CITY OF KEENE
NEW HAMPSHIRE

City of Keene Electric Vehicle Infrastructure Plan

February 2024

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Glossary of Terms

AC – Alternating Current

AHJ – Authority having jurisdiction

BAU – Business as Usual

BEV – Battery Electric Vehicle

DC – Direct Current

DCFC – Direct Current Fast Charger

ECC – Energy and Climate Committee

EEI – Edison Electric Institute

EP3 – Environmentally Preferable Purchasing Program

EPA – Environmental Protection Agency

EV – Electric Vehicle

EVIP – Electric Vehicle Infrastructure Plan

DOE – Department of Energy

GHG – Greenhouse Gas Emissions

HEV – Hybrid Electric Vehicle

ICE – Internal Combustion Engine

ICLEI – International Council for Local Environmental Initiatives

kW – Kilowatt

kWh – Kilowatt Hour

$MTCO_2e$ – Metric Tons of Carbon Dioxide Equivalent

NEVI – National Electric Vehicle Infrastructure

PHEV – Plug-in Hybrid Electric Vehicle

TCO – Total Cost of Ownership

Executive Summary

The City of Keene has commissioned an Electric Vehicle Infrastructure Plan to guide the City's electric vehicle charging policy, grant applications and future investments over the next 3-5 years. Keene is committed to helping its community become more sustainable, using resources efficiently, reducing waste and preventing pollution and environmental impacts to achieve their community's vision for a healthy community, continued high quality of life and vibrant economy.

Sustainability is no stranger to the City of Keene, having undertaken significant planning and goal setting to reduce the City's overall energy consumption and greenhouse gas emissions. Starting with their Climate Action Plan in 2004, they have expressed the desire to transition the City's own fleet of vehicles and vehicles in their community to zero emissions on multiple different occasions, and therefore this EV Infrastructure Plan is well in line with Keene's actions towards sustainability.

In order to judge public sentiment of EV charging and fleet conversion, public outreach was conducted to gauge the willingness of Keene taxpayers to invest in EV infrastructure and also to provide feedback on the desired level/speed and location of public charging. Survey responses indicated that the public was generally in favor of the City providing EV charging for its residents, but were clear that they wanted it to be at no additional cost to the taxpayer. Respondents also indicated that EV charging in the downtown parking lots was the most preferred option, followed by Parks & Recreation.

When it comes to Keene's own fleet of vehicles, strategic replacement of the light duty vehicles over the next 20 years can yield significant (50%+) reductions in greenhouse gas emissions and overall cost savings cumulatively in the millions of dollars. In the short term, the City should target electrification of light pickups, light commercial vans and SUVs, especially Police SUVs if suitable zero emission replacements can be found. To support fleet electrification, Keene should target installing charging stations at Public Works/Fleet Services, City Hall and Parks & Recreation in the next 3-5 years.

To jump-start proliferation of EV charging around the community and meet projected 2028 community needs for EV charging, Keene evaluated 16 different potential sites on public property to determine which sites were best aligned with the City's priorities for public charging. The top ranked two sites, the Commercial Street Lot and Parks & Recreation should be the target of their action in the next 3-5 years, seeking grant funding to help offset the initial cost of the installations and eliminate the burden on taxpayers.

Introduction

In an era marked by a pressing need to address environmental sustainability and reduce carbon emissions, the city of Keene, New Hampshire, stands at the forefront of progressive change. Recognizing the pivotal role that sustainable transportation plays in shaping the future, Keene is poised to embark on a transformative journey towards a cleaner, greener, and more resilient future through the commissioning of an Electric Vehicle Infrastructure Plan (EVIP).

As the global automotive landscape undergoes a rapid shift towards electric mobility, Keene seeks to position itself as a leader in fostering sustainable transportation solutions. This forward-thinking initiative aligns with Keene's longstanding commitment to environmental stewardship, economic development, and enhanced quality of life for its residents.

The Electric Vehicle Infrastructure Plan outlined here is designed to inform the City's actions of the next 3-5 years with respect to electric vehicles and place this into context with the evolving needs of the community, widespread adoption of electric vehicles, and changing attitudes towards reduction of greenhouse gas emissions. By strategically deploying charging infrastructure, converting its own fleet of vehicles, fostering public awareness, and collaborating with key stakeholders, Keene aims to create an environment that not only supports electric vehicle owners but also inspires a broader cultural shift towards cleaner, more sustainable modes of transportation.

This plan takes into account the unique characteristics of Keene, its current infrastructure, and the expectations of its residents. Through thoughtful and inclusive planning, Keene endeavors to build a robust electric vehicle charging network that integrates seamlessly into the fabric of the City, ensuring accessibility, convenience, and reliability for all members of the community.

The Electric Vehicle Infrastructure Plan for Keene is not merely a technological investment; it is a visionary step towards a future where transportation is synonymous with sustainability. By embracing this initiative, Keene sets the stage for economic growth, environmental responsibility, and a resilient community that thrives in the face of evolving energy landscapes. This plan will address the current public attitudes towards EV charging, Keene's potential for fleet conversion and recommendations on where to place initial EV charging around the City and can help set precedent for the Keene's future actions.

Background Research

The City of Keene, NH has been working on energy efficiency and reduction of greenhouse gas emissions since 1999. They were the first community in New Hampshire to adopt a Climate Action Plan (2004) and one of the first in the nation to adopt a Climate Adaptation Plan (2007). Putting into action those plans, Keene has completed a wide range of energy efficiency, renewable energy and carbon dioxide (CO_2) reduction projects and helped others seeking to do the same. They are a member of ICLEI – Local Governments for Sustainability and have contributed to the growth in awareness and responses to climate change throughout the region, state and at the federal level.

Keene has tracked its GHG emissions from 1995 – 2015, and while the data has become a dated, it indicates that about half of the City's greenhouse gas emissions come from transportation. This is typical of rural cities, with commuters relying on personal vehicles to travel to and from work each day. Because of the disparate starting locations of commuter trips, ridership on traditional public transit would be too low to justify the existence and therefore electrifying those single vehicle trips will help reduce the City's overall greenhouse gas emissions in a more significant way than urban areas.

To continue its sustainability journey, the City of Keene commissioned an Electric Vehicle Infrastructure Plan (EVIP) to guide their electric vehicle charging policy, grant applications and future investments over the next 3-5 years. As a first step in this EVIP, a review of the City's existing sustainability-focused policies was conducted to ensure that EVIP actions and recommendations were presented in-line with existing City policy. Five key documents were reviewed for context and support of future EV charging in Keene:

1. **Keene, NH Climate Action Plan (2004).** This report expresses Keene's desire to transition their fleet of vehicles and buses from diesel and gasoline to low or no-carbon emission vehicles. It also promotes exploration of other forms of transportation besides single vehicle use such as

expanded park and ride options, public transit, ride sharing and tax incentives for carpooling. This Climate Action Plan also expresses a desire to convert the Police fleet to electric vehicles and bicycles.

2. **Adopted Sustainability Energy Goals (2018).** Keene adopted sustainability energy goals because they saw the value in promoting renewable energy and technology surrounding the energy transition and the positive effect it has on employment and the economy. Keene also expressed a desire to become a sustainability leader among peer cities. Finally, Keene supported New Hampshire's overall desire to reduce greenhouse gas (GHG) emissions by 80% from 1990-2050, including decarbonization of transportation.

3. **Keene Energy and Climate Change Program.** As part of Keene's Energy and Climate Change Program, they have expressed a desire to transition existing fleet vehicles to more environmentally friendly options, and it reiterates Keene's commitment to supporting alternative and more sustainable forms of transportation. Also stemming from this program, Keene has taken numerous actions to reduce carbon emissions including the installation of solar PV at the Public Works/Police and Wastewater Treatment Plant and the creation of their Environmentally Preferable Purchasing Program (EP3) team. This program also mentions the work that the Energy and Climate Committee and Clean Energy Teams have accomplished to help the City achieve its sustainability goals.

4. **Keene, NH Sustainable Energy Plan (2021).** This plan lists goals and actions proposed by Keene's Sustainable Energy Plan including expressing Keene's willingness to consider creating new codes to help the community adopt new clean energy technologies and the desire to make clean energy available to all. Keene also stresses that they see the utilities (such as Eversource) as key partners in decarbonization and is willing to develop or participate in their programs to help advance clean technology. This plan acknowledges that Keene should seek partners to help them advocate for more state and federal clean transportation funding to help achieve their goals.

5. **Energy and Climate Committee (ECC) / Keene Department of Energy (DOE) Initiative Scope**. Keene's ECC is working with multiple stakeholders through this DOE initiative to conduct stakeholder engagement and community outreach and to layout the financial landscape of future EV infrastructure projects. It has adopted a peer-to-peer learning model to share best practices, successes, and challenges for expanding EV charging networks.

6. **Keene Strategic Parking Plan (2021).** This plan contains parking management principles which put drivers/consumers at the forefront of parking strategies and outlines current practices. Additional review of the plan was conducted to ensure that any recommendations provided for electric vehicle charging are not in conflict with the City's existing parking management principles.

The efforts above demonstrate the depth to which Keene has already thought about and invested in sustainability. As a natural extension of these historical efforts, the EVIP continues their efforts in implementing a sustainable community, one which takes a long-range view, balancing and integrating economic, environmental, social and physical considerations within its local decision-making.

As an additional point of reference, other northern-climate municipal programs for EV Infrastructure and Fleet Electrification were consulted. These, as well as more details on the above documents and how they affect this EVIP can be found in *Appendix A, Background Research Summary.*

Lastly, as a starting point for understanding future charging needs in Keene, the City shared their EV adoption forecast, developed in conjunction with their Clean Energy to Communities Peer Learning Cohort, funded by the US Department of Energy. This forecast used the National Renewable Energy Laboratory's EVI-Pro Lite tool to develop different scenarios of EV adoption that Keene could see in the coming years. Choosing between three available projections (2022 consensus forecast from Edison Electric Institute (EEI), EPA Draft Regulatory Impact Analysis of vehicle emissions limits proposed in 2023, and a state National Electric Vehicle Infrastructure (NEVI) projection) and two different scenarios (high access to home EV charging and low access to home EV charging), the tool returned the following results:

			Public Charging - High % Home Charging			Public Charging - Low % Home Charging		
Projection	2023 Estimated EVs	Actual 2023 PHEV & BEV	L2	DCFC	Year	L2	DCFC	Year
State NEVI Projection	**204**	**199**	**60**	**5**	**2028**	**143**	**16**	**2028**
EPA Rules Projection	291	199	76	9	2028	185	23	2028
EEI 2022 Projection	389	199	73	6	2030	163	20	2030

Scenario results were compared against the actual number of Plug-in Hybrid Electric Vehicles (PHEVs) and Battery Electric Vehicles (BEVs) registrations in Keene in 2023 (provided by Keene's finance department), and this report team decided that the State NEVI projections were the most "calibrated" to actual EV adoption, thereby providing the best guidance for public charging needs in the next 3-5 years. Observing current trends in Keene, whereby a high percentage of EV owners have access to home charging, public EV charging needs were estimated to need to be 60 Level 2 chargers and five (5) DC Fast Chargers (DCFC) by 2028. This became the target for evaluating EV infrastructure needs around Keene, discussed later in this document.

Stakeholder & Community Engagement

Stakeholder and Community Engagement was an important piece of Keene's EV Infrastructure Plan to ensure that future actions were aligned with public opinion. Public feedback occurred through three different means – an in person listening session, a FlashVote online survey for Keene residents and a SurveyMonkey online survey to capture feedback from those who travel to Keene frequently but may reside elsewhere.

Community Breakfast – September 9, 2023

On Friday, September 8, 2023, community members who were active in Keene's Energy & Climate Committee (ECC), Keene's Clean Energy Team, and the Monadnock Sustainability Hub were invited to a breakfast listening session to share their EV related opinions with City staff and their consultant team.

The group shared many of the ongoing activities that the various different organizations were organizing or were privy to – EV Ride and Drive Events, Campaigns for EV Adoption, and tie-ins to Keene Energy Week, as all agreed that public education was a major roadblock to EV adoption in Keene and, more broadly, in NH.

Another key concern raised by the group was that the permitting process for EV chargers needed revisiting. The group felt that the current process of assessing a fee as a percentage of project cost was onerous and a deterrent for private developers to install public EV charging. Given that the current fee assessment process was designed to cover the level of review needed for new construction or major renovation, perhaps there was something that Keene could do to reduce fees based on the fairly straightforward nature of an EV charging project.

The group was also asked about parking and its role in EV charger placement. Two relevant thoughts were raised. First, the group felt that more clarity was needed on Keene's parking regulations. For EV drivers who may leave their car to charge overnight or for lengthy amounts of time, better signage and advertising on how long EV drivers could remain parked while charging would help public adoption. Second, the group also shared a concern that local merchants along Main St. may push back on EV charging being installed in front of their stores, pushing non-EV drivers further from their location.

FlashVote Survey

Following the in-person listening session in September, the City of Keene instituted an online survey using FlashVote, designed to gage the willingness of Keene taxpayers to invest in EV infrastructure. FlashVote is a commonly used survey platform which Keene uses to survey residents on pressing issues. The survey invited 470 people, of which 288 participated, or 57%, making the results statistically significant. In this 5-question survey, the following questions were asked:

1. *Which of the following best describes your household's plans to own an electric vehicle?*
2. *What electric vehicle improvements, if any, would make you most likely to get one or get one sooner? (You can choose up to THREE)*
3. *Should the City replace its gas and diesel vehicles with electric versions (if available) when they are due for replacement over the next 10 to 15 years? (Choose ONE)*
4. *If the City were to install publicly accessible EV charging stations on City property, which of the following possible EV charging locations would provide the most benefit for EV drivers in Keene? (You can choose up to FOUR, if any)*
5. *Which of the following [EV-related statements] do you AGREE with, if any? (Choose all that apply, if any)*

Full FlashVote survey results can be found in *Appendix B, FlashVote Survey Results* or at the website: https://www.flashvote.com/keene-nh/surveys/electric-vehicles-11-23?filter=local

Key takeaways from the survey included the following:

Analyzing results for question 1 above, over 55%, or 132 people surveyed said they do not own an EV and most likely will not purchase one in the next five years. The next closest response was roughly 26% or 64 people who said they do not own an EV but plan to purchase one in the next 5 years. Only 5.5%, or 13 respondents said they owned an EV. This breakdown of respondents indicates that most of the

opinions shared are not those of EV drivers, and over 10 times the number of respondents said they would not own an EV in the next 5 years compared to those who own an EV now.

Diving deeper into question 2 above, and the reasons which would make someone buy an EV sooner, the top two answers overall were "lower cost to buy/lease one" and "longer driving range on a single charge" at 53.5% and 49.3% respectively. A deeper dive into the survey respondents by property ownership status indicated that opinions still broke along this trend, even with non-owners (renters). When looking at respondents through an age lens, initial vehicle cost was still the top concern, but the concern lessened with people over 30. People over 30 generally also expressed more concern with needing a longer driving range.

Looking at question 3 above, and whether the City should replace its existing gas and diesel vehicles in the next 10-15 years, the general consensus (~40%) was that this was a good idea, but only if the electric vehicles had a lower cost of ownership. This was followed by the split opinion (27.5%) that the City should replace its vehicles even if the total cost of ownership was somewhat higher than the existing ICE vehicles or (25%) that the City should wait longer and keep its existing vehicles for now. Not surprisingly, the biggest proponent of fleet conversion to EVs at any cost were the existing EV drivers surveyed.

When asked about where publicly accessible EV charging should be installed as part of question 4, respondents overwhelmingly agreed that public parking lots downtown were the best option (75%) followed by public parks (45%) and Parks & Recreation Center (40%). Looking at home ownership status, owners and non-owners generally prioritized locations equivalently. This is further supported later in the EVIP during the site ranking sections. These were the sites that ranked the highest in terms of ease of installation and electrification.

A majority (61%) of respondents for question 5 above, felt that the City should make it easy for private entities to install EV charging to meet the communities' needs, signaling that public opinion felt Keene should not be solely responsible for all EV charging around the community. This translates to a strategic role for Keene to fill gaps in the private charging network with a strategic deployment of EV charging and a need for the City to improve processes to permit and approve EV charging installations from private developers. Respondents also felt strongly (42%) that it was ok that the City could provide EV chargers in the community but only if it was at no cost to taxpayers, so sources of external funding and the setting of EV charging fees will be paramount to offsetting EV charging costs.

SurveyMonkey Survey

Keene also designed a SurveyMonkey Survey to reach the broader community around Keene designed to provide information on the level and location of demand for EV Charging. In full acknowledgement of the inherent survey bias that those predisposed to liking EVs would be the ones responding, this online survey asked the following questions:

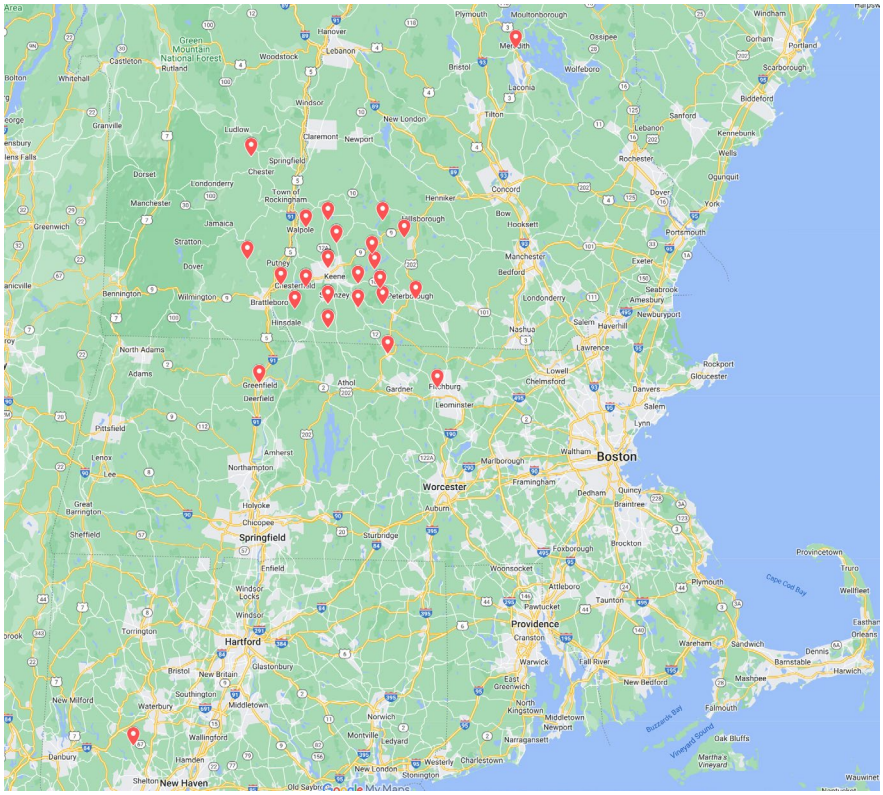
1. *How often are you in Keene?*
2. *If you live outside Keene, please provide your Zip Code*
3. *How likely are you to own an electric vehicle?*
4. *What would have to improve in order for you to consider owning an EV?*
5. *The City of Keene is considering installing additional publicly accessible EV charging stations in various locations around Keene. Charging would be fully paid for by the EV owner at no cost to*

the City and require the EV owner to follow existing parking rules. Which of the following possible EV charging locations would you be most likely to use in the future?

6. *If you own an EV, would you pay a premium to access faster public charging?*

Once advertised by the City, 103 respondents completed part or all of the online survey. Over half (54%) of the SurveyMonkey respondents lived inside Keene, but almost a quarter (23%) commuted to Keene 5-7 times per week. Almost 20% went to Keene a few times per month.

When asked about their likelihood to own an electric vehicle, 35% said they were not interested in owning an EV, while 33% said they would consider purchasing one in the next five years. Almost a fifth (19%) of respondents owned an EV, demonstrating the heavy EV ownership bias for this survey and 11% said they were not sure if they would consider an EV in the future.



In contrast to the FlashVote survey, the top change that SurveyMonkey respondents would like to see is the availability of convenient charging locations at 47%. The next improvement that survey respondents would like to see is the increase of an EV range (32%), which may stem from the fact that this survey was opened to people who regularly travel to, but don't necessarily live in Keene. About a third (31%) of respondents indicated they are not interested in EVs and only 26% of respondents said that the cost of EVs must come down before they would consider owning an EV.

When asked about preferable locations for public EV charging around Keene, downtown public parking scored highest (Gilbo, Commercial St.) followed by the Parks & Rec Center.

Full survey results are attached as *Appendix C, SurveyMonkey Survey Results* to this report and are also available online at: https://www.surveymonkey.com/results/SM-Q1cs9268fF1zuKteRQxyag_3D_3D/

Municipal Fleet Electrification

In order to better understand the future fleet electrification needs for the City of Keene, a high-level analysis of the fleet electrification potential was run using a tool called BetterFleet ™ by Evenergi. Existing fleet data such as vehicle type, mileage, age, and parking location (domicile) were inputs to this tool and a total cost of ownership (TCO) was calculated for the next 20 years to better understand if fleet conversion was economically feasible. Understanding that the EV market is in a constant state of flux,

with new vehicles and charging technologies being launched monthly, this tool provides a general idea as to whether there is a financial benefit to electrification of Keene's existing fleet using technology that is available today and which vehicles will deliver that financial benefit. Given that technology keeps improving, it is highly likely that Keene will be able to meet or exceed financial benefits projections with future technologies not even imagined today.

Existing Fleet Summary

Given information provided by the City of Keene, their existing fleet of vehicles breaks down as follows:

Vehicle Type:	Example Vehicles:	Vehicle Count:
Sedan	Ford Fusion, Taurus	7
Minivan	Toyota Sienna	1
SUV	Toyota RAV4, Chevy Tahoe, Ford Explorer, Ford Escape, Ford Interceptor (Police)	38
Light Pickup	Ford F150, Ford F250	7
Light Commercial	Ford Transit, Ford E150 Van, GMC Savana	10
Heavy Pickup	Ford F350, Ford F450, Ford F550, Dodge Ram 3500	32
Heavy Commercial	International 7400, International Terrastar	21

Vehicles were domiciled (parked) at various locations around the City, which were ultimately evaluated for EV charging suitability, seen as follows:

Location	Vehicle Count:
Airport	5
Cemetery	1
City Hall	6
Fleet Services	8
KFD	15
Parks and Rec	10
Police	28
Public Works	40
Recycling Center	3

Fleet Conversion Snapshot

Using Keene's fleet data, Betterfleet™ found it economical for the City to electrify portions of its fleet of vehicles over the next 20 years when compared to business-as-usual (continual purchases of all Internal Combustion Engine (ICE) vehicles). The following table highlights the economic and emissions comparison for conversion of the fleet to BEVs for the next 20 years.

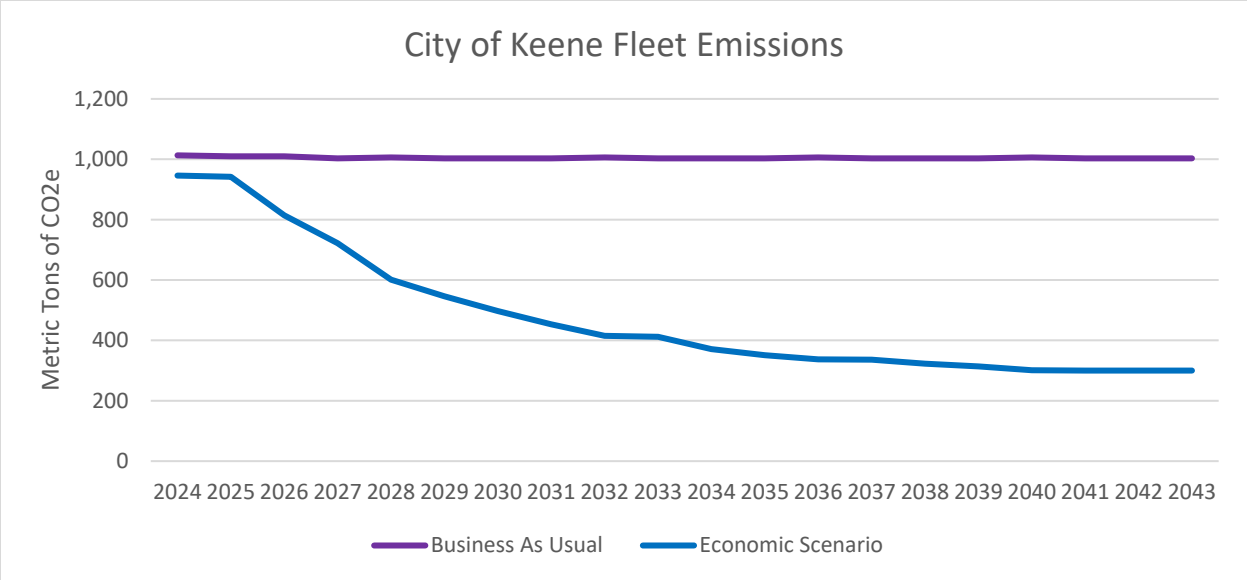
Cost	Business-as-usual (BAU)	BEV Conversion	BEV Conversion Savings
Fleet Capital Cost	$26,095,460	$27,191,606	$(1,096,146)
Fleet Residual Value*	$9,957,741	$11,792,440	$1,834,699**
Charging Infrastructure	$0	$757,700	$ (757,700)
Total Capital Cost	$16,137,719	$16,156,866	$ (19,147)
Total Maintenance Cost	$5,469,309	$4,490,499	$978,809
Fuel Cost	$6,821,211	$2,943,965	$3,877,246
Electricity Cost	$ -	$2,310,663	$ (2,310,663)
Total Operating Cost	$ 6,821,211	$5,254,628	$1,566,583
Grand Total Cost	**$28,428,239**	**$25,901,993**	**$2,526,246**
Cumulative Emissions	**20,096 $MTCO_2e$**	**9,581 $MTCO_2e$**	**10,515 $MTCO_2e$**

* Residual value = vehicle resale value at the end of City use.

**Because BEV residuals are predicted to be higher than ICE vehicles, BEV sales are a "savings."

When considering capital costs of the fleet over the next 20 years, a BEV conversion is almost at parity with business-as-usual. Higher initial vehicle costs are offset by higher vehicle residuals (resale cost), which is forecast to cover the additional cost of charging infrastructure to support a BEV fleet.

Maintenance costs for a BEV fleet are estimated to be almost $1M less over the next 20 years, due to the fact that BEVs require no oil or fluid changes and contain fewer moving parts than their ICE counterparts. BEV savings are furthered by the comparatively lower cost to "fill" a BEV vs. an ICE vehicle, contributing to over $1.5M over the next 20 years. Should Keene follow the recommendations outlined in this report and start investing in BEVs and supporting infrastructure in the short-medium term, it is possible they could see a long-term $2.5M savings over a business-as-usual scenario. This action would also save

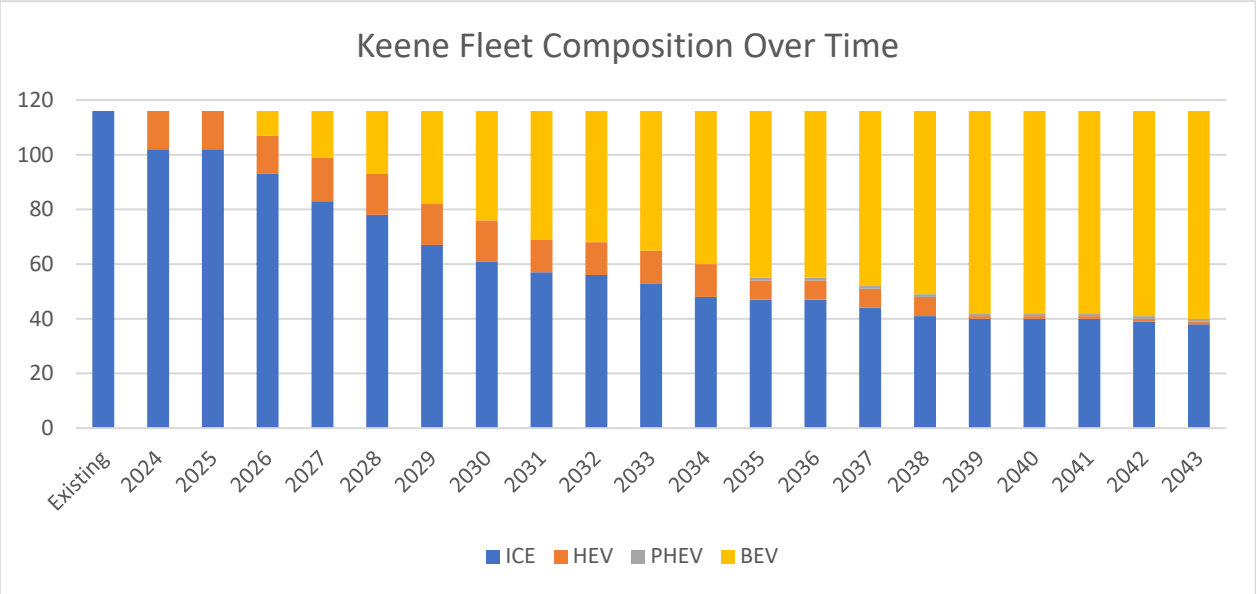


them over 50% of their existing fleet emissions over the next 20 years. Emissions reductions from the fleet on a yearly basis can be seen in the graph above.

While the Betterfleet™ analysis is high level, it paints a favorable picture that the City of Keene can save money while reducing emissions over the next 20 years. Further detail regarding the vehicle electrification and charging infrastructure installations which are needed to realize the above reductions can be found in the following sections.

Fleet Electrification Roadmap

Using vehicles available on the market today as proxy vehicles for vehicle cost, range and battery capacity, Betterfleet ™ calculated the most economic way to convert the fleet, as seen in the below graph:



Broken down by vehicle type, a full chart can be found in *Appendix D, Keene Fleet Composition Over Time*. General trends can be summarized as follows:

1. **Sedans:** Given the relatively low annual mileage of sedans, economical replacement (Lower TCO) of sedans is not expected to occur until years 15-20.
    - **Short Term (1-5 years):** Keene should switch to hybrid powertrains as soon as existing ICE vehicles are due for replacement.
    - **Medium Term (6-10 years):** Continued procurement of hybrid (HEV) sedans.
    - **Long Term (11-20 years):** Procurement of BEV sedans when existing ICE or HEV sedans are in need of replacement.
2. **SUVs:** Most SUVs in Keene's fleet are police vehicles, and therefore have high annual mileage. Keene should continue to replace police SUVs with ICE vehicles in the short term but be on the lookout for police specific BEV SUVs which can meet duty cycle requirements. As soon as a viable BEV replacement is identified, existing Police SUVs should be transitioned over at the end

of their life cycle. For non-police SUVs, hybrid purchases in the short-medium term are viable options until suitable BEVs become available.

- **Short Term (1-5 years):** Police SUVs should continue to be ICE vehicles until a suitable police-specific BEV is identified. Assuming this meets the duty cycle and turn around times of the police, an immediate shift to BEV pursuit vehicles should be made when ICE police SUVs reach the end of their duty cycle. Non-police SUVs should be converted to HEVs if replaced in the short term.
- **Medium Term (6-10 years):** Assuming BEV police SUVs exist, replace any ICE police SUVs with BEV. Non-police SUVs should be converted to HEVs if replaced in the medium-term.
- **Long Term (11-20 years):** All ICE or HEV SUVs should be replaced with BEV SUVs when due for replacement.

3. **Minivans:** No full BEV minivans are on the market today, so replace with a hybrid in the short-medium (1-9 years) or a plug-in hybrid (PHEV) in the medium-long term (10-20 years). If a viable BEV option becomes available, then Keene should replace its minivans with said vehicle.
    - **Short Term (1-5 years):** Keene should switch to hybrid powertrains as soon as existing ICE vehicles are due for replacement.
    - **Medium Term (6-10 years):** Continued procurement of hybrid minivans.
    - **Long Term (11-20 years):** Procurement of PHEV minivans or BEV minivans if suitable options exist.
4. **Light Pickups:** Stay with ICE purchases in the short term (3-5 years), explore or switch to BEV pickups in the medium to long term.
    - **Short Term (1-5 years):** Continue ICE pickup purchases.
    - **Medium Term (6-10 years):** Replace all ICE pickups due for replacement with BEV pickups.
    - **Long Term (11-20 years)**: Replace all ICE pickups due for replacement with BEV pickups.
5. **Light Commercial Vans:** Stay with ICE purchases in the short term (3-5 years), switch to BEV light commercial vans on vehicle refreshes in 2030-2035 timeframe.
    - **Short Term (1-5 years):** Continue ICE light commercial van purchases.
    - **Medium Term (6-10 years):** Explore BEV light commercial vans around 2030 as replacements for ICE vehicles.
    - **Long Term (11-20 years)**: Procure BEV light commercial vans any time an existing ICE van is ready for replacement.
6. **Heavy Pickups:** Most HD pickups will stay ICE in the short-medium timeframe but look for full BEV HD pickups meeting duty cycle and fleet requirements in the long term. Replace where possible.
    - **Short Term (1-5 years):** Continue ICE HD pickup purchases
    - **Medium Term (6-10 years):** Continue ICE HD pickup purchases
    - **Long Term (11-20 years)**: Procure BEV HD pickups meeting duty cycle and fleet requirements where possible.
7. **Heavy Trucks:** While BEV Heavy Trucks exist today, few are made by major OEMs or are prohibitively expensive. Keene may explore Heavy Truck Replacement in the medium-long term (10-20 years) but this product offering is not one to prioritize for BEV conversion.
    - **Short Term (1-5 years):** Continue ICE heavy truck purchases
    - **Medium Term (6-10 years):** Continue ICE heavy truck purchases

- **Long Term (11-20 years)**: Continue ICE heavy truck purchases unless suitable, reasonably priced BEV heavy trucks from major manufacturers exist.

The recommendations presented above demonstrate the most economical way to replace existing vehicles with new vehicles. However, in the short-medium term, Keene may want to consider the replacement of a few light duty vehicles with full BEVs to conduct real world testing of how such vehicles meet their needs.

Fleet Charging Location Ranking

To support the vehicle electrification plan shown above, the following chargers were recommended by Betterfleet ™ to support fleet conversion through the entire 20-year plan.

Location	20 Year Charger Recommendations		
	7.2kW	22kW	Total
City Hall	5	0	5
Fleet Services	5	0	5
Keene FD	7	2	9
Parks & Rec	4	0	4
Police	1	25	26
Public Works	12	3	15

Please note that Betterfleet™ recommends the most "economical" charger given the vehicles charging needs on a standard overnight duty cycle, and often recommends more low power chargers rather than less higher power chargers. Additionally, charger recommendations for Keene FD and Police are contingent upon the market developing viable specialty BEV replacement vehicles for existing FD and PD vehicles. They are left in the table above for comparison purposes.

To help focus on the short term (3-5 year) needs of these facilities, the above recommendations were modified based on operational feedback from the City and to focus on cost-effective installations for potential grant funding. The following table shows recommended chargers for Keene between 2024-2029.

Location	First Chargers Install	Recommended Chargers to Install 2024-2029	Rationale
City Hall	2027	6 - 7.2kW	City management indicates that City Hall pool vehicles will be the first to be electrified and charging is needed at city hall. Additionally 6 chargers is not significantly more costly than 5 recommended by BetterFleet™.

Fleet Services	2029	4 – 7.2kW 1 – 50kW Mobile DCFC	Fleet services will have 4 outdoor stalls for pool vehicles and 1 mobile DCFC for inside the service bay to charge vehicles during maintenance. Mobile DCFC will have multiple outlets in the building to plug into.
Keene FD	n/a	n/a	Not Recommended at this time.
Parks & Rec	2024	1 – 7.2kW	1 – 7.2kW Fleet. Parks & Rec will get their 1 - 7.2kW charger in conjunction with the planned public charging installation there. This is a great use of combined public/fleet charging to share infrastructure costs.
Police	TBD	TBD	TBD – charging will be needed upon finding suitable replacement pursuit BEVs.
Public Works	2024	4 – 7.2kW 2 – 50kW Mobile DCFC	Given the flexible nature of parking within the Public Works building, a few mobile DCFC are recommended over more fixed 7.2kW chargers. Mobile DCFC will need outlets around the Public Works parking area from which the mobile chargers can draw power.

Next, Keene's various vehicle domiciles (home bases) were evaluated for suitability for EV charging. A full ranking of all the various fleet and public sites can be found in *Appendix E, Keene Fleet and Public Site EV Charging Rankings* to this report. Per request from Keene FD, no analysis was performed for the FD, so it was excluded from ranking. A general summary of evaluation criteria for fleet sites is provided below:

Category Description	Contributing Factors
Site Description	Parking Area Type, Coverage, Number of Spaces
EVSE Demand	Proximity to other chargers, adequate space for charger installs, electrical, planned year of install, potential to share charging infrastructure with public
Utility	Proximity to utility infrastructure, known circuit capacity issues, adequate space for utility infrastructure
Accessibility	ADA upgrades required, available paths of travel, safety lighting
Environment	Potential for site pairing with Solar and/or Battery Storage
Economics	Streamlined permitting, scheduled site improvements, cost per port
Betterfleet™ Score	Chargers recommended to support fleet electrification in Betterfleet™, higher scores given for more recommended chargers and at a sooner date.

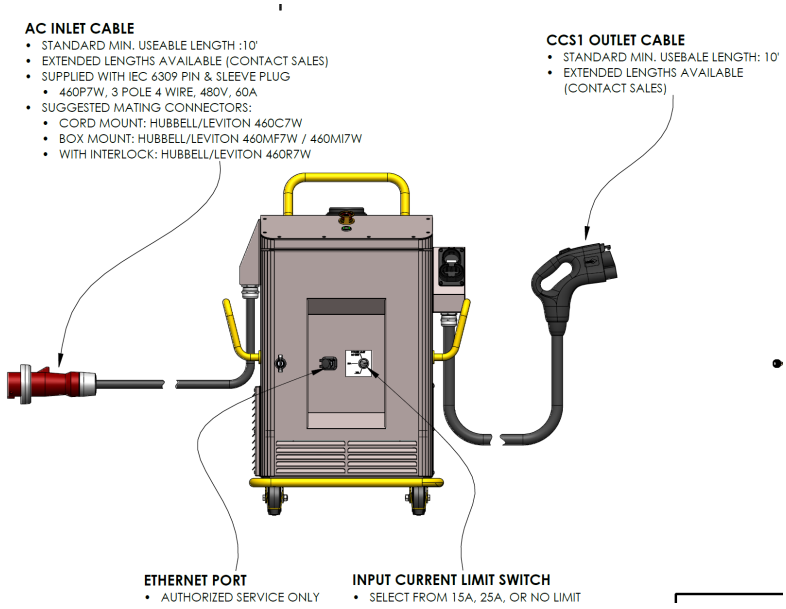
Using these criteria, sites were scored accordingly, as seen in the table below:

Fleet Locations	Site Description	EVSE Demand	Utility	Accessibility	Environment	Economics	BetterFleet™	Total Fleet Charging Score
Police*	6.5	7	3	5	3	1	10	**35.5**

Public Works Admin	6	7	2	6	1	1	8	**31**
Parks & Rec (Fleet)	6	7	3	4.5	1	3	6	**30.5**
City Hall (Fleet)	4	8	3	3	2	2.5	4	**26.5**
Fleet Services	4	6	2	5	3	0	2	**22**
Airport (Fleet)	6	5	3	4	1	2	0	**21**
Wastewater Treatment Plant	4	7	3	2	3	1	0	**20**

* Keene PD expressed concern over the viability of electrification of PD cruisers with extremely short vehicle downtime.

Given the open questions surrounding the electrification of the police fleet, the next three sites, Public Works, Parks & Rec and City Hall were deemed the "best" to focus on in the next 3-5 years. Since Fleet Services also stores its vehicles close to Public Works, the charging stalls recommended here were wrapped into the preliminary site designs and cost estimates prepared for these charging projects. Preliminary designs can be found in *Appendix F, Preliminary Fleet and Public Charging Site Designs*, which Keene can use for any upcoming applicable grants or funding applications. Parks & Recreation fleet charging is envisioned to share infrastructure with public charging at this site further increasing the economic viability of providing EV charging at this site. At Public Works and in Fleet Services, Keene may want to consider a mobile DCFC in addition to Level 2 chargers as their fleet begins to transition. This will allow significant flexibility for the City as they begin to explore how best to charge EVs inside their existing facilities.



As with any change, the City of Keene will need to plan for the Fleet Maintenance Division's ability to support the transition of the City's fleet to electric. The City can support this transition by budgeting for BEV specific training, diagnostic equipment and specialty tools so that the electric fleet can be serviced in the same way as the rest of the fleet. While BEVs need less maintenance, on average, than their ICE counterparts, new tools and understandings of vehicle operation are needed to keep vehicles running and performing their intended function.

Electrification of First Responder Vehicles

Regarding electrification of Police and Fire Vehicles, these vehicles present some of the greatest opportunities for emissions reductions and the greatest challenges. Their high mileage and frequent use make them great candidates to reduce vehicle miles traveled and tailpipe emissions. However, their duty cycles with short (no) turn-around time and need to be immediately ready during an emergency make them difficult to electrify with vehicles and chargers on the market today. Police fleets in the US have had varying success with conversion of patrol cars to electric, with a few committing to fully electric[1] and certain companies even converting existing BEVs to "police ready"[2], however, this is not yet a widespread practice and should be studied carefully before taking sweeping action. As of January 2024, Chevrolet has just released the spec sheet for their PPV Blazer EV[3]. To get from the current state of an all-ICE Police and Fire fleet, there are a few short-term actions that can be taken:

- Collect relevant data around police and fire vehicle usage – quantify how far vehicles travel on a daily basis (even if widely variable), when they are used, and how they are used (dwell time quantification)
- Optimize the fleet – consider what is and what is not needed in the fleet of the future. Are more vehicles needed, different vehicles?
- Begin to change longstanding mindsets – understand the officer's needs beyond "it's always been done this way." How do the vehicles need to perform, how do they complement the core first responder functions?
- Make a Plan – conduct a detailed fleet analysis study and/or conduct a pilot trial of a BEV first responder vehicle. What can be learned from this trial?
- Partner – find others who share similar goals about first responder fleet electrification. What have they learned? What can they share with your first responders? Opinions from those in the same line of work carry significantly more weight than a consultant report or a governmental edict.

