



Analysis for Electric Vehicle Supply Equipment Amendments

PLAN 2022

Jackson Kaspari

Outline

Supporting Analysis:

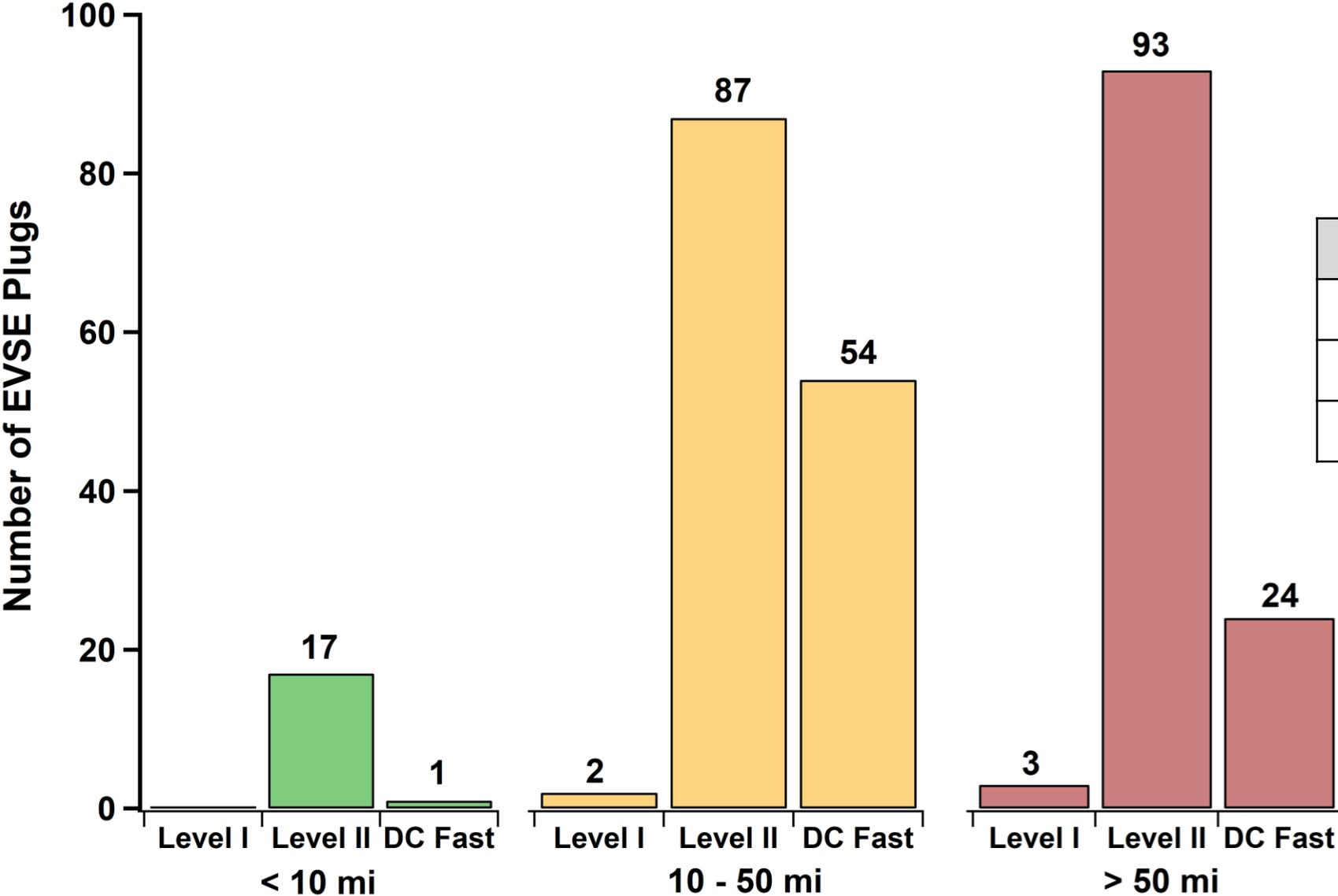
- Proximity Analysis
- Current Land Use
- EV Infrastructure Projection Tool
- GHG-E Comparison

