

# Driving Electric

## The Basics



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VECAN CONFERENCE

DECEMBER 7, 2019

Drive  
Electric  
Vermont

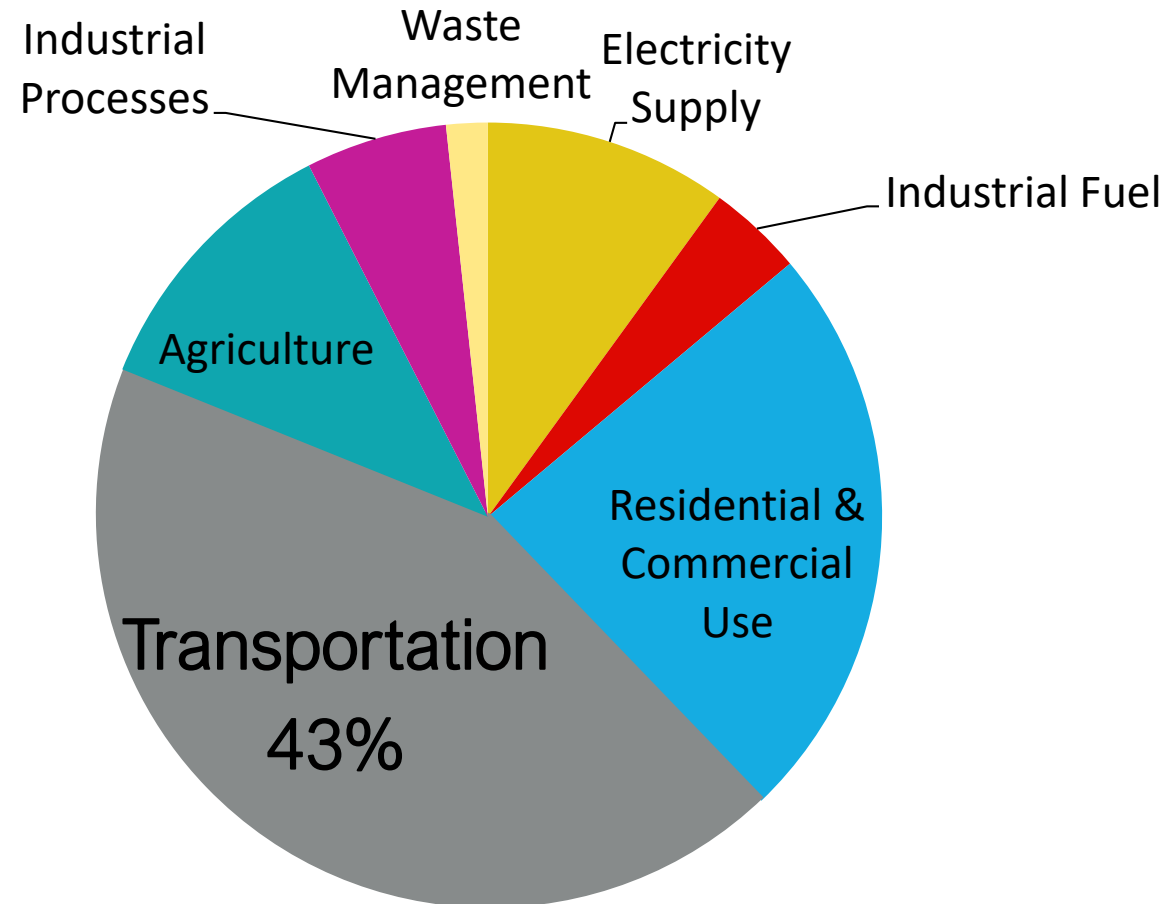