Helpful information about police fleets who have electrified, as well as manufacturers offering police and first responder spec BEVs can be found in *Appendix G – Police Fleets and Battery Electric Vehicles.*

[1] https://www.southpasadenaca.gov/government/departments/police/police-department-electric-fleet-conversion
[2] https://unpluggedperformance.com/unplugged-performances-upfit-debuts-their-first-tesla-police-car/
[3] https://www.gmenvolve.com/content/dam/gmenvolve/na/us/english/index/police/2024-blazer-ev-ppv/02-pdfs/2024-Blazer-EV-PPV-Specification-Guide-v2.pdf

City Owned Properties and Public Parking Facilities

In a similar fashion to the fleet charging locations, potential locations for public charging were evaluated for suitability. All sites evaluated were existing parking lots on city-owned property. A full ranking of all the various fleet and public sites can be found in *Appendix H – Eversource EV Interconnection Process and Costs* to this report. A general summary of evaluation criteria for public parking sites is provided below:

Category Description	Contributing Factors
Site Description	Parking Area Type, Coverage, Number of Spaces, Land Use Type, Reserved Parking, Nearby amenities, fee for parking
EVSE Demand	Proximity to other chargers, adequate space for charger installs, electrical, potential to share charging infrastructure with public, EVSE demand from public surveys, correlation to parking management policies
Utility	Proximity to utility infrastructure, known circuit capacity issues, adequate space for utility infrastructure
Accessibility	ADA upgrades required, available paths of travel, safety lighting, charging visibility
Environment	Potential for site pairing with Solar and/or Battery Storage, Support of complete street principles, proximity to multi-modal transportation
Equity	Support of EV drivers in Multi-family housing, support of EJ communities
Economics	Streamlined permitting, scheduled site improvements, cost per port

Site rankings can be found in the table below:

Public Locations	Site Description	EVSE Demand	Utility	Accessibility	Environment	Equity	Economics	Public Charging Score
Commercial St. Lot	12	8	3	8	3	3	3	**40**
Parks & Rec	13	7	3	7.5	2	2	3	**37.5**
Gilbo St. Lot	11	7	3	8	3	3	2	**37**
Wheelock Park	13	8	3	7	1	1	2	**35**
Library	11	7	3	8	1	1	3	**34**
Russell Park	12	6	1.5	8	3	1	2	**33.5**
Airport (Public)	13	7	3	7	1	0	2	**33**
City Hall (Public)	8.5	8	3	5	2	1	2.5	**30**
Wells St. Lot	10	4	2.5	7.5	2	1	1	**28**
Robinhood Park	12	6	2	5	1	1	1	**28**
Elm Lot	11	1.5	3	8	1	2	1	**27.5**
Whitcombs Mill Trailhead	11	6	3	3	1	1	2	**27**
Roxbury	10	3	2	7.5	2	1	1	**26.5**
Wells Garage	9.5	3	2	4.5	2	2	2	**25**
Eastern Ave Park	11	6	2	3	1	1	1	**25**
Ashuelot Park	11	4	2.5	3	1	1	1	**23.5**

The top two scoring public charging sites for Keene were the Commercial St. and Parks & Recreation lots. These planned layouts can be seen in *Appendix F – Preliminary Fleet and Public Charging Site Designs* of this report. The Commercial St. Lot charger layout is envisioned to expand upon the existing two, Level 2 ports of EV charging at this site, replacing the old existing chargers, and installing eight more 7.2kW Level 2 AC Chargers, as well as two DC Fast Chargers of 60kW or greater. As this is one of the central locations around town, it is envisioned to provide Keene drivers with a place to park and charge their vehicles at any of the 12 ports while shopping or dining locally.

The Parks & Recreation lot charger is envisioned to provide visitors to that facility with four ports of 7.2kW Level 2 Charging. A fifth port will be added to that installation which will be reserved for Keene's fleet, including the trucks which are domiciled there. These two installations will share infrastructure and save costs.

The number of charging ports envisioned at each public site was targeted to be a "future proof" 5%-10% of total parking stalls, which aligns with new building codes being set in California and elsewhere in the US. This also helps advance Keene towards meeting the 2028 EV charging needs defined in the EVI-Pro forecast discussed earlier in this report. In the most conservative scenario of the EVI-Pro forecast, Keene is projected to need the equivalent of 60 Level 2 AC and five (5) DC Fast Chargers by 2028. With the above targets, Keene is well positioned to meet its public charging needs with the strategy shown in the following table:

Public Land Locations	# of Stalls	5%	10%	# of Proposed L2 Charging Ports	# of Proposed DCFC Ports
Commercial St. Lot	100	5	10	10	2
Parks & Rec	76	4	8	4	0
Gilbo St. Lot	42	2	4	0	0
Wheelock Park	100+	5	10	10	0
Library	26	1	3	2	0
Russell Park	30	2	3	4	0
Airport (Public)	158	8	16	2	0
City Hall (Public)	6	0	1	1	0
Wells St. Lot	16	1	2	2	0
Robinhood Park	30	2	3	0	0
Elm Lot	72	4	7	0	0
Whitcombs Mill Trailhead	8	0	1	0	0
Roxbury	9	0	1	0	0
Wells Garage	46	2	5	0	0
Eastern Ave Park	8	0	1	0	0
Ashuelot Park	8	0	1	0	0
Public EV Charging on City Property				*35*	*2*

Private Land Locations	# of Stalls	5%	10%	# of Proposed L2 Charging Ports	# of Proposed DCFC Ports
Co-op	N/A	N/A	N/A	0	2
NH NEVI Along NH-9 AFC	N/A	N/A	N/A	0	4
TBD Private Location	N/A	N/A	N/A	10	0
Public EV Charging on Private Property				*10*	*6*
Gross Total Public EV Charging Stalls				**45**	**8**
EVI-Pro 2028 Target				**60**	**5**

It is important to note that the table above forecasts more DC fast chargers (3) and less Level 2 Chargers than needed (15) by the EVI-Pro forecast, but using an industry standard that a single DC fast charger is the equivalent to five Level 2 chargers, the simulated total chargers is equivalent.

In discussions with Keene staff, the intent of the City is to use their property to jump-start the proliferation of public EV charging in the community, especially since there is currently a lack of incentives from the state to encourage private development of EV charging. With the appearance of public charging around Keene, one of the major barriers to EV adoption should be overcome, encouraging more people to purchase EVs. With more EVs around town, and additional accommodations to make EV installation permitting easier, it follows that the private sector will rise to fill the remaining gap in publicly available chargers.

Another key ally in the proliferation of EV charging around Keene is the local electric utility, Eversource. As part of this project, the City met with Eversource to better understand their perspective on adding EV charging. While offering no incentives in the short term, Eversource was supportive of the City's efforts to install EV charging for public and private purposes. They provided an overview of their process by which the City would apply for their support in providing new or upgraded electrical service for EV charging. This process and standard costs can be seen in *Appendix H – Eversource EV Interconnection Process and Costs* in this report. As with all new service requests, it is vitally important to contact the utility early on in the process so they can support the investigation into circuit capacity, and make any necessary upgrades on their side of the meter.

In order to facilitate the private development of EV Chargers, Keene can adopt best practices similar to those shown in table below:

Best Practice	How it Facilitates Private EV Charging Development
Develop a Transparent Scoring Rubric	Similar to what was developed for this report, Keene could publish a scoring rubric for private developers to understand what the City is looking for in an EV charging development. Keene could only consider sites above a certain score if they desire to continue to shape where EV Charging is built in Keene.

Allow EV Service Providers to develop at risk	Instead of requiring approval at every stage of the process, Keene could publish clear rules with regard to what is expected from new EV Charging developments, and if followed, the permitting fee could be reimbursed. If not followed, developers would be on the hook to make necessary revisions to the installation. At the very least, work prior to application should not jeopardize the application if conducted correctly.
Work with Eversource to develop a guide to EV charging installation.	With Eversource, Keene can facilitate the EV charging development by publishing and updating a circuit constraint map, clear language on required utility easements, etc.
Standardize the Permit and Review Process for EV Charging, especially DCFC.	Clear identification of the required EV Charging Station forms and process takes the guesswork out of the application for developers. Checklists and fact sheets can help demystify this for private developers. Clarify zoning requirements, that EV Charging is an accessory use, and providing standard timelines for process turn arounds.
Make the permit process electronic	Online application can speed up the application process, ensuring all the required information is collected, and allowing developers from anywhere the ability to submit applications. **Keene currently has an online process for permitting, which can easily be updated to handle any updates for EV specific permitting.**
Amend local ordinances to allow EV charging spaces to count towards total parking counts	Minimum parking requirements can be a barrier to siting charging stations because EV charging spaces are not counted as parking spaces. This can make it more difficult for station developers to find a site host. Authorities Having Jurisdiction (AHJs) can address this issue by updating local ordinances to clarify that spaces for EV charging count toward meeting minimum parking space requirements. **Keene has already updated local ordinances to explicitly state this.**
Develop local expertise and share best practices with station developers and other AHJs.	Offering pre-permitting meetings during the siting phase for DCFC stations, especially for complex projects, allows AHJs and station developers to learn from one another. Pre-permitting meetings provide an opportunity for staff to become familiar with the proposed project and to identify potential issues for station developers to consider. It can also be useful for AHJ staff to coordinate with neighboring AHJs to share best practices. Exchanging knowledge, sharing resources, and creating some consistency across jurisdictions will ultimately improve the process for both AHJs and station developers.

Many municipalities in the Northeast have adopted progressive practices to encourage private development of EV charging stations. The Northeast States for Coordinated Air Use Management has

published a summary of best practices[4] which illustrates the above best practices and provides additional links. The Great Plains Institute also published a Summary of Best Practices in Electric Vehicle Ordinances[5] which Keene can consult as a further resource.

At the end of December, the Empire Clean Cities Coalition issued a memo to Keene's Energy and Climate Committee highlighting the key findings from its EV Peer Learning Cohort. This memo also includes best practices for Zoning & Permitting for EV Infrastructure. It can be found as *Appendix I – Empire Clean Cities Memo on Planning and Funding for EV Charging Infrastructure Deployment.*

EV Infrastructure Needs within the Public Right-of-Way

EV Infrastructure placement within the public right-of-way were briefly considered as part of this report, but are not recommended in the short to medium-term horizon as a key priority for Keene to address. As private EV ownership in Keene increases in the long term, this may change, but for now, it is recommended that Keene focus on public EV charging in its surface lots.

Conclusions, Potential Funding & Next Steps:

With this EV Infrastructure Plan, Keene, New Hampshire, can start to take steps towards more sustainable transportation in and around the community. The preceding sections have outlined pre-existing sustainability thinking, current public sentiment, fleet conversion potential, and an analysis of the potential locations for public charging that outline a potential future for Keene where environmental responsibility and technological innovation converge.

One integral aspect of Keene's journey towards sustainability involves the replacement of traditional fleet vehicles with electric alternatives. This strategic shift not only aligns with the broader goal of reducing the City's carbon footprint but also positions Keene as a leader in municipal sustainable practices. The adoption of electric fleet vehicles represents a tangible commitment to the principles outlined in this plan, and it is a crucial step towards creating a cleaner, more efficient transportation ecosystem within the city.

In the short term (next 1-3 years) the most economical replacement scenario identifies hybrid or plug-in hybrid powertrains for all vehicles in need of replacement. Within the next 3-5 years, Keene should be on the lookout for a viable full BEV replacement for their police fleet, as these vehicles have the highest annual mileage of all vehicles. Other light duty vehicles (sedans, minivans, pickups, light commercial vans) needing replacement can continue to be replaced with hybrids or plug-in hybrids. However, if possible, Keene may want to incorporate a few full BEV vehicles into their fleet to conduct real-world testing to inform future purchases. Heavy pickups and trucks are not expected to have viable replacements until the medium to long term (next 10-20 years). Even with this slow and steady progress to electrify their own fleet, Keene has the potential to reduce their fleet greenhouse gas emissions (GHGs) by over 50% and collectively save $2.5 million on fleet expenses.

Supporting charging infrastructure for Keene's fleet should follow vehicle procurements, with the first planned chargers to be located at Public Works, Fleet Maintenance and the Parks and Recreation facility.

[4] https://www.nescaum.org/documents/dcfc-permit-streamlining-whitepaper-final-5-14-19.pdf/
[5] https://www.betterenergy.org/wp-content/uploads/2019/06/GPI_EV_Ordinance_Summary_web.pdf

Public electric vehicle charging infrastructure is a linchpin in Keene's vision for a widespread adoption of electric vehicles. The strategic placement of charging stations, as outlined in the plan, aims to make electric vehicles accessible to all residents and visitors, fostering a community where sustainable transportation is commonplace.

The priority sites for public charging around Keene are at the Commercial Street lot (expansion of existing charging) and Parks & Recreation facility. The installation at Parks & Recreation is envisioned to serve "double duty" providing charging for the public and Keene's fleet. With additional public charging envisioned in the medium term at Wheelock Park, the Library, Russel Park, the Airport, City Hall and Wells St, the City will contribute to meeting the projected 2028 public charging needs. In conjunction with this public charging plan, Keene should consider revising their permitting process to facilitate the private development of EV charging in conjunction with city-led efforts. Best practice sharing and policy work can be supported through their continued participation with relevant state and federal opportunities for community collaboration.

However, recognizing the financial implications of such actions, Keene must explore external funding sources to match public sentiment that city-sponsored public charging should not be at an additional cost to taxpayers. By forging strategic partnerships, seeking grants, and leveraging state and federal programs, the city can unlock financial resources that will propel its sustainability initiatives forward. Keene's success in securing external funding will not only ensure the longevity of the Electric Vehicle Infrastructure Plan but will also set an example for other municipalities striving to embark on a similar path. While potential funding options are always in flux, the following table demonstrates current options which Keene can consider to offset their upfront costs of fleet electrification and fleet/public charging.

Funding Source	Description
Charging-as-a-Service (CaaS)	Charging vendor designs, installs, owns, operates and maintains charging stations on behalf of the City. Vendor retains revenue from charging sessions and/or payment from the City for every kWh dispensed. This is the model currently in use in the Commercial St. lot.
Eversource Make Ready - Electric Vehicles | Eversource	Eversource has a Make Ready EV charging installation program in NH with $2.1 million in funds. **Note: May only be applicable for DOT.**
Volkswagen Mitigation Trust - Volkswagen Mitigation Trust | NH Department of Environmental Services	There are $10 million in funds available for clean fleets and applications were due 10/13/23. However, future funding rounds may be issued.
• **National Electric Vehicle Infrastructure –** NEVI funding program **NH NEVI Plan -** State Plan Template for Electric Vehicle Infrastructure Deployment (nh.gov)	NH has earmarked $17.2M for DCFC along alternative fuel corridors. Currently 56 charging stations in NH installed through NEVI (see below). Suggests at least 1 station with 4+ chargers along the 9/101 corridor in Keene. Funding is slated for a private developer who is able to meet NEVI requirements
Charging and Fueling Infrastructure Program – CFI Grant Federal	Funding to install alternative fueling infrastructure in rural (and urban) areas including

	Community Charging and Fueling Grants. $2.5Bn between FY22/23 and FY27/28
Inflation Reduction Act (IRA) - The Inflation Reduction Act: EV Provisions – Atlas EV HubText - H.R.5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022 | Congress.gov | Library of Congress	The Act provides $369 billion in funds for EV and EVSE tax credits, loans, and grants/rebates across the US.
30C Tax Credit: Alternative Fueling Property Tax Credit	Direct pay (non-taxable entities are eligible) for installation of clean fueling infrastructure on city property
45W Tax Credit: Commercial Clean Fuel Vehicle	Up to $45,000 towards purchase of qualifying clean fuel vehicle, Direct pay eligible
Northern Border Regional Commission https://www.nbrc.gov/content/Catalyst	Up to $1M

With the site ranking and preliminary site designs and cost estimates provided in this report, Keene is well positioned to quickly respond to upcoming suitable grant opportunities.

In conclusion, the Electric Vehicle Infrastructure Plan for Keene is a roadmap for sustainable transportation and a testament to the city's commitment to a greener, more resilient future. As Keene moves forward, replacing fleet vehicles, expanding public charging infrastructure, revising internal processes and seeking external funding sources will be pivotal in solidifying Keene's position as a model for a sustainable city. The journey does not end here; rather, it evolves into a dynamic process that requires ongoing collaboration, innovation, and dedication from all stakeholders involved. Keene's electric vehicle journey is not just about charging stations and eco-friendly vehicles; it is about steering the City towards a future where sustainability is not an option but a way of life.

Appendix A – Background Research Summary

City of Keene Background Research

Keene, NH Sustainable Energy Plan (2021)	
Goal	***What this means for the EVIP***
• 100% renewable electricity by 2030 • 100% renewable energy by 2050 • Looking to decarbonize buildings through fuel conversion and energy efficiency measures	Decarbonization of electricity, and energy is desired by the community.
• Consider existing chargers and location	Build upon existing infrastructure already in town.
• Adopt solar PV and EV ready guidelines to encourage or require new developments to have future solar PV and EV charging • Review San Mateo, CA for solar and EV readiness codes	Keene is willing to consider adopting new codes to help usher in new clean technologies and look to others who have done this before
• Work with local financial institutions to create a loan product to finance clean energy technologies	Desire to make clean energy technologies available to all and overcome affordability hurdles.
• Pilot energy storage program • Establish a Community Power Program and/or Virtual PPAs (similar to SRECs) • Battery storage program with Eversource	Keene sees utilities (Eversource & others) as key partners in decarbonization and is willing to develop or participate in their programs to help advance clean energy technologies.
• In 2015 46% of all GHG in Keene came from ground transportation • Only 0.1% from shared transportation – want to encourage more shared riding, walking and biking	Focus decarbonization efforts on non-shared ground transportation or encourage more sharing of transportation
• Convert school buses to electric and research battery to grid options	Consider where school buses might charge when planning future charging locations and where grid capacity might value resiliency from V2G buses.
• Need funding help • Advocate for more state and federal transportation funding	Position Keene for new funding sources
• 19,911 vehicles in Keene in 2019 about 2.1 vehicles per household • 92% LDV with ICE, 6% HDV, 1% HEVs, 1% PHEVS, <1% EVs • In 2017 73% drive alone, 8% carpool, .2% use public transportation, 7% walk, 9% work from home • People need to travel long distances • Lack of alternative transportation outside of Keene • Expand routes. Current condition is one fixed route bus, City Express Bus and demand-response bus the Friendly Bus	Background context for vehicles in Keene. Consider where fixed route buses may need to charge in future EV charging network expansion. Potential to share infrastructure or grid capacity, if constrained.
• 2 L2 charging ports in Commercial Street lot • 2 L2 charging ports at Fairfield Kia Dealership	Background for existing EV charging within proximity to Keene.

• 1 L2 port at Antioch University New England Campus • 2 L2 and 2 DCFC charge in construction at the Co-op (34 Cypress St) – 6 months – 1yr out • Other close charging is route 91 – 4 DCFC charging locations • 13 L2 charging locations within 20 mi and 16 within 30 mi • For NEVI potential sites see below	
• Expand Complete Streets Goal – make way for all types of traffic including bikes and walkers • potential for multi-modal transportation hub	Consider Complete Streets goal when planning EV charging locations. Potential for other amenities at EV charging locations like bike share, or access to bike trails.
• Educate the Keene community about sustainable practices including cleaner transportation such as purchasing EVs, ride sharing, using public transportation, biking, or walking	Need to focus efforts on educating the public about cleaner transportation

Adopted Sustainability Energy Goals (2018)	
Goal	***What this means for EVIP***
• Add to one of nations fastest growing employment sectors, renewable energy	Keene sees the value in promoting renewable energy and technologies surrounding the energy transition in general and the positive effect it has on employment and the economy.
• Become a sustainability leader among peer cities	Keene desires to move faster than surrounding peer cities and to become a sustainability leader.
• Part of Cities for Climate Protection Program	Keene is a member of many sustainability organizations.
• NH set goal in 2009 to reduce GHG by 80% from 1990 to 2050	Decarbonization is supported in NH in general, with an end goal of 2050.
• 100% thermal and transportation energies come from renewable energy by 2050	Decarbonization is supported in NH for heating and transportation, with an end goal of 2050.

Energy and Climate Change Program	
Goal	***What this means for EVIP***
• Expand and improve upon the fleet transition that has already begun with hybrids and biodiesel vehicles	Desire to transition existing fleet vehicles to more environmentally friendly ones.
• Former Local Governments for Sustainability member and on good terms with them.	Keene is a member of many sustainability organizations.
• 643.2 kW solar PV on roof of Public Works and Keene Police Dept • 1 MW at Wastewater treatment plant	Keene already has begun the process of installing solar PV.

• Endorsed the Bicycle Mayor of Keene to conduct bicycle outreach and education	Keene is geared toward getting the public to use other modes of transportation that are more sustainable than driving a car.
• Keene created the Environmentally Preferable Purchasing Program (EP3) and team	Desire to focus on purchasing sustainable products and technologies.
• Resources - City of Keene Sustainability: http://www.ci.keene.nh.us/sustainability Energy and Climate Committee: https://ci.keene.nh.us/energy-and-climate-committee Clean Energy Team: https://cleanenergykeene.com/ ICLEI USA: www.icleiusa.org/programs	Resources Keene has provided.

2004 Climate Action Plan	
Goal	***What this means for EVIP***
• Fleet and School bus conversions from diesel and gasoline • Downsize Keene Fleet and optimize routing	Desire to transition fleet to low or no carbon emissions vehicles while making routes more efficient.
• Expand park and ride • Expand public transit infrastructure including free shuttles for events • Promote ride sharing and biking • Encourage increasing employer initiatives that promote ridesharing, telecommuting, and biking • Promote tax incentives for carpooling	Desire to promote other forms of transportation that are not driving a personal vehicle, presumably for various reasons including, but not limited to reduction of greenhouse gas emissions
• Conversion to electric cars for police • Could expand bike units for police officers	Desire to decarbonize the police fleet.

Strategic Parking Plan (2021)	
Goal	***What this means for EVIP***
• 10 Parking Management Principles: ○ Consumer choice ○ User information ○ Sharing ○ Efficient utilization ○ Flexibility ○ Prioritization ○ Pricing ○ Peak management ○ Quality ○ Comprehensive analysis	Put drivers/consumers first for different parking strategies.
• Rental permit spot program or bulk purchase permit program – use unused lots for parking	Keene has empty lots that would help generate revenue if leased and could potentially serve as future locations for charging stations.

• May change time limits on parking, which may include overnight parking rules • Try out different parking situations before coming to a conclusion	Consider Keene parking rules when deciding where to install EV charging.
• 514 on-street meters, 293 spaces at paid stations, 71 leased spaces, 338 reserved spots (mostly employees), 45 ADA, 5 EV spaces, 12 official loading/curbside spots, about 150 more spots in other categories such as residential • 1647 public spaces in Keene • 4938 private spaces in Keene	Multiple different parking spot types should be assessed for potential EV charging.

ECC/ Keene DOE Initiative Scope	
Goal	***What this means for EVIP***
• Stakeholder Engagement and Community Outreach	ECC has been working with multiple stakeholders, which will be key in making this implementation plan come to fruition.
• Financial Landscape	ECC has done research into the financial landscape of Keene which will help with future EV infrastructure projects.
• Peer to Peer learning model	ECC has a rich network of peers who can learn about expanding EV charging networks along with Keene and share fears, successes and best practices.

Northern EV Implementation Plans	
Goal	***What this means for EVIP***
• Boston (2020) - Boston ZEV Roadmap_1.pdf	Could be used to model the Keene EVIP. States many of the potential barriers to adopting EVs and charging and discusses potential solutions to these issues.
• Maine (2022) - pevid-2022.pdf (efficiencymaine.com)	Provides context from a similar climate with a low population and many rural areas.
• Connecticut (2020) - EV Roadmap for CT	Provides policy recommendations for implementing EV charging.
• Michigan (2022) - MI-Plan-for-EV-Infrastructure-Deployment.pdf (michigan.gov)	Provides an infrastructure plan in conjuncture with the NEVI funding.
• Wisconsin (2022) - Wisconsin Electric Vehicle Infrastructure Plan (wisconsindot.gov)	Provides an infrastructure plan in conjuncture with the NEVI funding. Includes studies that give insight into the Wisconsin layout including weather patterns and travel patterns.

EV Programs/Funding	
Goal	***What this means for EVIP***

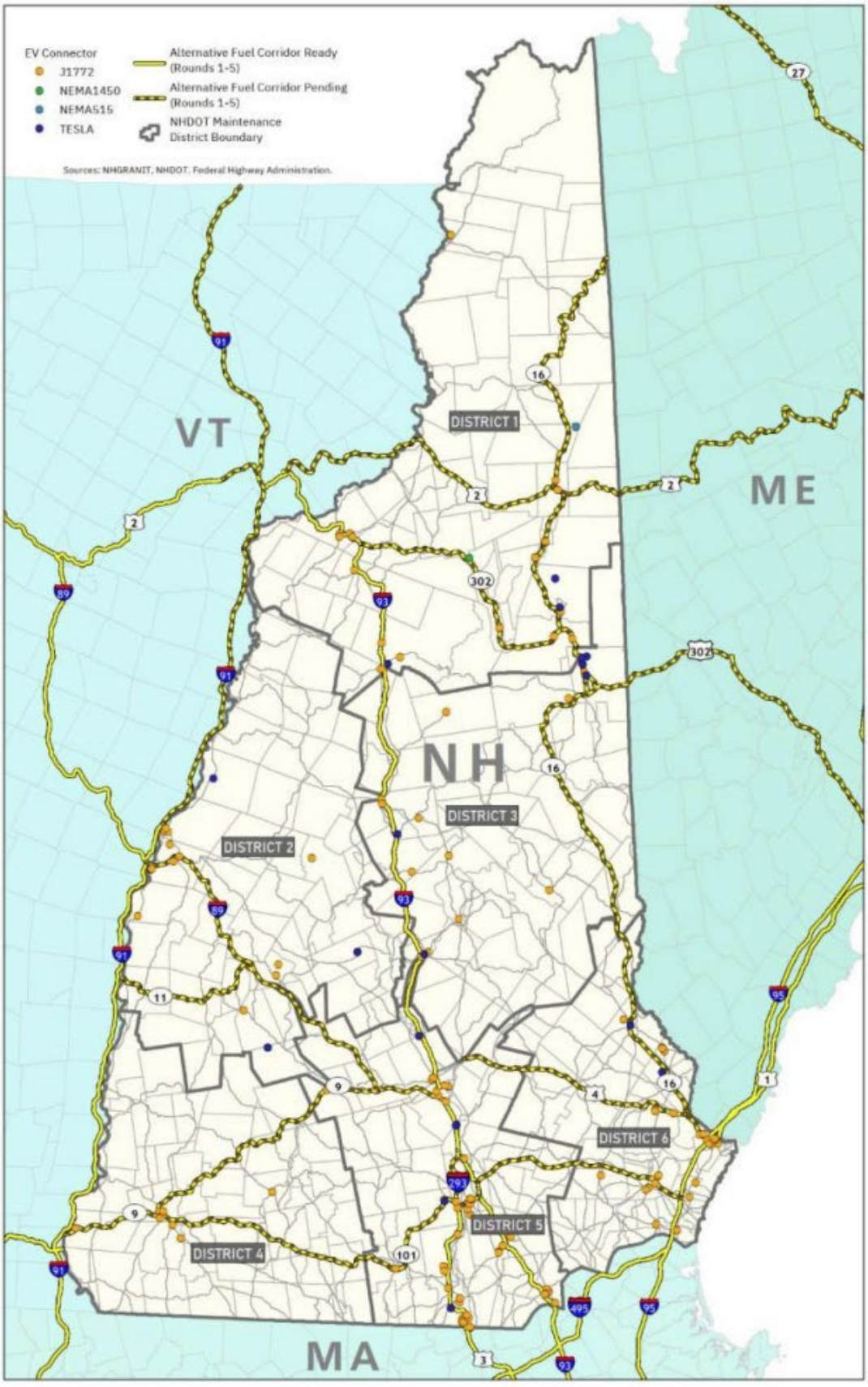
• Eversource Make Ready - Electric Vehicles | Eversource	Eversource has a Make Ready EV charging installation program in NH with $2.1 million in funds. **Note: May only be applicable for DOT.**
• Volkswagen Mitigation Trust - Volkswagen Mitigation Trust | NH Department of Environmental Services	There are $10 million in funds available for clean fleets and applications are due 10/13/23.
• National Electric Vehicle Infrastructure – NEVI funding program • NH NEVI Plan - State Plan Template for Electric Vehicle Infrastructure Deployment (nh.gov)	NH has earmarked $17.2M for DCFC along alternative fuel corridors. Currently 56 charging stations in NH installed through NEVI (see below). Suggests at least 1 station with 4+ chargers along the 9/101 corridor in Keene. **Note: Only applicable for DOT.**
• Charging and Fueling Infrastructure Program – CFI Grant Federal	Funding to install alternative fueling infrastructure in rural (and urban) areas including Community Charging and Fueling Grants. $2.5Bn between FY22/23 and FY27/28
• Inflation Reduction Act (IRA) - The Inflation Reduction Act: EV Provisions – Atlas EV HubText - H.R.5376 - 117th Congress (2021-2022): Inflation Reduction Act of 2022 | Congress.gov | Library of Congress	The Act provides $369 billion in funds for EV and EVSE tax credits, loans, and grants/rebates across the US.
• 30C Tax Credit: Alternative Fueling Property Tax Credit	Direct pay (non-taxable entities are eligible) for installation of clean fueling infrastructure on property
• 45W Tax Credit: Commercial Clean Fuel Vehicle	Up to $45,000 towards purchase of qualifying clean fuel vehicle, Direct pay eligible

Other Information	
Goal	***What this means for EVIP***
• Electric Bike (ebike) Charging or bike sharing – Most ebikes have their own charger that plugs into a standard outlet. Some batteries can be detached from their bikes and thus become portable and can charge wherever there is an outlet. • **Note: Ebikes have different types of chargers and thus an ebike user would need to use their own personal charger.** • Some companies offer ebike rentals such as Lime (Lime Electric Bike – Bike Rentals Near Me | Lime Micromobility) and Lyft (Bike shares near you | Lyft Bikes).	There are multiple micro transit options that could be researched further to add to Keene's clean transportation goals and public amenities. Mobility hubs could be evaluated to provide charging services for public, rideshare services, micro mobility, etc.
• Potential BESS or Microgrid at the Transfer Recycling Center	Keene is interested in resiliency, specifically clean resiliency that could help charge vehicles.

• Keene has resiliency goals to provide to the City in case of an outage. Potential for BESS and/or microgrids.	Keene is interested in resiliency, specifically clean resiliency that could help charge vehicles.

Existing NEVI Chargers in NH

Route	Number of Existing EV Charging Stations
F.E. Everett Turnpike	4
I-89	1
I-93	13
NH 101	12
NH 16	18
US 302	4
NH 9/US 202	3
NH 9/US 4	1
Total	56


EV Connector
J1772
NEMA1450
NEMA515
TESLA
Alternative Fuel Corridor Ready (Rounds 1-5)
Alternative Fuel Corridor Pending (Rounds 1-5)
NHDOT Maintenance District Boundary
Sources: NHGRANIT, NHDOT, Federal Highway Administration.
VT
ME
NH
MA
DISTRICT 1
DISTRICT 2
DISTRICT 3
DISTRICT 4
DISTRICT 5
DISTRICT 6

Potential NEVI Chargers

State EV Charging Location Unique ID*	Route (note AFC)	Potential Locations	Anticipated EV Network (If known)	Utility Territories	Anticipated Station Ownership** (If known)	FY22 Funding Amount	FY23-FY26 Funding Amount (Optional)
	I-93	Concord	New Potential Site	TBD	Unknown at time of report	N/A	
	I-93	Hooksett Rest Area	Upgraded Potential Site***	TBD	Unknown at time of Report	N/A	
	I-93	Tilton	Upgraded Potential Site	TBD	Unknown at time of report	N/A	
	I-93	Lincoln	Upgraded Potential Site	TBD	Unknown at time of report	N/A	
	I-89	Hopkinton	New Potential Site	TBD	Unknown at time of report	N/A	
	US-3	Pittsburg	New Potential Site	TBD	Unknown at time of report	N/A	
	US-3	Colebrook	New Potential Site	TBD	Unknown at time of report	N/A	
	US-3	Lancaster	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-9 (US-202)	Keene	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-16	Errol	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-16	Gorham Or Berlin	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-16	Rochester	Upgraded Potential Site	TBD	Unknown at time of report	N/A	
	NH-16	Wakefield	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-16	Conway	Upgraded Potential Site	TBD	Unknown at time of report	N/A	
	NH-11	Claremont	New Potential Site	TBD	Unknown at time of report	N/A	
	NH-101	Milford	New Potential Site	TBD	Unknown at time of report	N/A	
	US-202 (NH-9)	Hillsboro	New Potential Site	TBD	Unknown at time of report	N/A	

*Defined by the State – this should match the unique ID in the State's applicable GIS databases. It should be clear that the Unique IDs correspond to general locations for proposed installations rather than pinpoint geocoordinates.
**Federal Government Owned (FG), Jointly Owned (J), Local/Municipal Government Owned (LG), Privately Owned (P), State/Provincial Government
***Known risk. Subject to federal approval to use funding in a rest area


Potential Site - New
Potential Site - Upgrade
NEVI Compliant DCFC Location
Proposed NEVI Compliant Segment
Potential Gaps
Proposed Segment with Request for Exceptions
Distance in Miles between Sites and/or Highway Intersections
Berlin
White Mountains
Lebanon
Laconia
Claremont
Keene
Brattleboro
Nashua
Hampton
25
26
202

Appendix B – FlashVote Survey Results

Survey Results: Electric Vehicles

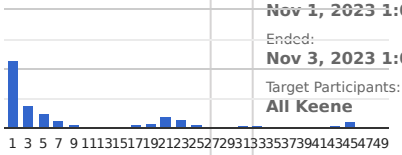
Survey Info - This survey was sent on behalf of the City of Keene to the FlashVote community for Keene, NH.

These FlashVote results are shared with local officials

288
Total Participants
269 of 470 initially invited (57%)
19 others
Margin of error: ± 6%

Applied Filter:
Locals only
Participants for filter:
238

Response Time (hours)

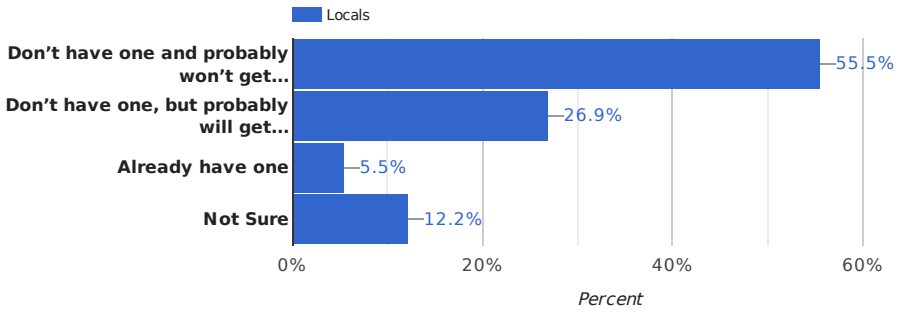


Started:
Nov 1, 2023 1:07pm EDT
Ended:
Nov 3, 2023 1:06pm EDT
Target Participants:
All Keene

Q1 Which of the following best describes your household's plans to own an electric vehicle?

(238 responses by)

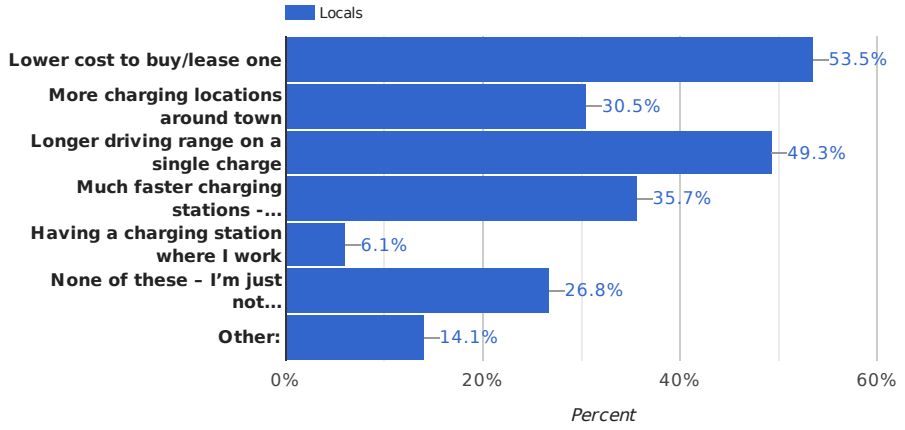
Options	Locals (238)
Don't have one and probably won't get one in the next 5 years	55.5% (132)
Don't have one, but probably will get one in the next 5 years	26.9% (64)
Already have one	5.5% (13)
Not Sure	12.2% (29)

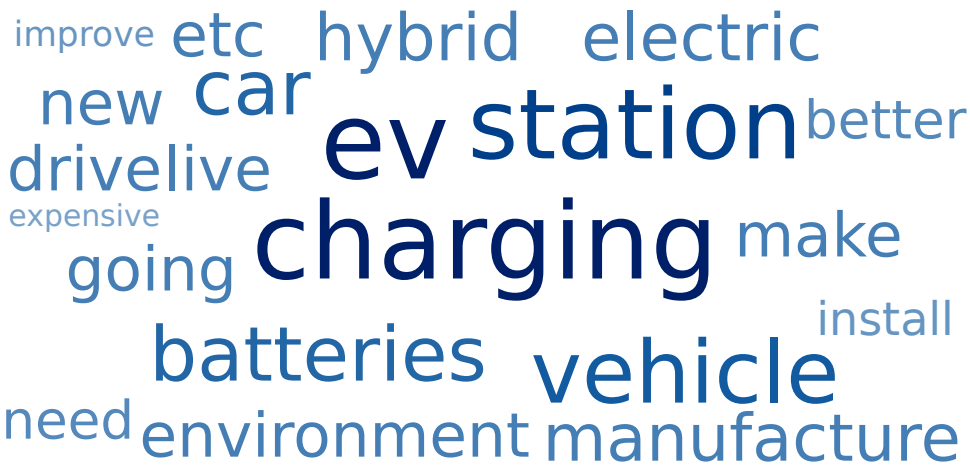


Q2 What electric vehicle improvements, if any, would make you most likely to get one or get one sooner? (You can choose up to THREE)

(213 responses by)

Options	Locals (213)
Lower cost to buy/lease one	53.5% (114)
More charging locations around town	30.5% (65)
Longer driving range on a single charge	49.3% (105)
Much faster charging stations - comparable to gas stop time	35.7% (76)
Having a charging station where I work	6.1% (13)
None of these – I'm just not interested in EVs	26.8% (57)
Other:	14.1% (30)





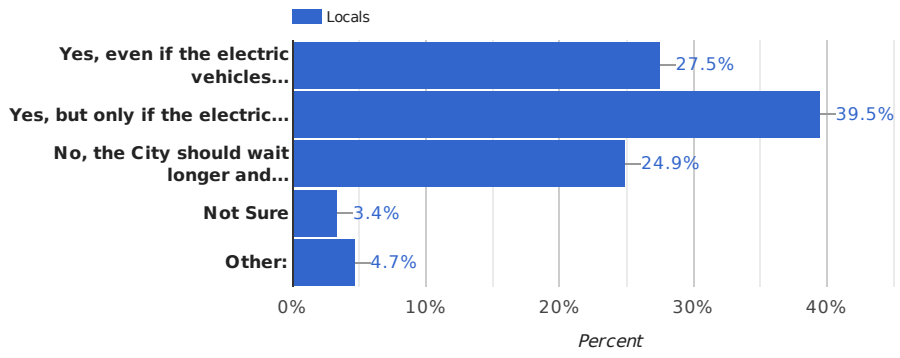
More fast charging across region (access for travelers)
assurance that the electricity came from CLEAN energy
Having a charging station where I live
It's so annoying that people who own EVs don't pay the gas taxes to help road construction.
Being able to source the electricity directly from renewables on site.
We are on a fixed income. I don't know how we're going to afford a new vehicle of any kind rt now
If you live in apt or condo (I do) how will chargers be installed for everyone?
Driving license
EV's are horrible for the environment. They have very toxic lithium batteries.
longer and better warranties from manufacturers
Power in inclement weather (all-wheel drive, etc)
This is the new Edsel
More charging stations between towns so one doesn't get caught short.
I will transition into a Hybrid before going total EV
Not interested
Current vehicles are fine

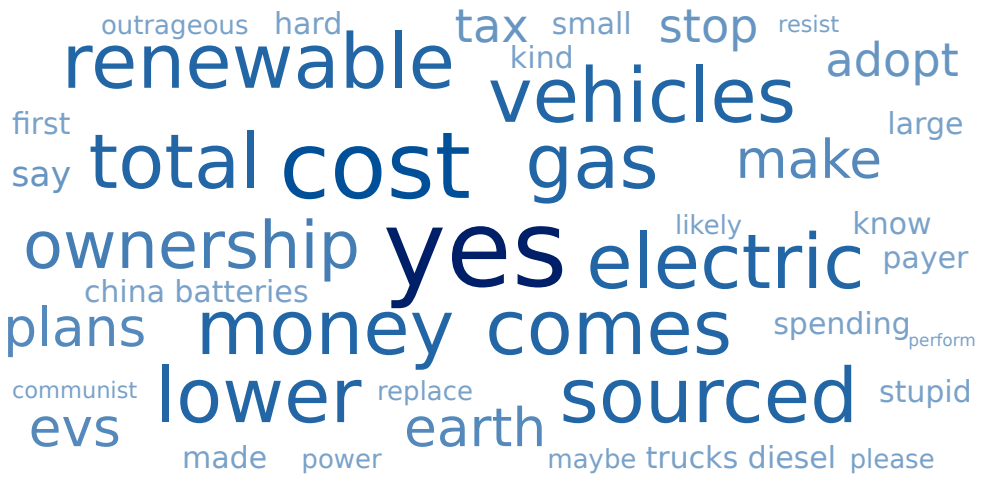
lower cost to repair / upkeep
Has to be really good for snow
Too old to wait till they improve mileage and reliability. Already own our last car.
Less destruction to the environment where compounds are min d, etc
Nonplug-in hybrid assist vehicles make sense, all electric vehicles make no sense.
Charging station at my apartment
THE EMISSIONS CREATED BY THE MANUFACTURE OF EV'S & BATTERIES IS SUBSTANTIAL.
I will be retiring sometime in the next 5 years and won't be buying another car at all.
The ability to install charging station at home - we rent
More pickup and 4wd vehicle choices being manufactured.
safe batteries that are also sustainably produced
Truck that I can tow with for long distances
Nothing would make me get one sooner- I don’t need a different car yet.
Enough charging stations that there are not constant lines.

