1,148,642	205,037	1,353,679
ALASKA	171,014	61,760	232,774
ARIZONA	1,273,150	378,145	1,651,295
ARKANSAS	737,377	137,768	875,145
CALIFORNIA	5,002,099	1,108,966	6,111,065
COLORADO	1,047,005	312,662	1,359,667
CONNECTICUT	402,824	107,640	510,464
DELAWARE	157,902	35,296	193,198
DISTRICT OF COLUMBIA	31,383	7,398	38,781
FLORIDA	2,932,738	607,628	3,540,366
GEORGIA	1,855,441	359,035	2,214,476
HAWAII	148,942	38,473	187,415
IDAHO	416,330	164,324	580,654
ILLINOIS	1,942,518	421,696	2,364,214
INDIANA	1,310,156	296,506	1,606,662
IOWA	794,248	210,738	1,004,986
KANSAS	684,750	175,190	859,940
KENTUCKY	876,994	191,370	1,068,364
LOUISIANA	1,112,442	217,389	1,329,831
MAINE	273,301	76,776	350,077
MARYLAND	739,336	207,098	946,434
MASSACHUSETTS	777,563	206,734	984,297
MICHIGAN	2,170,920	412,429	2,583,349
MINNESOTA	1,200,801	259,603	1,460,404
MISSISSIPPI	749,042	130,076	879,118
MISSOURI	1,307,602	363,648	1,671,250

State	2a	2b	Total
MONTANA	351,326	144,530	495,856
NEBRASKA	509,937	139,064	649,001
NEVADA	443,209	116,955	560,164
NEW HAMPSHIRE	226,255	73,921	300,176
NEW JERSEY	1,043,750	270,256	1,314,006
NEW MEXICO	444,701	136,248	580,949
NEW YORK	1,909,986	472,424	2,382,410
NORTH CAROLINA	1,780,477	376,671	2,157,148
NORTH DAKOTA	257,255	74,278	331,533
OHIO	1,957,628	467,142	2,424,770
OKLAHOMA	1,185,662	269,259	1,454,921
OREGON	632,509	261,723	894,232
PENNSYLVANIA	1,986,241	519,542	2,505,783
RHODE ISLAND	107,844	28,469	136,313
SOUTH CAROLINA	1,052,362	186,967	1,239,329
SOUTH DAKOTA	284,528	83,426	367,954
TENNESSEE	1,330,507	246,165	1,576,672
TEXAS	6,267,715	1,294,361	7,562,076
UTAH	542,049	199,825	741,874
VERMONT	99,487	29,493	128,980
VIRGINIA	1,318,400	292,066	1,610,466
WASHINGTON	1,140,929	354,751	1,495,680
WEST VIRGINIA	349,562	86,885	436,447
WISCONSIN	1,197,226	282,457	1,479,683
WYOMING	179,941	87,353	267,294
<b>TOTALS</b>	<b>55,864,006</b>	<b>13,187,616</b>	<b>69,051,622</b>

# IHSM-Polk Coding for MOVES

Source Type ID	Source Use Type	Description	Polk Coding
11	Motorcycle	Vehicles with less than 4 wheels.	Vehicle Type: M – Motorcycle
21	Passenger Car	Four wheel, two axle vehicles whose primary function is passenger transport.	Vehicle Type: P – Passenger Car GVW: N/A Body Style: All
31	Passenger Truck	Four wheel, two axle vehicles whose primary functional design is for cargo, but are used primarily for passenger transport.	Vehicle Type: T – Passenger Car GVW: 1 - 3 Body Style: Sport Utility Truck, Sport Utility Vehicle Van Passenger
32	Light Commercial Truck	Four wheel, two axle trucks used primarily for cargo transport.	Vehicle Type: T – Truck GVW: 1 – 3 Body Style: Cab Chassis, Cut-Away, Incomplete (Strip Chassis), Incomplete Pickup, Pickup, Straight Truck, Van Cargo, Van Cut-Away, Step Van
41	Intercity Bus	Passenger vehicles with a capacity of 15 or more persons primarily used for transport between cities.	Vehicle Type: T-Truck GVW: 8 Body Style: Bus Non-School Vocation: Excludes All Gov't vehicles
42	Transit (Intracity) Bus	Passenger vehicles with a capacity of 15 or more persons primarily used for transport within cities.	Vehicle Type: T-Truck GVW: 4 – 8 Body Style: Bus Non-School, School Bus, Van Cutaway Vocation: Bus Transportation incl. Gov't Vehicles
43	School Bus	Passenger vehicles with a capacity of 15 or more persons primarily used for transport of students for school.	Vehicle Type: T-Truck GVW: 4 – 8 Body Style: School Bus, Van Cutaway Vocation: Local Gov't Bus Transportation
51	Refuse Truck	Trucks primarily used to haul refuse to a central location.	Vehicle Type: T – Truck GVW: 7 – 8 Body Style: Straight Truck Vocation: Garbage / Refuse

