

“A TRAVEL TOOL” FOR YOU AND ME



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Technology Integration Webinar
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ATRAVEL ANALYZES COSTS & BENEFITS OF CONSUMER TRAVEL MODES

- Examines vehicle ownership, ride-hail & transit

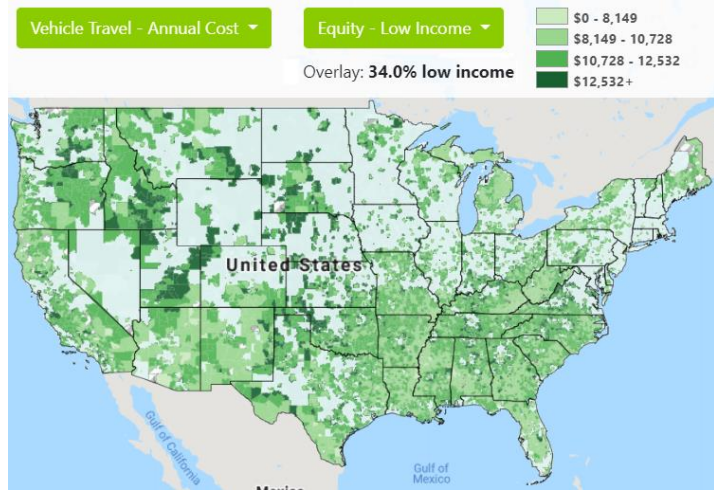
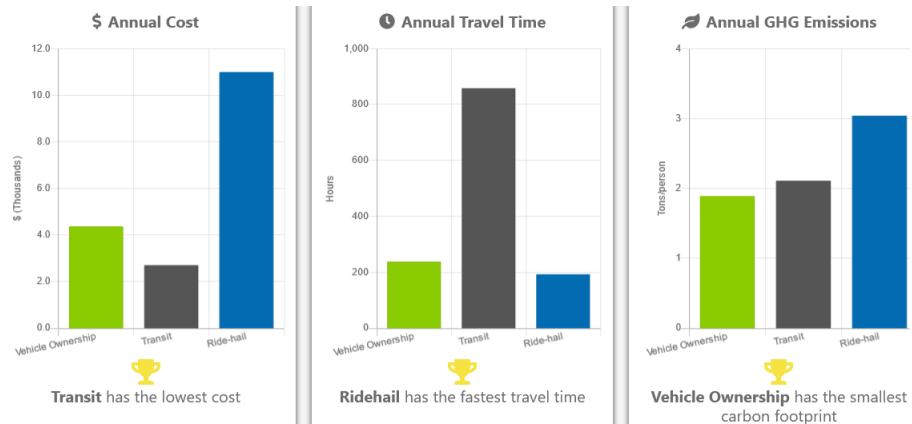
- Costs
- Travel time
- GHGs

- Examines at 2 levels:

- Individual consumers
 - User specified data
- Regional household averages
 - Can analyze other factors, e.g. local demographics, air quality

- Impacts will depend on:

- Location
- Travel patterns and VMT
- Mode availability, passenger loads, efficiency