Q3 Should the City replace its gas and diesel vehicles with electric versions (if available) when they are due for replacement over the next 10 to 15 years? (Choose ONE)

(233 responses by)

Options	**Locals** (233)
Yes, even if the electric vehicles have a somewhat higher total cost of ownership (and cost us extra tax dollars) at the time of purchase	27.5% (64)
Yes, but only if the electric vehicles have a lower lifetime cost of ownership (and save us some tax dollars) at the time of purchase	39.5% (92)
No, the City should wait longer and keep its fleet of vehicles gas and diesel vehicles for now	24.9% (58)
Not Sure	3.4% (8)
Other:	4.7% (11)



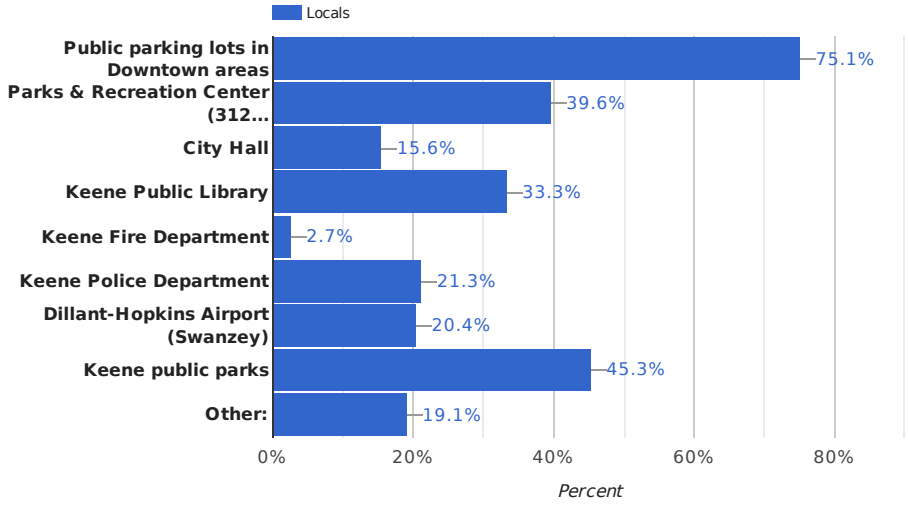


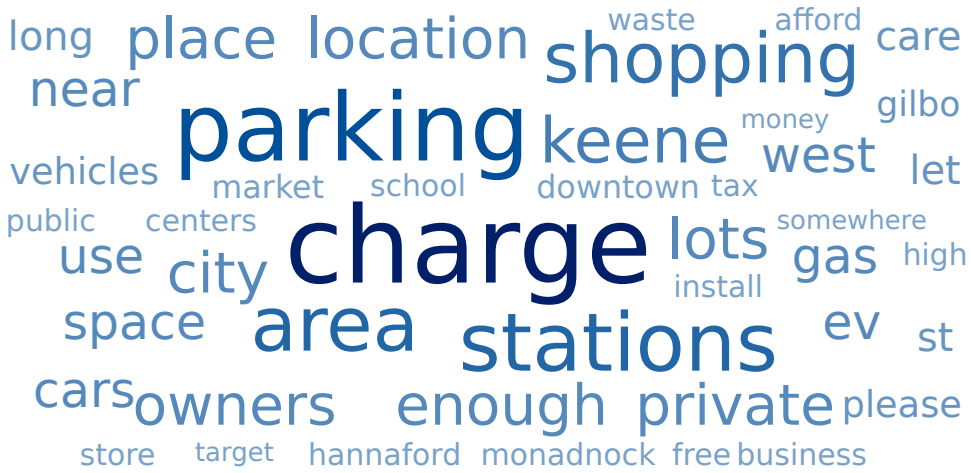
only it's it SAVES MONEY and the electricity comes from RENEWABLE resources
No! Stop spending tax payer money! The cost to replace batteries is outrageous!
What kind of vehicles? Small gas vehicles - I would say yes. Large diesel trucks, likely no/maybe.
That would be stupid
Yes, but only if they have a lower lifetime cost of ownership without sacrificing reliability
Yes if electric power can be sourced from renewable sources
First, determine if they will perform as needed in all conditions. Might serve in some circumstance
Make no plans to adopt EVs.
Gas comes from the earth
Yes, but no made in Communist China vehicles, please. I know it's hard for you to resist.

Q4 If the City were to install publicly accessible EV charging stations on City property, which of the following possible EV charging locations would provide the most benefit for EV drivers in Keene? (You can choose up to FOUR, if any)

(225 responses by)

Options	**Locals** (225)
Public parking lots in Downtown areas	75.1% (169)
Parks & Recreation Center (312 Washington Street)	39.6% (89)
City Hall	15.6% (35)
Keene Public Library	33.3% (75)
Keene Fire Department	2.7% (6)
Keene Police Department	21.3% (48)
Dillant-Hopkins Airport (Swanzey)	20.4% (46)
Keene public parks	45.3% (102)
Other:	19.1% (43)





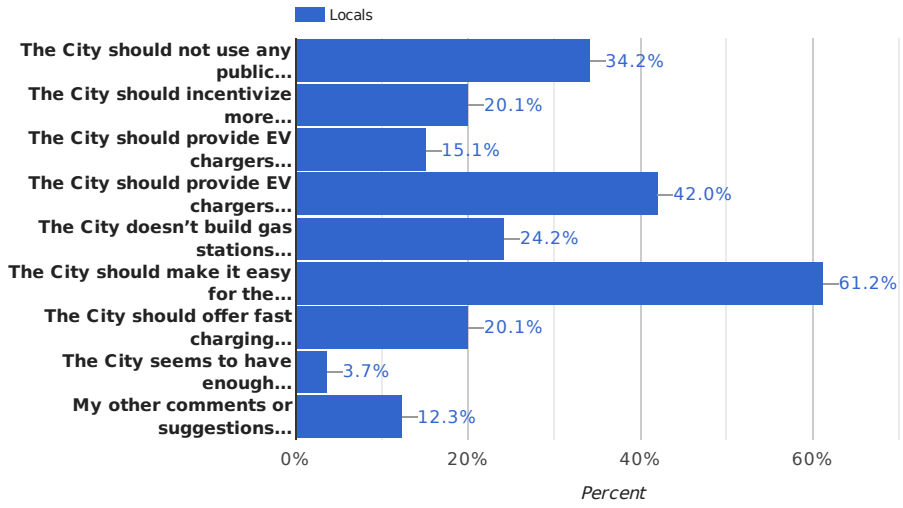
Keene High School, Arch St
West Keene
Please find a way to lower property taxes and increase business opportunities in keene.
Grocery Stores or shopping centers if cars can charge within 45 min-1hr
Do not use the limited downtown parking for charging stations
If installed, Keene needs to charge owners for their use.
Shopping centers, ie, Hannaford or Target
Public parking lots in other shopping/attraction locations (maybe private)
Places where folks do errands or get meals, i.e. Riverside Plz, Monad Mktplace, Hannafords
Gilbo Ave Parking Area
Why is it the city's responsibility to do this? I usually see well-off owners charging for free.
please don't spend on electric vehicles charging for vehicles we cannot afford to buy and not force
Somewhere on Main st near college
None...

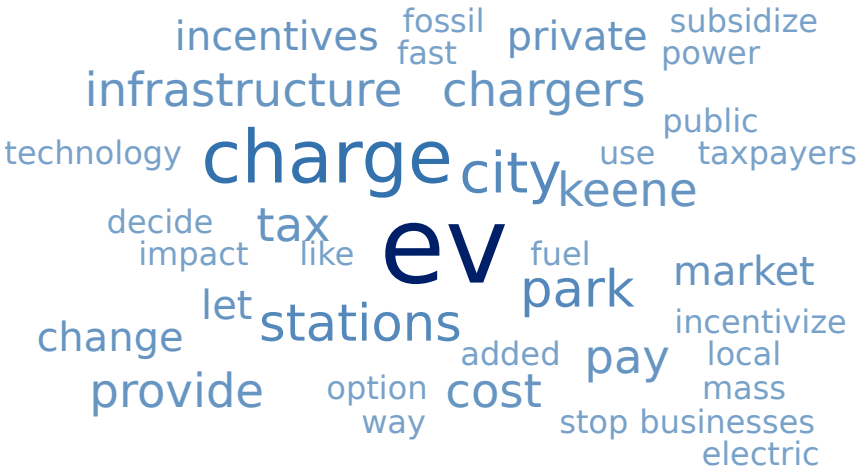
Even with charging stations at all these location, it will not be enough. C,mon, simple math
High & Middle school parking lots
At private businesses that have the space
Don’t care
None. It's a waste of money. Sustainability claims are false. It makes zero sense!
EV charging areas should be able to be designated EV only so non-EV cars won't block EV stations
Target/Walmart parking lots
Don't put any at library. Already not enough parking spaces there and long term charging vehicles.
Several proposed areas lack enough parking as is
Downtown parking areas.
Close to some gas stations (people are used to "feed" their vehicles)
Install none
Charging stations should be privately funded, just like gas stations were 100 years ago.
Somewhere in West Keene.
EVs are becoming more affordable and reliable, but there are still many challenges
THE CITY SHOULD NOT SET UP CHARGING STATIONS.. THEY DO NOT HAVE GAS STATIONS.
the other locations noted don't have good access for tying up a parking space
A west side option
Please let the free market handle this.
Not enough parking at some of these places
Supermarket/store areas with lots of parking
None waste of tax payer money
Charging stations should be dispersed around town
Potential public partnership with large shopping areas such as Monadnock Market Place on Ash Brook
Let owners provide their own charging

Q5 Which of the following do you AGREE with, if any? (Choose all that apply, if any)

(219 responses by)

Options	**Locals** (219)
The City should not use any public resources to support private EVs - this should be done by EV owners and private businesses	34.2% (75)
The City should incentivize more private EVs by providing preferred parking locations on public property	20.1% (44)
The City should provide EV chargers on public property, with reduced charging costs, partially paid by taxpayers	15.1% (33)
The City should provide EV chargers on public property, but only if there is no cost to taxpayers	42.0% (92)
The City doesn’t build gas stations and shouldn’t provide EV chargers	24.2% (53)
The City should make it easy for the private sector to provide EV charging facilities in locations that meet the community’s needs	61.2% (134)
The City should offer fast charging locations that charge a premium price to EV owners	20.1% (44)
The City seems to have enough charging stations	3.7% (8)
My other comments or suggestions about EVs in Keene are:	12.3% (27)





We all know about climate change and fossil fuels, Keene can be an example to encourage EV use!!

EVs can be unsafe!

Taxpayers should not at all foot the bill for this! You own an EV, you pay for it!

EV charging stations as a public good only if they are directly supplied by renewables.

Let the market decide the demand for EV infrastructure

Invest in Solar powered charging stations. EV buses/vans for local mass transit.

The cost to the environment to make EV batts is no better than the impact of fossil fuel.

Balance incentives without penalizing low income households who can't afford EVs.

EV chargers should pay for themselves; the city should assure the infrastructure to power

pass building codes for multi-family housing to have chargers w/o adding more parking spaces

stay clear of Evs until it is a viable, cost effective option supported by an infrastructure

Along with EVs, more bicycle friendly parking/infrastructure!

The city should provide fast charging locations that charge a market electric rate to EV drivers

They are not working..a fraud.

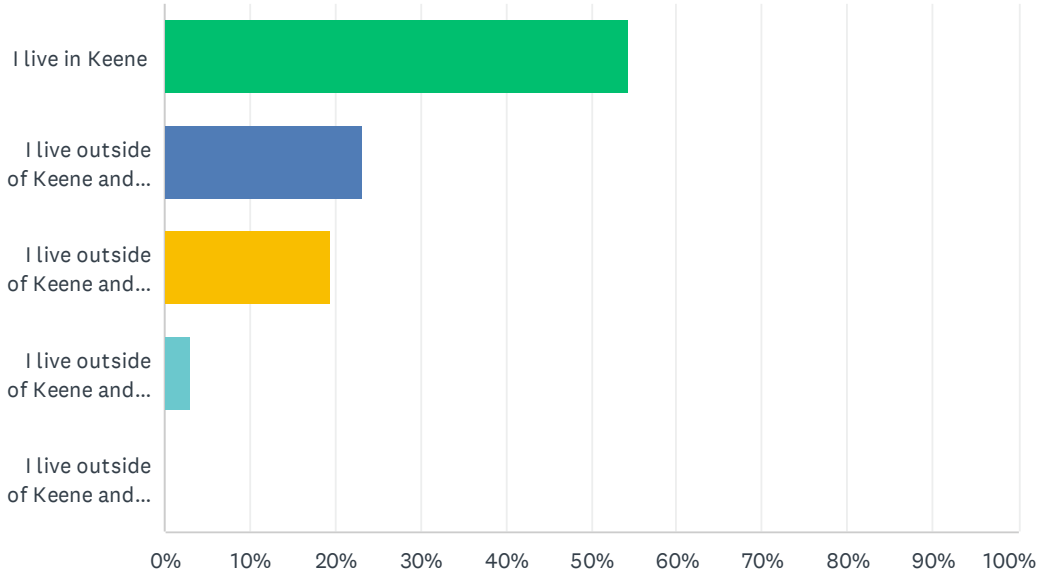
Keene already has clean air, Stop looking for ways to waste our money!!
Incentivize private businesses to specialize in EV. charging stations like gas stations due
the city should provide property tax incentives for EV owners to install / use chargers they own
EVs are the future, Keene will fall behind and lose businesses and residents if we don't keep up!
I’m glad to see the choices you gave for this answer. The technology is simply not their for mass
Taxpayers should not subsidize privately owned EVs in any way
This technology is immature and likely to change radically over the next decade.
Government should not be dictating lifestyle changes on citizens - let the private sector decide.
The city should explore partnerships with EV dealers to create temperately priced charging stations
How is electricity provided to charge cars?
Any fair option that doesn't impact our taxes, especially those that don't have EV vehicles.
We can have charging stations but we don’t need to pay for them?
Incentives should be considered as this is an existential problem for all of us.

Additional survey reports

Appendix C – SurveyMonkey Survey Results

Q1 How often are you in Keene?

Answered: 103 Skipped: 3



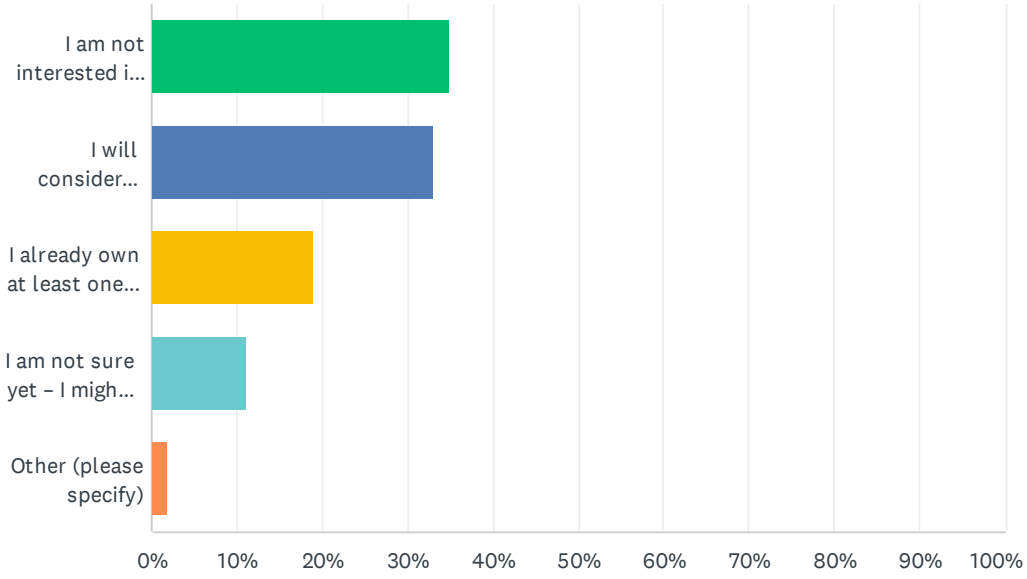
ANSWER CHOICES	RESPONSES	
I live in Keene	54.37%	56
I live outside of Keene and go to Keene 5-7 days per week	23.30%	24
I live outside of Keene and go to Keene a few times per month	19.42%	20
I live outside of Keene and go to Keene a few times per year	2.91%	3
I live outside of Keene and rarely, if ever, go to Keene	0.00%	0
TOTAL		103

Q2 If you live outside of Keene, please enter your zip code in the space provided:

Answered: 46 Skipped: 60

Q3 How likely are you to own an Electric Vehicle?

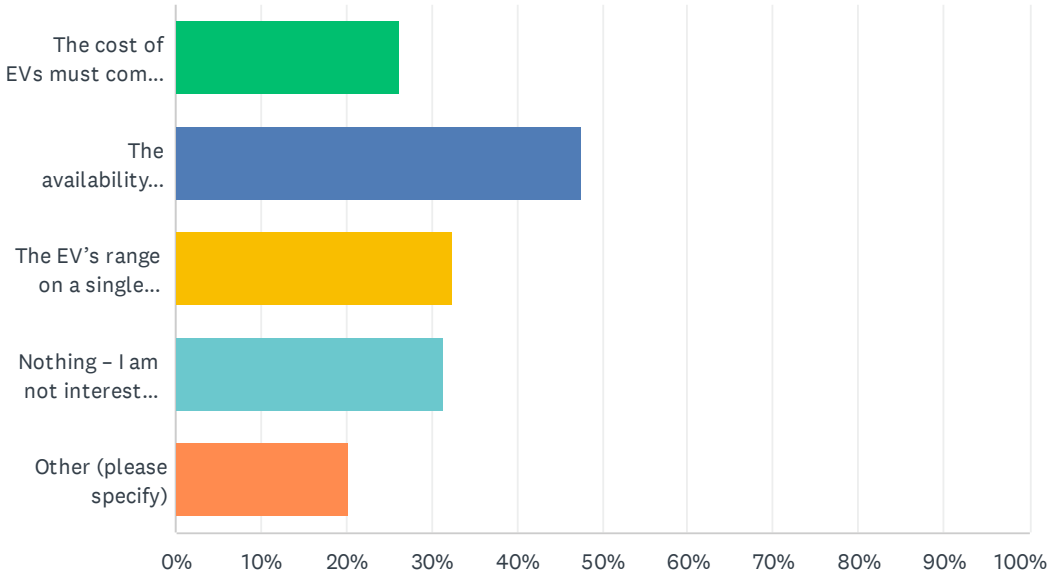
Answered: 100 Skipped: 6



ANSWER CHOICES	RESPONSES	
I am not interested in owning an EV.	35.00%	35
I will consider purchasing an EV within the next 5 years.	33.00%	33
I already own at least one EV.	19.00%	19
I am not sure yet – I might consider it in the future.	11.00%	11
Other (please specify)	2.00%	2
TOTAL		100

Q4 What would have to improve in order for you to consider owning an EV? Please select all applicable answers.

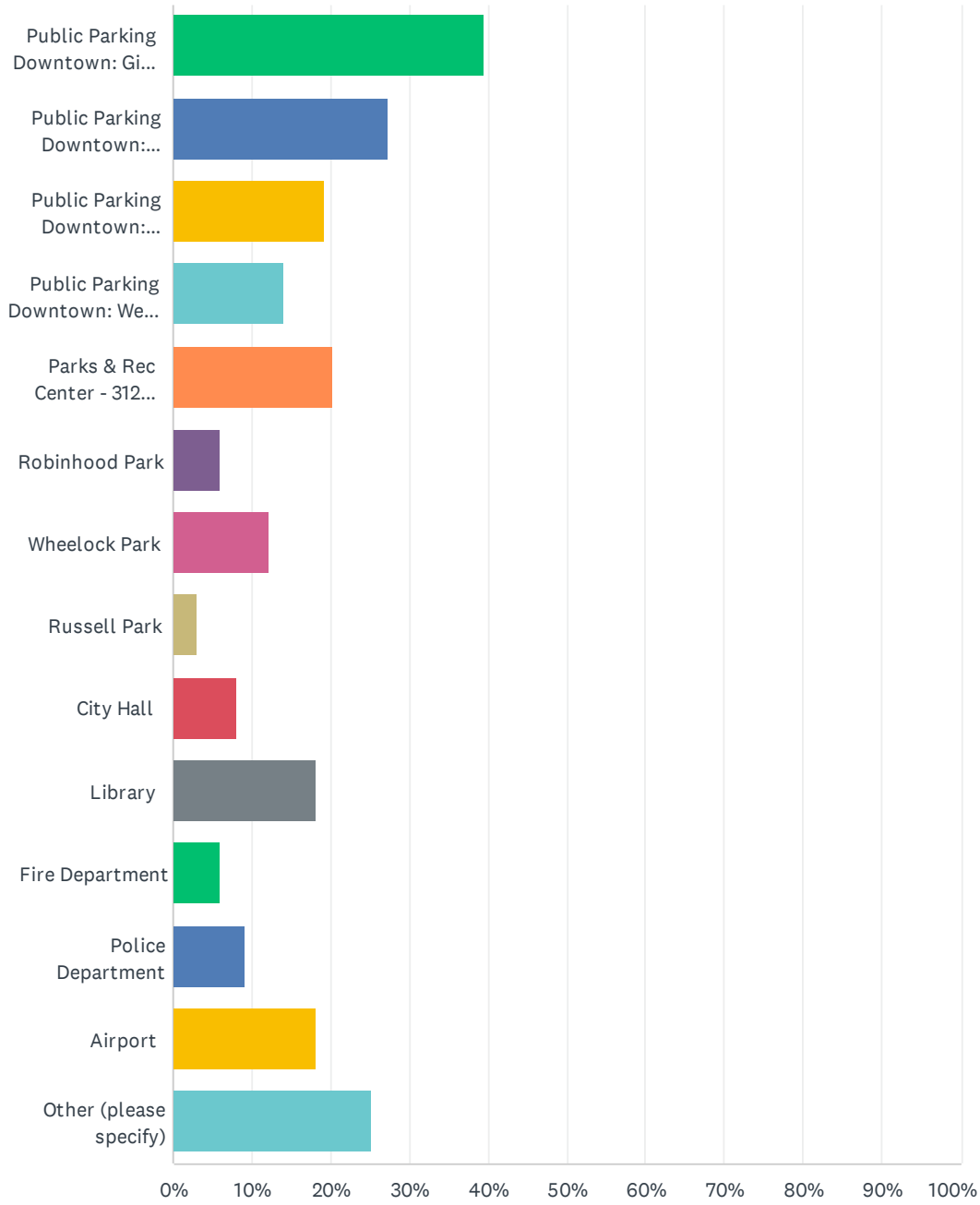
Answered: 99 Skipped: 7



ANSWER CHOICES	RESPONSES	
The cost of EVs must come down	26.26%	26
The availability of convenient charging locations	47.47%	47
The EV's range on a single charge	32.32%	32
Nothing – I am not interested in EVs	31.31%	31
Other (please specify)	20.20%	20
Total Respondents: 99		

Q5 The City of Keene is considering installing publicly accessible EV charging stations in various locations around Keene. Charging would be fully paid for by the EV owner at no cost to the City and require the EV owner to follow existing parking rules. Which of the following possible EV charging locations would you be most likely to use in the future? (select up to 3)

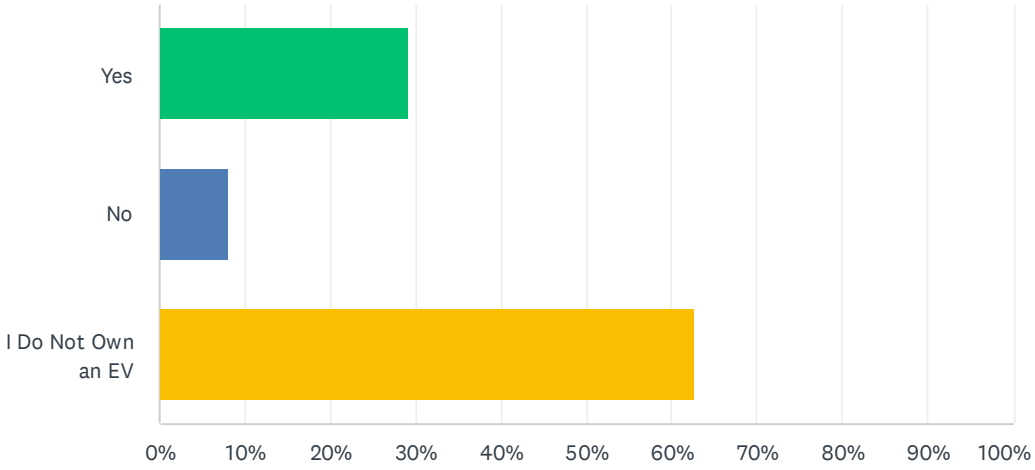
Answered: 99 Skipped: 7



ANSWER CHOICES	RESPONSES	
Public Parking Downtown: Gilbo St. Lot	39.39%	39
Public Parking Downtown: Commercial St. Lot	27.27%	27
Public Parking Downtown: Roxbury Plaza	19.19%	19
Public Parking Downtown: Wells St. Lot	14.14%	14
Parks & Rec Center - 312 Washington St.	20.20%	20
Robinhood Park	6.06%	6
Wheelock Park	12.12%	12
Russell Park	3.03%	3
City Hall	8.08%	8
Library	18.18%	18
Fire Department	6.06%	6
Police Department	9.09%	9
Airport	18.18%	18
Other (please specify)	25.25%	25
Total Respondents: 99		

Q6 If you own an EV, would you pay a premium to access faster public charging?

Answered: 99 Skipped: 7



ANSWER CHOICES	RESPONSES	
Yes	29.29%	29
No	8.08%	8
I Do Not Own an EV	62.63%	62
TOTAL		99

Q2 If you live outside of Keene, please enter your zip code in the space provided:

Answered: 46 Skipped: 60

porta sed do eiusmod causa lacinia metuo consectetur dolor sit amet mauris lorem ipsum validus antehabeo sociosqu dolor sit amet secundum adipiscing elit abigo litora

#	RESPONSES	DATE
1	03431	12/13/2023 5:35 PM
2	03431	12/12/2023 11:15 PM
3	03253	12/12/2023 5:23 AM
4	03446	12/11/2023 12:13 PM
5	03470	12/10/2023 8:45 AM
6	03462	12/9/2023 8:19 PM
7	03450	12/9/2023 5:32 PM
8	05154	12/8/2023 5:01 AM
9	01301	12/7/2023 5:16 PM
10	03455	12/7/2023 6:57 AM
11	03448	12/6/2023 9:59 PM
12	03448	12/6/2023 7:59 PM
13	05143	12/6/2023 3:17 PM
14	03431	12/6/2023 3:14 PM
15	03431	12/6/2023 3:05 PM
16	03440	12/6/2023 2:19 PM
17	03465	12/5/2023 3:20 PM
18	01475	12/5/2023 1:41 PM
19	03470	12/5/2023 10:49 AM
20	03446	12/5/2023 4:00 AM
21	03452	12/4/2023 3:52 PM
22	03464	12/4/2023 1:14 PM
23	03602	12/4/2023 8:05 AM
24	03470	12/4/2023 7:35 AM
25	05143	12/4/2023 5:33 AM

26	10603	12/3/2023 10:11 AM
27	03446	12/3/2023 10:06 AM
28	03451	12/3/2023 5:05 AM
29	03452	12/2/2023 7:49 PM
30	03608	12/2/2023 7:04 PM
31	06478	12/2/2023 6:21 PM
32	01420	12/2/2023 4:53 PM
33	03466	12/2/2023 1:25 PM
34	03457	12/2/2023 12:28 PM
35	03431	12/2/2023 11:14 AM
36	03451	12/2/2023 11:11 AM
37	03466	12/2/2023 9:05 AM
38	05345	12/2/2023 2:30 AM
39	03462	12/1/2023 7:11 PM
40	03444	11/8/2023 10:53 AM
41	03446	11/7/2023 5:05 AM
42	03431	10/28/2023 9:03 AM
43	03444	10/28/2023 9:01 AM
44	03431	10/28/2023 8:23 AM
45	03431	10/21/2023 9:05 AM
46	03458	9/26/2023 4:06 PM

Appendix D – Keene Fleet Composition Over Time

Keene, NH Fleet Conversion Roadmap by Vehicle Type and Year

	Powertrain	Existing	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Sedan	*ICE*	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	HEV	0	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	1	1	1	1	1
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	6	6	6	6	6
SUV	*ICE*	38	31	31	23	14	10	8	8	6	6	6	3	2	2	2	1	1	1	1	0	0
	HEV	0	7	7	7	9	8	8	8	5	5	5	5	2	2	2	2	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	8	15	20	22	22	27	27	27	30	34	34	34	35	37	37	37	38	38
Minivan	*ICE*	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HEV	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	BEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Light Pickup	*ICE*	7	7	7	7	7	7	4	4	4	4	4	3	3	3	3	2	2	2	2	2	1
	HEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	0	0	0	3	3	3	3	3	4	4	4	4	5	5	5	5	5	6
Light Commercial Van	*ICE*	10	10	10	10	9	9	3	3	3	3	1	1	1	1	1	0	0	0	0	0	0
	HEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	0	1	1	7	7	7	7	9	9	9	9	9	10	10	10	10	10	10
Heavy Pickup	*ICE*	32	32	32	31	31	30	30	25	23	22	21	20	20	20	19	19	19	19	19	19	19
	HEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	1	1	2	2	7	9	10	11	12	12	12	13	13	13	13	13	13	13
Heavy Truck	*ICE*	21	21	21	21	21	21	21	20	20	20	20	20	20	20	18	18	18	18	18	18	18
	HEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PHEV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BEV	0	0	0	0	0	0	0	1	1	1	1	1	1	1	3	3	3	3	3	3	3
	Total	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**	**116**

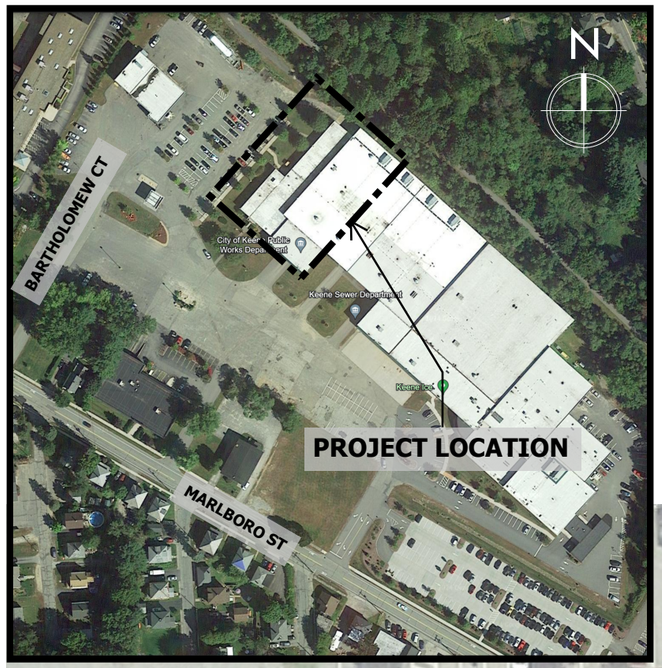
Appendix E – Keene Fleet and Public Site EV Charging Ranking

See separate Excel File - Appendix E - Keene Fleet and Public Site EV Charging Ranking.xls

Appendix F – Preliminary Fleet and Public Charging Site Designs

KEENE EV CHARGER SITE ASSESSMENT
PUBLIC WORKS - 350 MARLBORO STREET

City of Keene New Hampshire



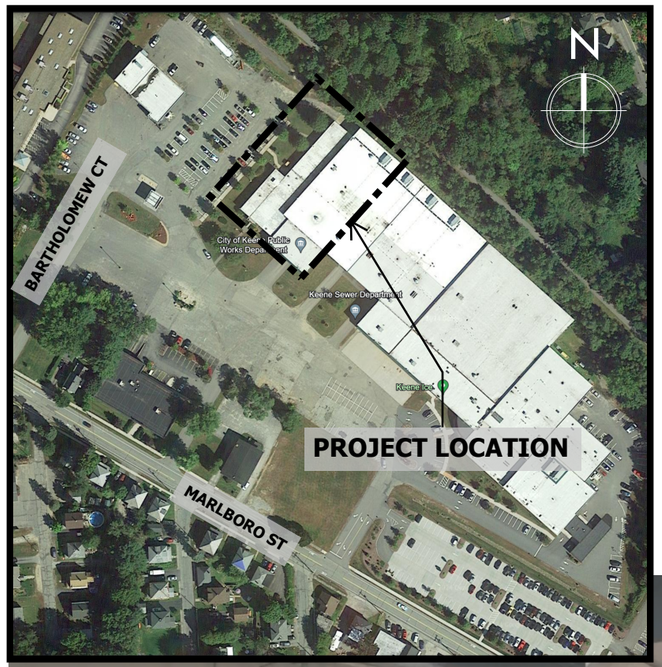
PROJECT SUMMARY	
SITE TYPE	FLEET CHARGING - PUBLIC WORKS
RECOMMENDED SCOPE	(4) LEVEL 2 & (2) DCFC MOBILE CHARGERS
ESTIMATED PROJECT COST	$248,163
AMMENITIES	PUBLIC WORKS, KEENE ICE

LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- SINGLE PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT LEVEL 2 EV CHARGING STATION
- SINGLE PORT DCFC MOBILE CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- OUTLET FOR MOBILE CHARGER (LOCATION TBD)
- UTILITY SERVICE
- POWER SOURCE, AVAILABILITY NOT VERIFIED WITH UTILITY
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
PUBLIC WORKS - 350 MARLBORO STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	FLEET CHARGING - PUBLIC WORKS
RECOMMENDED SCOPE	(4) LEVEL 2 & (2) DCFC MOBILE CHARGERS
ESTIMATED PROJECT COST	$248,163
AMMENITIES	PUBLIC WORKS, KEENE ICE

LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- SINGLE PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT LEVEL 2 EV CHARGING STATION
- SINGLE PORT DCFC MOBILE CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- OUTLET FOR MOBILE CHARGER (LOCATION TBD)
- UTILITY SERVICE
- POWER SOURCE, AVAILABILITY NOT VERIFIED WITH UTILITY
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
PUBLIC WORKS - 350 MARLBORO STREET

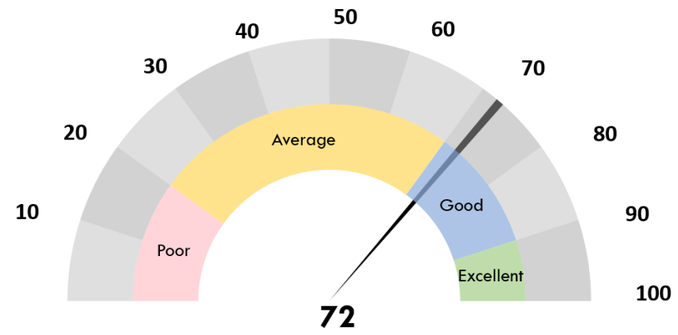
City of Keene New Hampshire

SITE DETAILS		
SITE NAME / IDENTIFIER		PUBLIC WORKS - FLEET
ADDRESS	STREET	350 MARLBORO STREET
	CITY, STATE, ZIP	KEENE, NH, 03431
PARKING DESIGNATION (PUBLIC/FLEET)		FLEET
PARKING CONFIGURATION		GARAGE
EXISTING PARKING SPACES		75
ELECTRICAL UTILITY		EVERSOURCE
ELECTRICAL SERVICE SOURCE		EXISTING SERVICE
DAC		NO

CHARGER DESIGN DETAILS		
EVSE/CHARGE PORTS PROPOSED:	EVSE	4
	PORTS	6
EVSE TYPE		LEVEL 2 @ 6.7kW & DCFC @ 50kW
MAX POWER REQUIREMENT		158 kVA
ADA CHARGING STALL REQUIREMENT	VAN ACCESSIBLE	N/A
	STD. ACCESSIBLE	N/A
	AMBULATORY	N/A
PLANNING-LEVEL COST ESTIMATE	**TOTAL**	$248,163
	TRENCHING/ CIVIL	$12,156
	ELECTRICAL	$60,007
	DESIGN	$35,000
	EV CHARGERS	$141,000
SITE DESCRIPTION / DEFINING CHARACTERISTICS		GARAGE INSIDE PUBLIC WORKS BETWEEN KEENE ICE AND FLEET SERVICES

EVALUATION SCORING CRITERIA	SCORE
PARKING CONFIGURATION	
SAFE FROM SNOW	
SITE SIZE	
PROXIMITY TO CHARGERS	
CAN THE SITE FIT PROPOSED CHARGERS?	
% SPACES BEING USED	
SUPPORTS FLEET CHARGING	
SUPPORTS FLEET & PUBLIC CHARGING	
PROXIMITY TO UTILITY	
KNOWN CAPACITY ISSUES	
SPACE AVAILABLE FOR ELECTRICAL INFRASTRUCTURE	
FENCES OR BARRIERS	
REQUIRES ADA UPGRADES	
EVSE ADA NEEDED	
NEARBY ACCESIBLE STALLS	
PAVED	
LEVEL	
LIGHTING	
COULD SUPPORT SOLAR & BESS	
CHARGER COULD OPERATE DURING OUTAGE	
SITE COULD OPERATE DURING OUTAGE	
STREAMLINED PERMITTING	
SCHEDULED IMPROVEMENT PROJECTS	
FUNDING AVAILABILITY	
COST PER PORT	
NUMBER OF CHARGERS NEEDED	
YEAR OF CHARGER INSTALLATION	
TOTAL	

SITE EVALUATION PRIORITY SCORE



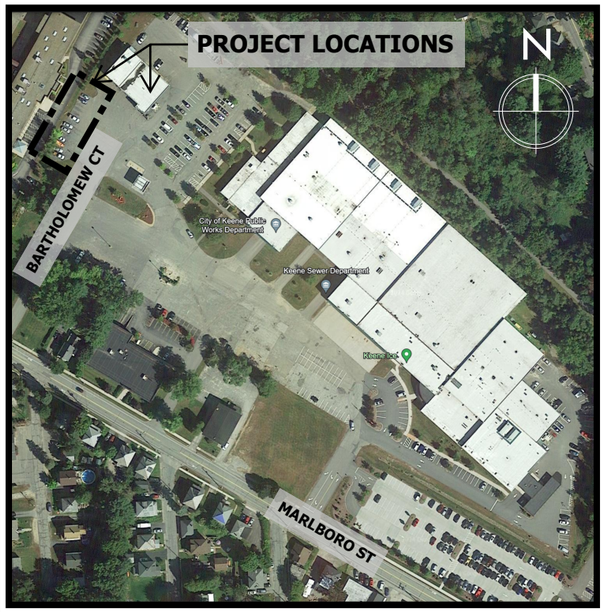
EVALUATION CRITERIA SCORES ARE SUMMED TO CREATE A SITE PRIORITY SCORE AS SHOWN IN THE ABOVE CHART.

DETERMINATION OF QTY. OF EV CHARGE PORTS

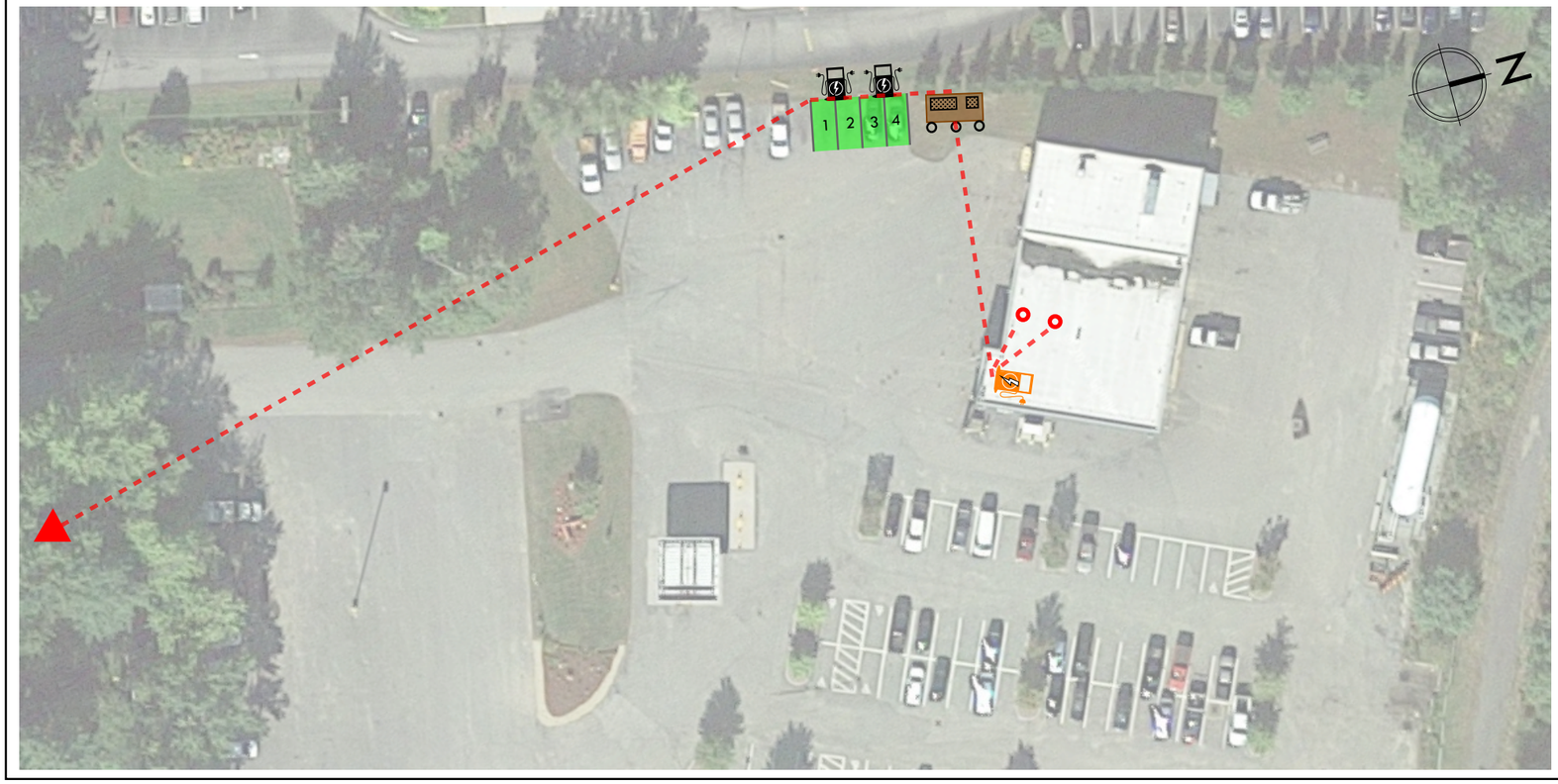
THE RECOMMENDED QUANTITY OF CHARGER PORTS IS BASED ON THE A PROPORTIONAL ALLOTMENT OF TOTAL ESTIMATED EV CHARGERS IN KEENE, NH BY 2028, AS PER THE STATE NEVI PROJECTION. RECOMMENDATIONS FOR CHARGER QUANTITY ARE ALSO ADJUSTED FOR SITE-SPECIFIC CHARACTERISTICS TO MOST EFFICIENTLY USE RESOURCES AND PRESENT A VIABLE PROJECT.