# IHSM-Polk Coding for MOVES

Source Type ID	Source Use Type	Description	Polk Coding
52 and 53	Single Unit Short-Haul and Long-Haul Truck	Single unit trucks	Vehicle Type: T – Truck (all except Tractor Truck) GVW: 4 – 8 Multiple Vocations
54	Motor Home	Trucks whose primary functional design is to provide sleeping quarters.	Vehicle Type: T – Truck GVW – as determined by Motorhome body Body Style: Motorhome / Van Camper
61	Combination Short-Haul Truck	Combination tractor/trailer trucks with more than four tires with a range of operation of up to 200 miles.	Vehicle Type: T – Truck (Tractor Truck) GVW: 7 – 8 Liters: Generally 10.8L to 16.1L Drive Wheels: 4x2, 6x2, 6x4, 6x6, 8x2, 8x4, 8x6, 8x8, 10x2, 10x4, 10x6, 10x8, 12x4, 12x6, 14x4, 14x6
62	Combination Long-Haul Truck	Combination tractor/trailer trucks with more than four tires with a range of operation of over 200 miles.	Vehicle Type: T – Truck (Tractor Truck) GVW: 7 – 8 Liters: Generally >13L Drive Wheels: 4x2, 6x2, 6x4, 6x6, 8x2, 8x4, 8x6, 8x8, 10x2, 10x4, 10x6, 10x8, 12x4, 12x6, 14x4, 14x6



# IHSM-Polk MOVES REPORTING - Vehicle Ownership

- IHSM-Polk uses multiple data processes to identify and classify vehicle ownership:
  1. Registration Name
    - IHSM-Polk owner name is continuously identified and tracked based on Registration name
    - Registration owner types include:
      - Personal, Small Fleet, Large Fleet, Government, Rental, Dealer/Manufacturer
  2. Carrier type
    - Commercial Owners are categorized into 13 Carrier types:
      - Private, For Hire, Full Service Lease, Finance Lease, Mfg. Sponsored Lease, Local, State and US Government, Utilities, Dealer, Canadian Gov't., Individual, Vehicle Manufacturer
  3. Vocational Coding
    - Owners are categorized into these Commercial Vocations:
      - Agriculture, Beverage Dist., Bus Transportation, Construction, Dealer, Emergency Vehicles, Forestry/Lumber, Food Processing, General Freight, Government, Hazardous Materials, Individual, Landscaping, Lease/Finance, Manufacturer-Sponsored Lease, Lease/Rental, Manufacturing, Mining/Quarrying, Moving & Storage, Petroleum, Petroleum/Hazardous Material, Road/Highway Maint., Sanitation/Refuse, Services, Sanitation/Hazardous Material, Specialized Heavy Hauling, Utility/Hazardous Material, Utility Services, Vehicle Transporter, Wholesale/Retail, Miscellaneous
  4. Dun and Bradstreet
    - Cross check registration records with D&B business records by owner
  5. US DOT Motor Carrier Number
    - Cross check registration records with FMCSA Motor Carrier Database

# IHSM-Polk Electric Vehicle Reporting

## Overview of EV Data:

- **EV'S BY TYPE:** BEV, PHEV, HEV AND Fuel Cell
- **VEHICLE SPECS:** VIN- based specifications e.g., Make, Model, Model Year, etc.
- **OWNER TYPE:** Personal, Commercial, Gov't, etc.
- **GEOGRAPHY:** State, County, CBSA, ZIP Code, Block Group Level
- **DEMOGRAPHICS:** Matched to Registration data - includes Multi-Unit Dwellings

## • IHSM-Polk Advantages:

- Our EV Data has detailed vehicle specifications
- Geographic locations critical to future Grid and Infrastructure planning
- Vehicle owner categories including personal, commercial, government, etc.
- Economies of scale from Polk who has the experience, technical know-how; data processing techniques and accuracy unmatched in the industry

IHSM-Polk is a multi-industry Intelligence Conglomerate including:

- Automotive/Transportation
- Energy
- Chemicals
- Financial Services
- Maritime and Trade
- Economics and Country Risk
- Aerospace and Defense
- Maritime and Trade