ATRAVEL – TRIP TOOL FOR CONSUMER EDUCATION

1. User enters their most common trip(s) via Google Maps interface

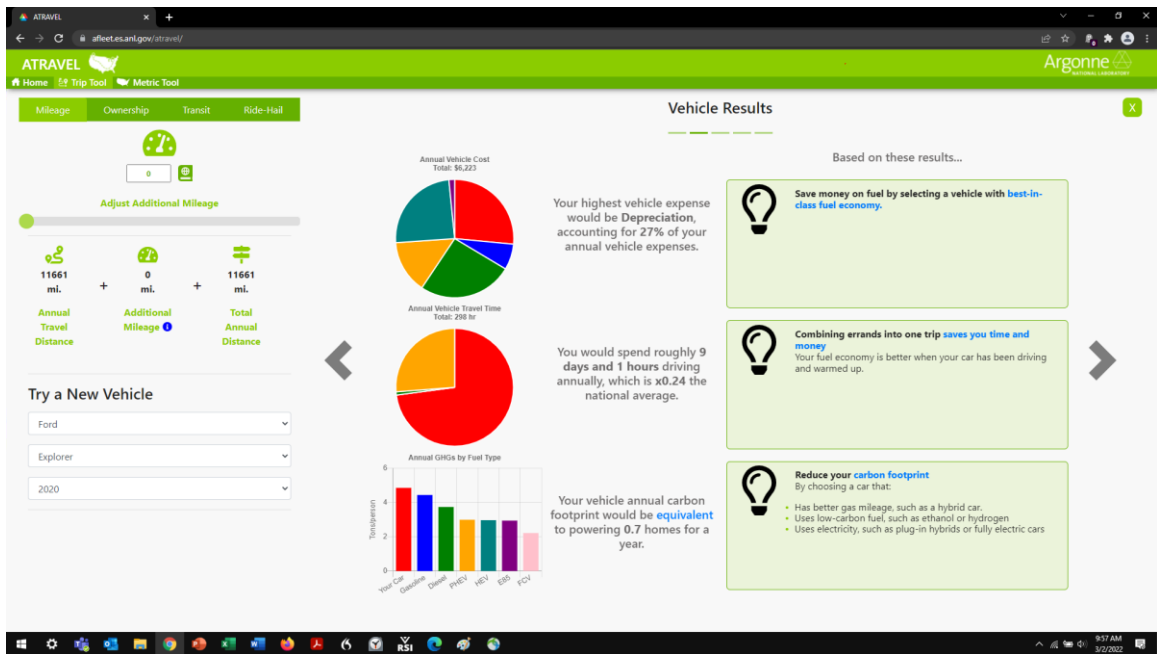
- Optional - Enter additional mileage
- Save and load entered trips

2. Enter vehicle make/model/year

3. Results compare annual cost, travel time, and GHGs of vehicle ownership vs transit vs ride-hail

- Optional adjust assumptions and vehicle

4. Scroll for additional information and resources



KEY DATA SOURCES: TRIP TOOL

Costs by Mode

- Burnham et al. 2021 “Comprehensive Total Cost of Ownership Quantification for Vehicles with Different Size Classes and Powertrains”
- APTA Public Transportation Fare Database
- Ridester Uber and Lyft Price Fare Estimator

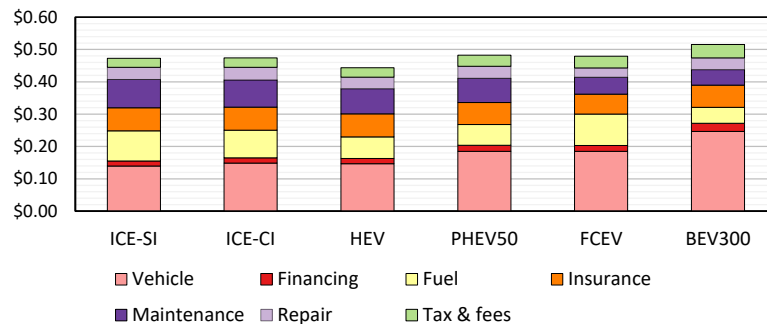
Travel Distance and Time by Mode

- Google Maps API
- Zhou et al. 2020 “Affordability of Household Transportation Fuel Costs by Region and Socioeconomic Factors”
- US DOT Local Area Transportation Characteristics for Households Data
- US DOT National Transit Database