KEENE EV CHARGER SITE ASSESSMENT
FLEET SERVICES - 350 MARLBORO STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	FLEET SERVICES
RECOMMENDED SCOPE	(4) LEVEL 2 & (1) DCFC MOBILE CHARGER
ESTIMATED PROJECT COST	$232,116
AMMENITIES	PUBLIC WORKS, KEENE ICE



LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- SINGLE PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT LEVEL 2 EV CHARGING STATION
- SINGLE PORT DCFC MOBILE CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- OUTLET FOR MOBILE CHARGER (LOCATION TBD)
- UTILITY SERVICE
- POWER SOURCE, AVAILABILITY NOT VERIFIED WITH UTILITY
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
FLEET SERVICES - 350 MARLBORO STREET

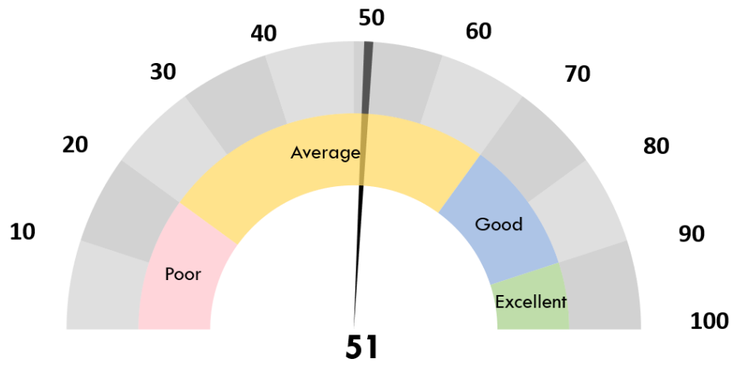
City of Keene New Hampshire

SITE DETAILS		
SITE NAME / IDENTIFIER		FLEET SERVICES - FLEET
ADDRESS	STREET	350 MARLBORO STREET
	CITY, STATE, ZIP	KEENE, NH, 03431
PARKING DESIGNATION (PUBLIC/FLEET)		FLEET
PARKING CONFIGURATION		SURFACE & GARAGE
EXISTING PARKING SPACES		20
ELECTRICAL UTILITY		EVERSOURCE
ELECTRICAL SERVICE SOURCE		NEW SERVICE
DAC		NO

CHARGER DESIGN DETAILS		
EVSE/CHARGE PORTS PROPOSED:	EVSE	3
	PORTS	5
EVSE TYPE		LEVEL 2 @ 6.7kW & DCFC @ 50kW
MAX POWER REQUIREMENT		96 kVA
ADA CHARGING STALL REQUIREMENT	VAN ACCESSIBLE	N/A
	STD. ACCESSIBLE	N/A
	AMBULATORY	N/A
PLANNING-LEVEL COST ESTIMATE	**TOTAL**	$232,116
	TRENCHING/ CIVIL	$70,300
	ELECTRICAL	$48,316
	DESIGN	$35,000
	EV CHARGERS	$78,500
SITE DESCRIPTION / DEFINING CHARACTERISTICS		LOT AND BUILDING NORTHWEST OF PUBLIC WORKS

EVALUATION SCORING CRITERIA	SCORE
PARKING CONFIGURATION	
SAFE FROM SNOW	
SITE SIZE	
PROXIMITY TO CHARGERS	
CAN THE SITE FIT PROPOSED CHARGERS?	
% SPACES BEING USED	
SUPPORTS FLEET CHARGING	
SUPPORTS FLEET & PUBLIC CHARGING	
PROXIMITY TO UTILITY	
KNOWN CAPACITY ISSUES	
SPACE AVAILABLE FOR ELECTRICAL INFRASTRUCTURE	
FENCES OR BARRIERS	
REQUIRES ADA UPGRADES	
EVSE ADA NEEDED	
NEARBY ACCESIBLE STALLS	
PAVED	
LEVEL	
LIGHTING	
COULD SUPPORT SOLAR & BESS	
CHARGER COULD OPERATE DURING OUTAGE	
SITE COULD OPERATE DURING OUTAGE	
STREAMLINED PERMITTING	
SCHEDULED IMPROVEMENT PROJECTS	
FUNDING AVAILABILITY	
COST PER PORT	
NUMBER OF CHARGERS NEEDED	
YEAR OF CHARGER INSTALLATION	
TOTAL	

SITE EVALUATION PRIORITY SCORE



EVALUATION CRITERIA SCORES ARE SUMMED TO CREATE A SITE PRIORITY SCORE AS SHOWN IN THE ABOVE CHART.

DETERMINATION OF QTY. OF EV CHARGE PORTS

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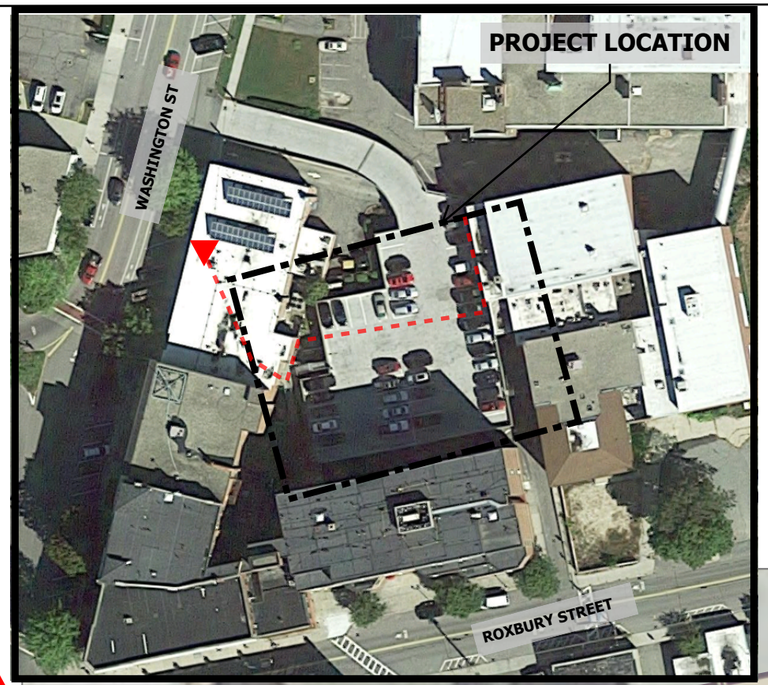
KEENE EV CHARGER SITE ASSESSMENT
CITY HALL GARAGE - 3 WASHINGTON STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	FLEET
RECOMMENDED SCOPE	(6) LEVEL 2
ESTIMATED PROJECT COST	$135,715
AMMENITIES	CITY HALL, RESTAURANTS, APARTMENTS & SHOPS

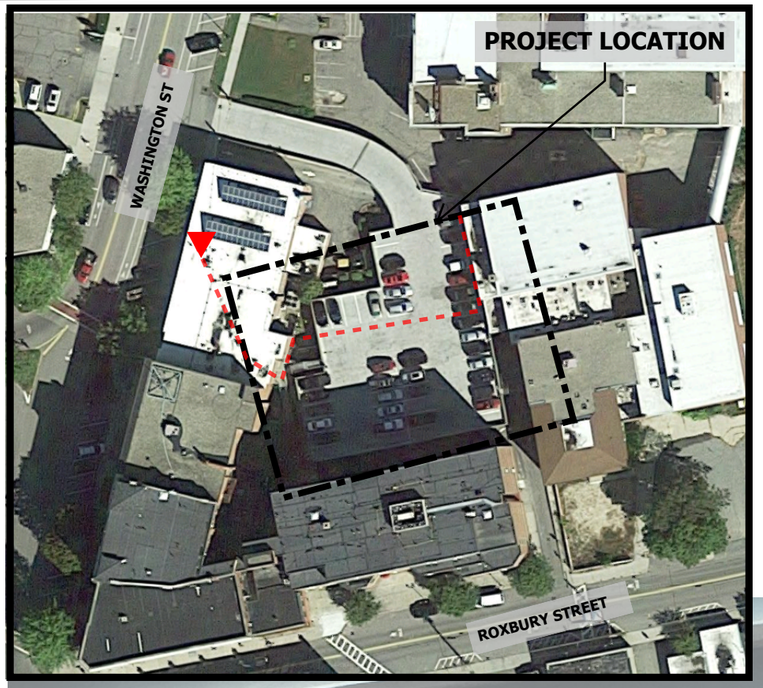
N

LEGEND

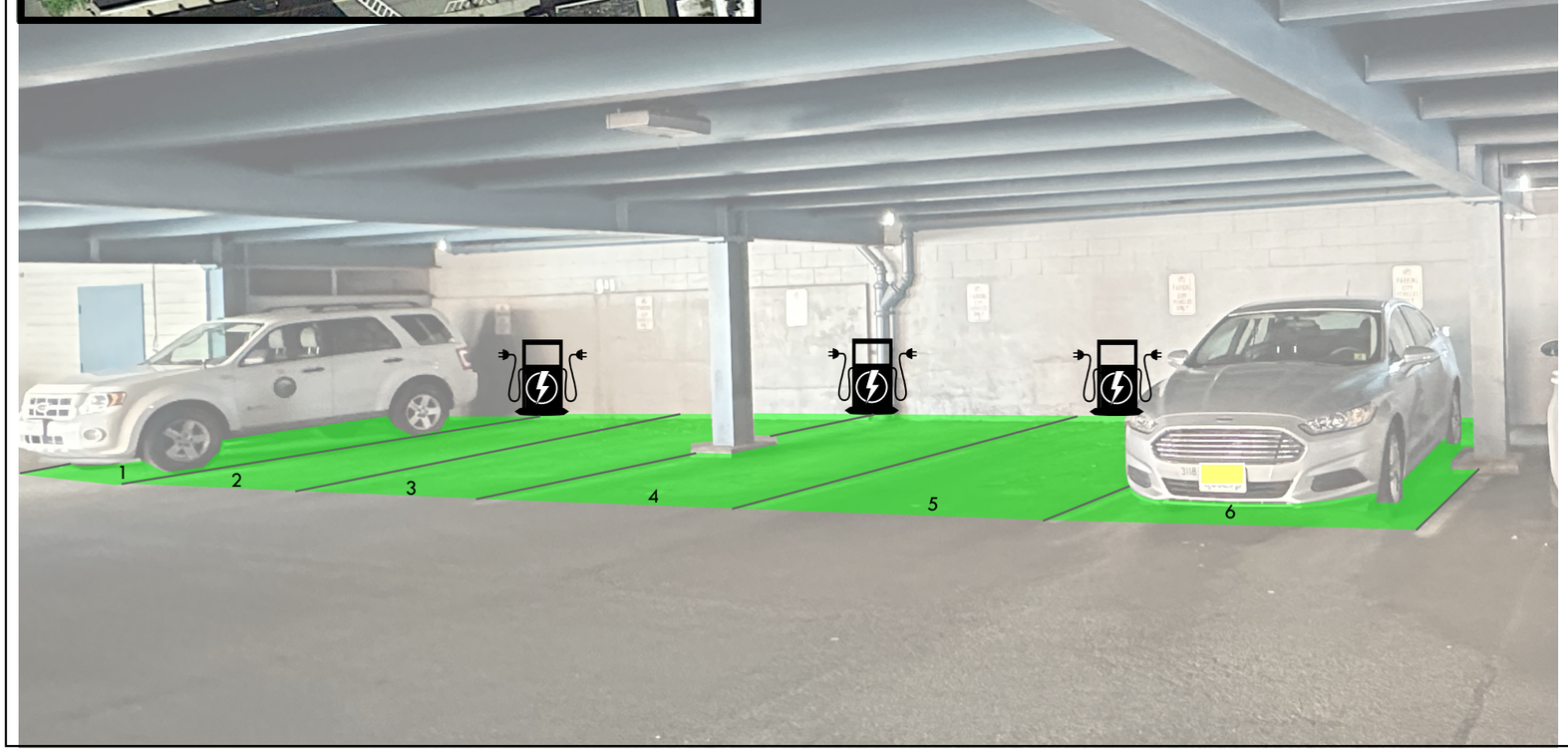
- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- FLEET ONLY EV CHARGING STALL, 9' TYP
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- WALL MOUNTED "EV" SUBPANEL, 120/208V, 150A
- DUAL PORT LEVEL 2 EV CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- ELECTRICAL CONDUIT
- EXISTING 120/208V, 600A CITY HALL SERVICE, ELECTRICAL ROOM
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
CITY HALL GARAGE - 3 WASHINGTON STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	FLEET
RECOMMENDED SCOPE	(6) LEVEL 2
ESTIMATED PROJECT COST	$135,715
AMMENITIES	CITY HALL, RESTAURANTS, APARTMENTS & SHOPS



N

LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- FLEET ONLY EV CHARGING STALL, 9' TYP
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- ACCESS AISLE, 5' WIDE TYP
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- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- ELECTRICAL CONDUIT
- EXISTING 120/208V, 600A CITY HALL SERVICE, ELECTRICAL ROOM
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
CITY HALL GARAGE - 3 WASHINGTON STREET

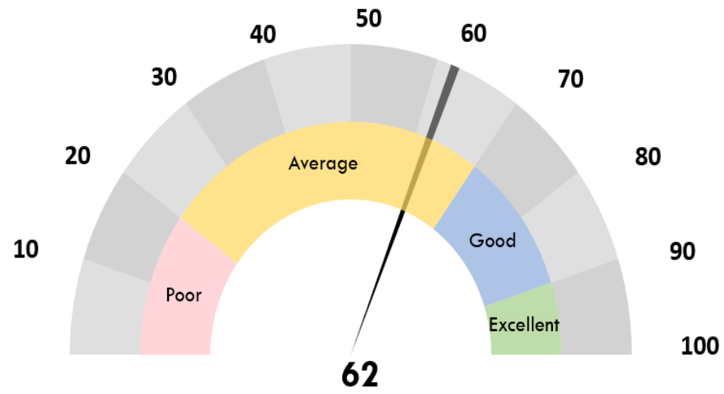
City of Keene New Hampshire

SITE DETAILS		
SITE NAME / IDENTIFIER		CITY HALL GARAGE - FLEET
ADDRESS	STREET	3 WASHINGTON STREET
	CITY, STATE, ZIP	KEENE, NH, 03431
PARKING DESIGNATION (PUBLIC/FLEET)		FLEET
PARKING CONFIGURATION		GARAGE
EXISTING PARKING SPACES		11
ELECTRICAL UTILITY		EVERSOURCE
ELECTRICAL SERVICE SOURCE		EXISTING SERVICE
DAC		NO

CHARGER DESIGN DETAILS		
EVSE/CHARGE PORTS PROPOSED:	EVSE	3
	PORTS	6
EVSE TYPE		LEVEL 2 @ 6.7kW
MAX POWER REQUIREMENT		50 kVA
ADA CHARGING STALL REQUIREMENT	VAN ACCESSIBLE	N/A
	STD. ACCESSIBLE	N/A
	AMBULATORY	N/A
PLANNING-LEVEL COST ESTIMATE	**TOTAL**	$135,715
	TRENCHING/ CIVIL	$21,352
	ELECTRICAL	$55,363
	DESIGN	$35,000
	EV CHARGERS	$24,000
SITE DESCRIPTION / DEFINING CHARACTERISTICS		LOWER LEVEL OF GARAGE NEXT TO CITY HALL

EVALUATION SCORING CRITERIA	SCORE
PARKING CONFIGURATION	
SAFE FROM SNOW	
SITE SIZE	
PROXIMITY TO CHARGERS	
CAN THE SITE FIT PROPOSED CHARGERS?	
% SPACES BEING USED	
SUPPORTS FLEET CHARGING	
SUPPORTS FLEET & PUBLIC CHARGING	
PROXIMITY TO UTILITY	
KNOWN CAPACITY ISSUES	
SPACE AVAILABLE FOR ELECTRICAL	
FENCES OR BARRIERS	
REQUIRES ADA UPGRADES	
EVSE ADA NEEDED	
NEARBY ACCESIBLE STALLS	
PAVED	
LEVEL	
LIGHTING	
COULD SUPPORT SOLAR & BESS	
CHARGER COULD OPERATE DURING OUTAGE	
SITE COULD OPERATE DURING OUTAGE	
STREAMLINED PERMITTING	
SCHEDULED IMPROVEMENT PROJECTS	
FUNDING AVAILABILITY	
COST PER PORT	
NUMBER OF CHARGERS NEEDED	
YEAR OF CHARGER INSTALLATION	
TOTAL	

SITE EVALUATION PRIORITY SCORE



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DETERMINATION OF QTY. OF EV CHARGE PORTS

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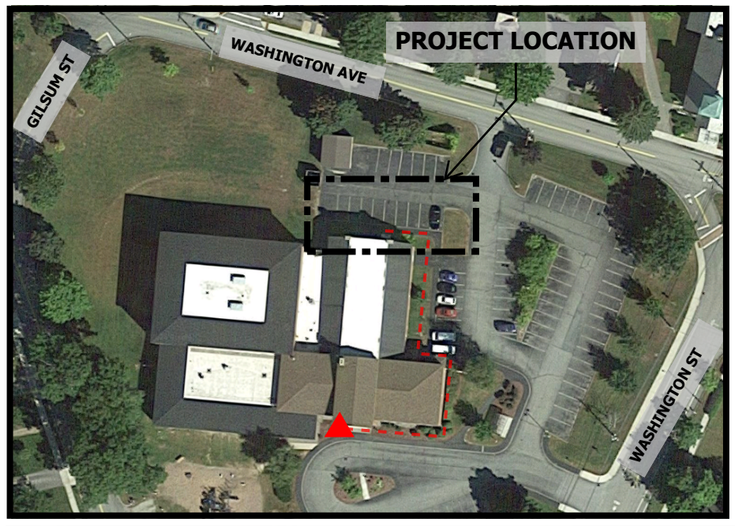
KEENE EV CHARGER SITE ASSESSMENT
PARKS & RECREATION - 312 WASHINGTON STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	PUBLIC & FLEET
RECOMMENDED SCOPE	(5) LEVEL 2 - (4) PUBLIC (1) FLEET
ESTIMATED PROJECT COST	$155,540
AMMENITIES	PARKS & RECREATION FACILITIES

N

LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- FLEET ONLY EV CHARGING STALL, 9' TYP, LEVEL 2
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- WALL MOUNTED "EV" SUBPANEL, 120/208V, 150A
- SINGLE PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT LEVEL 2 EV CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- UTILITY SERVICE
- BUILDING METER, AVAILABILITY NOT VERIFIED WITH UTILITY
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
PARKS & RECREATION - 312 WASHINGTON STREET

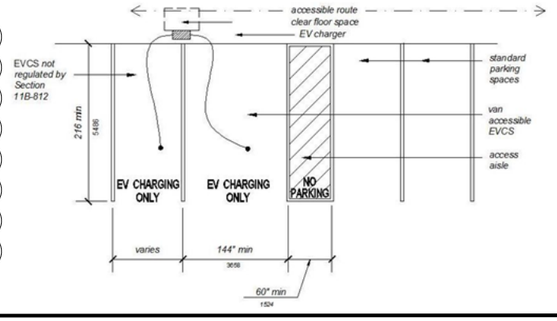
City of Keene New Hampshire

SITE DETAILS		
SITE NAME / IDENTIFIER		PARKS & RECREATION - PUBLIC
ADDRESS	STREET	312 WASHINGTON STREET
	CITY, STATE, ZIP	KEENE, NH, 03432
PARKING DESIGNATION (PUBLIC/FLEET)		PUBLIC
PARKING CONFIGURATION		SURFACE
EXISTING PARKING SPACES		76
ELECTRICAL UTILITY		EVERSOURCE
ELECTRICAL SERVICE SOURCE		EXISTING SERVICE
DAC		NO

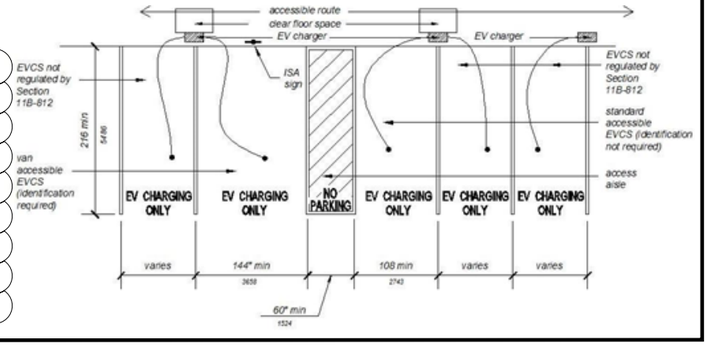
CHARGER DESIGN DETAILS		
EVSE/CHARGE PORTS PROPOSED:	EVSE	3
	PORTS	5
EVSE TYPE		LEVEL 2 @ 6.7kW
MAX POWER REQUIREMENT		42 kVA
ADA CHARGING STALL REQUIREMENT	VAN ACCESSIBLE	1
	STD. ACCESSIBLE	1
	AMBULATORY	N/A
PLANNING-LEVEL COST ESTIMATE	**TOTAL**	$155,540
	TRENCHING/ CIVIL	$54,080
	ELECTRICAL	$46,460
	DESIGN	$35,000
	EV CHARGERS	$20,000
SITE DESCRIPTION / DEFINING CHARACTERISTICS		LOT NORTH OF PARKS & RECREATION BUILDING

EV CHARGING STATION CONFIGURATION SAMPLES WITH ACCESSIBLE STALLS

EV CHARGERS WITH (1) VAN ACCESSIBLE STALL

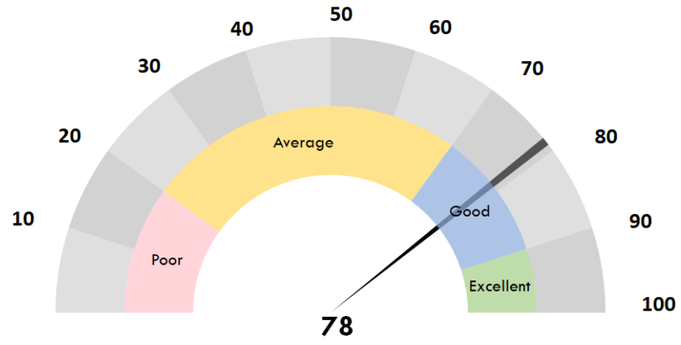


EV CHARGERS WITH (1) VAN ACCESSIBLE AND (1) STANDARD ACCESSIBLE STALL



EVALUATION SCORING CRITERIA	SCORE
LAND USE	
PARKING CONFIGURATION	
OPEN OR RESERVED	
NEARBY AMMENITIES	
PARKING FEE	
SAFE FROM SNOW	
SITE SIZE	
PROXIMITY TO CHARGERS	
CAN THE SITE FIT PROPOSED CHARGERS?	
% SPACES BEING USED	
EV DEMAND	
IN LINE W/ PARKING MANAGEMENT PRINCIPLES	
SUPPORTS FLEET CHARGING	
SUPPORTS FLEET & PUBLIC CHARGING	
PROXIMITY TO UTILITY	
KNOWN CAPACITY ISSUES	
SPACE AVAILABLE FOR ELECTRICAL	
FENCES OR BARRIERS	
REQUIRES ADA UPGRADES	
EVSE ADA NEEDED	
NEARBY ACCESIBLE STALLS	
PAVED	
LEVEL	
VISIBLE	
EASY INGRESS/EGRESS	
LIGHTING	
SUPPORTS COMPLETE STREETS	
PROXIMITY TO MULTIMODAL TRANSPORTATION	
COULD SUPPORT SOLAR & BESS	
DISADVANTAGED/POOR AIR QUALITY	
SUPPORT MULTIFAMILY W/ PARKING	
SUPPORT MULTIFAMILY W/O PARKING	
STREAMLINED PERMITTING	
SCHEDULED IMPROVEMENT PROJECTS	
FUNDING AVAILABILITY	
COST PER PORT	
TOTAL	

SITE EVALUATION PRIORITY SCORE



EVALUATION CRITERIA SCORES ARE SUMMED TO CREATE A SITE PRIORITY SCORE AS SHOWN IN THE ABOVE CHART.

DETERMINATION OF QTY. OF EV CHARGE PORTS

THE RECOMMENDED QUANTITY OF CHARGER PORTS IS BASED ON THE A PROPORTIONAL ALLOTMENT OF TOTAL ESTIMATED EV CHARGERS IN KEENE, NH BY 2028, AS PER THE STATE NEVI PROJECTION. RECOMMENDATIONS FOR CHARGER QUANTITY ARE ALSO ADJUSTED FOR SITE-SPECIFIC CHARACTERISTICS TO MOST EFFICIENTLY USE RESOURCES AND PRESENT A VIABLE PROJECT.

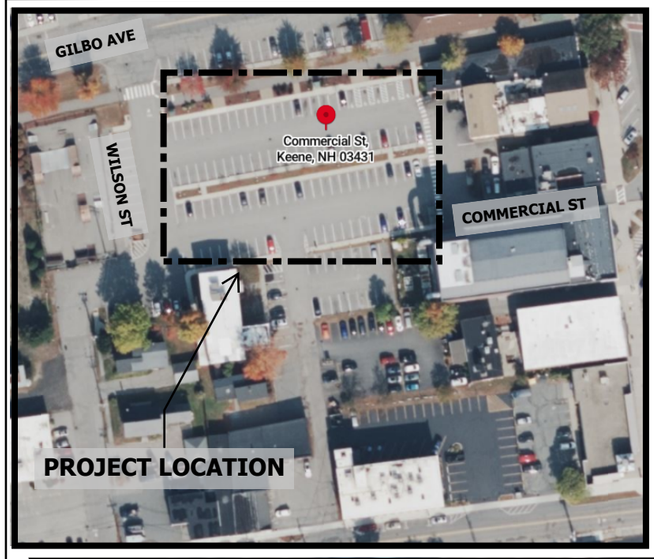
DETERMINATION OF QTY. AND TYPE OF ACCESSIBLE CHARGERS

LOCAL PERMITTING AUTHORITIES FOLLOW FEDERAL ANSI GUIDELINES FOR ADA. ESTIMATES FOR ACCESSIBLE STALLS BELOW ARE CONSERVATIVELY BASED ON CALIFORNIA GREEN BUILDING CODES AND MAY REQUIRE LESS STALLS IN THE FINAL BUILDOUT.

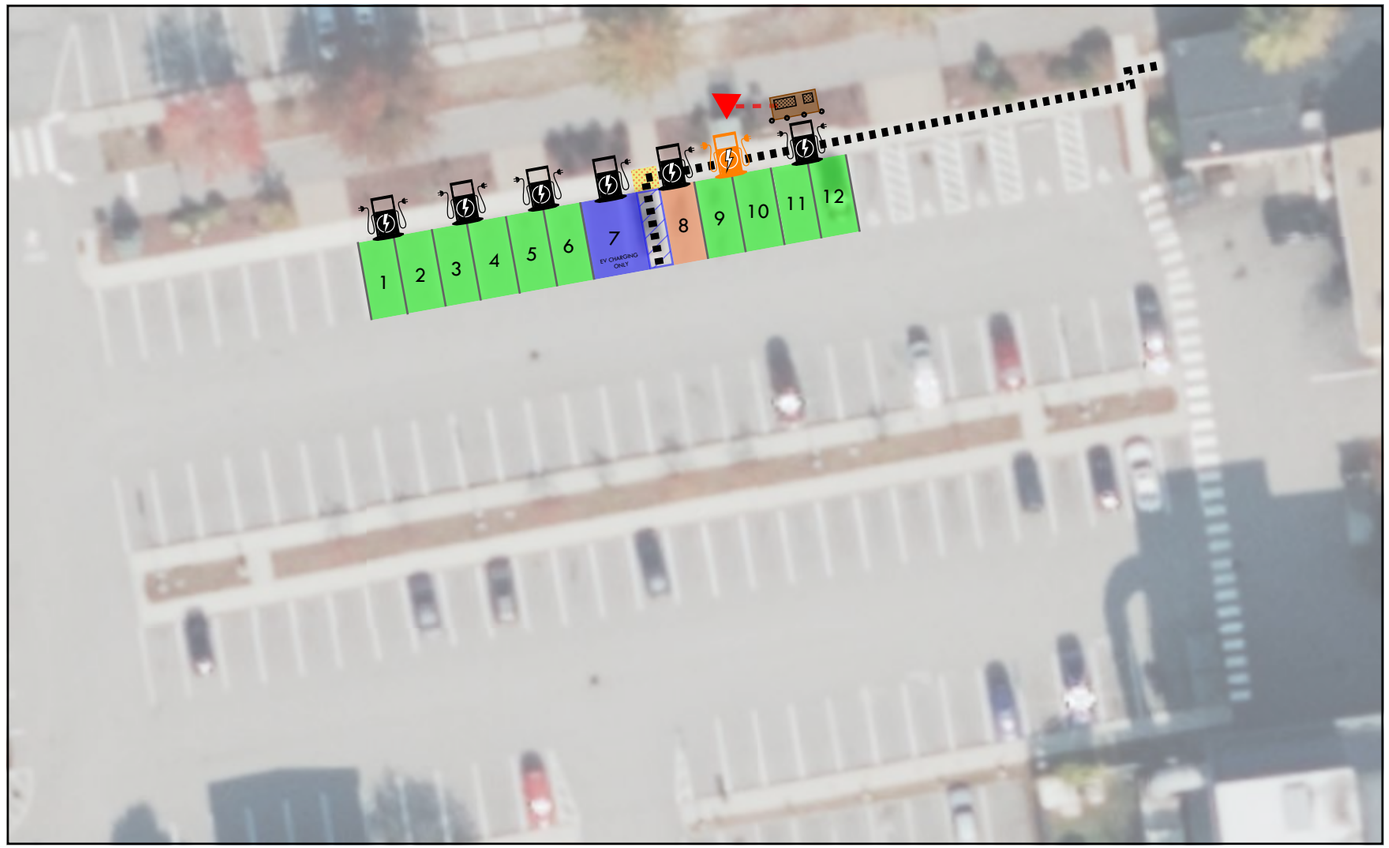
TOTAL # OF EVCS AT A FACILITY	MINIMUM # (BY TYPE) OF EVCS REQUIRED TO COMPLY WITH SECTION 11B-812		
	VAN ACCESSIBLE	STD. ACCESSIBLE	AMBULATORY
1 TO 4	1	0	0
5 TO 25	1	1	0
26 TO 50	1	1	1
51 TO 75	1	2	2
76 TO 100	1	3	3
101+	1, PLUS 1 FOR EACH 300, OR FRACTION THEREOF, >100	3, PLUS 1 FOR EACH 60, OR FRACTION THEREOF, >100	3, PLUS 1 FOR EACH 50, OR FRACTION THEREOF, >100

KEENE EV CHARGER SITE ASSESSMENT
COMMERCIAL STREET LOT - COMMERCIAL STREET

City of Keene New Hampshire



PROJECT SUMMARY	
SITE TYPE	PUBLIC
RECOMMENDED SCOPE	(10) LEVEL 2 & (2) DCFC CHARGE PORTS
ESTIMATED PROJECT COST	$351,136
AMMENITIES	NEAR RESTAURANTS & SHOPS



N

LEGEND

- STANDARD EV CHARING STALL, 9' TYP, LEVEL 2
- VAN ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- STANDARD ACCESSIBLE EV CHARGING STALL, 12'X18' TYP
- NEW ADA RAMP
- ACCESS AISLE, 5' WIDE TYP
- CONCRETE EQUIPMENT PAD, METERED ELECTRICAL SERVICE SWITCHBOARD, TRANSFORMATION, AND DISTRIBUTION
- SINGLE PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT LEVEL 2 EV CHARGING STATION
- DUAL PORT DCFC CHARGING STATION
- PROTECTIVE BOLLARD, 4" DIAMETER STEEL TYP
- UTILITY SERVICE
- TRANSFORMER, AVAILABILITY NOT VERIFIED WITH UTILITY
- PROPOSED PATH OF TRAVEL - SLOPE NOT VERIFIED

KEENE EV CHARGER SITE ASSESSMENT
COMMERCIAL STREET LOT - COMMERCIAL STREET

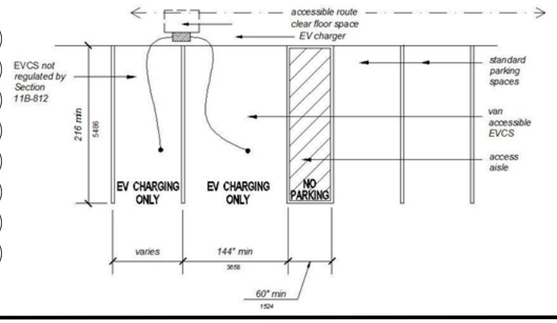
City of Keene New Hampshire

SITE DETAILS		
SITE NAME / IDENTIFIER		COMMERCIAL STREET LOT - PUBLIC
ADDRESS	STREET	COMMERCIAL STREET
	CITY, STATE, ZIP	KEENE, NH, 03431
PARKING DESIGNATION (PUBLIC/FLEET)		PUBLIC
PARKING CONFIGURATION		SURFACE
EXISTING PARKING SPACES		100
ELECTRICAL UTILITY		EVERSOURCE
ELECTRICAL SERVICE SOURCE		EXISTING SERVICE
DAC		NO

CHARGER DESIGN DETAILS		
EVSE/CHARGE PORTS PROPOSED:	EVSE	7
	PORTS	12
EVSE TYPE		LEVEL 2 @ 6.7kW & DCFC @ 180kW
MAX POWER REQUIREMENT		533 kVA
ADA CHARGING STALL REQUIREMENT	VAN ACCESSIBLE	1
	STD. ACCESSIBLE	1
	AMBULATORY	N/A
PLANNING-LEVEL COST ESTIMATE	**TOTAL**	$351,136
	TRENCHING/ CIVIL	$72,608
	ELECTRICAL	$78,528
	DESIGN	$35,000
	EV CHARGERS	$165,000
SITE DESCRIPTION / DEFINING CHARACTERISTICS	LOT WEST OF MAIN STREET, BEHIND YOLO CAFÉ	

EV CHARGING STATION CONFIGURATION SAMPLES WITH ACCESSIBLE STALLS

EV CHARGERS WITH (1) VAN ACCESSIBLE STALL



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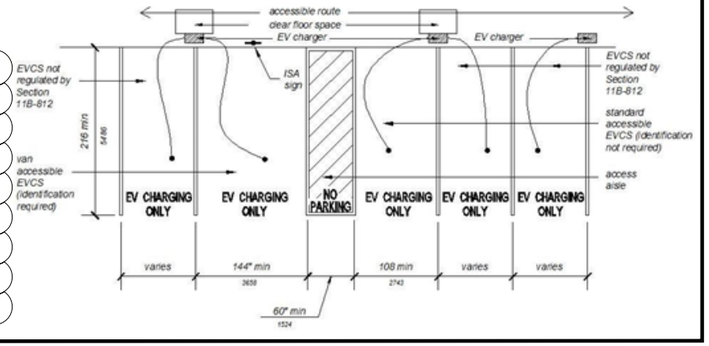

EVALUATION SCORING CRITERIA	SCORE
LAND USE	
PARKING CONFIGURATION	
OPEN OR RESERVED	
NEARBY AMMENITIES	
PARKING FEE	
SAFE FROM SNOW	
SITE SIZE	
PROXIMITY TO CHARGERS	
CAN THE SITE FIT PROPOSED CHARGERS?	
% SPACES BEING USED	
EV DEMAND	
IN LINE W/ PARKING MANAGEMENT PRINCIPLES	
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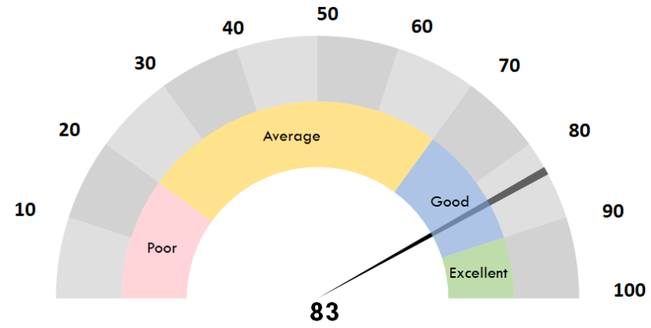
EASY INGRESS/EGRESS	
LIGHTING	
SUPPORTS COMPLETE STREETS	
PROXIMITY TO MULTIMODAL TRANSPORTATION	
COULD SUPPORT SOLAR & BESS	
DISADVANTAGED/POOR AIR QUALITY	
SUPPORT MULTIFAMILY W/ PARKING	
SUPPORT MULTIFAMILY W/O PARKING	
STREAMLINED PERMITTING	
SCHEDULED IMPROVEMENT PROJECTS	
FUNDING AVAILABILITY	
COST PER PORT	
TOTAL	

SITE EVALUATION PRIORITY SCORE



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76 TO 100	1	3	3
101+	1, PLUS 1 FOR EACH 300, OR FRACTION THEREOF, >100	3, PLUS 1 FOR EACH 60, OR FRACTION THEREOF, >100	3, PLUS 1 FOR EACH 50, OR FRACTION THEREOF, >100

Appendix G – Police Fleets and Battery Electric Vehicles

Appendix G – Police Fleets and Battery Electric Vehicles

Fleet	Vehicles	Link
Los Angeles PD (CA)	100 BMW i3s (non-pursuit)	https://www.thedrive.com/news/36119/the-los-angeles-police-departments-fleet-of-bmw-i3s-is-up-for-sale
Fremont PD (CA)	1 Tesla Model S (Patrol) 1 Tesla Model Y (Patrol)	https://www.fremontpolice.gov/community/hybrid-and-electric-patrol-vehicles
Bargersville Police Dept (IN)	5 Tesla Model 3s 5 Tesla Model Ys	https://www.government-fleet.com/10142289/indiana-town-pd-shifts-to-evs-to-save-money
Westport PD (CT)	1 Tesla Model 3	https://www.government-fleet.com/346368/connecticut-town-buys-a-2020-tesla-model-3-squad-car
Windham County Sheriff (VT)	1 Tesla Model 3	https://www.government-fleet.com/10128251/windham-county-sheriffs-office-first-to-deploy-tesla-in-vermont
Boulder County Sheriff (CO)	1 Tesla Model Y	https://bouldercounty.gov/news/boulder-county-sheriffs-office-is-testing-out-use-of-tesla-as-a-patrol-vehicle/
South Pasadena (CA)	10 Tesla Model Y	https://www.southpasadenaca.gov/government/departments/police/police-department-electric-fleet-conversion#:~:text=Background%3A,battery%20electric%20vehicles%20(BEVs).

Other helpful resources:

Police Tesla Model Y Purchase and Modifications Costs: https://www.fremontpolice.gov/home/showpublisheddocument/630/637775763158900000

2024 Chevrolet Blazer EV PPV Spec Sheet: https://www.gmenvolve.com/content/dam/gmenvolve/na/us/english/index/police/2024-blazer-ev-ppv/02-pdfs/2024-Blazer-EV-PPV-Specification-Guide-v2.pdf

2023 Ford F-150 Lightning SSV Pickup Spec Sheet: https://media.ford.com/content/dam/fordmedia/North%20America/US/product/2023/f150lightning/F-150%20Lightning%20Tech%20Specs.pdf

Unplugged Performance Police Model Y Upfit: https://unpluggedperformance.com/unplugged-performances-upfit-debuts-their-first-tesla-police-car/

POLICE
GENERAL MOTORS

2024

BLAZER EV PPV

Preproduction model shown throughout. Actual production model may vary.
2024 Chevrolet Blazer EV PPV available starting spring 2024. Shown with equipment from independent suppliers not covered by the GM New Vehicle Limited Warranty
GM is not responsible for the safety or quality of independent supplier alterations.

gm envolve

About This Publication

This catalog is not updated during the model year and should not be used for ordering purposes. It is intended as a source of basic information. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. General Motors reserves the right to make changes at any time without notice. For further details, consult your local dealer.

Care must be taken during customer installation of equipment and wiring to ensure that all holes drilled in the body are corrosion protected, properly sealed and that vehicle wiring harnesses, piping or other components have not been displaced or damaged. Aftermarket equipment installers must be mindful of applicable Federal Motor Vehicle Safety Standards. This information can be obtained directly from the National Highway Traffic Safety Administration. Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance, aerodynamics, and overall top speed. Please return all police vehicles to factory condition and settings upon decommissioning to prevent civilians from using these new 2024 calibrations, lighting and other features intended only for police and emergency customers. Wiring connection or splice changes are to be removed before the vehicle is returned to civilian use.

These vehicles are equipped with an airbag system. The airbag system in your police vehicle includes frontal driver and front outboard passenger airbags, front seat back side impact airbags and roof rail mounted head-curtain airbags. Customer installed equipment such as security barriers behind the front seats should not be mounted so that the barrier ends are within the side airbag deployment zones. The sensors and other components for the airbag system must not be relocated to accommodate the installation of customer furnished equipment; please refer to the service manual for sensor and other component locations. For information concerning instrument panel top pad mounted equipment and airbag system deployment zones, see the airbag information section in this catalog and the vehicle owners manual.

A note about vehicle alterations by independent suppliers: This catalog shows pictures of vehicles that have been altered or upfitted with equipment or components supplied to Chevrolet or its dealers by independent suppliers. GM is not responsible for the safety or quality of design features, materials or workmanship of any alterations by third parties.

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2024 BLAZER EV PPV

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- **OPTIONAL FEATURES**
- **EMISSIONS & TIRES**
- **SPECIFICATIONS**
- **COLORS, EXTERIOR AND INTERIOR**
- **APPROACH AND DEPARTURE ANGLES**
- **SPEEDOMETER/CLUSTER DISPLAY**
- **VEHICLE PERSONALIZATION MENU**
- **STANDARD FEATURES HIGHLIGHTS**
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- **WIRING DIAGRAMS**
- **AIRBAG DIMENSIONS**
- **AIRBAGS FAQ**
- **OnStar® OPTIONS**
- **MAINTENANCE AND LIMITED WARRANTY**

BLAZER EV 9C1 INTERIOR

Shown with equipment from independent suppliers not covered by the GM New Vehicle Limited Warranty GM is not responsible for the safety or quality of independent supplier alterations.

BLAZER EV 9C3 INTERIOR

GM restricts the sale of police vehicles, and they are not to be sold to retail customers
The all-wheel drive Blazer EV Police Pursuit Package has been designed for police work up to, and including, high-Speed emergency vehicle operations. GM restricts the sale of police vehicles, and they are not to be sold to retail customers. Developed for the needs of Law Enforcement, the purpose-built electrical architecture is explicitly prepared for the demands of emergency equipment. A standard 400-volt to 12-volt DC power module is dedicated to emergency equipment demands and is engineered for 100-amps of continuous load. This architecture provides two 20-amp relays in front row with a 30-circuit harness and 50-amp battery feed. One 40-amp, and one 30-amp relay are located in left cargo corner with a 56-circuit harness that shares 25-redundant front signals. 100-amps of battery service and a ground are also standard. Wiring circuits are also included in the front doors to accommodate aftermarket exterior sideview mirror emergency lighting in addition to rear quarter glass wiring provisions. All circuits include a factory connector.. A universal vehicle module is provided for CAN readability of selected signals. Model 1MF26 is required when ordering 9C1 or 9C3 Police Package. Content, options and specifications shown are for the police version only which differ from retail civilian models. Speed/Torque Limiter is not available for PPV.
The 9C1 and 9C3 PPV Package includes:
Certified speedometer, heavy duty suspension, under body skid plates, Firestone Firehawk Pursuit tires mounted on 20-inch steel wheels, 6-piston Brembo front calipers on 15.3-inch rotors for increased braking durability and performance during the rigors of a high-speed pursuit.
The 9C1 Marked Police Package includes:
Front console delete, black rubberized vinyl floor covering and black cloth front and vinyl rear seating.
The 9C3 Detective Police Package includes:
Retail floor console with armrest, color-keyed carpeting in occupant area and black cloth front and rear seating with cup-holders.