# Overview

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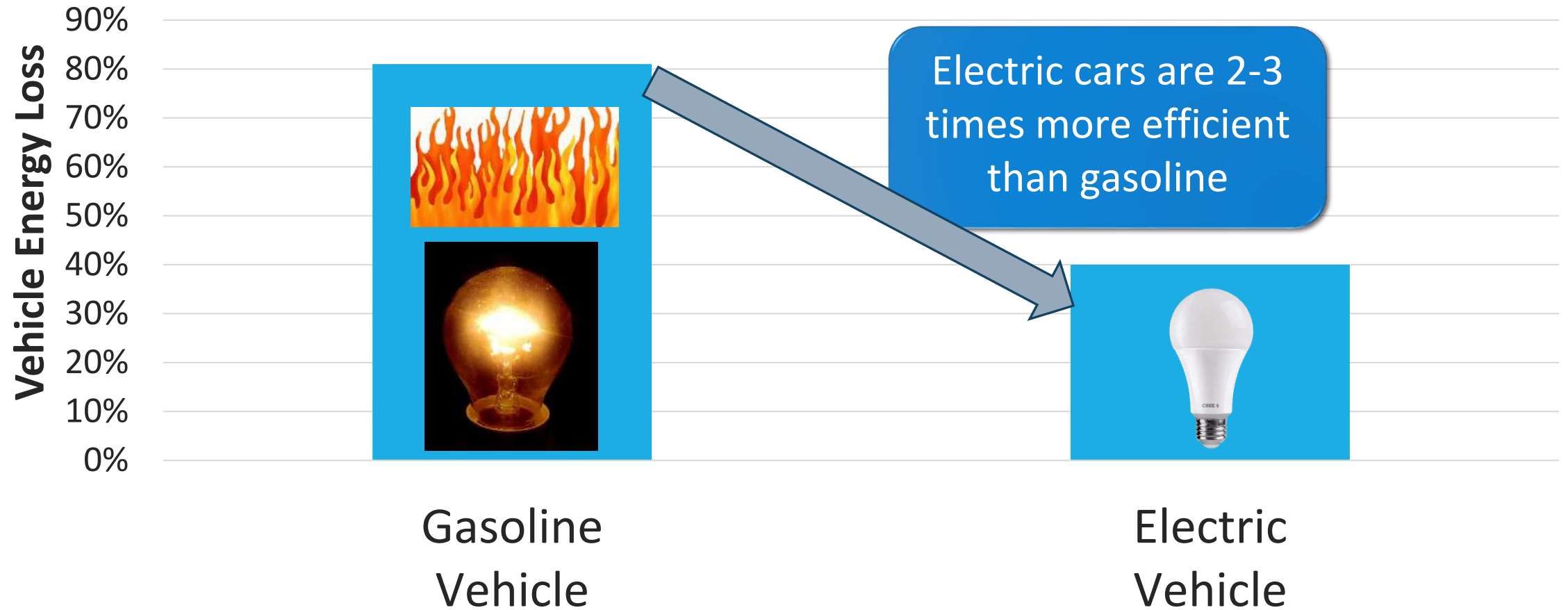
1. Plug-in Electric Vehicle Overview
2. EV Charging
3. EV Market Trends
4. EV Incentives and Purchase Considerations
5. Discussion