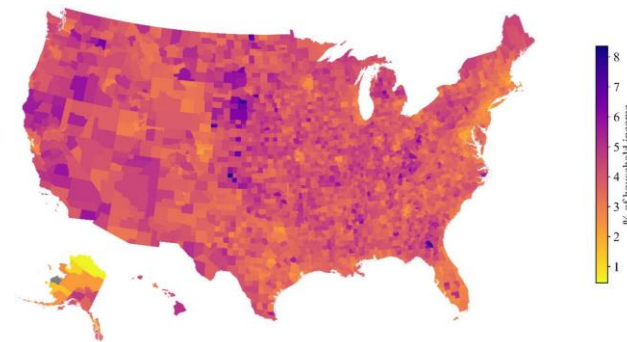
GHG Emissions by Mode

- AFLEET data based on GREET
- FuelEconomy.gov
- US DOT National Transit Database

Avg. 15-year per-Mile Cost of Driving - 2025, Small SUV



Transportation Energy Burden by County



ATRAVEL – METRIC TOOL FOR COALITION AND LOCAL DATA

1. Select location

2. Select geographic area

- Census tract based (default)
- Zip code, municipality, county, CBSA, Clean Cites Coalition, state

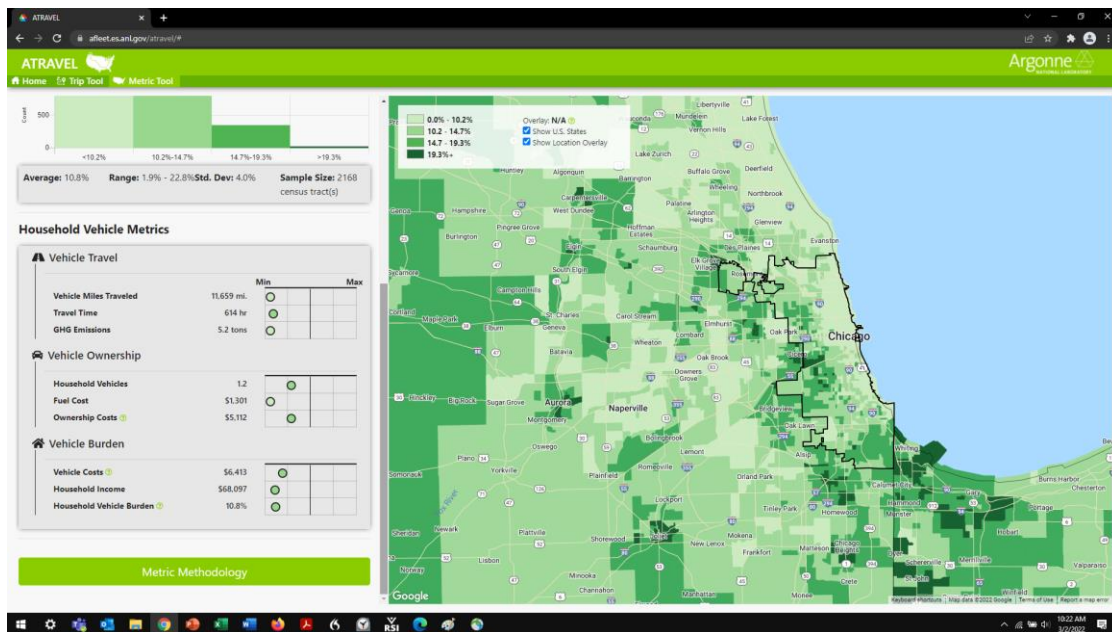
3. Select the metric to map

- Annual vehicle cost, GHG, travel time
- Equity: HH vehicle burden, minority%, low income%, older population %
- Air quality: DPM, PM2.5, Ozone
- Choose optional screening variable
 - Disadvantaged communities overlay available (interim guidance DAC definition)

4. View metric data analysis

- Histogram of metric distribution in area
- Comparison of metric at area, state, national levels

5. View household vehicle metrics



KEY DATA SOURCES: METRIC TOOL

▪ Household Vehicle Costs

- TCO by vehicle type ([Burnham et al. 2021](#))
- Local vehicle registrations and age ([Experian](#))
- [FuelEconomy.gov](#)
- Fuel price, household vehicles and VMT ([Zhou et al. 2020](#))