Site Regulation Amendments:

- Site Plan Review
- Conditional Use Permit

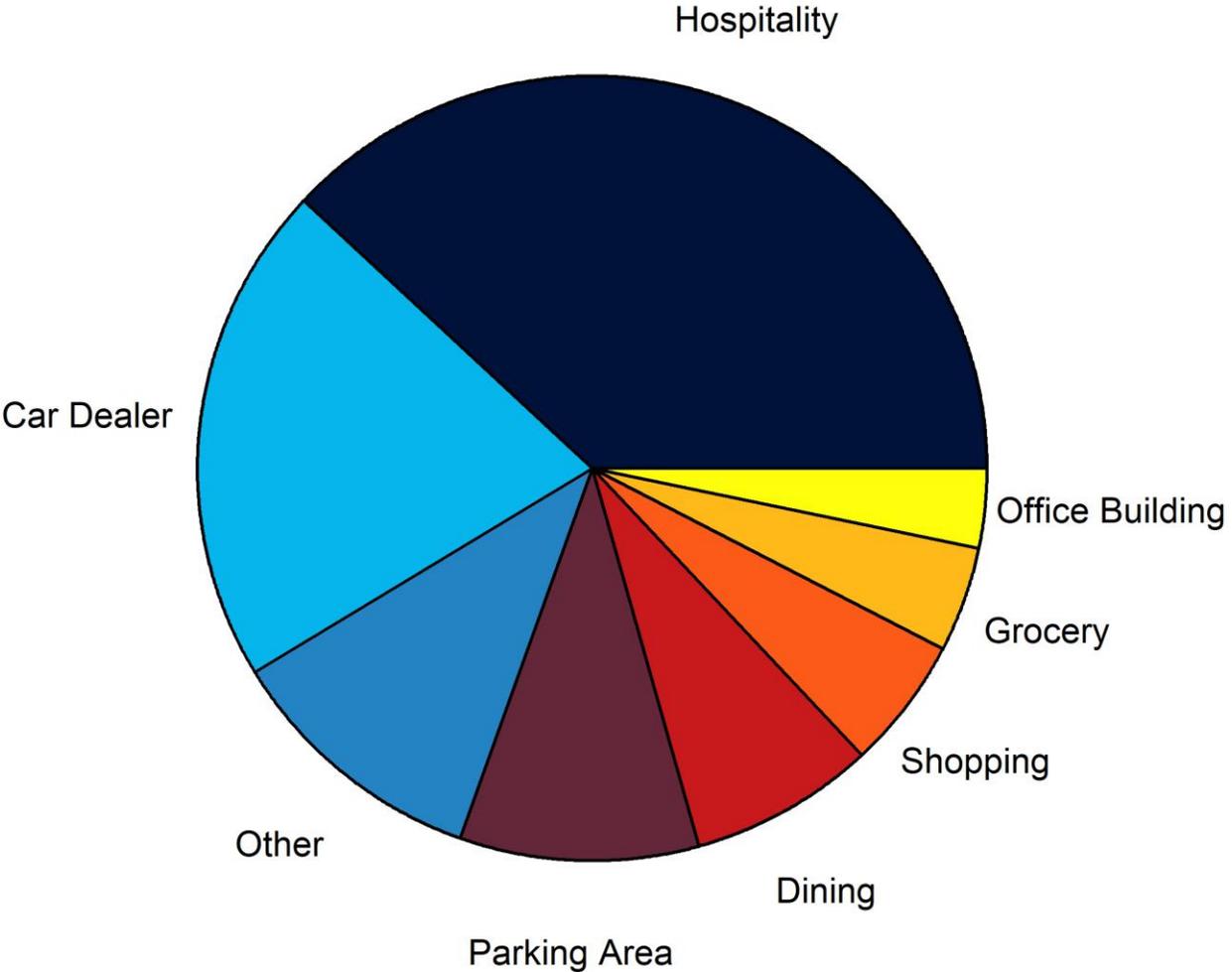


EVSE Proximity to Downtown Dover



EVSE Type	Total
Level I	5
Level II	197
DC Fast	79

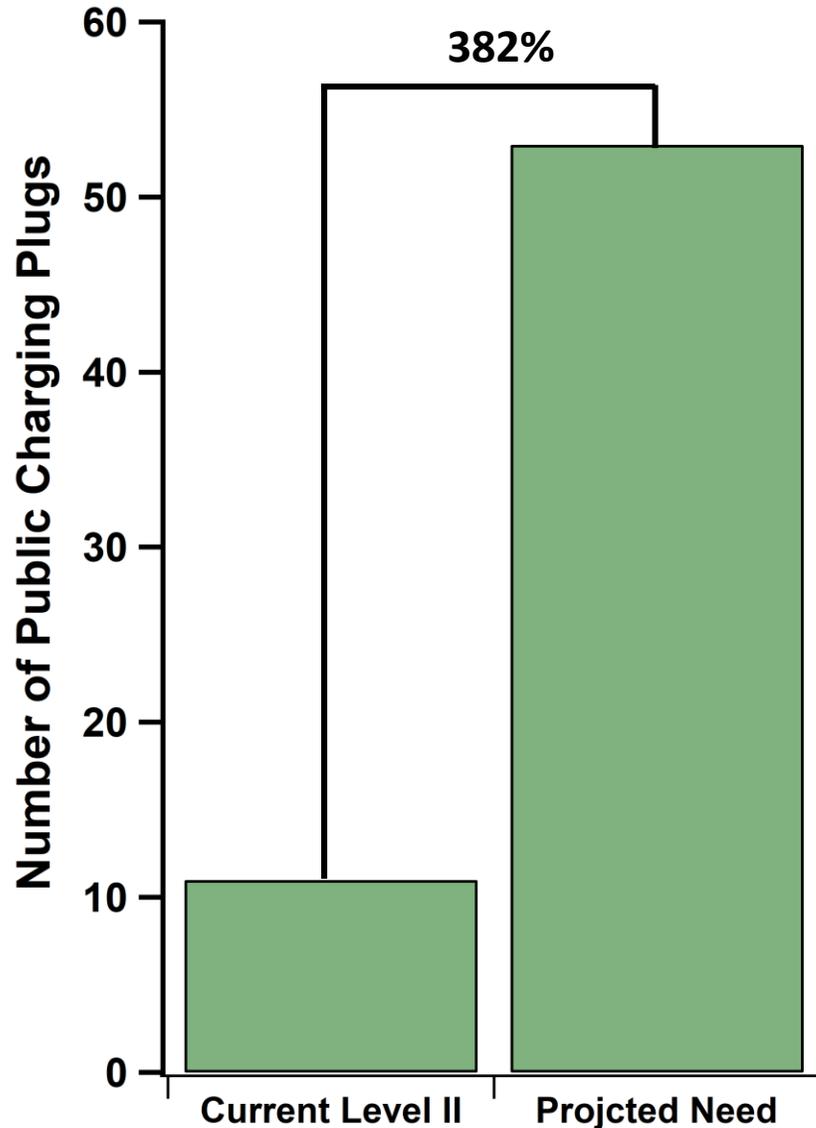
EVSE Location Use Breakdown



Use Type	Percentage of Total (%)
Hospitality	38
Car Dealer	21
Other	11
Parking Area	10
Dining	8
Shopping	5
Grocery	4
Office Building	3



Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite



Assumptions:

- Need if 1% of Dover-Rochester lightweight vehicles became electric
- Partial support of EVs
- 100% of EV drivers have access to home charging

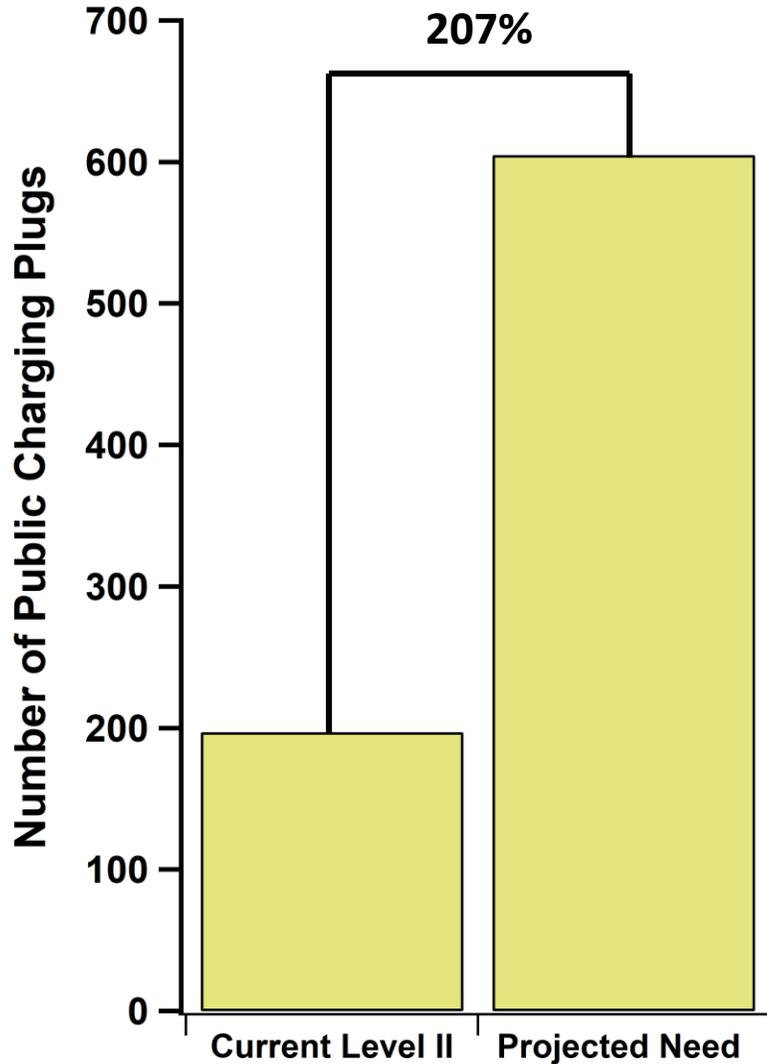
Vehicle Mix Assumptions

Vehicle Type	Range (mi)	Percentage (%)
Plug in Hybrid	20	15
Plug in Hybrid	50	35
All Electric	100	15
All Electric	250	35





Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite

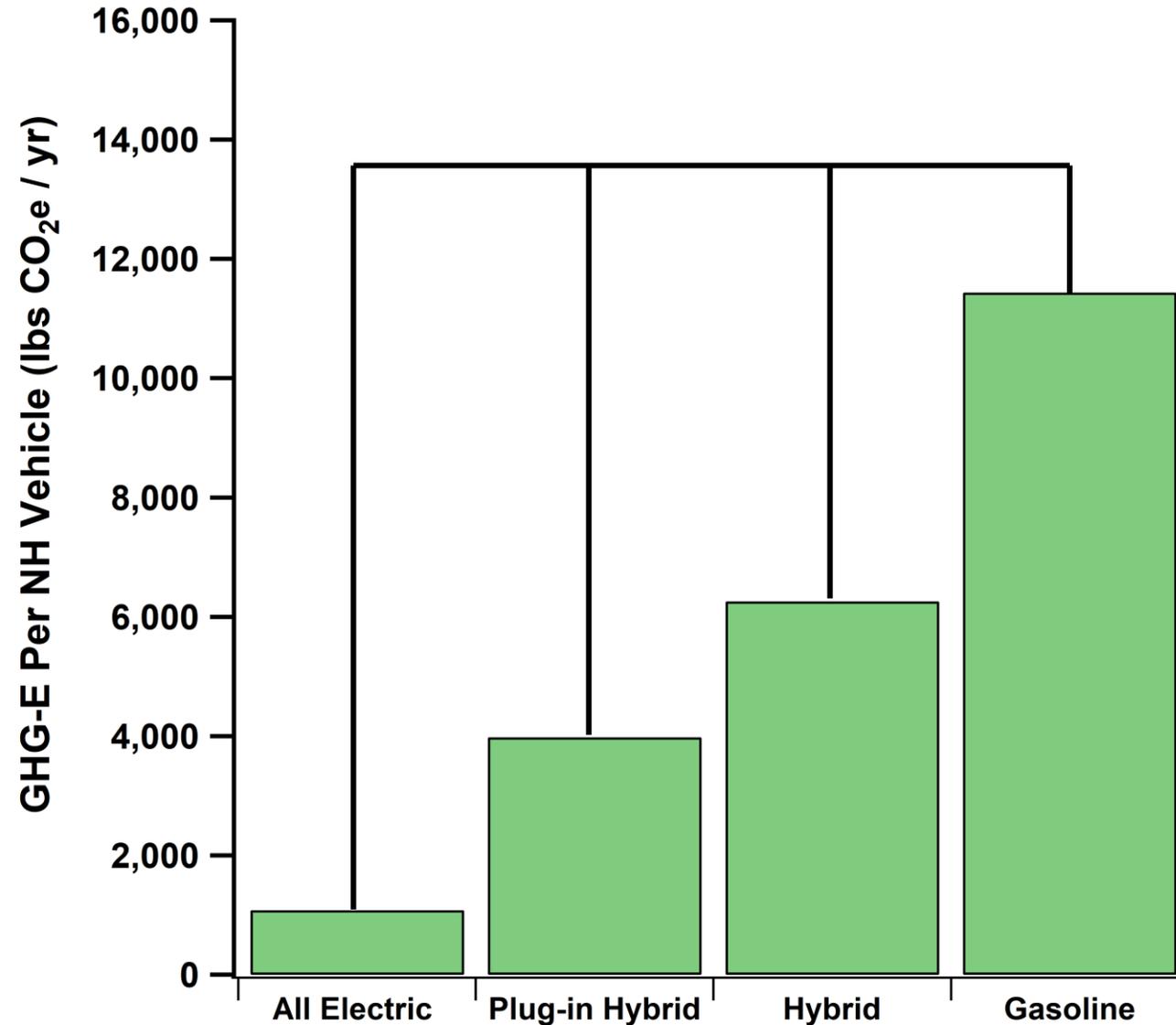


Assumptions:

- Need if 1% of NH lightweight vehicles became electric
- Partial support of EVs
- 100% of EV drivers have access to home charging

Vehicle Mix Assumptions		
Vehicle Type	Range (mi)	Percentage (%)
Plug in Hybrid	20	15
Plug in Hybrid	50	35
All Electric	100	15
All Electric	250	35