# IHSM-Polk Electric Vehicle Reporting

## **IHSM-Polk Registration Databases:**

- > New and Used Vehicle Registration Database
- > Current EV Populations from Vehicles in Operation (VIO) Database

## **Time periods (based on subscription service) for both databases:**

- > 12 monthly new and used EV registration reports with month over month changes by vehicle type, geography, etc.
- > Quarterly VIO EV population reports summarizing all vehicles currently registered on the road by geographic area

## **Geography:**

- > Available at the state, county, CBSA (MSA), ZIP code and Block Group level

## **Vehicle types:**

- > Passenger car
- > Light Duty Trucks (GVW Classes 1, 2 and 3)
- > Medium / Heavy-Duty Vehicles (GVW Classes 4-8)
- > Buses and Coaches

## **Owner data by type:**

- > Personal
- > Small Fleet
- > Large Fleet
- > Government
- > Rental
- > Dealer/Manufacturer

## **Vehicle specifications:**

- > Make, Model, Model Year
- > GVW
- > Vehicle Segment
- > Vehicle Type (car or truck)
- > Fuel Type including EV, PHEV, HEV and Fuel Cell
- > Other vehicle attributes as required
- > EV Registration Counts

## **Additional data fields available:**

- > EV enhanced specifications including battery type, voltage, etc.
- > Household demographics of EV owners including: income, marital status, age, multi-unit dwellings
- > VMT for cars and light trucks

## **Data format and delivery:**

- > Excel, CSV. or other format as requested
- > Data delivery via a secure FTP site or via a subscription service

# SUMMARY

- IHSM-Polk Data advantages:
  - Most accurate vehicle population data available (for both MOVES and NEI)
  - Comprehensive and complete for all 51 States
  - Continuously updated
  - Enhancements include vehicle odometer readings for VMT
  - Supported by our data and analytics experts
- IHSM-Polk will continue to collaborate with the EPA and the States to provide the vehicle registration data needed for MOVES and NEI reporting in the future.
- Also, the most complete EV Population Reporting available now

# Q & A



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**- Back-up Slides -**

# IHSM-Polk Centers of Intelligence

## AEROSPACE & DEFENSE

100+ years' experience delivering unrivaled news, insight and intelligence on defense and security equipment, markets, industries and risk

## CHEMICAL

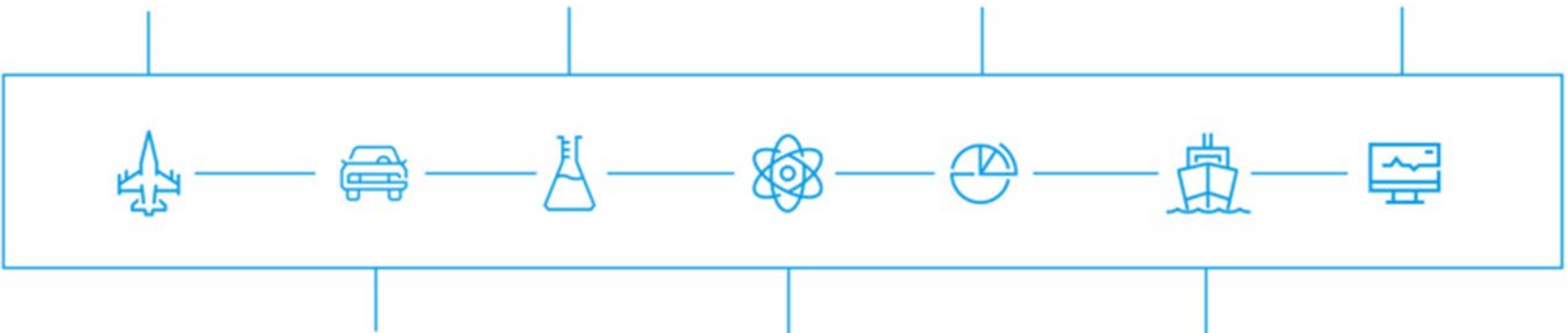
Over 200 leading industry authorities creating integrated views and analysis across more than 300 chemical markets and 2,000 processes for 95 industries

## FINANCE

Research on 200+ countries and territories with harmonized indicators from IHS analysts and economists

## TECHNOLOGY

World's largest electronics component database with more than 350 million parts



## ECONOMICS & COUNTRY RISK

Country Economic and Market Forecasts  
Operational Excellence and Risk Management