STANDARD 9C1/9C3 INTERIOR FEATURES

AIR CONDITIONING	Dual-zone automatic digital climate control. Rear passenger duct located on floor tunnel terminates at back of center console.
AIR FILTER	Pollutant, odor and fine dust.
ARMREST	(9C3 only) Front and rear center console armrest with cupholders.
ASSIST HANDLES	Front passenger and rear outboard.
AUDIO SYSTEM[2]	17.7" diagonal advanced color LCD display with Google built-in compatibility (select service plan required, terms and limitations apply), including navigation capability, connected apps, personalized profiles for each driver's settings, Natural Voice Recognition and Phone Integration.
BLUETOOTH®[3]	Personal cell phone connectivity to vehicle infotainment system.
CARGO TIE-DOWNS	2 cargo tie-downs in cargo area.
COMPASS	Shown in display.
CONSOLE, FLOOR	Deleted for 9C1 package (reference RPO code DLE), console with armrest for 9C3 package (reference RPO code D06).
CRUISE CONTROL	Electronic with set and resume speed
DEFOGGER	Rear-window electric
DOOR LOCKS	Power locks for front and rear doors. Rear child security locks.
DRIVER INFORMATION CENTER	11 inch diagonal display
FLOOR COVERING	Black rubberized vinyl floor covering for 9C1 (reference RPO code BG9). Color-keyed carpeting in occupant area with black cloth front and rear seating for 9C3 (reference RPO code B30).
KEY FOB	Two KEYS/FOBS and mechanical keys for ignition and doors. Four additional fobs are available. While unlimited number of learned KEYS/FOBS can operate Keyless start and Keyless open, for a particular vehicle, only the last 8 KEYS/FOBS learned will allow the key fob buttons to work. See Available Options page for ordering codes. See Optional Equipment page for programming procedure.
KEYLESS OPEN	Includes extended range Remote Keyless Entry. If the Key Fob battery is depleted or due to to wireless interference, vehicle may be unlocked using the mechanical key.
KEYLESS START	Includes extended range Remote Keyless Entry.
GLASS	Acoustic, laminated front windshield. Side rear tempered, solar glazing.
GLOVEBOX	Passenger side.
LIGHTING	Front courtesy and dual reading lights. Rear roof, courtesy and dual reading lights.
MICROPHONE, WIRING	Provision located above headliner over driver position for customer supplied microphone and department radio
OnStar®	Fleet orders with properly equipped vehicles receive a 3-month trial of Fleet Connected Services and 3 months of Fleet Safety & Security plan coverage. Connected Services includes Connected Navigation, Remote Access Plan and 1 month or 3GB of data (whichever comes first). OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. Subscription Service Agreement required. Call 18884ONSTAR (1-888-466-7827) or visit onstar.com for OnStar Terms and Conditions, Privacy Policy, details and system limitations or to have OnStar diabled (must submit vehicle VIN when requesting OnStar to be turned-off).
OnStar® REMOTE ACCESS	8 Years of OnStar Remote Access. The OnStar Remote Access Plan gives you simplified remote control of your properly equipped vehicle and unlocks a variety of great features in your myChevrolet mobile app. See dealer for details. OnStar Remote Access Plan does not include emergency or security services. Fleet customers will get Fleet Remote Access through OnStar Vehicle Insights. See onstar.com for details and limitations. Available on select Apple and Android devices. Service availability, features and functionality vary by vehicle, device, and the plan you are enrolled in. Terms apply. Device data connection required.
POWER OUTLET	12-volt. Located in the center console compartment for 9C3. Shipped loose in bag for 9C1.
` **POWER OUTLET**	120-volt. Not available.

1. Always use seat belts and child restraints. Children are safer when properly secured in a rear seat in the appropriate child restraint. See the Owner's Manual for more information. **2.** Functionality varies by model. Full functionality requires compatible Bluetooth and smartphone, and USB connectivity for some devices. Select service plan required, terms and limitations apply. Go to myChevrolet.com/learn About/bluetooth to find out which phones are compatible with the vehicle. **3.** Go to myChevrolet.com/learn About/bluetooth to find out which phones are compatible with the vehicle.

STANDARD 9C1/9C3 INTERIOR FEATURES (CONTINUED)

PROTECTED IDLE	Standard Protected Idle permits the vehicle to be unlocked and fully powered, but unable to be driven without a remote key fob detected.
REAR VIEW MIRROR[1]	HD Rear Vision Camera. Includes Rear Camera Mirror Washer. Rear Camera Mirror allows user to choose between a traditional rear view mirror or a camera view unobstructed by the vehicle's pillars, trunk, roof, head restraints, rear-seat occupants and other interior aftermarket police equipment.
REAR VISION CAMERA[1]	HD Rear Vision Camera shows you a high-resolution digital image of the area directly behind your vehicle when in Reverse to help you park and avoid vehicles and objects. You can also display an overlay of where your vehicle is heading.
SEATS, FRONT	Police specific black cloth bucket seats, driver 8-way power, passenger 6-way power, driver and passenger 2-way power lumbar
SEATS, REAR	60/40-split, fold-flat. 9C1 in vinyl, 9C3 in cloth with center armrest & cup holders.
STEERING COLUMN	Tilt and telescopic.
STEERING WHEEL CONTROLS	Audio, Driver Information Center and phone interface controls
TEEN DRIVER[1]	A configurable feature that lets you activate customizable vehicle settings associated with a key FOB, to help encourage safe driving behavior. It can limit certain available vehicle features, and it prevents certain safety systems from being turned off. An in-vehicle report card gives you information on driving habits and helps you to continue to coach your new driver. Can be turned off in in your vehicle's Settings menu.
TEMPERATURE DISPLAY	Outside temperature. Cabin humidity and windshield temperature sensor.
THEFT DETERRENT SYSTEM	Unauthorized entry alert and immobilizer.
TPMS	Tire Pressure Monitoring System with auto learn and Tire Fill Alert.
UNIVERSAL VEHICLE MODULE	Universal Vehicle Module for CAN readability of selected messages utilizing SAE J1939 formatting. This gateway module offers 10-switchable inputs & outputs, and includes a graphical user interface available to customize specific needs with more than 150 operating parameters available to read.
USB CHARGING PORTS	2 type-C located forward of cupholders (9C3) or shipped loose in bag (9C1), 2 Type-C located within the center console armrest bin (9C3 only) and 2 charge only type-C located on back of center console (9C3 only).
VENT	Rear Console, air. 9C3 only.
VISORS	Driver and front passenger illuminated sliding vanity mirrors, covered.
WINDOWS, POWER	Power driver and passenger with Express-Up/Down. Power rear with Express-Down.

STANDARD 9C1/9C3 EXTERIOR FEATURES

ANTENNA	Roof-mounted shark fin (black).
CALIBRATION TAILLAMP	SLO Calibration for taillamp flasher, Red/Red. For detailed technical information on activation of this feature, refer to the vehicle technical guide under the Body Builder Manuals section on www.gmupfitter.com.
CALIBRATION TAILLAMP	SJ9 Calibration for taillamp flasher Red/White. For detailed technical information on activation of this feature, refer to the vehicle technical guide under the Body Builder Manuals section on www.gmupfitter.com.
CHARGE PORT	Manual
DEFOGGER	Electric, rear window
DRL	Day TIme Running Lights. See option code 9G8 for permanent delete.
DOOR HANDLES	Body color
FRONT GRILLE	Gloss black
FLASHER SYSTEM	Headlamp and taillamp, DRL compatible with individual control wires.
FOG LAMPS	Not available
GLASS	Acoustic, laminated front windshield. Side rear tempered, solar glazing. Deep tint rear glass.
HEADLAMPS	LED with automatic on and off.
LICENSE PLATE	Front mounting package (included on orders with ship-to states that require front license plate)
LUGGAGE RACK	Not available. Roof rails deleted.
MIRROR CAPS	High gloss black
MIRRORS, OUTSIDE	Outside heated, power-adjustable, power-folding, driver-side auto-dimming with turn signal indicators.
MOLDING	Door upper. Low gloss black.
REAR CAMERA WASHER	Included with Rear Camera Mirror.
REAR LIFTGATE	Manual
RECOVERY HOOK	One Threaded eye-bolt shipped loose for use on front or rear of vehicle.
TIRES	Firestone Firehawk Pursuit 265/50R20 all-season, V-rated, blackwall, (see standard features illustrations section)
TIRE, SPARE	Standard Inflater Kit, Spare Tire And Jack Assembly Not Available.
WHEELS	20" (50.8 cm) steel with bolted-on black center cap
WHEEL CENTER CAP	Bolt-on aluminum with black finish
WINDSHIELD	Solar absorbing shaded upper with acoustic laminated glass
WIPERS, WINDSHIELD	Front intermittent with Rainsense.
WIPER, REAR	Rear intermittent

1. Safety or driver assistance features are no substitute for the driver's responsibility to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information.
2. Always use seat belts and child restraints. Children are safer when properly secured in a rear seat in the appropriate child restraint. See the Owner's Manual for more information.

STANDARD 9C1/9C3 ELECTRICAL FEATURES

AC CHARGING	At-home, 19-kW Level 2 (AC) charging capability. Requires professionally installed dedicated charge station, sold separately.
AUXILIARY POWER, FRONT	12-volt. Located in the center console compartment for 9C3. Shipped loose in bag for 9C1. (Note: This is for KH8 whereas USB Charging Ports are UBJ, UBK & UBI)
BATTERY, DRIVE	Ultium Propulsion, 102 kWh Battery Rated Energy, 190 kW DC fast charging capable.
BATTERY, SERVICE	12V/60AH, 680 ENCCA
DUAL LEVEL CHARGE CORD	Includes dual-mode, portable, 120-volt (1.4 kW) and 240-volt (7.7 kW) capability, swappable nema 5-15 and NEMA 14-50 plugs with SAE J1772 vehicle connection.
ELECTRONIC PRECISION SHIFT	The electronic precision shift includes an electric parking brake. In the event of a loss of 12-volt battery power, the electric parking brake cannot be released, and the vehicle cannot be shifted to N (Neutral). Tire skates or dollies must be used under the non-rolling tires to prevent damage while loading/unloading the vehicle. Dragging the vehicle will cause damage not covered by the vehicle warranty.
FLEET CONNECTED ACCESS	OnStar and Chevrolet connected services capable, includes (U5G) 5G Wi-Fi Hotspot capable, (U2K) SiriusXM with 360L, (NAM) Google Automotive Services capable, (1MP) smartphone app remote start. Service varies with conditions and location. Requires active service plan and paid AT&T data plan. See OnStar. com/ BusinessSolutions for details and limitations. Availability subject to change. Vehicle must be on or in the accessory position for Wi-Fi to function.
REMOTE PANIC ALARM	Keyless remote panic button activates horn and flashing exterior lights. Can be disabled with optional 5J1 calibration.
REMOTE START	Key Fob activated. Included and only available with (UE1) OnStar.
SURVEILLANCE MODE	Calibration to shut-down non-federally mandated exterior and interior lighting. Exterior lighting will shut off only if in auto mode and not equipped with optional LIGHTING DELETE (9G8). Cluster and PRND indicator dimmed to the minumum setting. Brake, reverse and turn signal lighting will override calibration and function if operated. For detailed technical information on activation of this feature, refer to the vehicle technical guide under the Body Builder Manuals section on www.gmupfitter.com.
UPFITTER WIRING PROVISIONS	See WIRING Section for Circuit Diagrams and connector information.
ONE PEDAL DRIVING[1]	Helps convert the vehicle's kinetic energy into energy stored in the battery for later use to help get the most range.
HANDS-FREE START	Push the brake pedal after closing the door to start vehicle. The key fob authorizes the hands-free start system.
REGEN ON DEMAND™[1]	Helps convert the vehicle's kinetic energy into energy stored in the battery for later use to help get the most range.
ULTIFI[2]	Separates the vehicle's software from the hardware to enable the frequent and seamless delivery of software-defined features, apps and services to customers over the air. Ultifi allows customers to continue to upgrade and personalize their vehicle as improvements and new features become available over time.

STANDARD 9C1/9C3 MECHANICAL FEATURES

BRAKES	Front Brembo performance disc brakes with non-FNC rotors.
COOLING	Heavy-duty
SKID PLATES	Steel front and rear
STABILITRAK	Stability Control System with Proactive Roll Avoidance and traction control, includes electronic trailer sway control and hill start assist.
STEERING	Power, non-variable ratio, electric.
SUSPENSION	Performance
TRANSMISSION	Ultium Performance 2 -motor All Wheel Drive System.
TRACTION CONTROL	Electronic

STANDARD 9C1/9C3 SAFETY FEATURES

AIRBAGS[4]	Frontal, knee and seat-mounted side-impact for driver and front passenger, and roof-rail mounted head-curtain for outboard seating positions. Includes Passenger Sensing System for front passenger.
BUCKLE TO DRIVE	Prevents vehicle from being shifted out of Park until driver seat belt is fastened; times out after 20 seconds and encourages seat belt use, can be turned on and off in Settings or Teen Driver menu This feature is defaulted off for 9C1 and 9C3, but can be turned on in the Infotainment menu.
LATCH SYSTEM[4]	(Lower Anchors and Tethers for CHildren), for child child restraint seats.
REAR PARK ASSIST[3]	Rear Park Assist provides alerts of nearby detected vehicle and objects behind your vehicle to help you park and avoid collisions.
REAR SEAT REMINDER[4]	Rear Seat Reminder does not detect people, animals or objects in the back seat. It only registers when a rear door has been opened. Can be turned off in in your vehicle's Settings menu.
SAFETY ALERT SEAT[3]	Safety Alert Seat uses left-, right- or both-side driver seat vibration pulses to help you detect and identify the direction of potential crashes. You can also switch to beeping crash avoidance alerts.
SEAT BELTS[4]	3-point, all positions, includes front and rear seat belt pretensioners
SEAT BELT INDICATORS[4]	Driver, front passenger and rear passengers.

1. Feature may be limited when the battery temperatures are extremely cold or hot or when battery is near full charge. See Owner's Manual for details. **2.** Ultifi is pre-production and is subject to change. Actual features, functionality, and product limitations may vary. **3.** Safety or driver assistance features are no substitute for the driver's responsibility to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information. **4.** Always use seat belts and child restraints. Children are safer when properly secured in a rear seat in the appropriate child restraint. See the Owner's Manual for more information.

OPTIONAL 9C1/9C3 INTERIOR FEATURES

U5G	**5G WI-FI HOTSPOT** - Included and only available with (UE1) OnStar. Terms and limitations apply. See onstar.com or dealer for details. Service varies with conditions and location. Requires active service plan and paid AT&T data plan. See OnStar. com/BusinessSolutions for details and limitations. Availability subject to change. Vehicle must be on or in the accessory position for Wi-Fi to function.
NAM	**GOOGLE AUTOMOTIVE SERVICES** - included and only available with (UE1) OnStar.
6E2	**KEYS/FOBS** - Fleet Calibration, provides a single key and calibration with a specific code that is common to the driver door lock of the entire Blazer EV fleet with the same code. Key code is an alternate to SEO (6E8) Fleet Calibration. Includes (AU7) common fleet key. Requires (AMF) Remote Keyless Entry Package. Not available with SEO (6E8) complete vehicle fleet common key.
6E8	**KEYS/FOBS** - Fleet Calibration, provides a single key and calibration with a specific code that is common to the driver door lock of the entire Blazer EV fleet with same code. Key code is an alternate to SEO (6E2) Fleet Calibration. Includes (AU7) common fleet key. Requires (AMF) Remote Keyless Entry Package. Not available with SEO (6E2) complete vehicle fleet common key.
AMF	**REMOTE KEYLESS ENTRY PACKAGE** - Includes 4 additional transmitters, NOTE: programming of remotes is at customer's expense. Programming remotes is not a warranty expense.
T53	**LAMPS** – Alternate flashing Red & Blue rear compartment lid warning (visible when liftgate is open) and controlled by momentary liftgate mounted switch or ground wire.
6C7	**LIGHTING -** Red and white LED auxiliary dome lamp is located on headliner between front row seats. The auxiliary lamp is wired independently from standard dome lamp.
6N6	**REAR DOOR LOCKS AND HANDLES INOPERATIVE** - Rear power locks are inoperable at rear door but operate from drivers position, rear doors can be opened only from outside the vehicle. Includes (VBO) Kerr Industries Ship-thru to mechanically remove hardware linkage.
6N5	**REAR DOOR WINDOW SWITCHES INOPERATIVE** - Calibration for rear windows to operate from drivers position only. Window lockout switch remains illuminated in all positions when equipped with this feature.
ARU	**REAR GLASS -** Deep tint. Replaces Solar Glazing (ARS).
U2K	**SiriusXM WITH 360L** - Includes a trial subscription to the Platinum Plan. Included and only available with (UE1) OnStar. Trial subscription subject to the SiriusXM Customer Agreement and privacy policy, visit www.siriusxm.com which includes full terms and how to cancel. All fees, content, features, and availability are subject to change. Some features require GM connected vehicle services.

OPTIONAL 9C1/9C3 EXTERIOR FEATURES

9G8	**LIGHTING DELETE** - Daytime Running Lamps and automatic headlamp control delete. Deletes standard Daytime Running Lamps and automatic headlamp control features, also disables automatic interior courtesy lighting.
5T4	**SPECIAL PAINT** - Victory Red WA 9260. Requires SEO (TGK) special paint solid.
9W5	**SPECIAL PAINT** - Silver Ice Metallic WA 636R. Requires SEO (TGK) special paint solid.
9V7	**SPECIAL PAINT** - Dark Blue Metallic WA 722J. Requires SEO (TGK) special paint solid.
6JE	**BLUE LEFT / BLUE RIGHT WHELEN LED ION LIGHT PACKAGE** - Two ION light heads mounted on each exterior corner. Not available with 6JG, 6J9 or 6J8 Package.
6JG	**RED LEFT / BLUE RIGHT WHELEN LED ION LIGHT PACKAGE** - Two ION light heads mounted on each exterior corner. Not available with 6JE, 6J9 or 6J8 Package.
6J9	**RED LEFT / RED RIGHT WHELEN LED ION LIGHT PACKAGE** - Two ION light heads mounted on each exterior corner. Not available with 6JG, 6JG or 6J8 Package.
6J8	**WHITE LEFT / WHITE RIGHT WHELEN LED ION LIGHT PACKAGE** - Two ION light heads mounted on each exterior corner. Not available with 6JG, 6J9 or 6J9 Package.
TGK	**SPECIAL PAINT SOLID** - Special paint, one color. Required with any special paint selection. Refer to individual special paint SEO codes for details on body colored non-sheet metal parts. May require extended lead time.
7X3	**SPOTLAMP** - Left hand, pillar-mounted unity, 6-inch with LED lamps; independently fused

NOTE: Factory installation of spotlamps are recommended. Special tooling is used to locate and drill the spotlamp shaft hole in the pillars. (Interior trim covers provided with factory installed lamps are not available as service parts). Field installation of spotlamps must not interfere with proper deployment of the roof rail mounted head-curtian airbags in the event of a crash.

OPTIONAL 9C1/9C3 ELECTRICAL FEATURES

5J1	**CALIBRATION** - Keyless remote panic button and exterior lights/horn disable
1MP	**SMARTPHONE APP REMOTE START -** Only available with OnStar.
UTQ	**THEFT DETERRENT SYSTEM DISABLE -** The alarm and horn become non-functional in an attempt of theft to the vehicle (recommended for vehicles utilizing 6E2 or 6E8 key codes).
WX7	**WIRING** - Auxiliary speaker. For upfitter connection to front door and windshield speakers.
6J3	**WIRING** - For grille lamps and siren speaker
6J4	**WIRING** - For horn and siren.

OPTIONAL 9C1/9C3 MECHANICAL FEATURES

V92	**TRAILERING PROVISIONS -** Includes; Wiring, (CTT) Hitch Guidance and (PZ8) Hitch View
SDE	**TRAILER HITCH -** Removable 2" (Class 2.) receiver. Includes Trailer Hitch Closeout panel (VLG). Requires V92.

OPTIONAL SHIP THRU

VBO	**SHIP THRU -** Produced in GM Ramos and shipped to Kerr Industries Ramos, Returned to GM Ramos for shipping to final destination.

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EMISSIONS - ZERO EMISSIONS VEHICLE (ZEV)

FE9	**Emissions**, Federal requirements
NE1	**Emissions**, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington state requirements
YF5	**Emissions**, California state requirements
NB8	**Emissions override**, California (allows a dealer in states that require California emissions - California, Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island or Washington - to order Federal emissions for a vehicle that will be registered in a state that has Federal emission requirements). Do not use for vehicles that will be registered in California, Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island or Washington. Requires (FE9) Federal emissions requirements. Not available in Maine or Vermont.
NB9	**Emissions override**, state-specific (for dealers ordering vehicles in (YF5) or (NE1) emission states - California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington) Allows a California dealer (YF5 emissions) to order (NE1) emissions with (NB9) emissions override code for registration in (NE1) states; or, a Connecticut, Delaware, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington dealer (NE1 emissions) to order (YF5) emissions with (NB9) emissions override code for registration in California.
NC7	**Emissions override**, Federal (for vehicles ordered by dealers in Federal emission states with (YF5) or (NE1) emissions - Not required for vehicles being shipped to California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont or Washington) Requires (YF5) California state emissions requirements or (NE1) Connecticut, Delaware, Maine, Massachusetts, New York, Pennsylvania, Rhode Island or Vermont state emission requirements.

FE9 NAME CERTIFICATION EMISSION, FEDERAL
NE1 NAME CERTIFICATION EMISSION, GEOGRAPHICALLY RESTRICTED
YF5 NAME CERTIFICATION EMISSION, CALIFORNIA is certified to EPA Tier 3 BIN 70 standards and qualifies as ULEV 70 (Ultra Low Emission Vehicle) under California Air Resources Board (CARB) requirements, meaning it is 50-state certified.
EPA engine family or test group: MGMXT05.3388

TIRES

MANUFACTURER	QUANTITY	SIZE	SPEED RATING	TYPE
Firestone	4	265/55R20	V	All season BW

NOTE:

Due to specific requirements for performance durability and safety, GM recommends only the original equipment tires for replacement.

Tire Plies = Tread 6 ply; 2 Polyester, 2 Steel, 2 Nylon, Sidewall, 2 Polyester

Tire Chains - If the vehicle is equipped with tire size 265/50R20, use tire winter traction devices only where legal and only when necessary. Only use textile traction devices, such as tire snow socks, that are the proper size for the tires. Traction devices must be installed only on the tires of the drive axle. Drive slowly and follow the traction device manufacturer's instructions. Driving too fast or spinning the wheels can damage the traction device.

DC FAST CHARGING CAPABLE

STANDARD HEAVY-DUTY STEEL WHEEL
WITH FIRESTONE FIREHAWK PURSUIT TIRE

SPECIFICATIONS

ALL WHEEL DRIVE (MPH/KPH)	
Model	1MF26
Projected top speed[1]	130/209
Projected top speed in reverse[1]	25/40
Acceleration[1] 0-20 mph (sec.)	1.77
Acceleration[1] 0-30 mph (sec.)	2.60
Acceleration[1] 0-40 mph (sec.)	3.41
Acceleration[1] 0-50 mph (sec.)	4.24
Acceleration[1] 0-60 mph (sec.)	5.17
Acceleration[1] 0-70 mph (sec.)	6.27
Acceleration[1] 0-80 mph (sec.)	7.62
Acceleration[1] 0-90 mph (sec.)	9.20
Acceleration[1] 0-100 mph (sec.)	11.08

ESTIMATED RANGE WITH EMERGENCY EQUIPMENT[7]	
All Wheel Drive[7] (miles/km)	250/402

VEHICLE WEIGHT (LBS./KG.)	
Seating Capacity	2/3
GVWR[3] (Gross Vehicle Weight Rating)	6945/3150
FGAWR (Front Gross Axle Weight Rating)	1550/703
RGAWR (Rear Gross Axle Weight Rating)	1700/771
Payload[4]	904/410
Base curb weight	5870/2663
Maximum Trailering Capacity[5]	1,000/454

PASSENGER COMPARTMENT VOLUME (cu.ft./liters)	
Passenger Volume Front Row	58/1642
Passenger Volume Second Row	25.7/728
Cargo Volume With Rear Seat Up	26.2/742

FRONT COMPARTMENT (in./mm)	
Head room	40.88/1038
Shoulder room, 1st row	58.70/1491
Hip room, 1st row	57.40/1458
Leg room, 1st row, max	44.20/1123

REAR COMPARTMENT (in./mm)	
Head room	38.10/968
Shoulder room	58.33/1482
Hip room	53.79/1366
Leg room	38.92/989

CARGO (in./mm)	
Load floor length to center of front seat at floor	71/1804
Load floor length to center of 2nd seat at floor at seat	25/889
Inside width between wheelhouse	42/1067
Cargo area width	47.2/1200
Cargo area length	36.9/937
Cargo area height (headliner limited)	26.8/681
Cargo volume[2] maximum behind front seat (cu. ft./liters)	58.0/1643
Cargo volume[2] maximum behind second seat (cu. ft./liters)	25.7/727

EXTERIOR (in./mm)	
Wheelbase	121.80/3094
Overall length	192.62/4893
Overall width, without mirrors	78.02/1982
Overall width, including mirrors	86.50/2197
Overall height[6]	64.78/1645
Lift in height[6] (Top of load floor to ground)	29.40/747
Step-in height	
Front track width	65.90/1674
Rear track width	65.90/1674
Turning diameter curb to curb (ft./m)	39.7/12.1
Approach angle	19 degrees
Departure angle	22 degrees
Breakover angle	15 degrees
Ground Clearance	6.5/166
Overhang, front	35.09/891
Overhang, rear	35.37/898
Fording depth	12in/304.8mm @ 6.2mph/10kph

1. Based on 2024MY Michigan State Police Vehicle Test Results. All vehicles tested with clean roof and no additional equipment or added ballast. Adding non dealer accessories or making modifications to the vehicle can affect vehicle performance, aerodynamics, overall top speed and acceleration. **2.** Cargo and load capacity limited by weight and distribution. **3**. Gross Vehicle Weight Rating (GVWR). When properly equipped, includes vehicle, passengers, cargo and equipment. **4.** These maximum payload ratings are intended for comparison purposes only. Before you buy a vehicle or use it to haul people or cargo, carefully review the vehicle loading section of the Owner's Manual and check the carrying capacity of your specific vehicle on the label on the inside of the driver's door jamb. **5.** Maximum trailering ratings are intended for comparison purposes only. Before you buy a vehicle or use it for trailering, carefully review the trailering section of the Owner's Manual. The trailering capacity of your specific vehicle may vary. The weight of passengers, cargo and options or accessories may reduce the amount you can trailer. **6.** Published dimension indicated is from ground and without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in this dimension. **7.** On a full charge based on development testing and/or analytical projection consistent with SAE J1634 revision 2017 - MCT. Range subject to change prior to production. Actual range may vary based on several factors, including ambient temperature, terrain, battery age and condition, loading, and how you use and maintain your vehicle. EPA estimates not yet available.

SPECIFICATIONS

PROPULSION SYSTEMS	**STANDARD**
Type	Ultium Performance All Wheel Drive
Motor	2-Motor Permanent Magnetic Drive
Power on a full charge (hp/kW)	498/372
Torque on a full charge (lb.ft./Nm)	571/720

DRIVE BATTERY	
Type	Rechargeable energy storage system with 12-module pack
Mass (lb / kg)	947 / 430
Battery chemistry	Lithium-ion
Cells	288
Energy	102 kWh
Projected Range[1](mi/km)	250/402
Warranty[2]	8 years / 100,000 miles of battery and electric components coverage

BRAKES	
eBoost ABS	Disc/Disc
Front rotor diameter (in./mm)	15/381
Rear rotor diameter (in./mm)	13.5/343
Front rotor thickness (in./mm)	1.26/32
Rear rotor thickness (in./mm)	0.79/20
Projected Stopping Distance from 60.0 mph (ft.)[4]	135.20

TIRES	
Type	Firestone Firehawk Pursuit, V-rated, All-season
Size	265/55R20

WHEELS	
Type	Black Steel with bolt on aluminum center cap
Size	20"x 9"

CHASSIS	
Suspension	Heavy-duty police-rated suspension with unique StabiliTrak performance calibration.
Steering type	Power, non-variable ratio, electric
Steering ratio	15.98:1

SERVICE BATTERIES	
Type	Maintenance free
BCI group size	LN1
Volts	12 V
Amp hour rating	50 ah
Reserve capacity	80 min
Cold cranking-amps	520 a

LEVEL 2 RESIDENTIAL CHARGING[3]	
240-Volt (48-amp)	Provides up to 37 miles of range per hour
19.2 Kilowatt (80-amp)	Provides up to 52 miles of range per hour

LEVEL 3 DC FAST CHARGING[3]	
400-Volt 190 Kilowatt	Provides up to 71-miles of range in 10-minutes or 141-miles of range in approximately 30-minutes

1. GM estimated range based on current capability of analytical projection consistent with SAE J1634 revision 2017-MCT. GM estimated range is based on a vehicle with a full charge. Actual range will vary based on several factors, including temperature, terrain, battery age, loading, use and how you use and maintain your vehicle. Performance targets. Estimates and capability specifications based on computer-aided analysis and simulation using virtual engineering tools. EPA estimates not yet available. **2.** Limited warranty. Whichever comes first. See dealer for details. See owner's manual for additional limitations. **3.** Actual charge times will vary based on battery starting state of charge, battery condition, output of charger, vehicle settings and outside temperature. See owner's manual for additional limitations. **4.** Based on 2024MY Michigan State Police Vehicle Test Results. All vehicles tested with clean roof and no additional equipment or added ballast."

AVAILABLE EXTERIOR COLORS ACTUAL COLORS MAY VARY

GAZ
Summit White
WA-8624

G7Z
Red Hot
WA-130X

GBA
Black
WA-8555

GJV
Riptide Blue Metallic
WA-121J

GJY
Galaxy Gray Metallic
WA-127J

GNT
Radiant Red Tintcoat*
WA-170H

GXD
Sterling Gray Metallic
WA-130H

*Available at extra cost

SEO PAINT AVAILABLE ACTUAL COLORS MAY VARY

5T4
Victory Red
WA-9260

9W5
Silver Ice Metallic
WA-636R

9V7
Dark Blue Metallic
WA-722J

9V2
MSP Blue Goose
WA-5665

NOTE:
- Actual color may very

AVAILABLE INTERIOR COLOR ACTUAL COLORS MAY VARY

EKV EPT
Black cloth Front
Black vinyl Rear
9C1 only

EKV
Black cloth Front and Rear
9C3 only

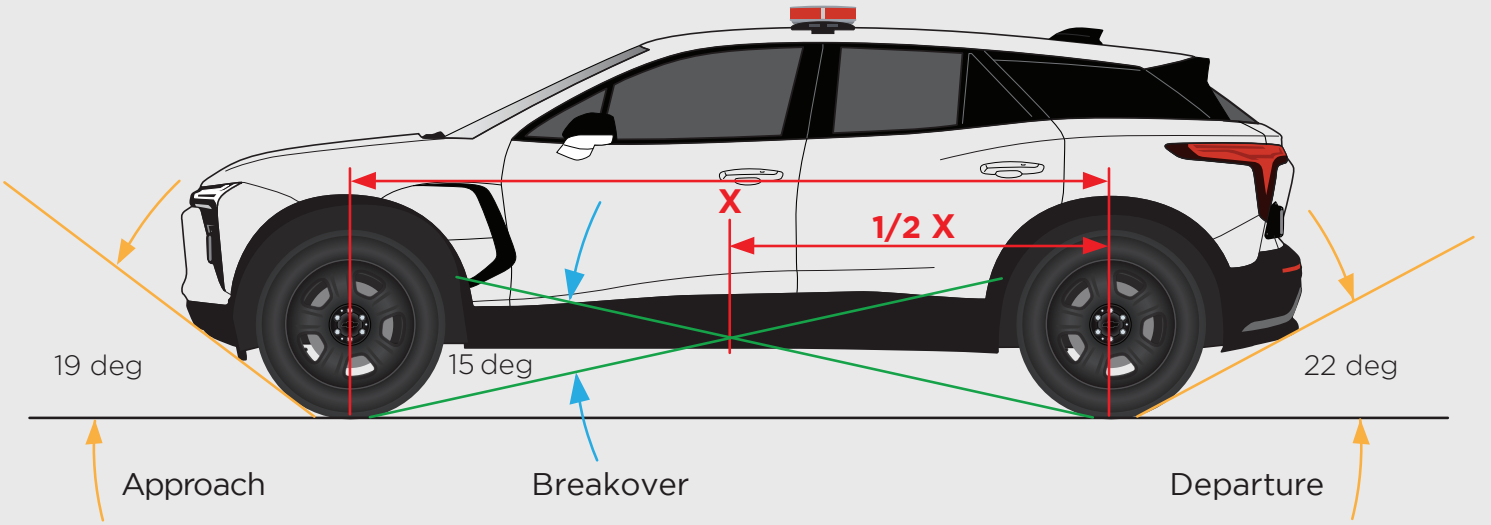

Blazer EV 9C1 Interior


Blazer EV 9C3 Interior

REAR ACCOMODATIONS

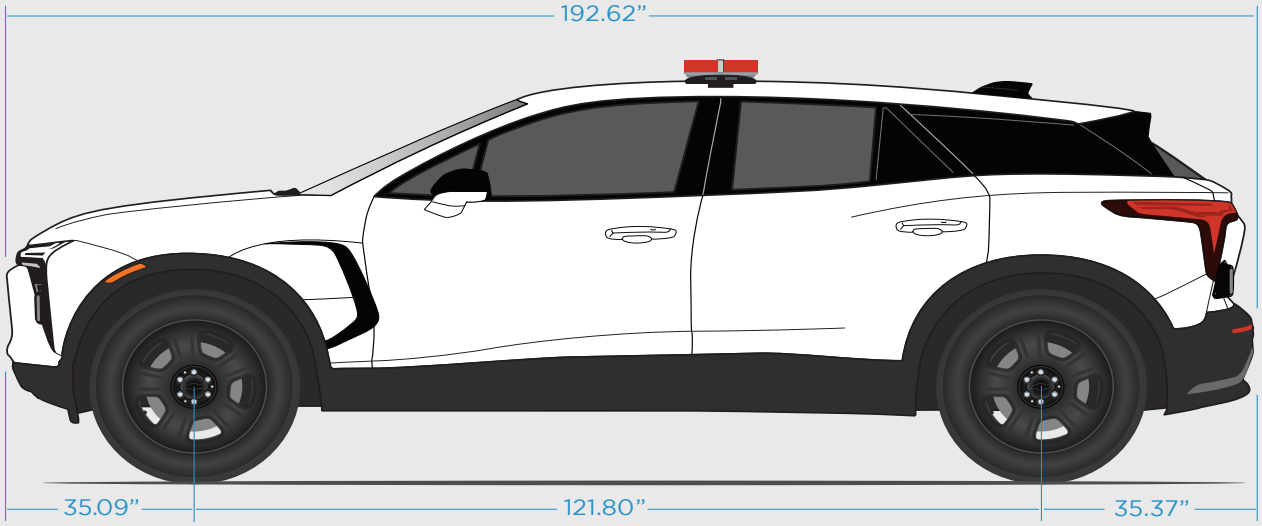
Shown with equipment from independent suppliers not covered by the GM New Vehicle Limited Warranty GM is not responsible for the safety or quality of independent supplier alterations.

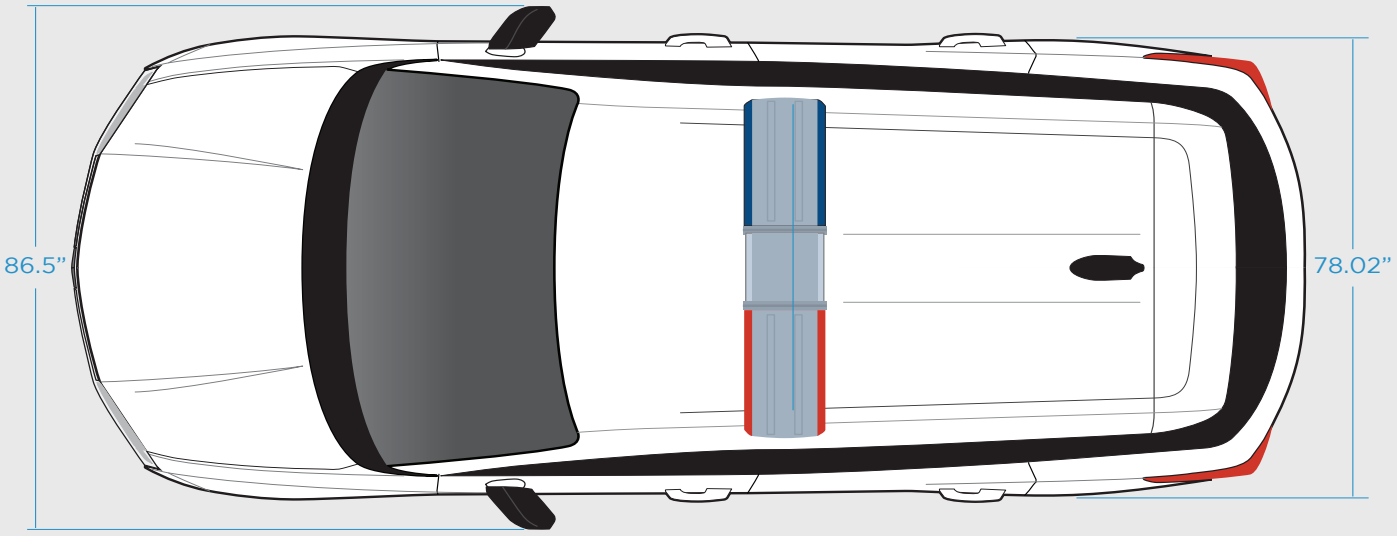
APPROACH AND DEPARTURE ANGLES

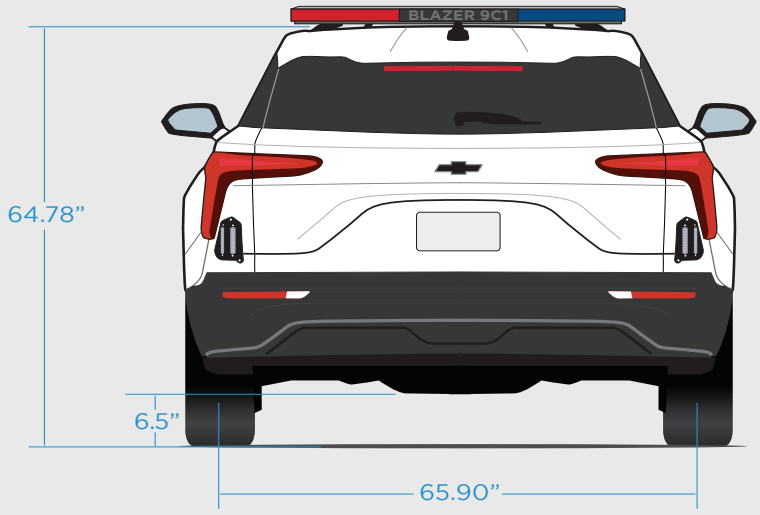


	PPV Blazer EV AWD
Approach Angle	19 degrees
Departure Angle	22 degrees
Breakover Angle	15 degrees
Ground Clearance	7.49 in. / 190 mm
Wheelbase (X)	121.80 in. / 3094 mm
Overhang, front	35.09 in. / 891 mm
Overhang, rear	5.37 in. / 898 mm

DIMENSIONS



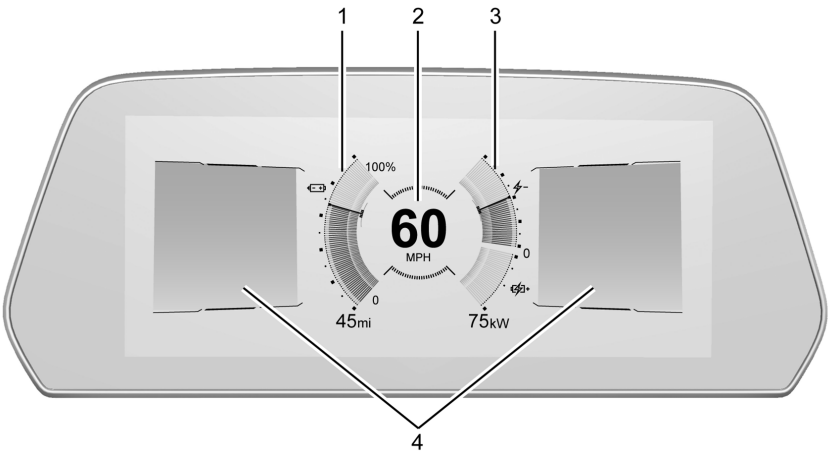




Estimated material sizes to wrap:

- Hood - 50” x 72”
- Front Doors - 57” x 34”
- Rear Doors - 52” x 35”
- Roof - 112” x 60”
- Front Clip - 40” x 115”
- Rear Clip - 38” x 70”
- Front Quarter - 56” x 32”
- Rear Quarter - 42” x 32”

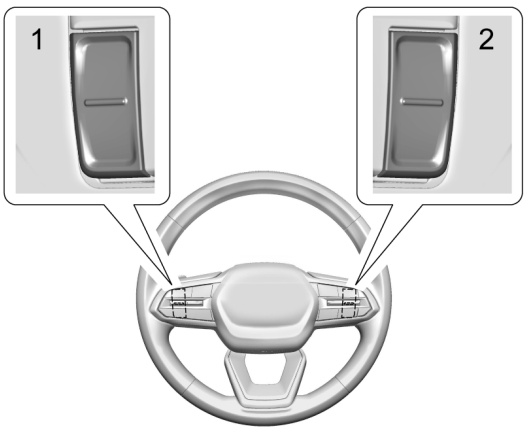
UNITED STATES CERTIFIED SPEEDOMETER/CLUSTER (CANADIAN SIMILAR)



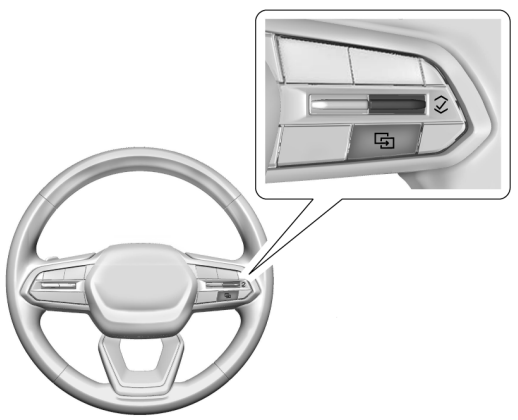
1 Battery Gage
2 Speedometer
3 Power Indicator Gage
4 Driver Information Center

NOTE: English single Gauge Layout Shown. Other Layouts and Metric Similar. Use the right steering wheel control to open and scroll through the different items and displays.

RADIO, SIREN/FLASHERS CONTROLS



1. The steering wheel controls on left rear side control momentary output for two-way radio microphone and latching for siren/flashers.
2. Volume: Press to increase or decrease the volume.



