



# OPEN VEHICLE REGISTRATION INITIATIVE

Improving Access to Key Data in Transportation Electrification

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ATLAS PUBLIC POLICY  
WASHINGTON, DC USA

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# IMPORTANCE OF EV REGISTRATION DATA

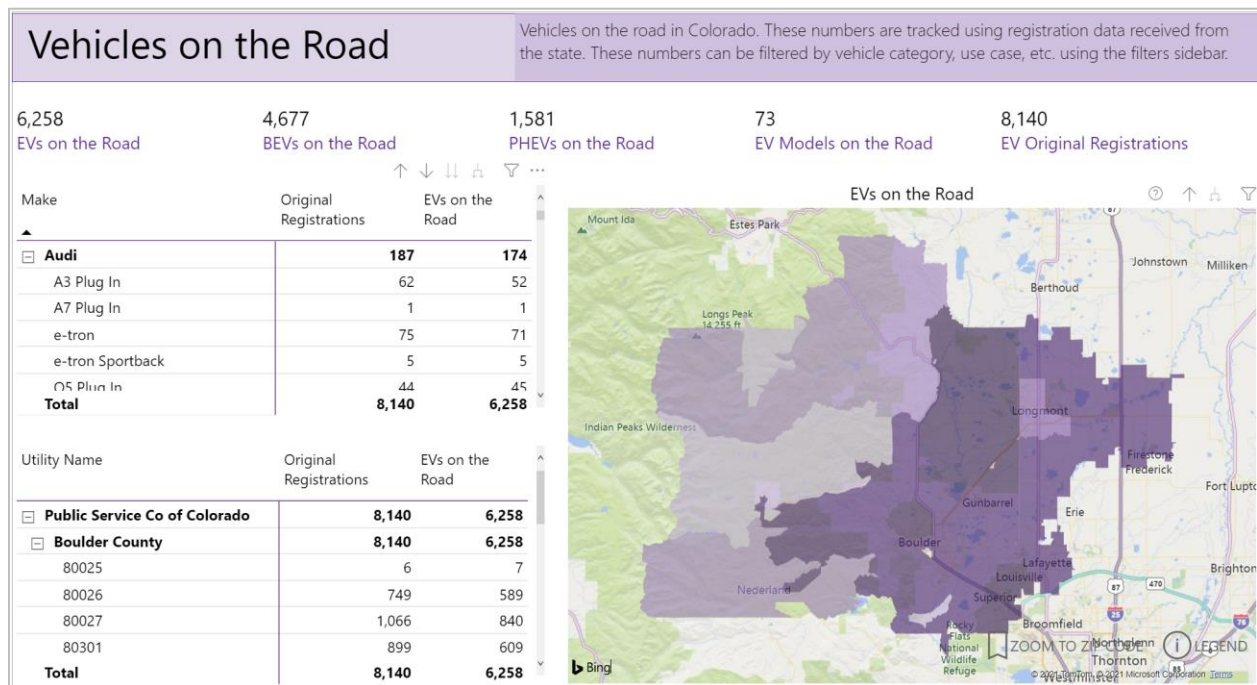
A groundswell of support has emerged to make more datasets publicly available as demonstrated by open data websites managed the U.S. federal government and many states. Policymakers also have increased interest in using a data-driven approach to develop and evaluate policies and programs.

Nearly all states have programs in place to support the deployment of electric vehicles (EV). The conditions of the electric vehicle market are evolving rapidly, and the tracking of EV deployment is likely the single most important dataset to assess the effectiveness of an EV program (see Figure 1). The following are key facets of vehicle registration data:

- Frequent updates (monthly or quarterly)
- Protect individual privacy
- Vehicle registration and expiration date
- Local geography (ZIP code)
- Ability to determine vehicle make, model, and fuel type

Data at higher geographic levels and at less frequent durations are less useful and can be inadequate for public program design and evaluation. Using data in that form could result in inaccurate or misleading results from research.

FIGURE 1: EXAMPLE OF USING VEHICLE REGISTRATION DATA IN COLORADO



Source: EvaluateCO from Atlas Public Policy, <https://atlaspolicy.com/rand/evaluateco>.

## OPEN VEHICLE REGISTRATION INITIATIVE

For nearly all states, access to vehicle registrations requires paying steep fees to third parties or direct connections with the state government or other forms of uncommon access. Some states have taken the call to share data, however, but only New York publishes the entire vehicle registration database online at [data.ny.gov](https://data.ny.gov). Other states publish dates and locations for electric vehicle rebates (e.g., Connecticut and Massachusetts) or publish aggregated statistics specific to electric vehicles.

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ACCESS TO ELECTRIC VEHICLE REGISTRATION DATA CAN IMPROVE  
PUBLIC POLICY OUTCOMES, AVOID GUESSWORK, AND HELP MARKETS  
DEVELOP EFFICIENTLY

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## PRINCIPLES OF OPEN VEHICLE REGISTRATION INITIATIVE

Below are the principles followed by Atlas Public Policy in an effort to make vehicle registration data more accessible to the public policy community.

- Public policy professionals should have access to vehicle registration data in a way that protects privacy and enables effective public policies and programs.
- **Accurate:** If individual vehicle registration data is unavailable, then registrations should be aggregated to the ZIP code level per month in a way that the vehicle make, model, and fuel type can be determined.
- **Accessible:** Vehicle registration datasets should be downloadable in a common format on a publicly accessible website.
- **Timely:** Datasets should be updated on as frequent a basis as possible, ideally monthly or quarterly.

*Atlas will not resell any raw data received from public agencies. Atlas may use aggregated versions of the data to serve our customers.*

## DATA FORMAT FOR VEHICLE REGISTRATION DTA

Below is a table defining the desired structure of data shared with Atlas Public Policy as part of this effort. Ideally, data is not aggregated: **one row = one vehicle registration**. Vehicle registration agencies should share snapshots of vehicle registration database as frequently as possible (ideally monthly or quarterly) to allow for understanding of market changes over time.