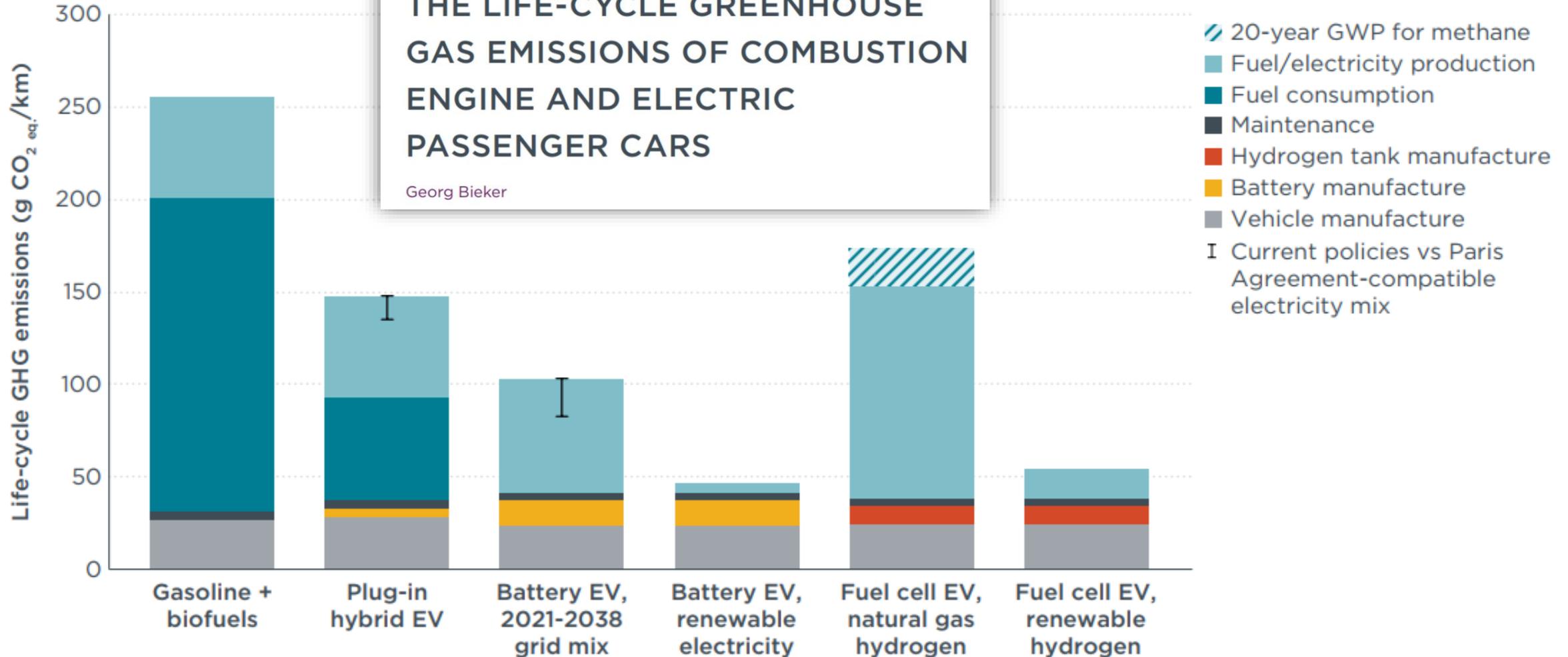
Annual GHG-E Per NH Vehicle Type



U.S. Life-Cycle Emissions Comparison

A GLOBAL COMPARISON OF THE LIFE-CYCLE GREENHOUSE GAS EMISSIONS OF COMBUSTION ENGINE AND ELECTRIC PASSENGER CARS

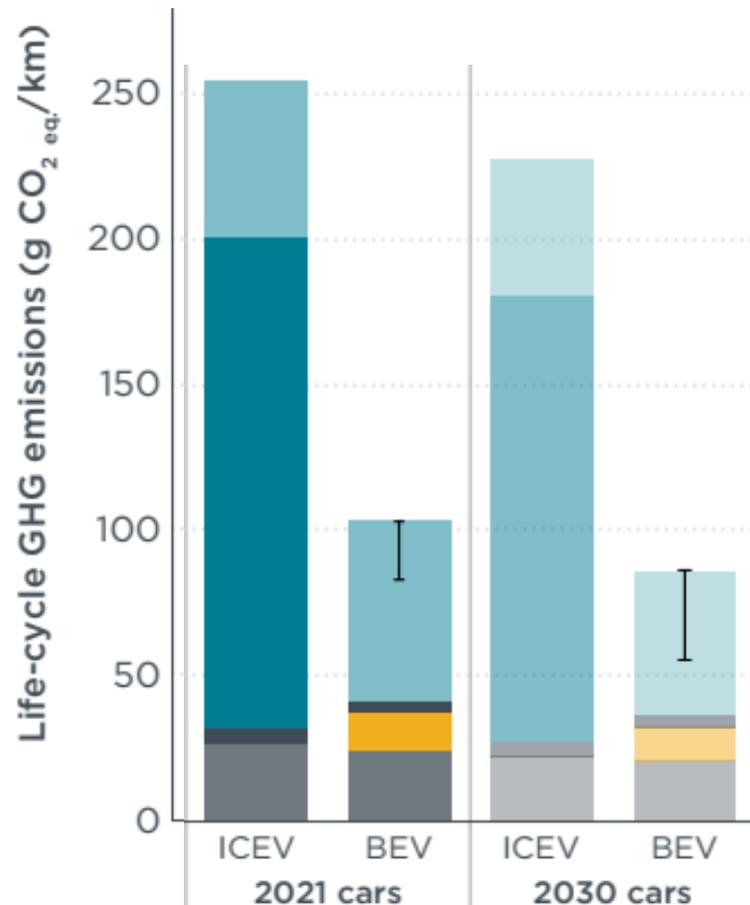
Georg Bieker



U.S. Predictions for 2030

Fuel/electricity production Maintenance Vehicle manufacture
Fuel consumption Battery manufacture

I Current policies vs Paris Agreement-compatible electricity mix



- BEVs correspond to 57% - 68% lower life-cycle GHG-E in 2021
- The reduction is projected to increase to 61% - 76% in 2030
- BEV uncertainty range is a result of grid matrix projections
- Under 100% renewable grid scenario life-cycle GHG-E = 80% reduction

Amendments to SRR Chapter 153

Site Plan Review

- Projects must provide **Electric Vehicle Charging Readiness** based on the following standards:
 - [1] **Multi-family residential projects: 5% of the total number of new parking spaces.**
 - [2] **Non-residential projects: 2% of the total number of new parking spaces.**
 - [3] The number would be rounded up in all cases with a minimum of one space of electric vehicle charging readiness per project requiring Site Plan Review



5% of Total Spaces

**1 EVSE Readiness Space
at Minimum**



2% of Total Spaces

Readiness Definition

ELECTRIC VEHICLE READINESS

A parking space meets electric vehicle readiness requirements if the following requirements are met:

[Added 7-27-2021]

1. The project has provided one or more dedicated circuits on the electrical panel(s) such that the panel(s) has the service capacity to accommodate the required number of Level 2 EVSE; and
2. Conduit has been installed to allow the addition of all necessary wiring to electrify installed EVSE at the parking space(s) without having to excavate to do so.