▪ Household Vehicle Travel Time

- Household VMT ([Zhou et al. 2020](#))
- Local vehicle trip speed ([2017 NHTS](#))

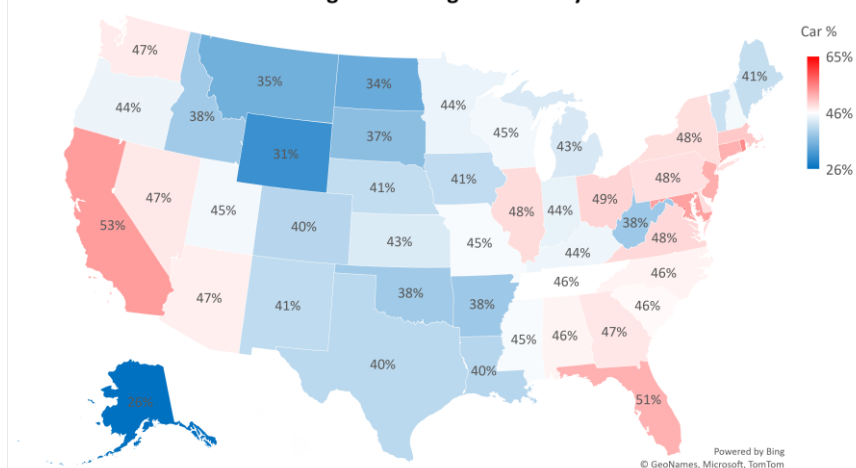
▪ Household Vehicle GHG Emissions

- [AFLEET](#) data based on [GREET](#)
- Local vehicle registrations ([Experian](#))
- [FuelEconomy.gov](#)
- Household VMT ([Zhou et al. 2020](#))

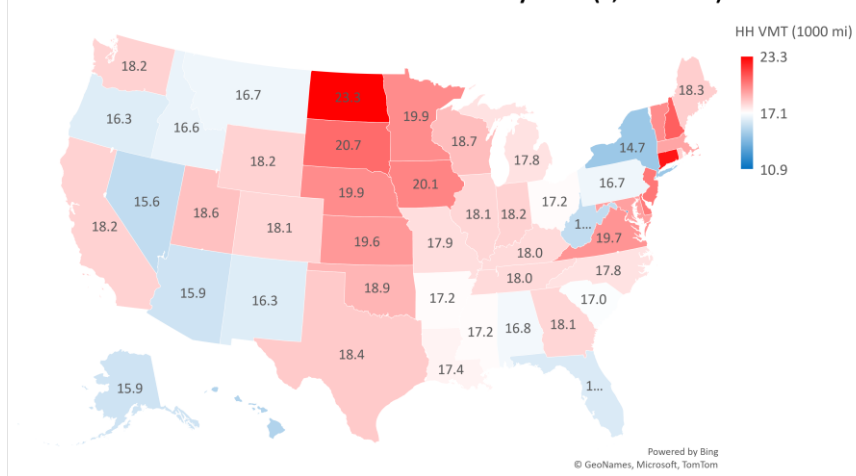
▪ Household Vehicle Burden

- = Household vehicle costs / household income
- HH income ([Zhou et al. 2020](#))

Percentage of Car Registrations by State



Household Vehicle Miles Traveled by State (1,000 miles)



FUTURE UPDATES

- **Add electric micromobility (e-scooter and e-bike) to trip tool**
- **Add additional mapping and data**
 - Vehicle registration
 - Regional TCO
 - Regional travel analysis
- **Improve user selected visualization**
- **Gather additional coordinator and user feedback**
 - Send feedback to atrans@anl.gov

ATRAVEL DEMO



DISCUSSION QUESTIONS

- **What issues do coordinators/stakeholders focus us on for consumer education of personal transportation?**
- **What personal transportation-related metrics, data, mapping will be helpful to coordinators/stakeholders?**
- **Are there fleet transportation-related metrics, data, mapping will be helpful to coordinators/stakeholders?**

THANK YOU!!!

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