TABLE 1: OPEN VEHICLE REGISTRATION FORMAT

Field	Description	Why it matters
VIN	<p>Vehicles Identification Number as assigned by vehicle manufacturer or by vehicle registration agency if original VIN was compromised. First eight digits are sufficient to identify vehicle make and model.</p> <p>The first 8 digits of the VIN can help resolve the Make/Model. The model year is in the 10th digit. The last six digits are the serial number of the vehicle, which can be useful in tracking the history of the vehicle such as when it is first registered in a state (e.g., a new vehicle sale) or when it moves from one registered location to another.</p>	<p>Avoids any issues with incorrectly identifying vehicles (some VIN decoders are inaccurate or out-of-date).</p> <p>Important to have all vehicles to allow for enhanced data processing over time including medium- and heavy-duty vehicles, market share of vehicles by use case or segment, etc.</p>
ZIP Code	5-digit ZIP Code where vehicle is registered.	Essential to evaluating market changes and implications of public policy.
Registration Valid Date	Date vehicle registration agency issued most recent registration document.	Critical to understanding market changes over time and evaluate effectiveness of events or programs.
Registration Expiration Date	Date when registration expires.	Helpful in case time-series calculations are needed.

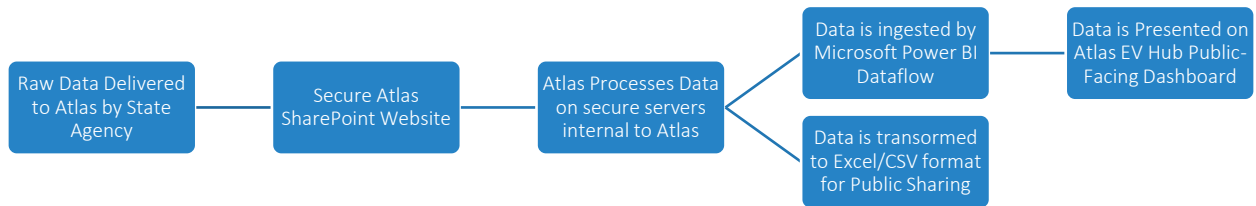
## HOW TO GET INVOLVED

Atlas is actively recruiting several states to join the Open Vehicle Registration Initiative and is happy to discuss our goals with this work. Please contact [info@atlasevhub.com](mailto:info@atlasevhub.com).

*The Open Vehicle Registration Initiative is an effort of the Atlas EV Hub, the largest community in the United States of public policy professionals working on electric transportation. Visit [www.atlasevhub.com](http://www.atlasevhub.com) to learn more.*

## APPENDIX A: QUESTIONS ABOUT ATLAS'S USE OF DATA

Below is the process of the data collected and shared by Atlas Public Policy.



### WHAT DATA IS COLLECTED AND STORED BY ATLAS PUBLIC POLICY?

Atlas collects vehicle registration data from several states at varying frequencies. The data received is typically a table of registration records, with each row containing a single registration. The most common fields in the data, and the fields most useful for tracking registrations, are the VIN, ZIP Code, Registration Start Date, and Registration End Date. The availability of these fields, and the number of fields stored, could vary by state. The raw data that Atlas receives from each state is stored on secure server internal Atlas and archived as it is received.

### WHERE IS THE DATA THAT ATLAS RECEIVED STORED?

All of the raw data received from states is stored on a secure Microsoft 365 SharePoint site internal Atlas Public Policy staff. Only select Atlas staff have access to these data and each staff member must provide two-factor authentication to gain access.

### WHO HAS ACCESS TO THE RAW DATA?

The raw data is accessible only to Atlas staff members. Atlas staff can gain access to the Microsoft 365 SharePoint server through two-factor authentication.

Atlas will not resell any raw data received from public agencies. Atlas may use aggregated versions of the data to serve our customers.

### HOW IS THE RAW DATA PROCESSED?

For VIN-level registration data, Atlas processes each state with a unique script specific to the format of the state. The VIN prefix (first eight characters) and ninth and tenth characters are extracted, and decoded

## OPEN VEHICLE REGISTRATION INITIATIVE

using our publicly available VIN decoder to identify the EV make, model, and model year. The registration and expiration date is then also extracted if it is available. If the registration date is not available, Atlas will use the date the vehicle registration snapshot was received as the registration start date. If ZIP code data is available, then the field is validated (i.e., ensure each ZIP is a valid, five-digit ZIP Code) and preserved. If only county-level data is available, Atlas will process the counties and map them to their county GEOID as defined by the U.S. Census Bureau.

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## WHERE DOES THE PROCESSED DATA LIVE?

The processed data from each state is stored on a secure Microsoft 365 SharePoint server only accessible to Atlas staff. For some states where a larger historical record is available, the data is also stored in a Microsoft SQL database, which is stored on a the secure Microsoft 365 SharePoint server.

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## HOW DOES THE DATA REACH THE PUBLIC?

Atlas uses Microsoft Power BI Dataflows to ingest the processed data from all states into a single table hosted on the secure Microsoft Power BI service. At this point in the process, any personally identifiable information is stripped and only the first 10 characters of the VIN, registration and expiration dates, and ZIP code or county GEOID fields are stored.

The data is then loaded into a Power BI data model, which is used to surface the data through an interactive web dashboard for use by the public. In addition, Atlas creates Microsoft Excel and CSV versions of the processed data and makes it available to the public on the same webpage. Both the dashboard and Excel/CSV files are available at <https://www.atlasevhub.com/materials/state-ev-registration-data>.



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