# Vermont Greenhouse Gas Emissions

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# Vehicle Efficiency

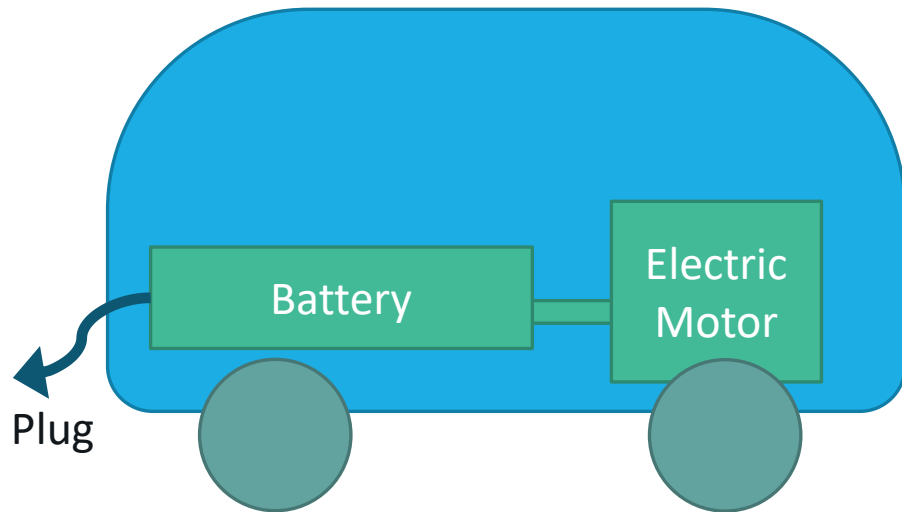


# Community Design



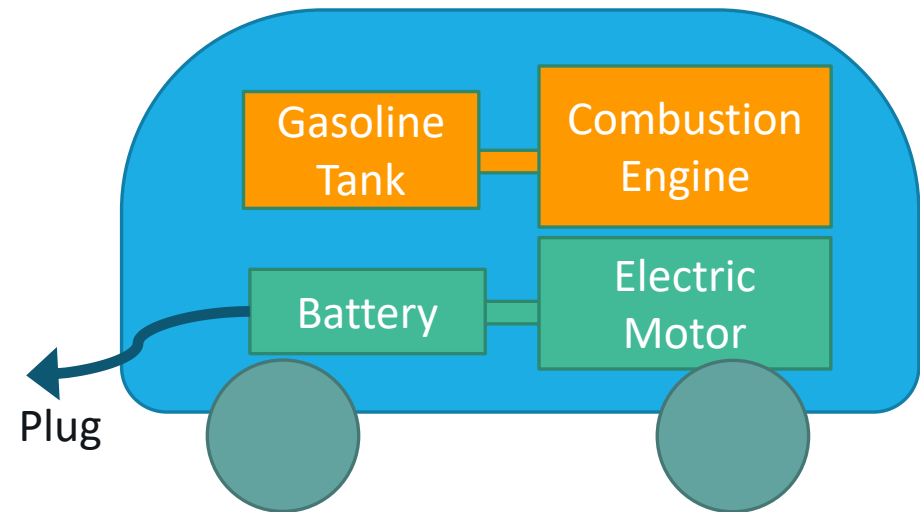
# Types of Plug-in Vehicles

## All Electric



70 – 300+ Mile Range on Battery

## Plug-in Hybrid



15 – 80 Mile Range on Battery  
+  
300 or More Miles on Gasoline

# Popular Models

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# Other Electric Options

Buses



Bicycles



CarShare

Lawncare equipment



Motorcycles



# EVs in Vermont Conditions

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Cold weather reduces electric range 20-40%