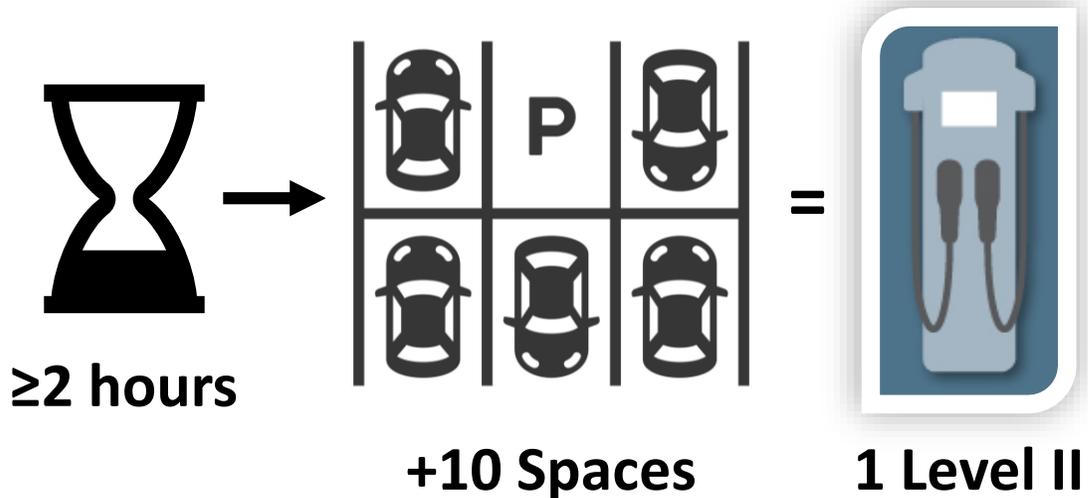
Link to Dover's Site Review Regulations: <https://ecode360.com/33400413>

Amendments to SRR Chapter 153

Conditional Use Permit

➤ The applicant shall contribute to improving electric vehicle infrastructure by using one of the following methods:

[a] For uses that typically result in **at least two hours or longer of parking** the applicant shall **provide one Level II commercial electric vehicle charging station** for every 10 spaces requested over the parking maximum.

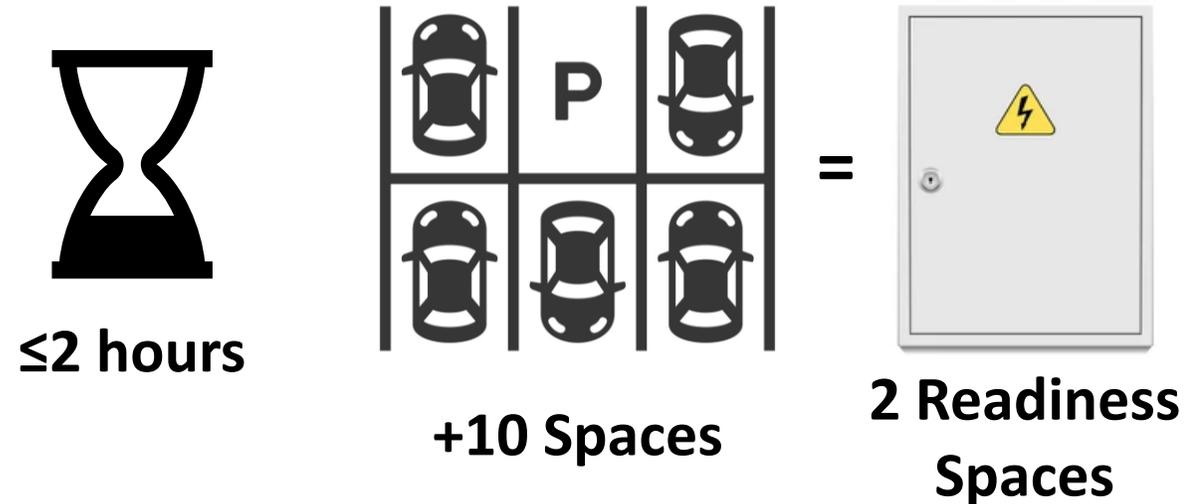


Amendments to SRR Chapter 153

Conditional Use Permit

- The applicant shall contribute to improving electric vehicle infrastructure by using one of the following methods:

[b] For uses that **do not typically result in at least two hours or longer of activity**, the applicant shall **provide two additional parking spaces that meet electric vehicle readiness requirements** for every 10 parking spaces requested over the parking maximum.



Questions?

Jackson H. Kaspari

City of Dover Resilience Coordinator
Planning & Community Development

Tel: (603) 516-6008

Email: j.kaspari@dover.nh.gov