STEERING WHEEL MENU CONTROLS

2024 BLAZER EV PPV SPEEDOMETER CERTIFICATION CALIBRATION

"To Whom it May Concern;
The speedometer system in the 2024MY Police Blazer EV is equipped with an electronically controlled speedometer which is designed to be accurate +/–3 km/h (+/2 mph) through its range of function. The Police Package speedometer is calibrated with (X0E), performance all wheel drive electrified propulsion system, and 265/50R20 SL 107V rated tires (QH9). Specifications are at temperatures of –23 to 49 °C (–10 to 120 °F). Inaccuracies due to vehicle speed sensing are included.

GM specified vehicle maintenance is required to maintain the stated accuracy of the speedometer system. The accuracy of the speedometer system is dependent on and affected by the required vehicle maintenance including; following placard tire inflation pressure of 39 psi, monitoring tire wear as directed by the owner's manual, tire replacement with all-season Firestone Firehawk Pursuit 265/50 R20 tires, maintaining original OEM driveline ratios, maintaining original OEM electronic module calibration files and following vehicle loading limitations.

Regards,

Sean O'Shea
Police Vehicle Program Manager

VEHICLE TOUCH SCREEN SETTINGS

VEHICLE PERSONALIZATION MENU

The Personalization Menu is accessed by:

Item setting

Important features in the VEHICLE SETTINGS sub-menu that can be changed are:

Rear Seat Reminder[1]

Buckle to Drive

Collision Detection[2]

Comfort and Convenience

Lighting

Power Locks

Safety Alert Seat[2]

See the Owner's Manual for a complete Vehicle Personalization Menu listing of items that may be available for your vehicle.

1. Does not detect people or items. Always check rear seat before exiting. **2.** Safety or driver assistance features are no substitute for the driver's responsibil-ity to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information.

STANDARD INTERIOR FEATURES

REAR CAMERA MIRROR

Inside rearview auto-dimming with full camera display. Includes (CWA) Rear Camera Mirror Washer.

This automatic dimming mirror provides a wide angle camera view of the area behind the vehicle. Pull the tab to turn on the display. Push the tab to turn it off. When off the mirror is automatic dimming. Adjust the mirror for a clear view of the area behind the vehicle while the display is off.

WARNING: The Rear Camera Mirror (RCM) has a limited view. Portions of the road,

Vehicles, and other objects may not be seen. Do not drive or park the vehicle using only this camera. Objects may appear closer than they are. Check the outside mirrors or glance over your shoulder when making lane changes or merging. Failure to use proper care may result in injury, death, or vehicle damage.

The Rear Camera Mirror may not work properly or display a clear image if:.

- There is glare from the sun or headlamps.
- This may obstruct objects from view. If needed, push the tab to turn off the display.
- Dirt, snow, or other debris blocks the camera lens. Clean the lens with Rear Camera Washer or a soft damp cloth.
- The camera's mounting on the vehicle has been damaged, and/or the position or the mounting angle of the camera has changed.

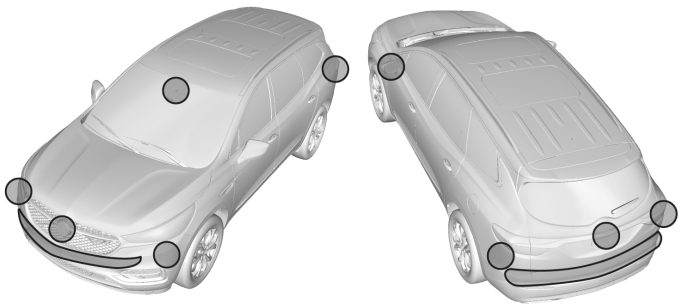
Safety or driver assistance features are no substitute for the driver's responsibility to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information.

REAR SEAT REMINDER

The message REAR SEAT REMINDER LOOK IN REAR SEAT displays under certain conditions indicating there may be an item or passenger in the rear seat. Check before exiting the vehicle. This feature will activate when a second row door is opened while the vehicle is on or up to 10 minutes before the vehicle is turned on. There will be an alert when the vehicle is turned off. The alert does not directly detect objects in the rear seat; instead, under certain conditions, it detects when a rear door is opened and closed, indicating that there may be something in the rear seat.
The feature is active only once each time the vehicle is turned on and off, and will require reactivation by opening and closing the second row doors. There may be an alert even when there is nothing in the rear seat; for example, if a child entered the vehicle through the rear door and left the vehicle without the vehicle being shut off.
The feature can be turned on or off. Select Settings > Vehicle > Rear Seat Reminder > ON or OFF.
Note: Safety or driver assistance features are no substitute for the driver's responsibility to operate the vehicle in a safe manner. Read the vehicle's Owner's Manual for important safety and driver assistance feature limitations and information

STANDARD SAFETY FEATURES

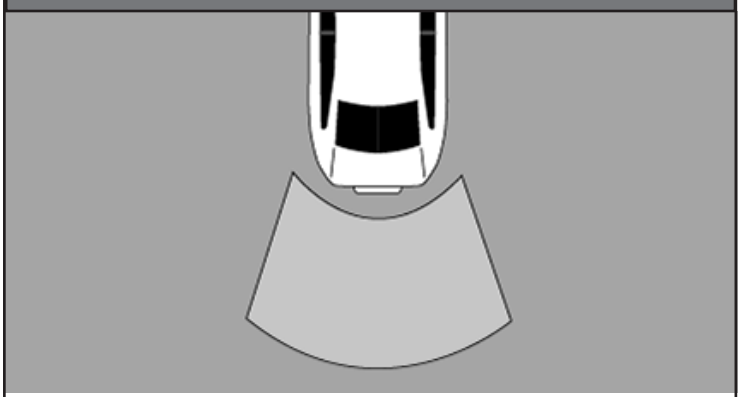
SAFETY ALERT SEAT[1]



The driver seat cushion may provide a vibrating pulse alert or audible beeping. To change settings from the infotainment screen, touch Settings > Vehicle > Collision/Detection Systems. Keep these areas of the vehicle clean and clear of obstacles to ensure the best driver assistance feature performance. Driver Information Center (DIC) messages may display when the systems are unavailable or blocked.

- Front and rear bumpers and the area below the bumpers - Not available on 9C1 or 9C3.
- Front grille and headlamps - Not available on 9C1 or 9C3.
- Front camera lens in the front grille or near the front emblem - Not available on 9C1 or 9C3.
- Front side and rear side panels - Not available on 9C1 or 9C3.
- Outside of the windshield in front of the rearview mirror - Not available on 9C1 or 9C3.
- Side camera lens on the bottom of the outside mirrors - Not available on 9C1 or 9C3.
- Rear side corner bumpers
- Rear Vision Camera above the license plate

REAR PARK ASSIST[1]

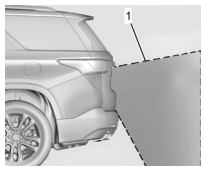


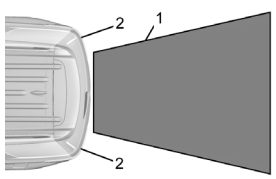
The cluster may display a Park Assist amphitheater-like display with bars that represent the estimated location of a detected object and the vehicle's distance from the object. As a detected object becomes closer, more bars light up and change color from yellow to amber to red. When an object is first detected in the rear, one beep will be heard from the rear, or the SAFETY SEAT will pulse two times, When an object is very close, five beeps will sound from the rear or the SAFETY SEAT will pulse five times.

The Park Assist System is no substitute for careful and attentive driving. The Park Assist system does not detect children, pedestrians, bicyclists, animals, or objects located below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 9 km/h (6 mph). To prevent injury, death, or vehicle damage, even with Park Assist, always check the area around the vehicle and check all mirrors before moving forward or backing.

The REAR Park Assist System can be turned on or off using the infotainment system. To view available settings from the infotainment home screen, touch Settings > Vehicle > Collision/Detection Systems.

HD REAR VISION CAMERA[1]





1. View Displayed by the Camera in Radio Screen
2. Corners of the Rear Bumper

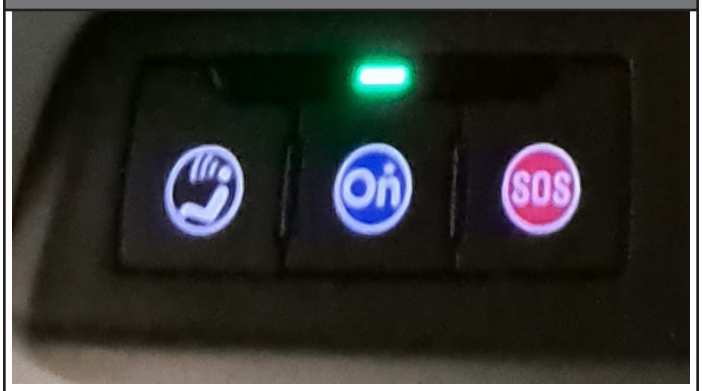
Displayed images may be farther or closer than they appear. The area displayed is limited and objects that are close to either corner of the bumper or under the bumper do not display.

The camera(s) do not display children, pedestrians, bicyclists, crossing traffic, animals, or any other object outside of the cameras' field of view, below the bumper, or under the vehicle. Shown distances may be different from actual distances. Do not drive or park the vehicle using only these camera(s). Always check behind and around the vehicle before driving. Failure to use proper care may result in injury, death, or vehicle damage.

1. Safety or driver assistance features are no substitute for the driver's responsibil-ity to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information.

STANDARD INTERIOR FEATURES

OnStar®



Voice Command Button

Blue OnStar® Button

Emergency Button

This vehicle is equipped with a comprehensive, in-vehicle system that can connect to a live OnStar® Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services. OnStar® services may require a paid subscription. OnStar® requires the vehicle battery and electrical system, cellular service, and GPS satellite signals to be available and operating. OnStar® acts as a link to existing public emergency service providers. OnStar® may collect information about you and your vehicle, including location information. See OnStar®'s Terms and Conditions and Privacy Statement for more details including system limitations at www.OnStar.com (U.S.) or www.OnStar®.ca (Canada). The OnStar® system status light is next to the OnStar® buttons. If the status light is:

- Solid Green: System is on.
- Flashing Green: On a call.
- Red: Indicates a problem.
- Off: System is off. Press the blue OnStar® button twice to speak with an OnStar® Advisor.

Press or call 1-888-4-ONSTAR (1-888-466-7827) to speak to an Advisor.

Press to:

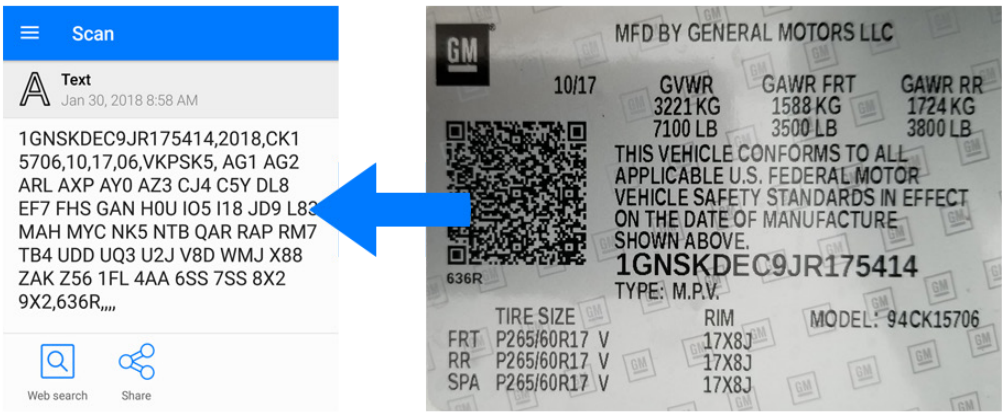
- Make a call, end a call, or answer an incoming call.
- Give OnStar® Hands-Free Calling voice commands.

NOTE: Do not activate OnStar® if you have no plans on using this feature

STANDARD MECHANICAL FEATURES

SERVICE PARTS IDENTIFICATION LABEL

SPID Label Content Now Included with Certification Label. The Service Parts Identification (SPID) label, often located in the trunk or glovebox of a vehicle, lists a vehicle's VIN, RPO codes and other information that identify the content of the vehicle. Beginning with the 2018 model year, much of this information will be available through a QR code on the Certification label.



Software to read the QR code is commonly available for any Android, iPhone or Windows smartphone. Many basic applications can be downloaded for free. Tested QR code readers that are easy to use include NeoReader by NM LLC, inigma by 3GVision, QR Scanner by Honestly App, QR Droid by DroidLa and Bar-Code by PW2. GM does not recommended any particular software. Once the QR code is scanned, the vehicle information will appear in the following order: VIN, Model Year, Model, Build Month, Year, MOTORering Book, Vehicle Order Number, 3 Digit RPO Codes sorted alphanumerically, and the Paint Code (same code appears in the lower left of the QR code).

STABILITRAK CONTROL

The vehicle has a Traction Control System (TCS) and StabiliTrak/Electronic Stability Control (ESC), an electronic stability control system. These systems help limit wheel slip and assist the driver in maintaining control, especially on slippery road conditions.

TCS activates if it senses that any of the drive wheels are spinning or beginning to lose traction. When this happens, TCS applies the brakes to the spinning wheels and reduces propulsion system power to limit wheel spin.

StabiliTrak/ESC activates when the vehicle senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak/ESC selectively applies braking pressure to any one of the vehicle wheel brakes to assist the driver in keeping the vehicle on the intended path.

If TCS is limiting wheel spin when g is pressed, the system will not turn off until the wheels stop spinning.

If cruise control is being used and TCS or StabiliTrak/ESC begins to limit wheel spin, cruise control will disengage. Cruise control may be turned back on when road conditions allow.

Both systems come on automatically when the vehicle is started and begins to move. The systems may be heard or felt while they are operating or while performing diagnostic checks. This is normal and does not mean there is a problem with the vehicle.

It is recommended to leave both systems on for normal driving conditions, but it may be necessary to turn TCS off if the vehicle gets stuck in sand, mud, ice, or snow. See "Turning the Systems Off and On" later in this section.

Safety or driver assistance features are no substitute for the driver's responsibility to operate the vehicle in a safe manner. The driver should remain attentive to traffic, surroundings and road conditions at all times. Visibility, weather, and road conditions may affect feature performance. Read the vehicle's owner's manual for more important feature limitations and information.

STANDARD ELECTRICAL FEATURES

UNIVERSAL VEHICLE MODULE (UVM)

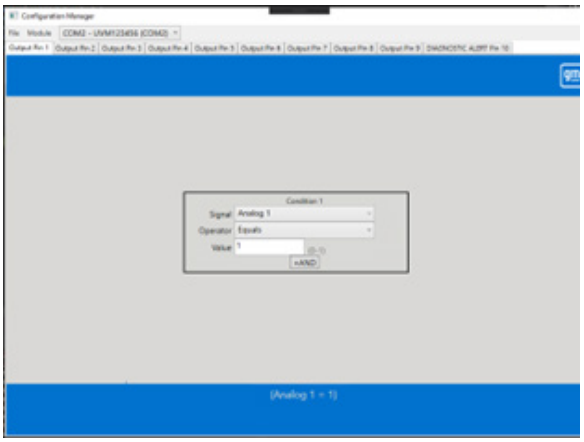
Provides CAN Readability of selected messages utilizing SAE J1939 formatting. This gateway module offers 10-switchable inputs and outputs, and includes a GUI (Graphical User Interface) SW available to customize the UVM to specific customer needs

UVM Application Examples:

- Police upfits that require underhood electrical center momentary start up feature to control the HVAC climate system for K9 vehicles.
- Large Fleet customers that use telematic equipment (Geotab) to monitor mileage and idle CAN bus messages for vehicle maintenance/service schedules.

4 Preprogramed Commanded Features (Specified Input Voltage Range)

- Automatic Vehicle Start
  - Input request commands underhood electrical center start up for up to 8 hours or low fuel condition
- Shut Down Inhibit
  - Input request prevents underhood electrical center shutdown
- Increased Engine Idle
  - -Input request commands engine idle to fixed RPM value
- Snow-Plow Support
  - Input request commands deactivation of conflicting active safety features
  - Input request headlamps to full dim status



10 input/outputs configurable through GUI. Allows extensive customization of output activation criteria. Outputs are high side drive by default. Configurations can be read/write and stored for multiple vehicles. Various operating parameters available to read only. Downloadable software to configure the UVM from GM Upfitter.com

UVM Application Examples:

- Police upfits that require underhood electrical center momentary start up feature to control the HVAC climate system for K9 vehicles.
- Large Fleet customers that use telematic equipment (Geotab) to monitor mileage and idle CAN bus messages for vehicle maintenance/service schedules.

Module and user harness located right rear interior quarter panel.

STANDARD ELECTRICAL FEATURES

SURVEILLANCE MODE – SEO 5J3

The Blazer EV Police and Special Service Package has a Body Control Module (BCM) calibration which disables all automatic exterior and interior lighting.
When activated, with the exterior lamp control in the auto position, the exterior and interior lighting will be disabled or dimmed to a minimum federally regulated level.
For detailed technical information on activation of this feature, refer to the vehicle technical guide under the Body Builder Manuals section on www.gmupfitter.com.

RADIO MUTE FEATURE

A Radio Mute circuit (#10137) is provided to permit muting of the vehicle radio when an emergency vehicle radio is transmitting. It is the Gray/White blunt cut wire located between the front seats near the upfitter branch harness.

The following customer device electrical specifications must be met to avoid damage to the vehicle Exterior Lighting Module (ELM) input circuitry:
- No inductance allowed
- Maximum Load Capacitance: 600 nano-farads.
- Maximum Closed switch contact resistance: 20 ohms
- Minimum Open switch contact resistance: 100,000 ohms

EXTERIOR LAMPS EMERGENCY FLASHING SYSTEM

Standard 6J7 provides headlamp high beam flashing and rear lamps flashing via the Exterior Lighting Module (ELM). The exterior lamps flashing is activated by customer switching of ground circuits in the upfitter harness located between the front seats (CONSOL) in the rear cargo area (CARGO).

Headlamp high beam flashing is activated via connection of upfitter circuit 8863 to ground via customer switching. The headlamps and high beam indicator will flash alternately at 3 flashes per second. Rear lamps flashing is chosen by the customer to flash either Red-White alternately (Brake lamps and Reverse Lamps, grounding upfitter circuit 8865) or Red-Red alternately (Left and Right Brake Lamps, grounding upfitter circuit 8864). The rear lamps flash rate is 3 per second. Depressing the Brake pedal will override the brake lamp flashing and placing the transmission in Reverse will override the reverse lamps flashing.
During daylight conditions, the Daytime Running Lamps (DRL) are automatically turned off whenever the Lamp Flashing System is activated. During night time conditions the low beam headlamps and tail lamps automatically turn on while the high beams flash. Turning on the high beam headlamps will override high beam flashing. If Option 9G8 is present the low beam head lamps and tail lamps must be manually activated. The Center Mounted Stop Lamp will operated only when the service brakes are applied.

NOTES:
- Wiring connection or splice changes are to be removed before the vehicle is returned to civilian use.
- For wiring diagram see Wiring Section

PROTECTED IDLE

The Protected Idle Feature allows the vehicle to remain idling but will not allow the gear selector to be shifted from Park without a valid key fob.

ACTIVATING PROTECTED IDLE

Preconditions (All preconditions must be met.)
Vehicle is in PROPULSION state
Vehicle is in Parked State
Vehicle speed is less than 4 kilometers per hour
Valid key fob is present.

Activation
Exit vehicle with key fob

Vehicle Feedback.
Upon activation of Protected Idle, the Digital Information

Center (DIC) will display the following:

"Protected Idle ON"

"Park in Open Area"

"Take Your Key"

If any of the above preconditions are not met while activating Protected Idle, DIC will display the message: *"Protected Idle Unavailable"*

DEACTIVATING PROTECTED IDLE
Valid key fob is present
Press brake pedal and shift out of Park OR
Press the Ignition Switch with the Brake Pedal pressed.

DIC messages will turn off, indicating Protected Idle is no longer activated.

CONDITIONS UNDER WHICH THE PROTECTED IDLE WILL TURN OFF AND VEHICLE WILL TRANSITION TO OFF POWER MODE
Brake pedal pressed without a valid key fob present **OR**
Cruise Cancel Switch depressed without a valid key fob present **OR**
Ignition Switch pressed without a valid key fob present **OR**
With a valid key fob present, ignition switch is pressed and brake pedal is not pressed (the system treats this action as a customer request to turn OFF the vehicle.) **OR**
Horn chirps occur. **OR**
Low fuel condition. Horn chirps occur.

CONDITIONS UNDER WHICH THE PROTECTED IDLE WILL TURN OFF AND VEHICLE WILL TRANSISTION TO RUN POWER MODE.
If the Shift Lock mechanism is defeated and shifted Out of Park while the Protected Idle is active, the vehicle will transition to the RUN power mode and Protected Idle will be deactivated and Horn chirps occur. DIC messages will turn off indicating Protected Idle is inactive.

ALWAYS PROPERLY SUPERVISE A VEHICLE WHEN PEOPLE OR ANIMALS ARE INSIDE.

OPTIONAL FEATURES

OPTIONAL FRONT AND REAR WHELEN CORNER LIGHTING

Shown with equipment from independent suppliers not covered by the GM New Vehicle Limited Warranty GM is not responsible for the safety or quality of independent supplier alterations.

OPTIONAL FEATURES

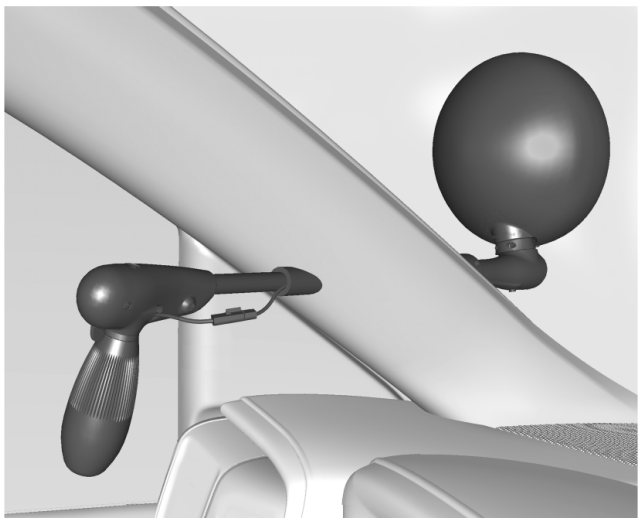
T53 REAR LIFTGATE WARNING LIGHTS

REAR CARGO AREA (SHOWN WITH FALSE CARGO FLOOR) REMOVED.

Shown with equipment from independent suppliers not covered by the GM New Vehicle Limited Warranty GM is not responsible for the safety or quality of independent supplier alterations.

OPTIONAL FEATURES

7X3 LED SPOTLAMP

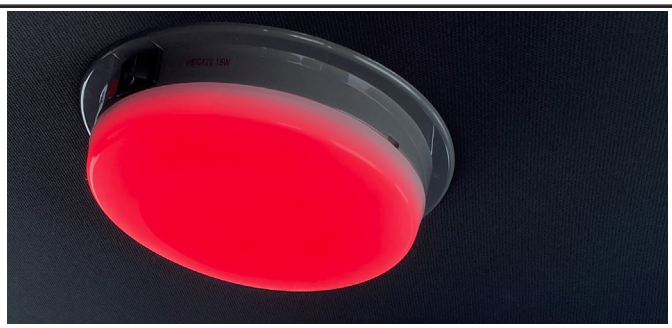


A Unity Series X335, high intensity, LED 15 cm (6 in) spotlamp is mounted in the left windshield A pillar (SEO 7X3). The lamps are each protected by a 15 amp fuse in the underhood Battery Disconnect Unit (BDU). See your dealer or www.gmupfitter.com for lamp replacement procedures.

SDE TRAILER HITCH PANEL

Class 2. 2" receiver.

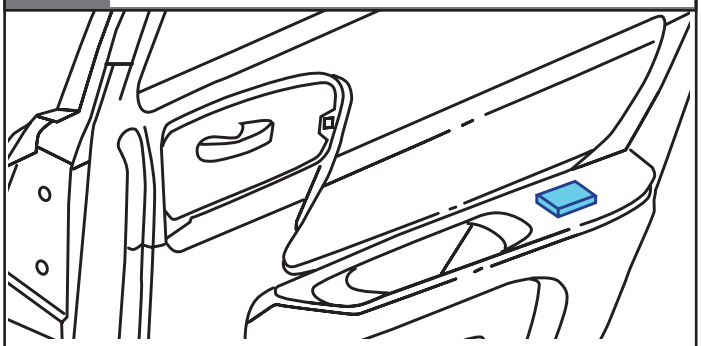
6C7 AUXILIARY DOME LAMP



Auxiliary dome lamp is located on the headliner to the rear of the overhead console and is switched at the rear lamp base. Lamp is wired separately standard dome lamps with red and white LED bulbs.

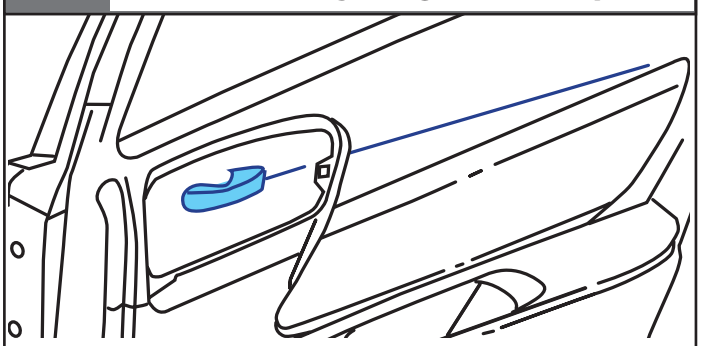
OPTIONAL FEATURES

6N5 SWITCHES – REAR WINDOW INOPERATIVE



Calibration for rear windows to operate from drivers position only. Rear door window switches are inoperable. Rear door power regulators are operable only from driver position switches. Rear door window lockout switch remains illuminated in all positions when equipped with this feature.

6N6 REAR DOOR LOCKS AND HANDLES INOPERATIVE



Rear door locking rods are disabled. Rear door locks are inoperable at rear doors, but operate from driver position. Inside rear door handles are disconnected. Rear doors can only be opened from the outside.

6E2 FLEET KEY & REMOTE FOB 6E8

The fleet key fob feature allows the user to program a fob to be recognized by a particular vehicle for full remote functionality (Lock/Unlock and Remote Start if equipped). Use of this remote on other fleet keyed-a-like vehicles will be limited to unlocking the driver's door by pressing the exterior door handle button and starting the vehicle once inside. The remote lock/unlock and remote start (if equipped) buttons will not function unless the operator uses the Diver Information Center (DIC) to program the newly introduced fob. Note that a vehicle is only capable of recognizing the last 8 key fobs programmed for full remote capability. Adding a 9th remote fob will bump fob #1 remote functionality until it is reprogrammed through the DIC, adding remote #1 back into the DIC will bump fob #2 remote button functionality, etc. There are no limitations to the amount of fleet keys that will be recognized to access and start the vehicle. Programming a newly introduced fleet fob through the DIC is required to use the Protected Idle feature. Requires AMF. Includes Fleet Common Key (AU7) and UTQ.

AMF PACKAGE OF FOUR UNPROGRAMMED KEYS/FOBS

An unlimited number of KEYS/FOBS can be learned for Keyless start and Keyless open, only the last 8 KEYS/FOBS learned will have the key fob buttons work for that vehicle. The programming procedure for SEO AMF KEYS/FOBS requires that one previously learned key fob be present in the vehicle.
One learned key fob is required for this procedure.

NOTE: If a previously learned key fob is not available, the programming of the new KEYS/FOBS must be performed by a dealer using the Service Programming System (SPS). Key fob programming is not a warranty item and programming is conducted by the customer or at a dealer at customer expense.

PROGRAMMING PROCEDURE:

1. Using the learned key fob, turn the ignition ON. The transmission selector must be in PARK.
2. Using the SELECT and other buttons on the right side of the steering wheel, open the Driver Information Center (DIC) Main Menu. Scroll down to Main Menu item OPTIONS with the lower steering wheel button and then SELECT. Scroll to REMOTE KEY RELEARN and Select START. The DIC will display LEARNING ACTIVE.
3. For vehicles equipped with AZ3 front row seating place the FOBs in the pocket inside the center seat console. For vehicle equipped with 5Y1 front row center 20% seat/console delete place the FOBs on top of the the SDM cover.
4. Press the start button to learn the key fob. The DIC will display "ready for Key #" where # is the next key fob to be learned.
5. Verify that key fob is learned by operating the door locks remotely.
6. Repeat Step 3 through 5 to learn the next key fob.
7. To exit key fob learning mode, press and hold the start button for approximately 15 seconds.

9G8 DRL & AHC DISABLED

Daytime Running Lamps (DRL) and Automatic Headlamp Control (AHC) are deleted. Also disables automatic interior courtesy lighting. See your dealer to restore the DRL and AHC to normal operation. With 9G8, the instrument cluster displays are dimmable only when the exterior lamp control is in the parking lamp or headlamp position.

UTQ THEFT DETERRENT DISABLE

Theft-deterrent system content is disabled. The alarm and horn become non-functional in an attempt of theft to the vehicle (recommended for vehicles utilizing 6E2 or 6E8 key codes).

WIRING

Original Equipment Alterations: Limited warranty does not cover any damage or failure resulting from modification or alteration to the vehicle's original equipment as manufactured or assembled by General Motors. Examples of the types of alterations that would not be covered include: installation or use of any non-GM part, accessory, materials, or the cutting, welding or disconnecting of the vehicle's original equipment parts and components. Any upfit device1 connected to the open ended blunt cut circuits should be fuse protected per the "Wire Gage Table" on page 45

K219 - Lighting Control Module
DRZ - A10 - Inside Rearview Mirror
A11 - Radio
E7L - Rear License Plate Lamp –Left
E7R - Rear License Plate Lamp –Right
E73L - Rear Fascia Signal Lamp –Left A90 Logic
E73R - Rear Fascia Signal Lamp – Right A90 Logic
E6 - High Mount Stop Lamp
R44 - Radio AM Antenna Signal Filter Module – Center High Mounted Stop Lamp

KEY FOR ACRONYMS AND TERMS

CONSOL = SPACE BETWEEN FRONT SEATS
CARGO = CARGO AREA LEFT SIDE
IP RY CTR = IP RELAY CENTER ABOVE AND TO RIGHT OF BRAKE PEDAL
EBCM = ELECTRIC BRAKE CONTROL MODULE
4K PPM = 4000 PULSES PER MILE SPEED SIGNAL
ACCY = ACCESSORY
SURVEILLANCE = ALL AUTOMATIC LIGHTING DISABLED WHEN ACTIVATED
PARK ENABLE = PARK RELAY ACTIVATED
CHML = CENTER HIGH MOUNTED STOP LAMP; ON WHEN BRAKES APPLIED
BCM = BODY CONTROL MODULE
ELM = EXTERIOR LIGHT MODULE
WDO = WINDOW
SYNC = SYNCHRONIZED

WIRING

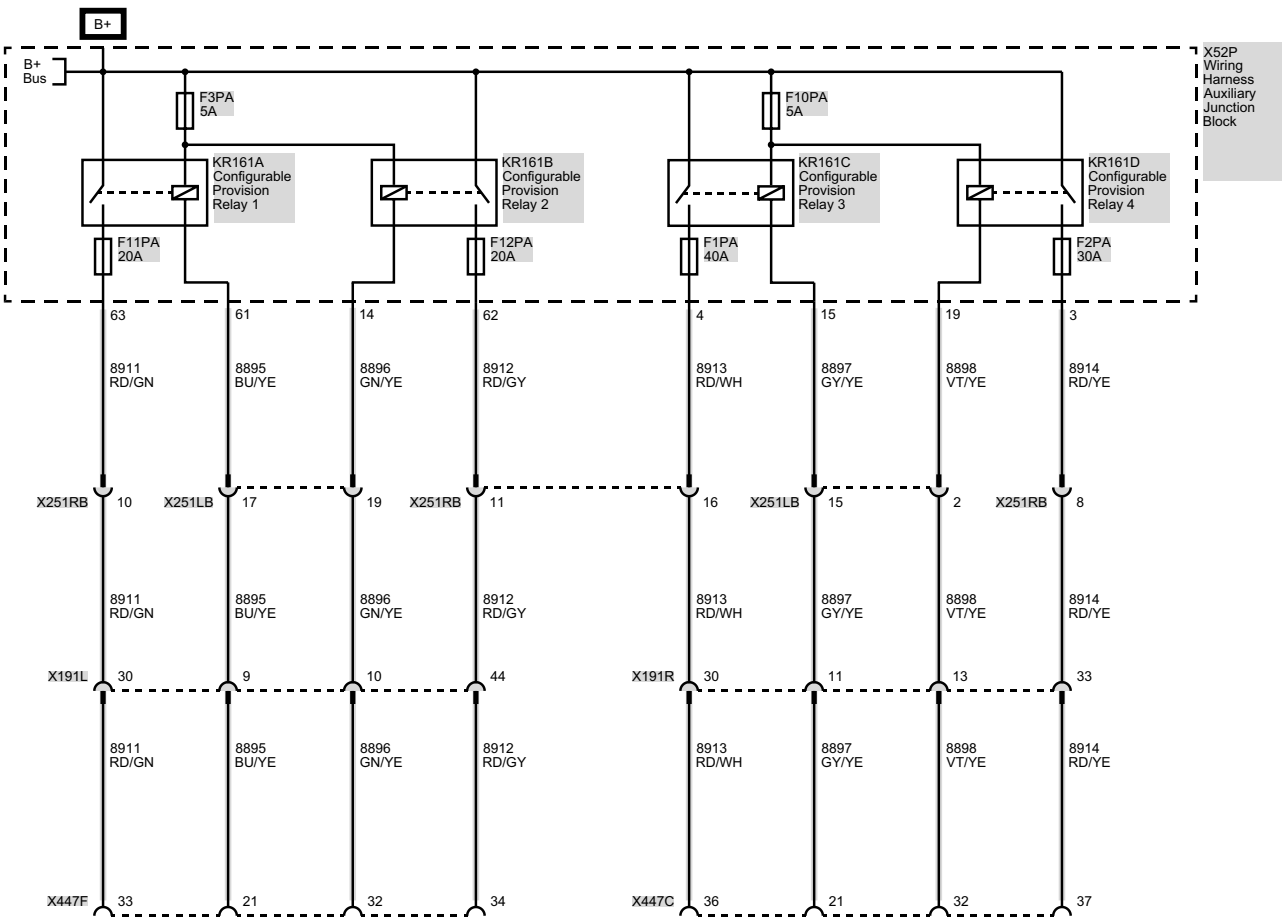
GM Option Code	Wire Gage [mm^2]	Console Connector Terminal	Cargo Connector Terminal	Wire Color	Circuit Name /Circuit #
6J3	0.8	13533797 Terminal 2	13533797 Terminal 2	Brown	8855-Police Front Grille Light 1 Power
6J3	0.8	13533797 Terminal 3	13533797 x 1 Terminal 3	Brown/Blue	8856-Police Front Grille Light 2 Power
6J3	0.8	13533797 Terminal 4	13533797 x 1 Terminal 4	Black/Brown	8857-Police Front Grille Light Return
6J3	0.8	13533797 x 1 Terminal 5	13533797 x 1 Terminal 5	White	8858-Police Front Grille Light Synchronization
6J3	0.8	13533797 x 1 Terminal 6	13533797 x 1 Terminal 6	Brown/Yellow	8859-Police Front Grille Light Steady Burn Activation
6J3	0.8	13533797 x 1 Terminal 7	13533797 x 1 Terminal 7	White/Black	8860-Police Front Grille Spare 1
6J3	1.5	13533797 x 1 Terminal 36	13533797 x 1 Terminal 36	Green/White	8861-Police Front Grille Speaker +
6J3	1.5	13533797 x 1 Terminal 37	13533797 x 1 Terminal 37	Blue/White	8862-Police Front Grille Speaker -
6J7	0.35	13533797 x 1 Terminal 8	13533797 x 1 Terminal 8	Green	8863-Police High Beam Alternate Flash Enable.
5L0	0.35	13533797 x 1 Terminal 9	13533797 x 1 Terminal 9	Blue/Green	8864-Police Tail Lamp Red/Red Alternate Flash Enable.
5J9	0.35	13533797 x 1 Terminal 10	13533797 x 1 Terminal 10	Gray/Green	8865-Police Tail Lamp Red/White Alternate Flash Enable.
T53	0.8	X1 - 13533797 Terminal 11	X1 - 13533797 Terminal 11	White	8867-Police Liftgate Strobe Synch
T53	0.35	X1 - 13533797 Terminal 12	X1 - 13533797 Terminal 12	Violet/Yellow	8868-Police Liftgate Strobe Enable 1
T66 left front	0.75	None	X1 - 13544146 - Terminal 1	Violet	8870-Police Left Mirror Light Power
T66 left front	0.75	None	X1 - 13544146 - Terminal 2	Black/Violet	8871-Police Left Mirror Light Return
T66 left front	0.75	None	X1 - 13544146 - Terminal 3	White/Violet	8872-Police Left Mirror Light Synchronization
T66 left front	0.75	None	X1 - 13544146 - Terminal 4	Blue/Violet	8873-Police Left Mirror Light Steady Burn
T66 left front	0.75	None	X1 - 13544146 - Terminal 5	Yellow/Violet	8874-Police Left Mirror Light Flash Enable
T66 left rear	0.75	None	X1 - 13544146 - Terminal 6	Green	8875-Police Left Rear Window Light Power
T66 left rear	0.75	None	X1 - 13544146 - Terminal 7	Black/Green	8876-Police Left Rear Window Light Return
T66 left rear	0.75	None	X1 - 13544146 - Terminal 8	White/Green	8877-Police Left Rear Window Light Synchronization
T66 left rear	0.75	None	X1 - 13544146 - Terminal 9	Blue/Green	8878-Police Right Rear Window Light Steady Burn
T66 left rear	0.75	None	X1 - 13544146 - Terminal 10	Yellow/Green	8879-Police Right Rear Window Light Flash Enable
T66 right front	0.75	None	X1 - 13544146 - Terminal 11	Gray	8880-Police Right Mirror Light Power
T66 right front	0.75	None	X1 - 13544146 - Terminal 12	Black/Gray	8881-Police Right Mirror Light Return
T66 right front	0.75	None	X1 - 13544146 - Terminal 13	White/Gray	8882-Police Right Mirror Light Synchronization
T66 right front	0.75	None	X1 - 13544146 - Terminal 14	Blue/Gray	8883-Police Right Mirror Light Steady Burn
T66 right front	0.75	None	X1 - 13544146 - Terminal 15	Yellow/Gray	8884-Police Right Mirror Light Flash Enable
T66 right rear	0.75	None	X1 - 13544146 - Terminal 16	Brown	8885-Police Right Rear Window Light Power
T66 right rear	0.75	None	X1 - 13544146 - Terminal 17	Black/Brown	8886-Police Right Rear Window Light Return
T66 right rear	0.75	None	X1 - 13544146 - Terminal 18	White/Brown	8887-Police Right Rear Window Light Synchronization
T66 right rear	0.75	None	X1 - 13544146 - Terminal 19	Blue/Brown	8888-Police Right Rear Window Light Steady Burn
T66 right rear	0.75	None	X1 - 13544146 - Terminal 20	Yellow/Brown	8889-Police Right Rear Window Light Flash Enable
UT7 / 6J1	5	13533168 x1 for pwr and grd term 2	NA	Black	7150-Ground (71) Police
6J1 , Police Provisions (Rear)	5	13533168		RD/GN	742-Primary Fused Battery Positive Voltage (7)
6J8/9/G/E	1	None	X1 - 13533797 Terminal 29	Blue	8890-Police Front Corner Light Power
6J8/9/G/E	1	None	X1 - 13533797 Terminal 31	Blue/White	8891-Police Corner Stobe Synchronization
6J8/9/G/E	1	None	X1 - 13533797 Terminal 38	Green	8892-Police Rear Corner Light Power
6J8/9/G/E	1	None	X1 - 13533797 Terminal 34	Violet	8893-Police Front Corner Stobe Power
6J8/9/G/E	1	None	X1 - 13533797 Terminal 30	BN/WH	8915
6J8/9/G/E	1	None	X1 - 13533797 Terminal 35	Yellow	8894-Police Rear Corner Strobe Power
WX7	0.5	NA	NA	See K2 Tahoe wire colors	201
WX7	0.5	NA	NA	See K2 Tahoe wire colors	118
WX7	0.5	NA	NA	See K2 Tahoe wire colors	200
WX7	0.5	NA	NA	See K2 Tahoe wire colors	117
WX7	0.5	NA	NA	See K2 Tahoe wire colors	199
WX7	0.5	NA	NA	See K2 Tahoe wire colors	116
WX7	0.5	NA	NA	See K2 Tahoe wire colors	46
WX7	0.5	NA	NA	See K2 Tahoe wire colors	115
T53	0.8	NA	NA	Violet	8866-Police Liftgate Strobe Power
T53	0.8	NA	NA	Black	7650-Ground (76) Police
T53	0.35	NA	NA	Violet/Green	8869-Police Liftgate Strobe Rear On OFF
7X3	0.75			RD/GN	10240-Secondary Fused Battery Positive Voltage (102) Police
7X3	0.75			Black	7750-Ground (77) Police
7X3	0.75			RD/GY	10340-Secondary Fused Battery Positive Voltage (103) Police
7X3	0.75			Black	7850-Ground (78) Police
6C7 Aux. dome lamp	0.75			D/BU	10140-Secondary Fused Battery Positive Voltage (101) Police
6C7 Aux. dome lamp	0.75			Black	7550-Ground (75) Police
6J4	0.35			BN/WH	Circuit 28