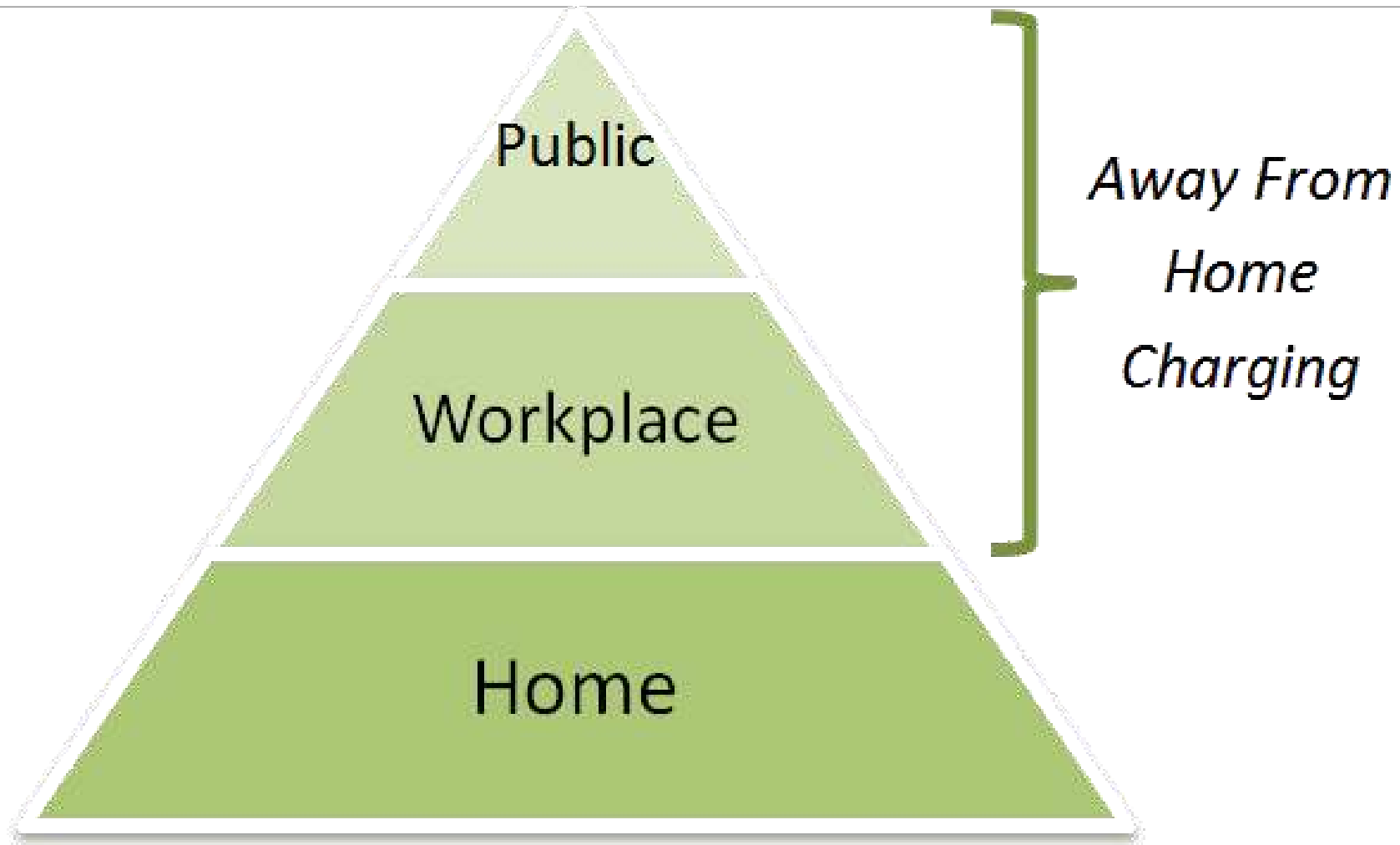
# New for 2020

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# EV Charging

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# Charging Equipment

## Level 1 Charging

120V

5 miles range / hr



## Level 2 Charging

240V

10-20 miles / hr



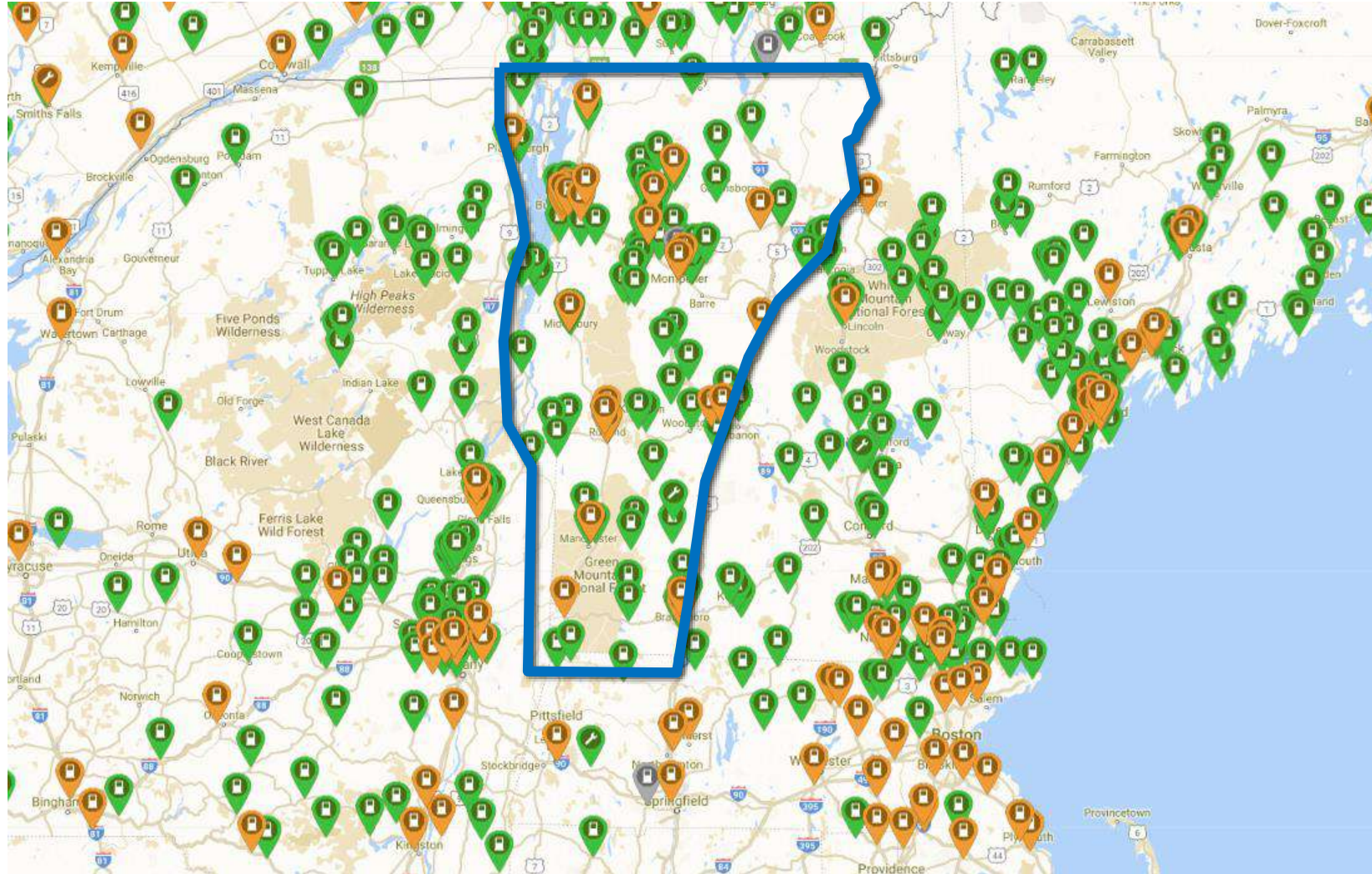
## DC Fast Charging

480V

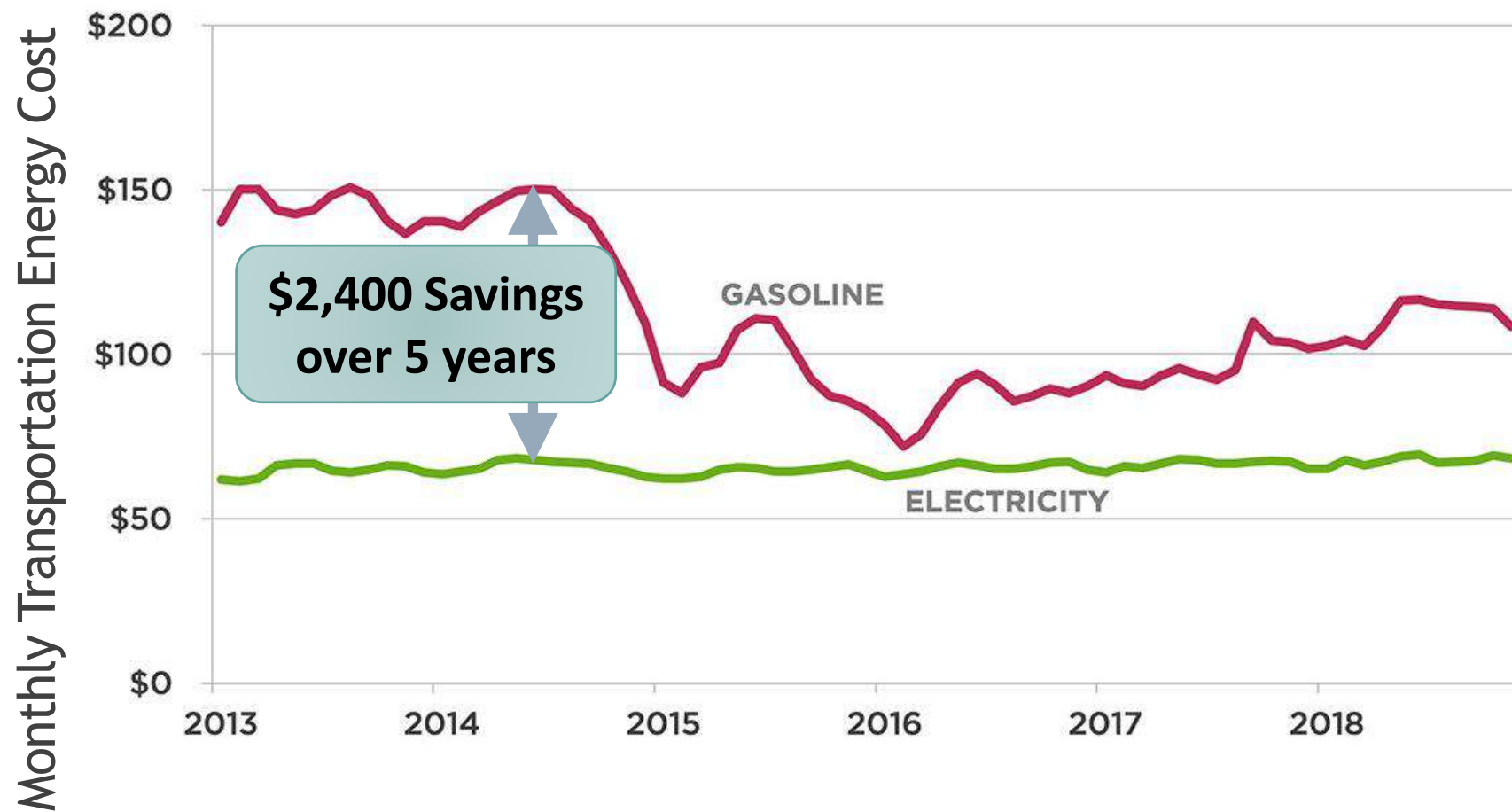
70+ miles / hr



# EV Public Charging Availability

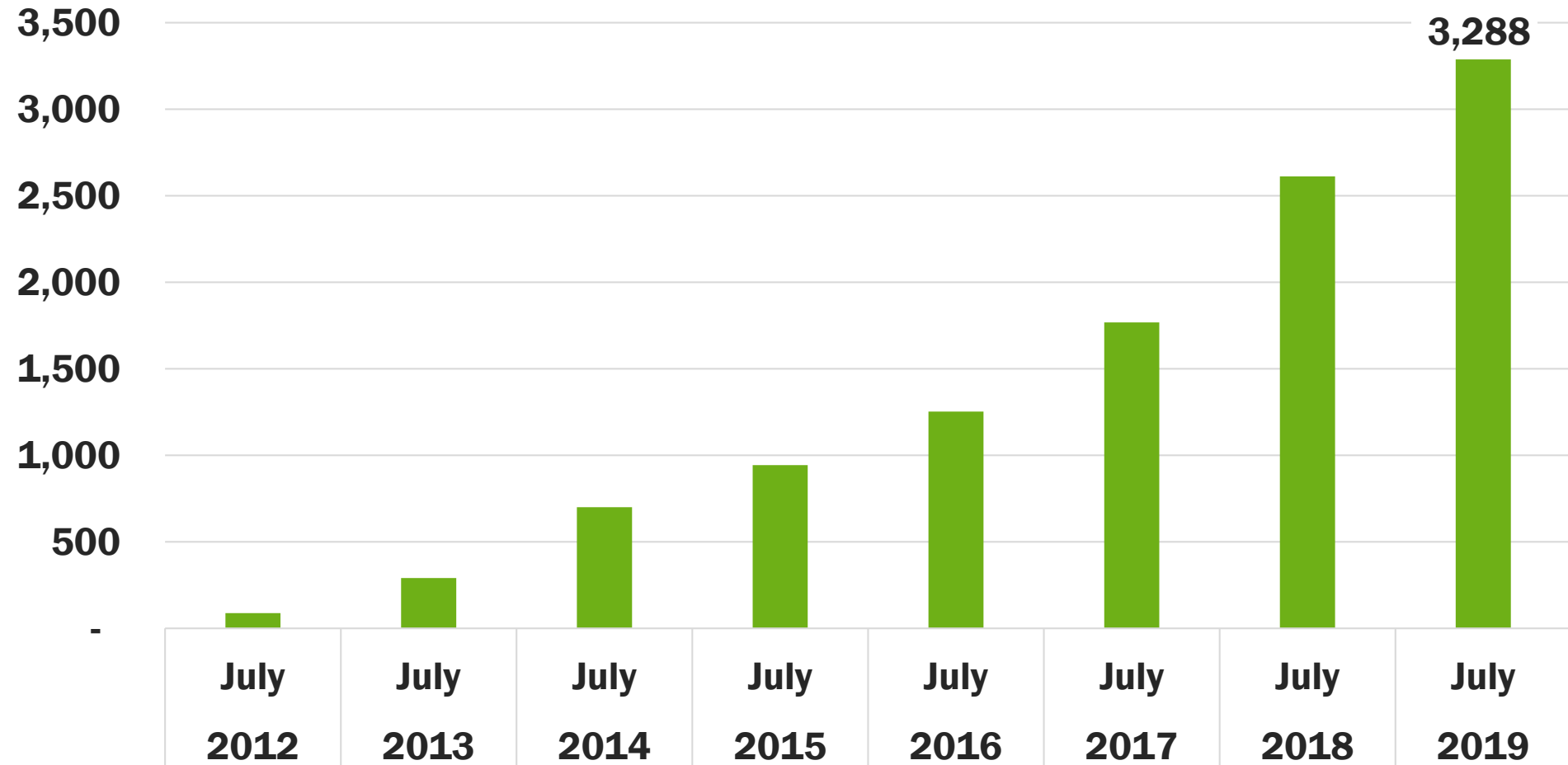


# Monthly Cost Comparison



Source: US Energy Information Administration and VEIC  
Assumptions: 25 mpg gasoline vehicle; 3 mile per kWh EV; 1,000 miles per month