## AUTOMOTIVE

**The world's largest team of automotive analysts with hundreds of experts located in key markets around the world covering the global automotive industry**

## ENERGY

Extensive Oil & Gas well information on 5.5+ million wells worldwide dating back as far as 1860

## MARITIME

World's largest maritime database with an information gathering heritage of 250+ years with comprehensive information on all vessels 100 GT and over



# IHSM-Polk Registration Data Sourcing

- IHSM-Polk purchases motor vehicle registration records from:
  - > All 51 State Department of Motor Vehicles (DMV's)
  - > All Canadian Provinces & Northwest Territories
  - > Major Global Markets
- Vehicle Registration records include:
  - > Vehicle Identification Number (VIN) - - the foundation of our automotive data
  - > Registration owner name
  - > Registration owner address
  - > Title and other data associated with the vehicle and ownership reporting
- Data acquisition from the states is continuous
  - > Daily, Weekly, Monthly
  - > Name, Address and VIN are verified for accuracy and consistent reporting
  - > Data is compiled and organized into a variety of IHS-Polk data and analytical products
- Restrictions
  - > IHS-Polk fully complies with Federal and State privacy laws
  - > All states restrict use of personal names except for Federal Recalls

# IHSM-Polk Databases – Other Data Products and Capabilities

- **Additional IHSM-Polk Products**

- Global Registrations and Vehicle Sales
- Vehicle Mileage
- VIN Decoding
- Recalls
- Special financial reports
  - Vehicle selling price
  - Vehicle lease vs. buy

- **IHSM-Polk data append capabilities**

- Append critical data to VIN records, such as:
  - Parts catalog data
  - EPA fuel economy ratings
  - DOT Number
  - D&B business data
  - Safety restraints
  - Household Demographics
  - Key vehicle pricing data
- Other custom data appends, data mapping and analytics are available

- **Special Reports and Consulting:**

- Commercial Forecasts and Models including:
  1. Five-Year MD & HD Forecast
  2. Five-Year Trailer Forecast
  3. Trailer Population and Miles Traveled Model
  4. Diesel Consumption Model
  5. Commercial Truck Pricing Model
  6. Freight Weight Model
  7. Vehicle Miles Traveled Model

- **Big Data Analytics and Research**

- **Modeling**
- **Special Project Analytics**

# IHSM-Polk Automotive Forecasts, Analytics

- **Light Duty Vehicle Forecasts**

- Light Vehicle Sales
- Light Vehicle Production
- Light Vehicle Powertrain

- **Medium and Heavy Duty Vehicle Forecasts**

- Medium and Heavy Duty Sales
- MD and HD Model and Engine Production

- **Sales Forecast Timeframes:**

- 7, 12 and 20 year timeframes.
- 10 years of sales history
- Other custom timeframes

- **Special Studies and Reports:**

- > **Regulatory Impact on Forecasts**

- Vehicle Performance & Compliance
- Alt Fuels
- Impact of Technology on Autos and Energy
- Vehicle in use Fleet Survey (VIUS)

- > **Longer-range Forecasts**

- LNG Study to 2040
- Long-term CO2 Forecast

- > **Auto Component Forecasts Future Technologies**

- Electronics
- ADAS
- Alternative Fuel
- Electric Vehicle/Hybrid

- > **Custom research and analytics**

- Consulting Services
- Trends and Analytics
- Economic impacts and political risk

# IHSM-Polk – Commercial Forecasts and Study Models

- IHSM-Polk also conducts primary research for special commercial analysis
- Study models use IHSM-Polk commercial registrations by GVW class
- Forecasts are developed using:
  - Current commercial vehicle types based on GVW class
  - Current trailer body styles
- Here is a Summary of Commercial Vehicle Study Models or Forecasts:

Study Model or Forecast	GVW	Comments
<b>1. Diesel Fuel Consumption Model</b>	Classes 2b-8	Reflects current Polk VIO with all model year vehicles
<b>2. Vehicle Miles Traveled Model</b>	Classes 3-8	Reflects current Polk VIO with all model year vehicles
<b>3. Freight Weight Model</b>	Classes 3-8	Reflects current Polk VIO with all model year vehicles
<b>4. Commercial Vehicle Outlook</b>	Classes 2b-8	Five year future forecast
<b>5. U.S. Trailer Population Outlook</b>	Based on type of trailer	Five year future forecast
<b>6. U.S. Trailer Average Miles Traveled</b>	Based on type of trailer	Reflects current Trailer Population
<b>7. Truck Pricing Model</b>	Classes 3-8	Reflects current commercial models