WIRING

GM Option Code	Wire Gage [mm^2]	Console Connector Terminal	Cargo Connector Terminal	Wire Color	Circuit Name /Circuit #
9C1/ 9C3 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 28	Na	Blue/Yellow	8895-Police Relay 1 Control
9C1/ 9C3 , Police Provisions, console area	1	X1 13533797 Terminal 32	NA	RD/GN	8911-Police Select Supply Voltage 1
9C1/ 9C3 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 29	NA	Green/Yellow	8896-Police Relay 2 Control
9C1/ 9C3 , Police Provisions, console area	1	13533797 Terminal 33	NA	RD/GY	8912-Police Select Supply Voltage 2
9C1/ 9C3 , Police Provisions, console area	10	NA	13533168 x1 for pwr and grd	RD/VT	842-Primary Fused Battery Positive Voltage (8)
6J1 , Police Provisions, console area	10	NA	13533168 x1 for pwr and grd	Black	7350-Ground (73) Police
6J1 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 13	X1 - 13533797 Terminal 13		Circuit 817
6J1 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 14	X1 - 13533797 Terminal 14		Circuit 2801
6J1 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 15	X1 - 13533797 Terminal 15		4939-Run/Crank Ignition 1 Voltage (49)
6J1 , Police Provisions, console area	0.35	X1 - 13533797 Terminal 16	X1 - 13533797 Terminal 16		Circuit 8917
6J1 , Police Provisions, console area	0.35	X1 - 13533797 Terminal 18	X1 - 13533797 Terminal 18		Circuit 6821
6J1 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 19	X1 - 13533797 Terminal 19		Circuit 820
6J1 , Police Provisions, console area	0.5	X1 - 13533797 Terminal 20	X1 - 13533797 Terminal 20		Circuit 5813
6J1 , Police Provisions (Rear) I	0.5	NA	X1 - 13533797 Terminal 21	Gray/Yellow	8897-Police Relay 3 Contro
8907-Police Select Fuse Supply Voltage 3	2.5	NA	X1 13533797 Terminal 1	RD/WH	8913- Select fuse supply voltage
8898 6J1 , Police Provisions (Rear)	0.5	NA	X1 - 13533797 Terminal 32,	Violet/Yellow	8898-Police Relay 4 Control
8914-Police Select Fuse Supply Voltage 4	2.5	NA	X1 13533797 Terminal 17	RD/YE	8914- Select fuse supply voltage
(9C1/9C1) Steering wheel switches	0.35	X1 - 13533797 Terminal 22	X1 - 13533797 Terminal 22	BN/GY	8021-Police Microphone Enable
(9C1/9C1) Steering wheel switches	0.35	X1 - 13533797 Terminal 23	X1 - 13533797 Terminal 23	Grey/Violet	8022-Police Roof Lamp Control
Radio mic.	0.5	X1 - 13533797 Terminal 24	X1 - 13533797 Terminal 24	Black	7450-Ground (74) Police
Radio mic.	0.5	X1 - 13533797 Terminal 25	X1 - 13533797 Terminal 25	Blue/White	8899-Police Microphone Data
Radio mic.	0.5	X1 - 13533797 Terminal 26	X1 - 13533797 Terminal 26	Blue/Violet	8900-Police Microphone Input
Dimmer function for Instrument Panel	0.8	X1 - 13533797 Terminal 27	X1 - 13533797 Terminal 27	YE	Circuit 6817