# Vermont EV Registrations



# Purchase Incentives

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## Federal Tax Credit

- Up to \$7,500, based on battery size
- Begins to sunset when manufacturer reaches 200,000 EV sales
- Claim on income taxes (unless leasing)
- Does not carry-over into future years

## State of Vermont

- VTrans overseeing new state incentive roll-out
- \$1.1 million in funding
- For new EVs with starting MSRP under \$40,000
- Households below about \$90,000 annual income
- Launching soon, will not be retroactive



# Electric Utility Incentives

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\$1,500 on new all-electric; \$1,000 for PHEV

\$750 for a used EV

+ Up to \$1,000 for low and moderate income AEV

+ Free home charging equipment

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\$500 on new or used all-electric

\$250 on new or used plug-in hybrid

+ Nissan LEAF discount program

*See our website for  
other utilities*



# Combined Incentive Example

Description	Nissan LEAF 150 Mile Range	Nissan Sentra
Starting Price	\$29,990	\$17,890
Federal Tax Credit	-\$7,500	--
Nissan Discount	-\$5,000	--
Utility Incentive	-\$1,500	--
Price after Incentives	<b>\$15,990</b>	\$17,890

# New vs Used

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## New

- Federal tax credit available
- New vehicles generally have more range and better performance in Vermont conditions
- Less worry over battery and other components since vehicle will be under warranty

## Used

- Growing availability, now about 15% of Vermont EV market
- Lowest total cost of ownership
- No federal tax credit

# Lease vs Buy

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## Lease Benefits

- About 40% of EVs are leased
- Tax credit included in lease, offering good deals
- Rapid technology advancement
- Less worry over battery and other components since vehicle will be under warranty

## Purchase Benefits

- Lowest total cost of ownership
- No mileage limitations like leasing
- Some manufacturers may not offer EV leases

# Discussion

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## Contact

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