WIRING

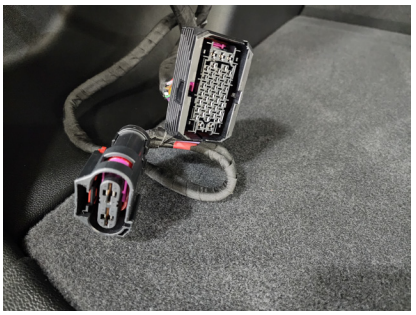
XP2 UPFITTER WIRING HARNESS



CONNECTOR BETWEEN FRONT SEATS

Located under console

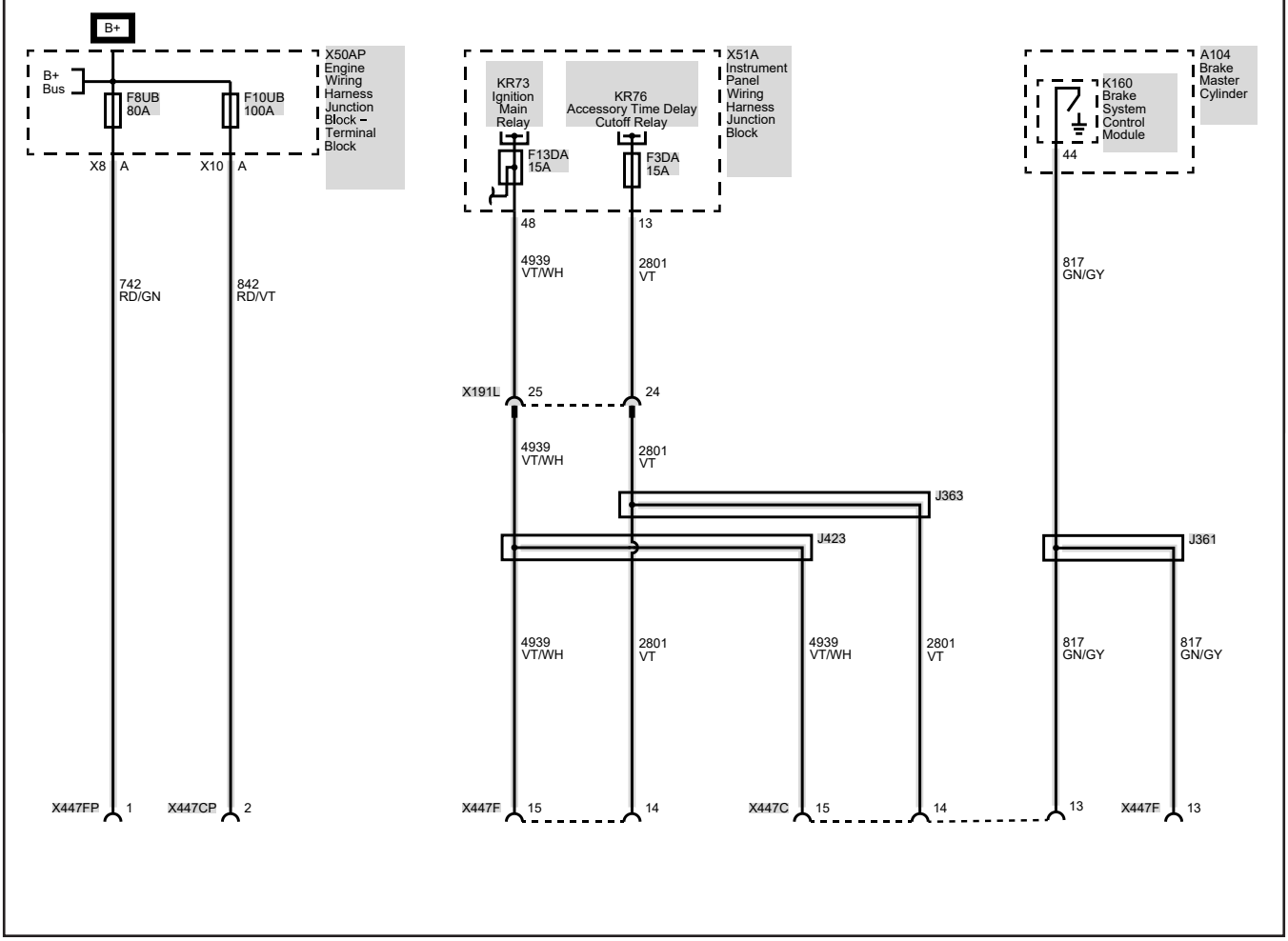
CONNECTOR IN REAR CARGO AREA



Located behind left rear cargo trim

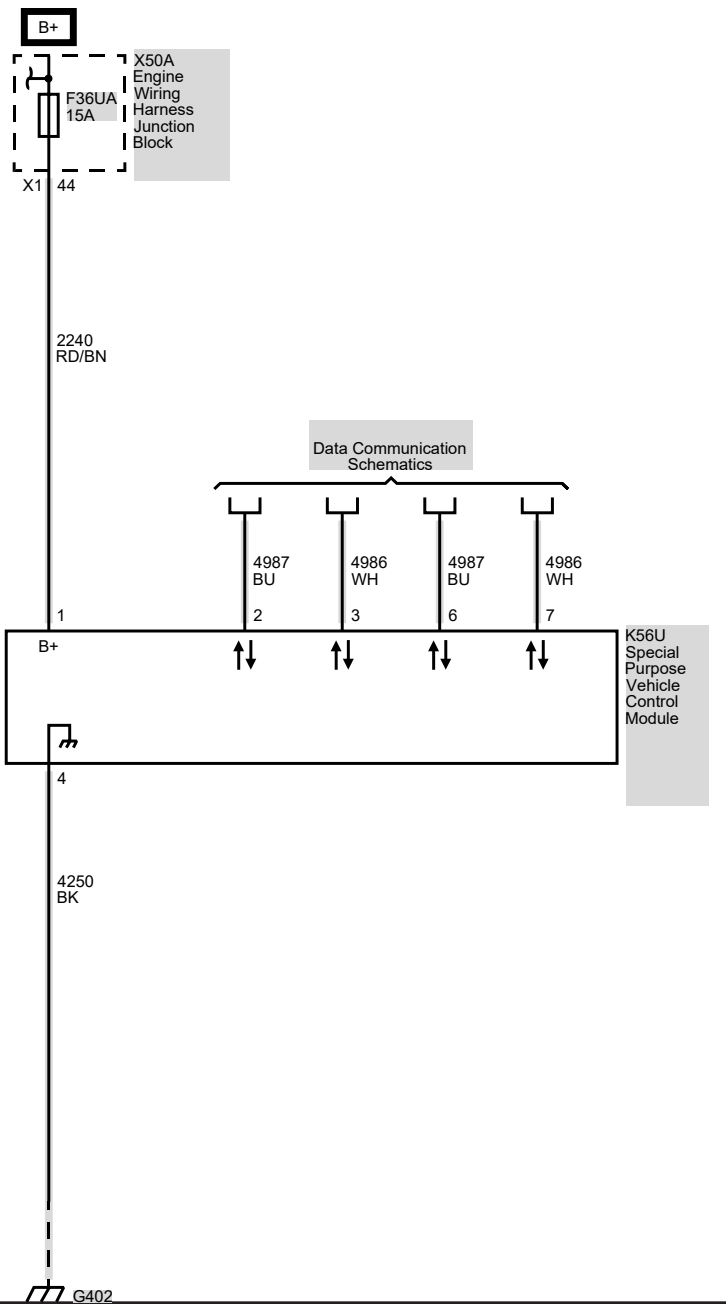
WIRING

MAIN FUSE POWER, ACCESSORY RUN, VEHICLE SPEED



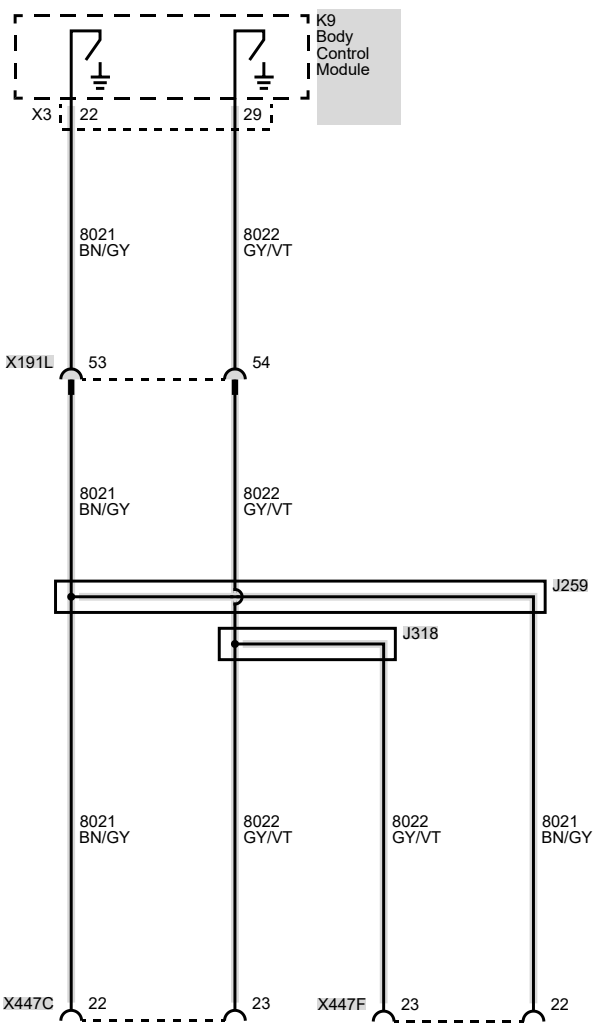
WIRING

KGU UNIVERSAL VEHICLE MODULE



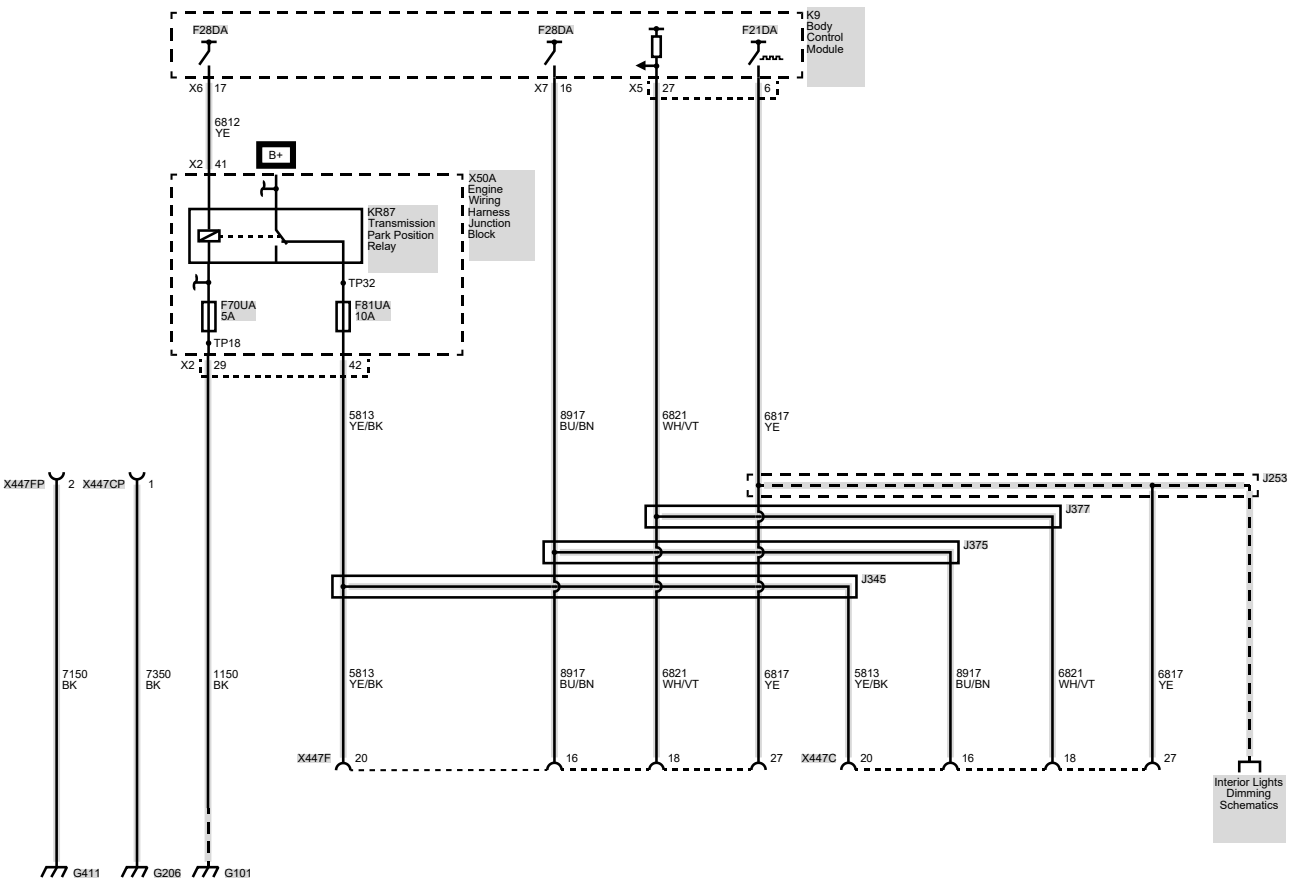
WIRING

REPURPOSED STEERING WHEEL SWITCHES



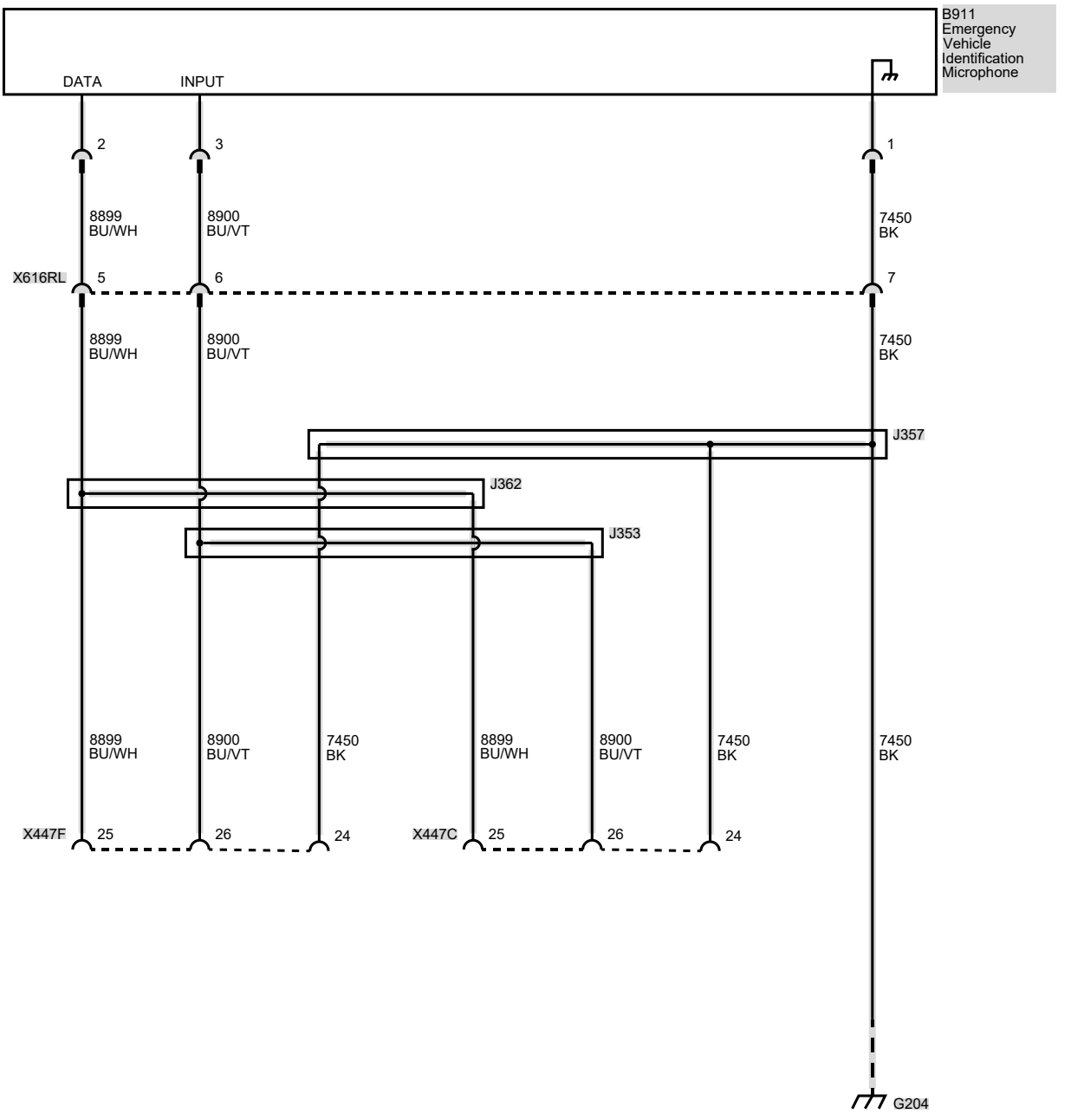
WIRING

BCM SIGNAL PROVISIONS



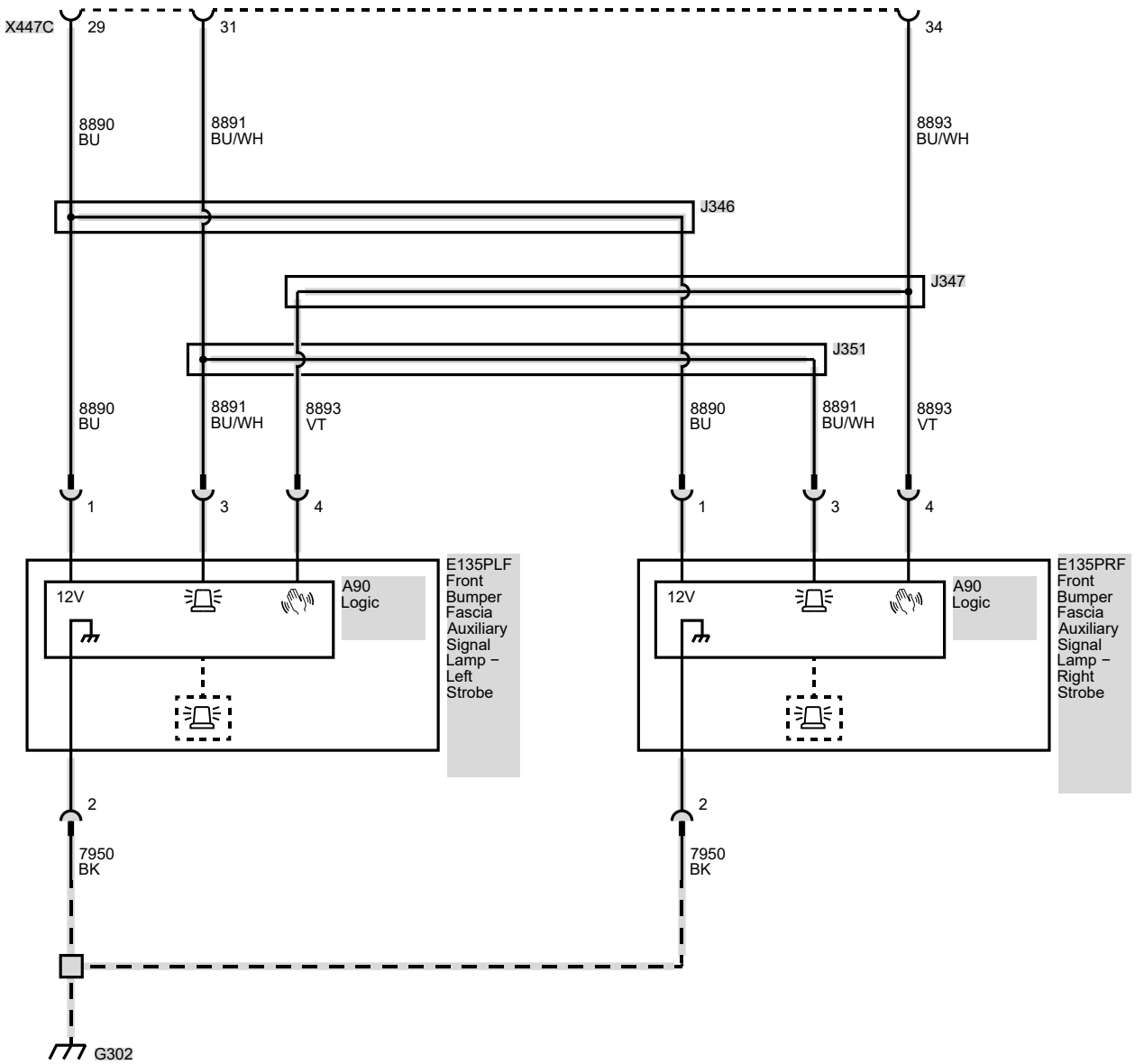
WIRING

RADIO MICROPHONE PROVISIONS



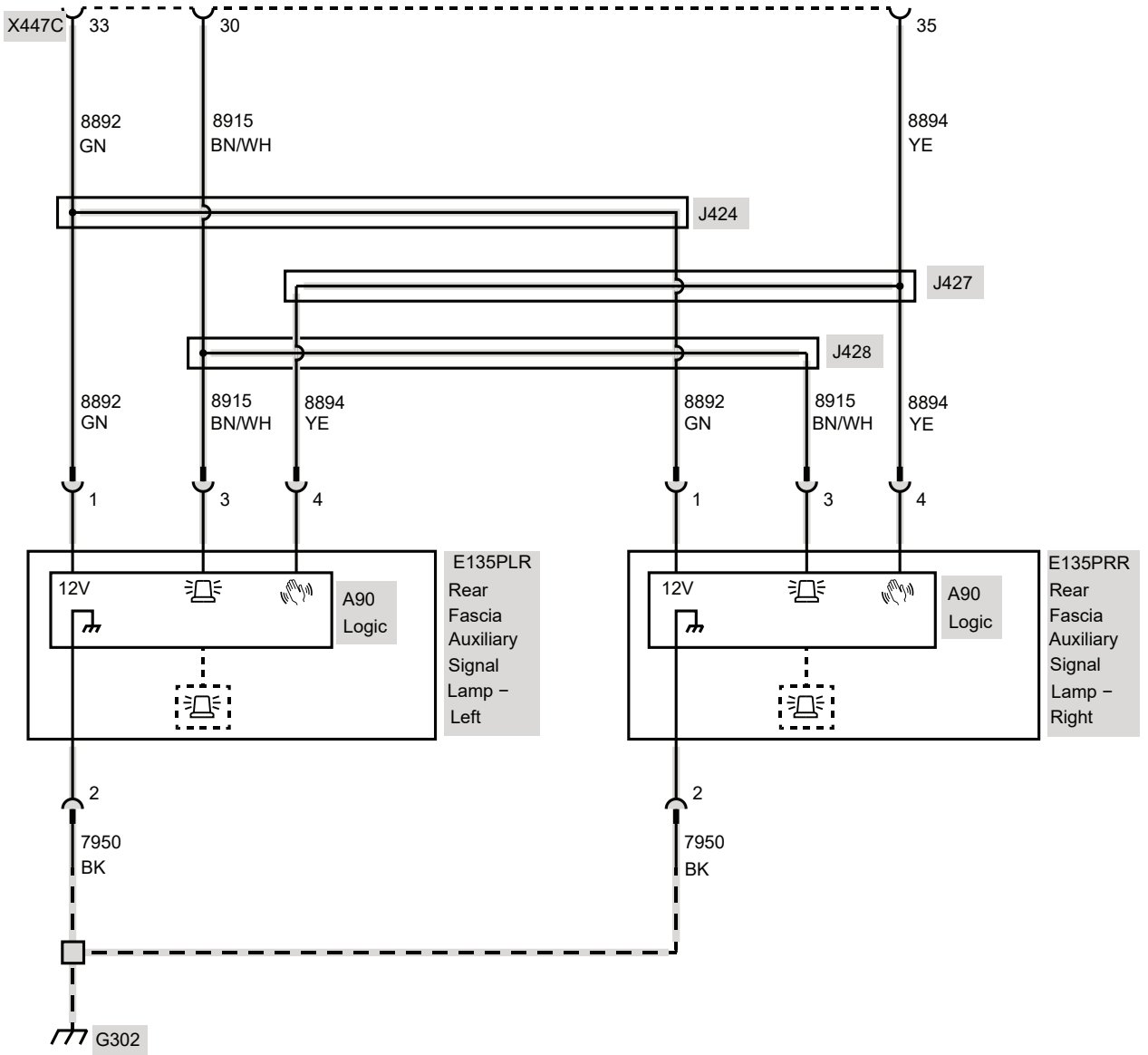
WIRING

6JE / 6JG / 6J8 / 6J9
EMERGENCY VEHICLE CORNER STROBE LIGHTS FRONT



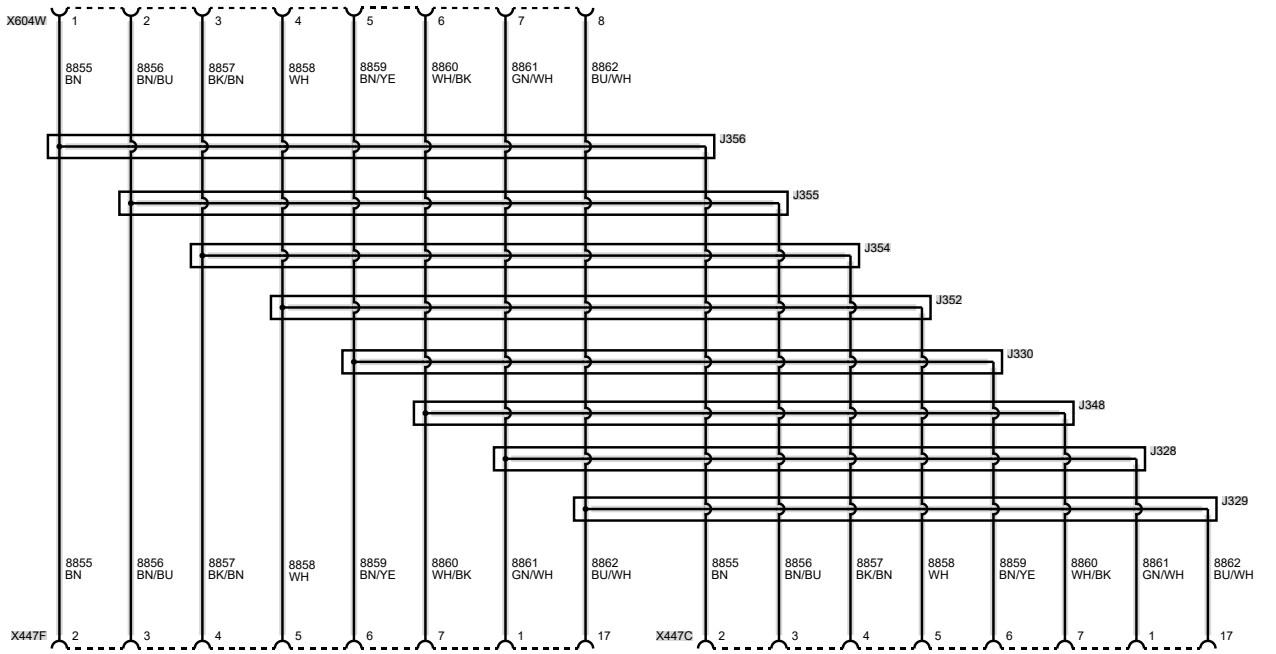
WIRING

6JE / 6JG / 6J8 / 6J9
EMERGENCY VEHICLE CORNER STROBE LIGHTS REAR

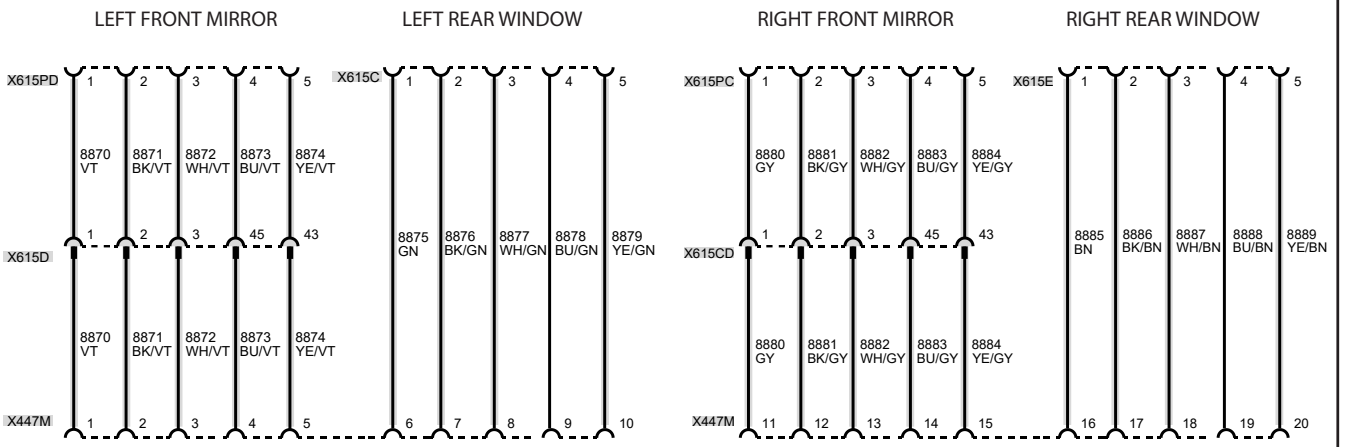


OPTIONAL WIRING

6J3 - GRILLE LAMPS AND SIREN SPEAKER PROVISIONS

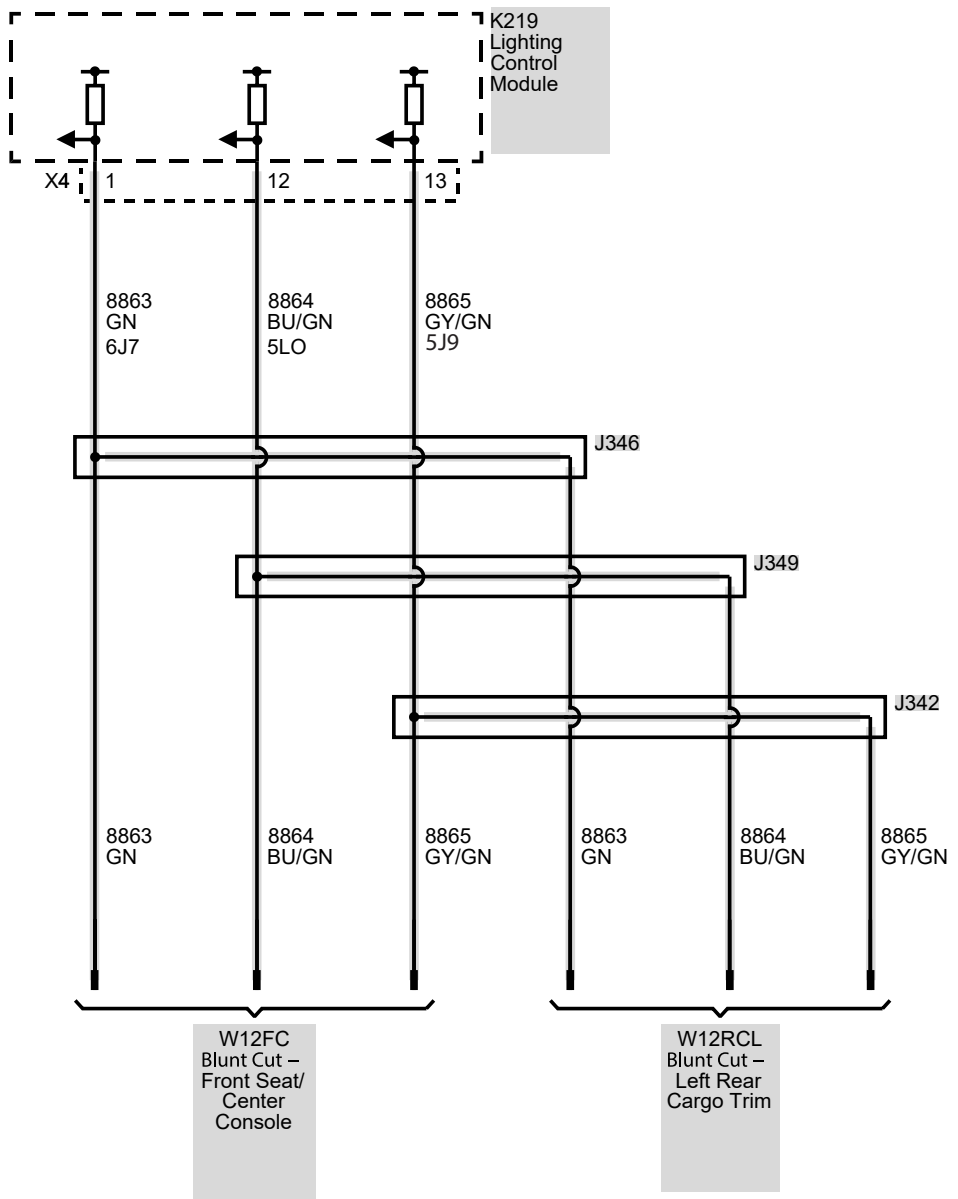


FRONT MIRROR AND REAR WINDOW FLASHER PROVISIONS



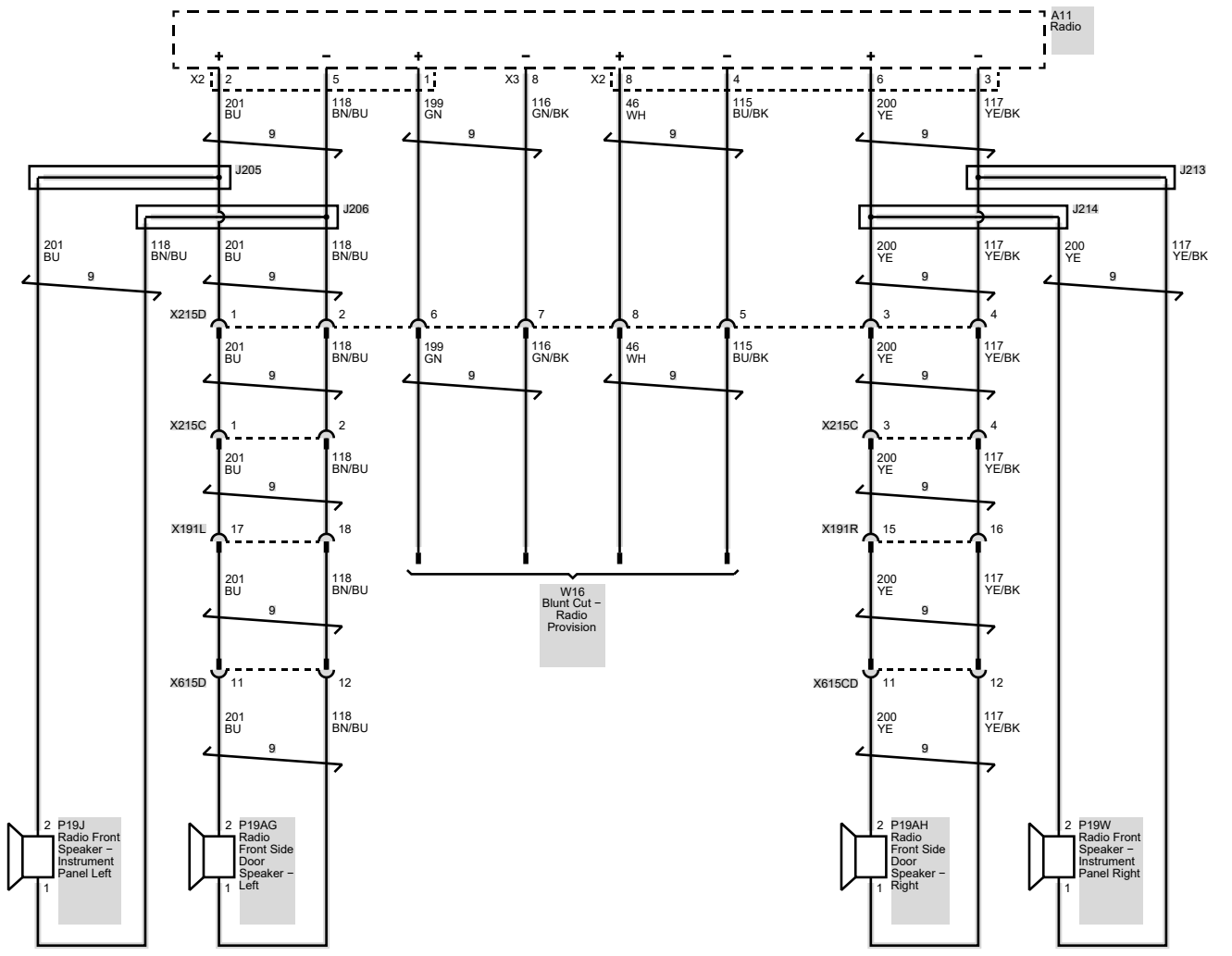
WIRING

6J7, 5LO & 5J9 - HEADLAMPS AND REAR LAMPS FLASHING SYSTEM PROVISIONS



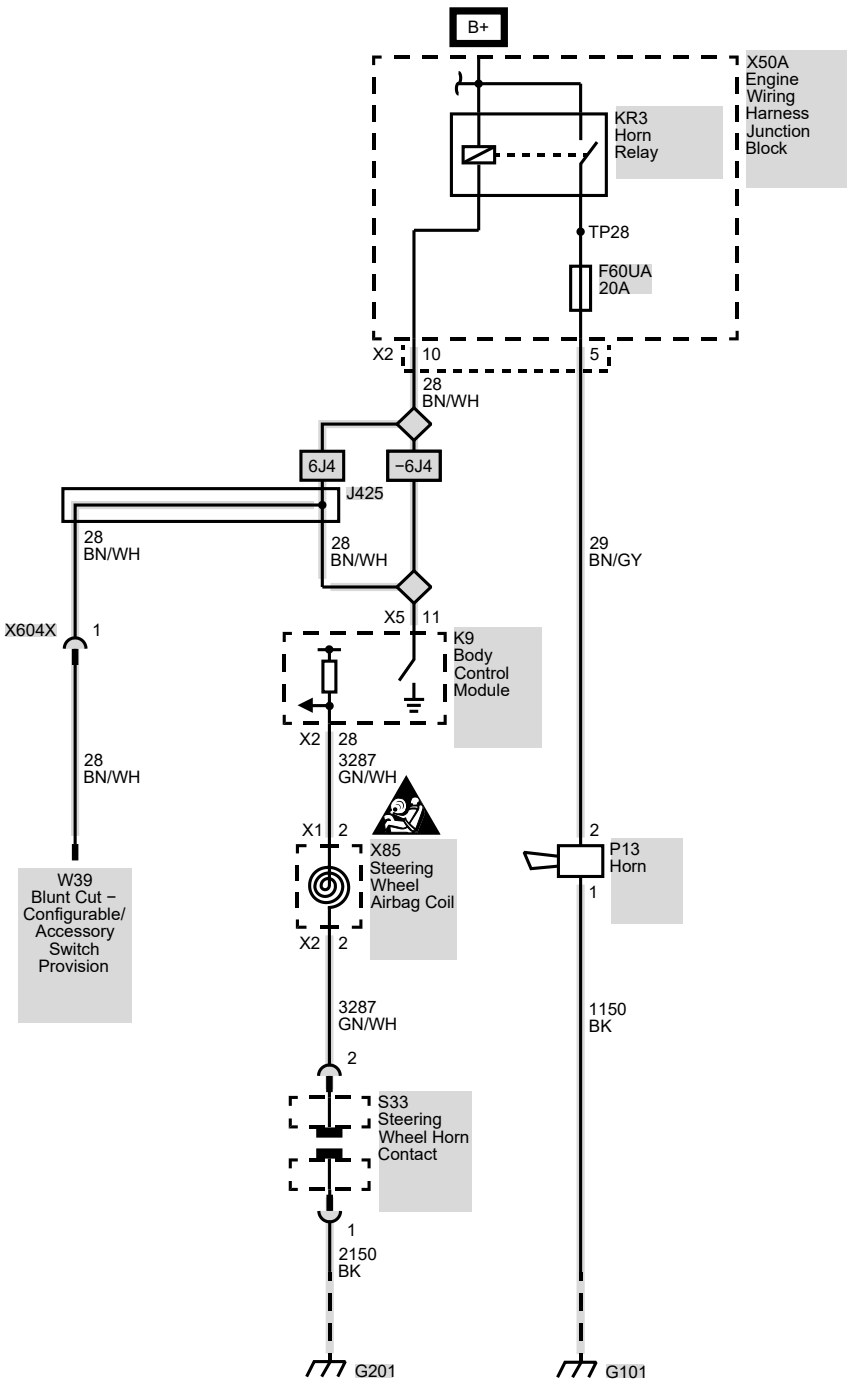
OPTIONAL WIRING

WX7 FRONT DOOR SPEAKERS PROVISIONS



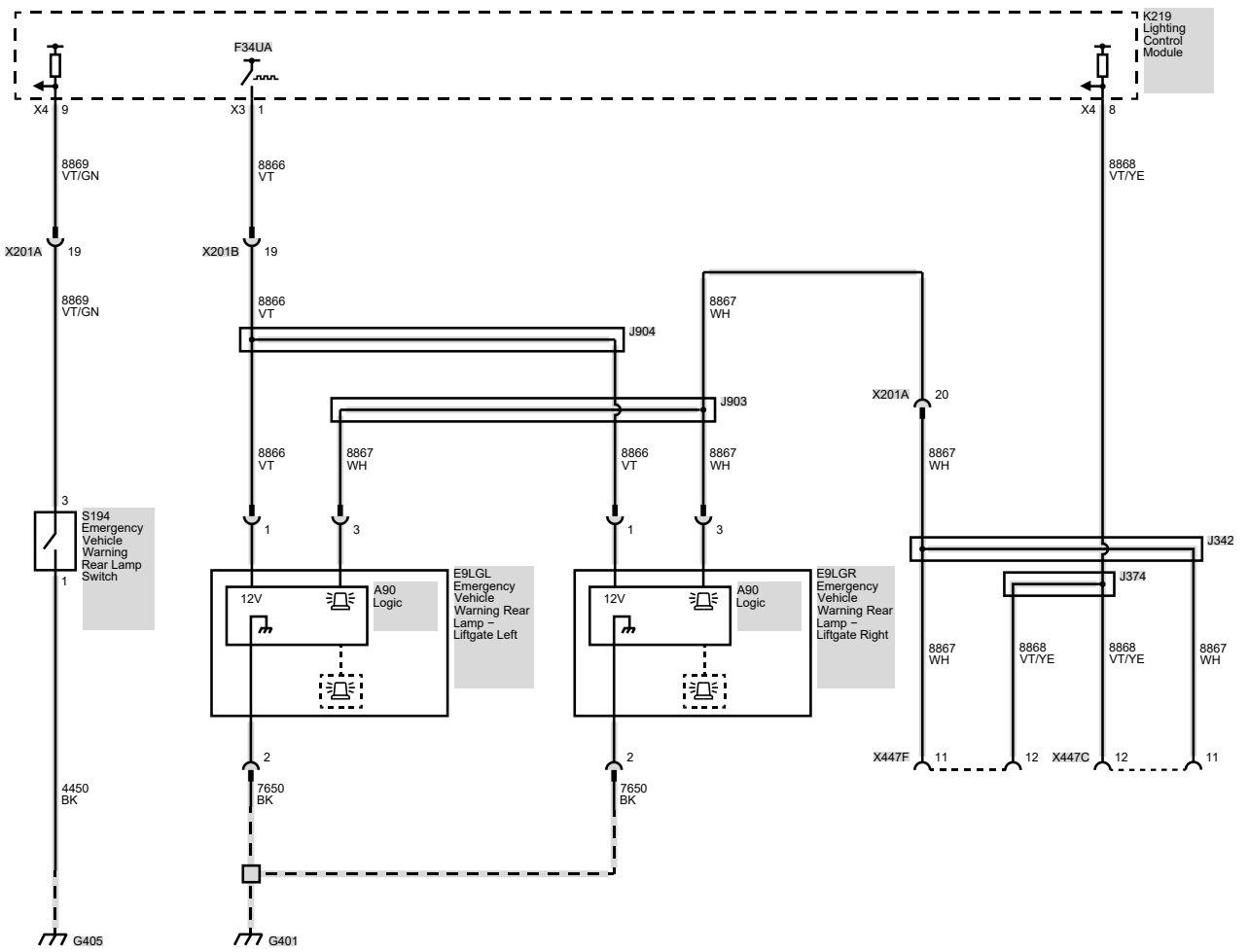
OPTIONAL WIRING

6J4 - HORN AND SIREN CONTROL PROVISION



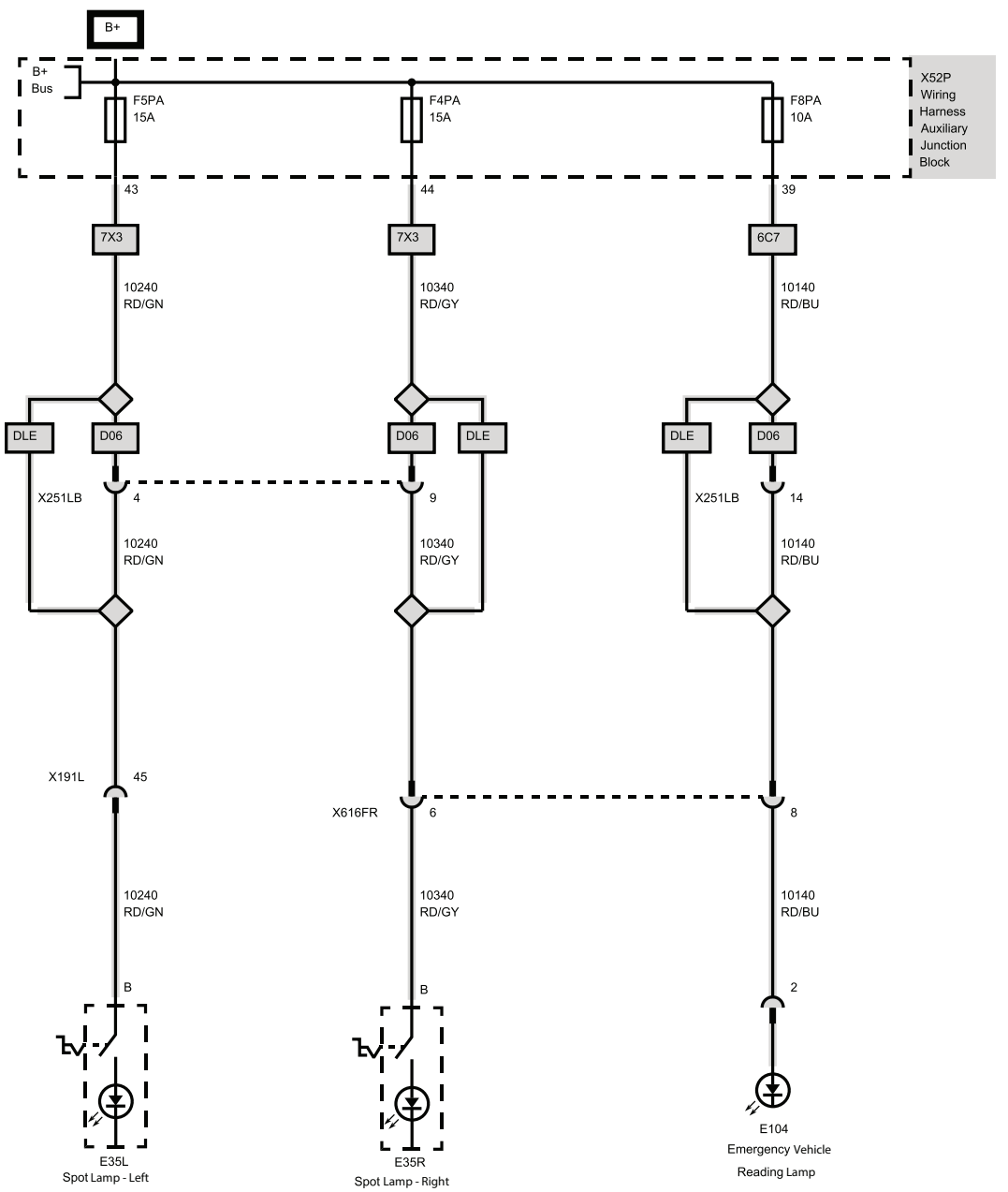
OPTIONAL WIRING

T53 – LIFTGATE WARNING LAMPS & 6C7 AUXILIARY DOME LAMP



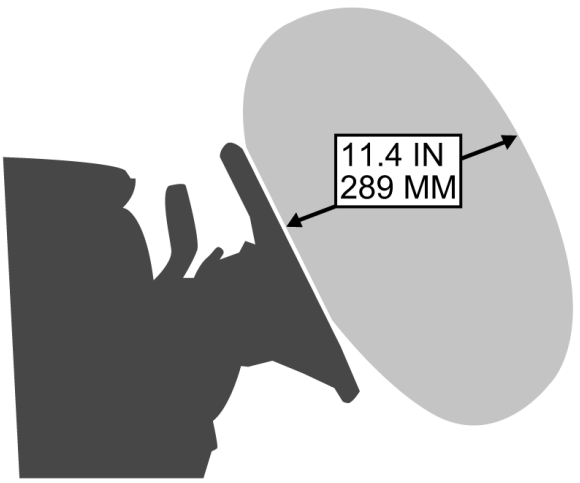
OPTIONAL WIRING

7X3 LED SPOT LAMPS & 6C7 AUXILIARY DOME LAMP

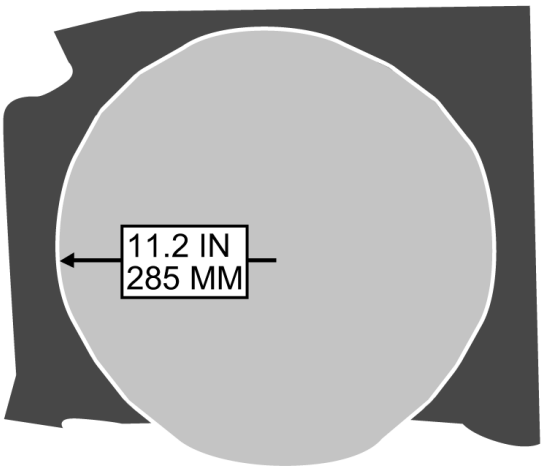


AIRBAGS

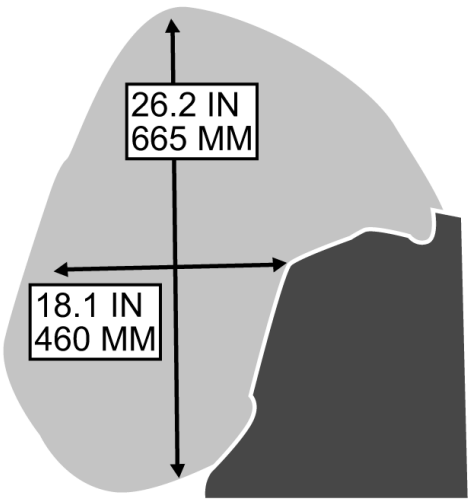
FRONTAL AIRBAGS



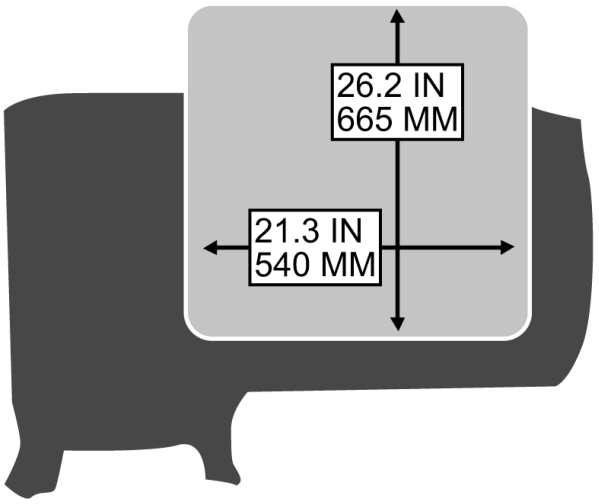
STEERING DRIVER AIRBAG
VIEW FROM DRIVER SIDE



STEERING WHEEL DRIVER AIRBAG
VIEW FROM DRIVER SIDE



STEERING WHEEL DRIVER AIRBAG
VIEW FROM DRIVER SEAT

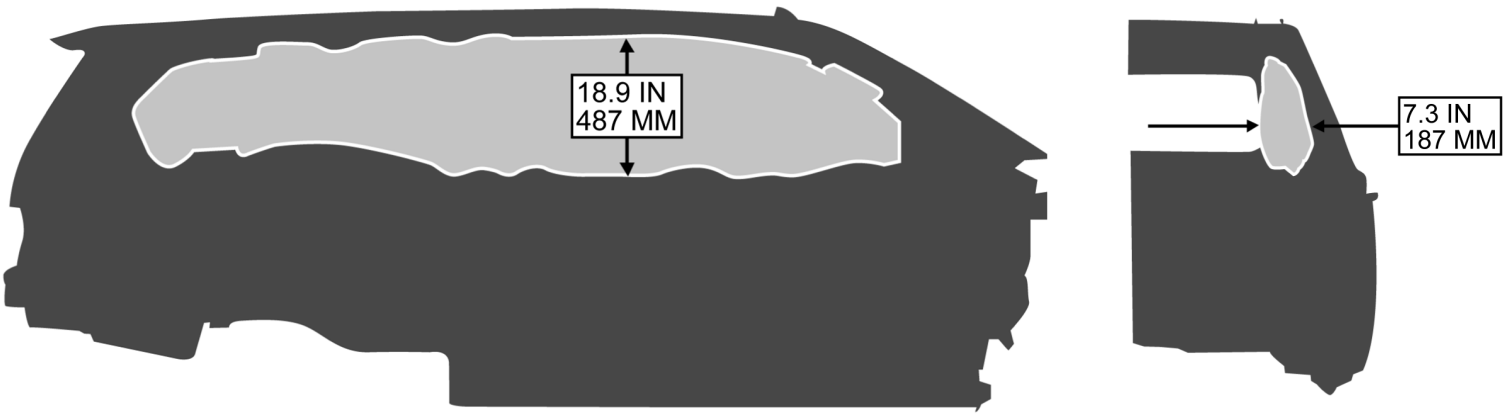


FRONT OUTBOARD PASSENGER AIRBAG
VIEW FROM PASSENGER SIDE

Sitting too close to an airbag when it deploys can increase the risk of serious injury or death. Always properly wear your seat belt. See Owner's Manual for more information.

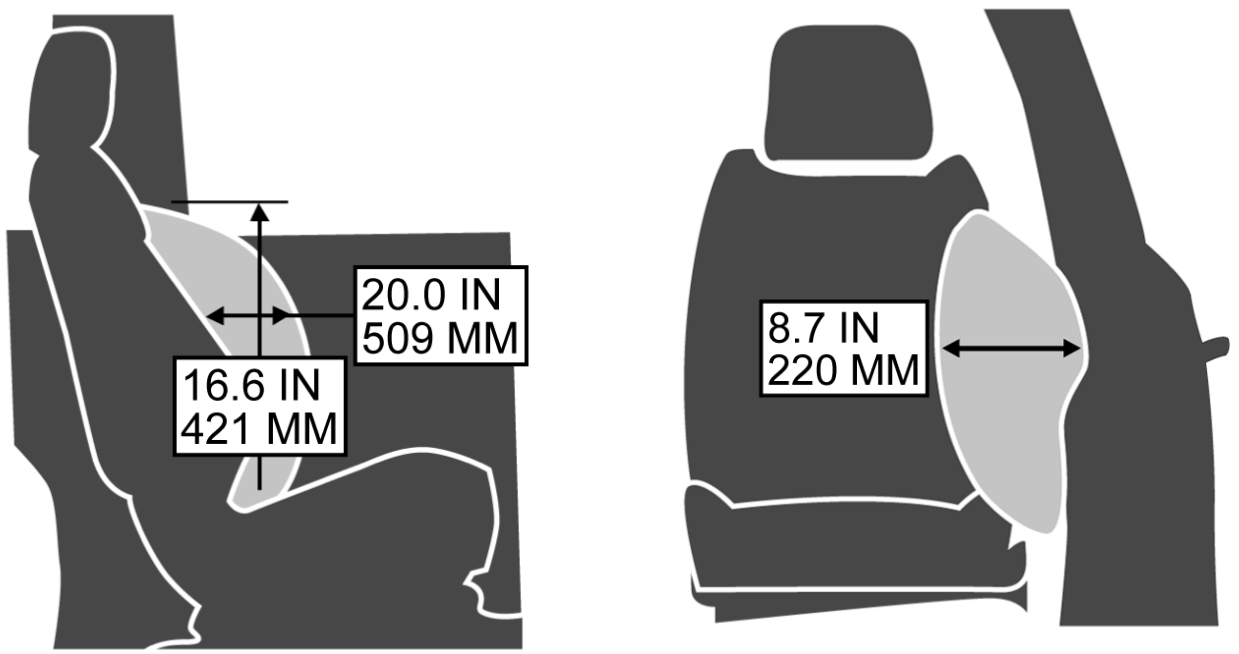
AIRBAGS

HEAD-CURTAIN AND FRONT SIDE IMPACT AIRBAGS



HEAD CURTAIN AIRBAG

DRIVER SIDE SHOWN - PASSENGER SIDE SIMILAR



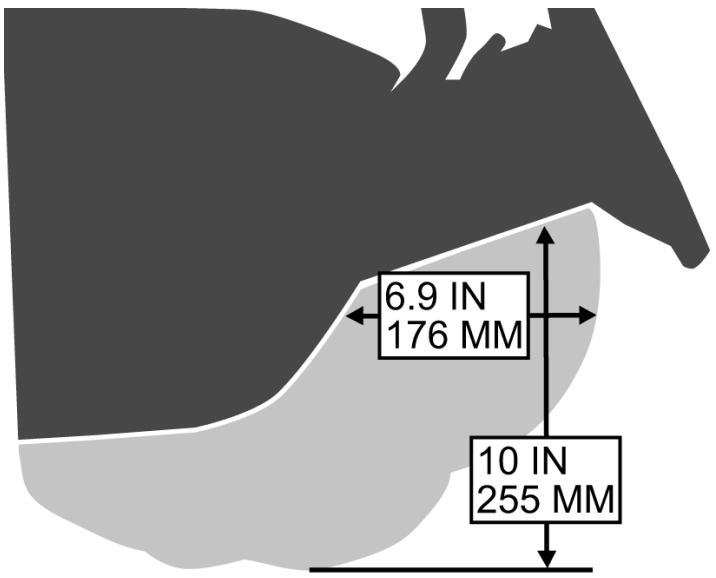
FRONT SEAT SIDE IMPACT AIRBAG

DRIVER SEAT SHOWN - FRONT OUTBOARD PASSENGER SIMILAR

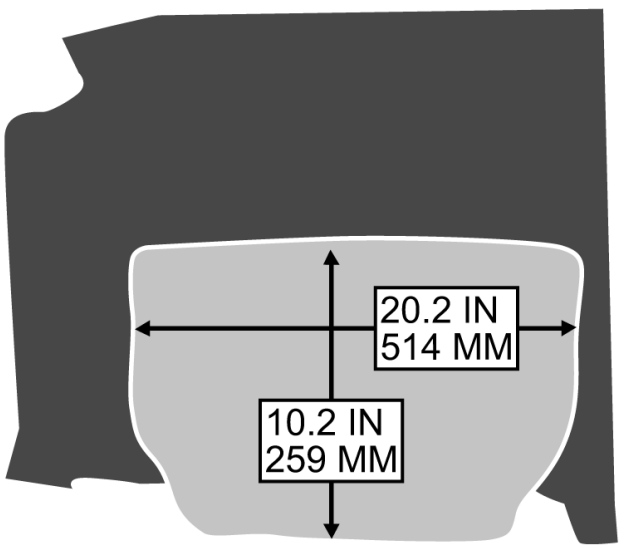
Sitting too close to an airbag when it deploys can increase the risk of serious injury or death. Always properly wear your seat belt. See Owner's Manual for more information.

AIRBAGS

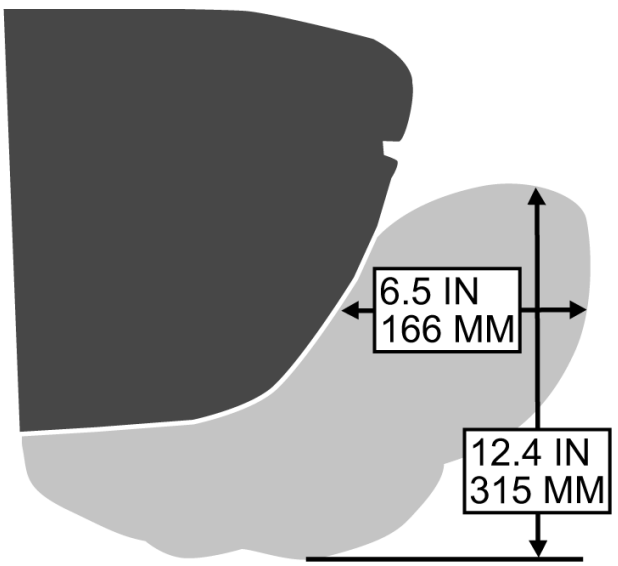
HEAD-CURTAIN AND FRONT SIDE IMPACT AIRBAGS



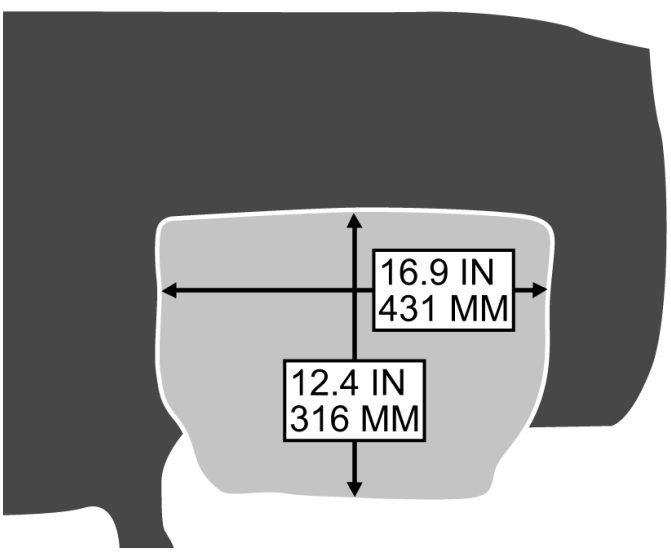
KNEE AIRBAG
SIDE VIEW FROM DRIVER SIDE



KNEE AIRBAG
FRONT VIEW FROM DRIVER SIDE



KNEE AIRBAG
SIDE VIEW FROM PASSENGER SIDE



KNEE AIRBAG
FRONT VIEW FROM PASSENGER SIDE

Sitting too close to an airbag when it deploys can increase the risk of serious injury or death. Always properly wear your seat belt. See Owner's Manual for more information.

AIRBAGS FAQ

Q: Can equipment such as radar devices, video cameras, and radio trees be mounted in a specialty vehicle equipped with a right front passenger frontal airbag?

A: Yes, but care must be taken to properly mount the equipment outside of the airbag "deployment zone."

Q: What is the airbag "deployment zone"?

A: The term "deployment zone" describes the space an airbag takes up when fully inflated. Airbags need room to work properly, and anything in the "deployment zone" – such as improperly mounted equipment – can greatly affect the performance of the airbag.

Q: How can I identify the airbag "deployment zone" in my vehicle?

A: See Airbag Deployment Diagrams for more information. The diagrams provide the approximate dimensions of the "deployment zones" for your specialty vehicle. Before doing any service work, including the installation of any equipment, consult the appropriate service manual.

Q: Is it possible to shield equipment so it does not interfere with airbag deployment?

A: While shielding may protect certain equipment from being damaged or dislodged, it may also negatively affect how an airbag inflates. Therefore, we do not recommend the placement of any equipment in the deployment zone, even if shielded.

Q: Can the installation of push bumpers on the front end of the vehicle affect the deployment of the airbag?

A: It is not likely that installing push bumpers will affect deployment for the airbag as long as the vehicle structure itself is not modified. GM is not aware of any adverse defects effect on the deployment of the front airbags due to use of many aftermarket push bumpers installed on current GM police vehicles

See "Adding Equipment to the Airbag-Equipped Vehicle" in the owner manual for more information.

Customer-Installed Equipment
Before installing equipment, read the following.
Airbags inflate with great force, faster than the blink of an eye. No objects, such as shotguns, should be placed over or near the airbag covers. Equipment mounted too close to an inflating airbag could prevent the airbag from operating properly to protect the occupants or could be forced into an occupant or break and become a dangerous projectile, causing severe injury or even death. To help prevent injury and to allow the airbag to perform as it was designed, do not mount equipment inside the airbag deployment zones.

Do not attach anything to the steering wheel hub or mount any equipment within the deployment zone for the driver airbag.

Do not mount equipment on the passenger side of the instrument panel top pad deployment zone. Equipment should not be mounted on or around the passenger airbag opening because of a deploying airbag. To allow the airbag to perform as it was designed, do not mount equipment inside the airbag deployment zone.

Do not mount a security barrier such that the ends of the barrier or brackets are within the roof-rail airbag deployment zones.

Avoid installing wiring for roof-rail emergency lighting or radio antennas that may restrict the proper deployment of the roof-rail airbags.

GM approved service procedures must be followed to remove and reinstall the instrument panel to the pad to ensure proper airbag deployment.

The police vehicle has a rollover sensor mounted on the centerline of the vehicle between the driver and front outboard passenger positions. If the vehicle has individual front seats, the rollover sensor will be exposed. Do not mount equipment within 25 mm (1 in) of the rollover sensor. This may affect the performance of multiple restraint systems.

Sitting too close to an airbag when it deploys can increase the risk of serious injury or death. Always properly wear your seat belt. See Owner's Manual for more information.

ONSTAR

P0U[1] ONSTAR ADDITIONAL 9 MONTHS OF ONSTAR FLEET SAFETY AND SECURITY. Provides up to 9 months of Fleet Safety and Security service in addition to the 3 months of complimentary coverage that is included in the price of the eligible vehicle. Total OnStar Fleet Safety and Security service duration is up to 12 months. Active subscription required. Service availability, features and functionality vary by vehicle, device and the plan you are enrolled in. Terms apply. See onstar.com for details and limitations. Not available with P0J, P0K, P0L, P0Q, P1R, P1S, P1T, P1U or R7Z

P0J[1] ONSTAR ADDITIONAL 21 MONTHS OF ONSTAR FLEET SAFETY AND SECURITY. Provides up to 21 months of Fleet Safety and Security service in addition to the 3 months of complimentary coverage that is included in the price of the eligible vehicle. Total OnStar Fleet Safety and Security service duration is up to 24 months. Active subscription required. Service availability, features and functionality vary by vehicle, device and the plan you are enrolled in. Terms apply. See onstar.com for details and limitations.

P0K[1] ONSTAR ADDITIONAL 33 MONTHS OF ONSTAR FLEET SAFETY AND SECURITY. Provides up to 33 months of Fleet Safety and Security service in addition to the 3 months of complimentary coverage that is included in the price of the eligible vehicle. Total OnStar Fleet Safety and Security service duration is up to 36 months. Active subscription required. Service availability, features and functionality vary by vehicle, device and the plan you are enrolled in. Terms apply. See onstar.com for details and limitations.

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P0R[1] ONSTAR ADDITIONAL 9 MONTHS OF ONSTAR FLEET DRIVER REMOTE ACCESS. Provides up to 9 months of Fleet Driver Remote Access service in addition to the 3 months of complimentary coverage that is included in the price of the eligible vehicle. Total OnStar Fleet Driver Remote Access service duration is up to 12 months. Active subscription required. Service availability, features and functionality vary by vehicle, device and the plan you are enrolled in. Terms apply. Remote Access does not include emergency or security services. See onstar.com for details and limitations.

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P1R[1] ONSTAR ADDITIONAL 9 MONTHS OF ONSTAR FLEET ASSURANCE. Provides up to 9 months of Fleet Assurance service in addition to the 3 months of complimentary Safety & Security coverage that is included in the price of the eligible vehicle. Total OnStar Safety & Security service duration is up to 3 months and up to 9 months of OnStar Fleet Assurance. OnStar plan, working electrical system, cell reception and GPS signal required. OnStar links to emergency services. See OnStar.com/BusinessSolutions for details and limitations.

P1S[1] ONSTAR ADDITIONAL 21 MONTHS OF ONSTAR FLEET ASSURANCE. Provides up to 21 months of Fleet Assurance service in addition to the 3 months of complimentary Safety & Security coverage that is included in the price of the eligible vehicle. Total OnStar Safety & Security service duration is up to 3 months and up to 21 months of OnStar Fleet Assurance. OnStar plan, working electrical system, cell reception and GPS signal required. OnStar links to emergency services. See OnStar.com/BusinessSolutions for details and limitations.

P1T[1] ONSTAR ADDITIONAL 33 MONTHS OF ONSTAR FLEET ASSURANCE. Provides up to 33 months of Fleet Assurance service in addition to the 3 months of complimentary Safety & Security coverage that is included in the price of the eligible vehicle. Total OnStar Safety & Security service duration is up to 3 months and up to 33 months of OnStar Fleet Assurance. OnStar plan, working electrical system, cell reception and GPS signal required. OnStar links to emergency services. See OnStar.com/BusinessSolutions for details and limitations.

P1U[1] ONSTAR ADDITIONAL 45 MONTHS OF ONSTAR FLEET ASSURANCE. Provides up to 45 months of Fleet Assurance service in addition to the 3 months of complimentary Safety & Security coverage that is included in the price of the eligible vehicle. Total OnStar Safety & Security service duration is up to 3 months and up to 45 months of OnStar Fleet Assurance. OnStar plan, working electrical system, cell reception and GPS signal required. OnStar links to emergency services. See OnStar.com/BusinessSolutions for details and limitations.

R7Z[1] ONSTAR ADDITIONAL 57 MONTHS OF ONSTAR FLEET ASSURANCE. Provides up to 57 months of Fleet Assurance service in addition to the 3 months of complimentary Safety & Security coverage that is included in the price of the eligible vehicle. Total OnStar Safety & Security service duration is up to 3 months and up to 57 months of OnStar Fleet Assurance. OnStar plan, working electrical system, cell reception and GPS signal required. OnStar links to emergency services. See OnStar.com/BusinessSolutions for details and limitations.

P0V[1] ONSTAR VEHICLE INSIGHTS - 1 YEAR OF SERVICE. Includes 12 months of OnStar Vehicle Insights service. OnStar Vehicle Insights provides fleet managers and drivers the tools and data they need to help maximize fleet productivity and help maximize fleet's operational efficiencies. OnStar Vehicle Insights relays real-time vehicle data like vehicle location, driver performance information and more. Eligible customers must sign up for an account at www.onstarvehicleinsights.com in order to take advantage of this 12 months offer. Requires an active connected vehicle services plan. The OnStar Vehicle Insights service is included in the price of the vehicle. Total service duration is 12 months. Non-Transferrable. Non-Refundable.

P0W[1] ONSTAR VEHICLE INSIGHTS - 2 YEARS OF SERVICE. Includes 24 months of OnStar Vehicle Insights service. OnStar Vehicle Insights provides fleet managers and drivers the tools and data they need to help maximize fleet productivity and help maximize fleet's operational efficiencies. OnStar Vehicle Insights relays real-time vehicle data like vehicle location, driver performance information and more. Eligible customers must sign up for an account at www.onstarvehicleinsights.com in order to take advantage of this 24 months offer. Requires an active connected vehicle services plan. The OnStar Vehicle Insights service is included in the price of the vehicle. Total service duration is 24 months. Non-Transferrable. Non-Refundable.

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P0X[1] ONSTAR VEHICLE INSIGHTS - 3 YEARS OF SERVICE. Includes 36 months of OnStar Vehicle Insights service. OnStar Vehicle Insights provides fleet managers and drivers the tools and data they need to help maximize fleet productivity and help maximize fleet's operational efficiencies. OnStar Vehicle Insights relays real-time vehicle data like vehicle location, driver performance information and more. Eligible customers must sign up for an account at www.onstarvehicleinsights.com in order to take advantage of this 36 months offer. Requires an active connected vehicle services plan. The OnStar Vehicle Insights service is included in the price of the vehicle. Total service duration is 36 months. Non-Transferrable. Non-Refundable.

P0Y[1] ONSTAR VEHICLE INSIGHTS - 4 YEARS OF SERVICE. Includes 48 months of OnStar Vehicle Insights service. OnStar Vehicle Insights provides fleet managers and drivers the tools and data they need to help maximize fleet productivity and help maximize fleet's operational efficiencies. OnStar Vehicle Insights relays real-time vehicle data like vehicle location, driver performance information and more. Eligible customers must sign up for an account at www.onstarvehicleinsights.com in order to take advantage of this 48 months offer. Requires an active connected vehicle services plan. The OnStar Vehicle Insights service is included in the price of the vehicle. Total service duration is 48 months. Non-Transferrable. Non-Refundable.

P0Z[1] ONSTAR VEHICLE INSIGHTS - 5 YEARS OF SERVICE. Includes 60 months of OnStar

Vehicle Insights service. OnStar Vehicle Insights provides fleet managers and drivers the tools and data they need to help maximize fleet productivity and help maximize fleet's operational efficiencies. OnStar Vehicle Insights relays real-time vehicle data like vehicle location, driver performance information and more.Eligible customers must sign up for an account at www.onstarvehicleinsights.com in order to take advantage of this 60 months offer. Requires an active connected vehicle services plan. The OnStar Vehicle Insights service is included in the price of the vehicle. Total service duration is 60 months. Non-Transferrable. Non-Refundable.

R8S[2] ONSTAR IN-VEHICLE COACHING - 1 YEAR OF SERVICE. In-Vehicle Coaching verbally coaches drivers in real time through the vehicle's audio system to help drivers quickly modify their driving behavior and develop better behind-the-wheel habits Terms Apply. Fees, services, and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. In-Vehicle Coaching features vary by vehicle model and year. See onstarvehicleinsights.com for details and limitations. Non-Transferrable. Non-Refundable.

RFS[2] ONSTAR IN-VEHICLE COACHING - 2 YEARS OF SERVICE. In-Vehicle Coaching verbally coaches drivers in real time through the vehicle's audio system to help drivers quickly modify their driving behavior and develop better behind-the-wheel habits Terms Apply. Fees, services, and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. In-Vehicle Coaching features vary by vehicle model and year. See onstarvehicleinsights.com for details and limitations. Non-Transferrable. Non-Refundable.

RFT[2] ONSTAR IN-VEHICLE COACHING - 3 YEARS OF SERVICE. In-Vehicle Coaching verbally coaches drivers in real time through the vehicle's audio system to help drivers quickly modify their driving behavior and develop better behind-the-wheel habits Terms Apply. Fees, services, and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. In-Vehicle Coaching features vary by vehicle model and year. See onstarvehicleinsights.com for details and limitations. Non-Transferrable. Non-Refundable.

RFU[2] ONSTAR IN-VEHICLE COACHING - 4 YEARS OF SERVICE. In-Vehicle Coaching verbally coaches drivers in real time through the vehicle's audio system to help drivers quickly modify their driving behavior and develop better behind-the-wheel habits Terms Apply. Fees, services, and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. In-Vehicle Coaching features vary by vehicle model and year. See onstarvehicleinsights.com for details and limitations. Non-Transferrable. Non-Refundable.

RFY[2] ONSTAR IN-VEHICLE COACHING - 5 YEARS OF SERVICE. In-Vehicle Coaching verbally coaches drivers in real time through the vehicle's audio system to help drivers quickly modify their driving behavior and develop better behind-the-wheel habits Terms Apply. Fees, services, and availability subject to change without notice. Applicable taxes not included. Does not include emergency or security services. Diagnostics capabilities vary by vehicle model. Not all issues will deliver alerts. In-Vehicle Coaching features vary by vehicle model and year. See onstarvehicleinsights.com for details and limitations. Non-Transferrable. Non-Refundable.

PR6[3] SIRIUSXM, ADDITIONAL 9 MONTHS OF THE SXM PLATINUM PLAN. Listen inside and

outside the car on the app in addition to the trial period included with the vehicle.

PR7[3] SIRIUSXM, ADDITIONAL 21 MONTHS OF THE SXM PLATINUM PLAN. Listen inside and outside the car on the app in addition to the trial period included with the vehicle

PR8[3] SIRIUSXM, ADDITIONAL 33 MONTHS OF THE SXM PLATINUM PLAN. Listen inside and outside the car on the app in addition to the trial period included with the vehicle.

1. Requires (UE1) OnStar. Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO or FEF. Not available with a ship-to of Guam, Puerto Rico or the Virgin Islands 2. Requires (UE1) OnStar and P0V. Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO or FEF. Not available with a ship-to of Guam, Puerto Rico or the Virgin Islands. 3. Requires (U2K) SiriusXM. Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO or FEF. Not available in AK, HI, PR and VI

MAINTENANCE / LIMITED WARRANTY

SCHEDULED MAINTENANCE	One visit within first year of vehicle delivery[1]
BUMPER-TO-BUMPER LIMITED WARRANTY	3 years/36,000 miles[2]. Bumper-to-Bumper Limited Warranty with no deductible
ELECTRIC VEHICLE PROPULSION LIMITED WARRANTY	8 Years / 100,000 Miles[2]
TIRES[4]	3 years/36,000 miles[2]; coverage prorated after first 12,000 miles
ROADSIDE ASSISTANCE AND COURTESY TRANSPORTATION	Qualified Fleet Customers: 5 years/100,000 miles[3]
RUST-THROUGH	6 years/100,000 miles[2]
CORROSION	3 years/36,000 miles[2]
WHEEL ALIGNMENT AND BALANCE	Up to 7,500 miles[5]

1. Includes first required maintenance visit as stated in vehicle maintenance schedule. Maintenance visit consists of oil change, tire rotation and Multi-Point Vehicle Inspection. Does not include air filters. See participating dealer for other restrictions and complete details. Excludes vehicles ordered with fleet delete option RY9. **2.** Whichever comes first. See dealer for limited warranty details. **3.** Tires also covered under the Bumper-to-Bumper Warranty but are prorated based upon mileage. See dealer for warranty details. **4.** If the vehicle has a warrantable failure, see your Owner's Manual for full details on the Courtesy Transportation program. **5.** Customer maintenance item after 7,500 miles.

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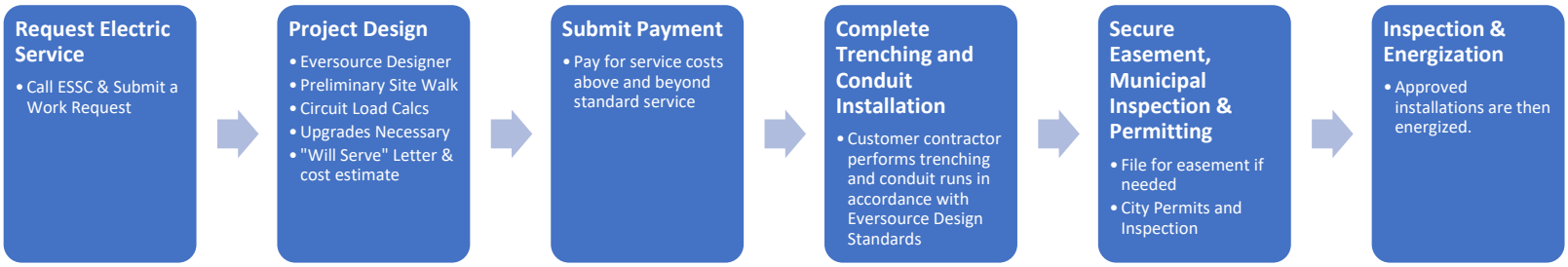
For more detailed information, contact your District Sales Manager or see the online order guide at gmevolve.com/police.

Appendix H – Eversource EV Interconnection Process and Costs

Eversource NH EV Process Summary

Taken from notes from in-person meeting 9/7/23 and subsequent emails

Eversource has a six-step process for approving new service:



Eversource stressed that the Electric Service request was crucial for them to start to be able to support an EV charging installation. Once they are able to conduct engineering and project design, they can provide a "will serve" letter illustrating the project interconnection requirements and cost estimates.

Equipment	Purchase	Rental Cost / Month
3 Phase Transformer Pad (Req'd if not a Large Power Acct)	$6,123	N/A
167kVA Transformer	$5,500-$6,000	$55-$72
300kVA Transformer	$22,000-$24,000	$275-$295
500kVA Transformer	$16,800-$33,000	$210-$412
750kVA Transformer	$23,750-$31,250	$350-$475
Service Drop Beyond 300'	Job Specific	Job Specific

Eversource offers rates specific to EV Charging, called EV-2, where the customer has a separately metered service with 90% or greater of the load at that meter dedicated to EV charging, with a maximum demand greater than 100kW, and where the chargers are publicly accessible. This rate has a monthly customer charge, and a per kWh charge, but no demand chargers. As of October 2023, the customer charge was $211.21 per month, and $0.2673 per kWh dispensed.

Appendix I – Empire Clean Cities Memo on Planning and Funding for EV Charging Infrastructure Deployment

CITY OF KEENE
NEW HAMPSHIRE

December 28, 2023

TO: Energy and Climate Committee

FROM: David Chernack, Program Manager, Empire Clean Cities Coalition

CC: Jesse Rounds, Community Development Director; Mari Brunner, Senior Planner; and Chelsea North, Parking Operations Manager

RE: U.S. D.O.E. Clean Energy to Communities: Planning and Funding for Electric Vehicle Charging Infrastructure Deployment Peer Learning Cohort

Recommendation

To review the findings and recommendations from the EV Peer Learning Cohort and City of Keene EV Infrastructure Plan.

Background

The City of Keene was one of fifteen communities nationwide that was accepted to participate in a technical assistance program offered by the U.S. Department of Energy called "Clean Energy to Communities: Planning and Funding for Electric Vehicle Charging Infrastructure Deployment Peer Learning Cohort." The intent of this EV peer learning cohort is to prepare participating local governments to undertake a community-wide electric vehicle (EV) infrastructure plan and understand options for funding the deployment of EV infrastructure. The cohort is funded by the U.S. Department of Energy and managed by the National Renewable Energy Laboratory (NREL) with support from the World Resources Institute (WRI). Participating municipalities are paired with Clean Cities Coalitions who provided technical assistance over the course of the 6-month cohort.

The City of Keene was paired with the Empire Clean Cities Coalition, which serves New York City and the Lower Hudson Valley. The cohort met monthly from July through December 2023, and City staff met with the Empire Clean Cities Coalition between cohort meetings to work on deliverables. The monthly meetings covered the following topics:

- **Workshop #1 (July)**: The Role of Local Government in Accelerating EV Charging Infrastructure Deployment
- **Workshop #2 (August)**: Funding and Financing EV Charging Infrastructure
- **Workshop #3 (September)**: Equitable Deployment of EV Charging Infrastructure
- **Workshop #4 (October)**: Permitting and Zoning for EV Charging Infrastructure and Utility Engagement
- **Workshop #5 (November):** Contracting with EV Charging Providers and Setting Fee Structures
- **Workshop #6 (December):** Peer Showcase with Consulting and Coaching

During this same timeframe, the City's Public Works Department hired a consulting firm, Anser Advisory, to prepare an "Electric Vehicle Infrastructure Plan" for the City. This plan is focused on the infrastructure that will be required in the next 3-5 years to support the City's fleet conversion to electric vehicles. In addition, the plan includes an assessment of the demand for public EV charging infrastructure and recommendations regarding the placement and type of public charging infrastructure that should be prioritized based on community needs and priorities. The key findings from this plan are included as an attachment to this memo.

The purpose of this memo is to summarize recommendations from Workshop #4 to improve permitting and zoning for EV charging infrastructure (deliverable from the October cohort meeting), along with the major findings from the EV Peer Learning Cohort. The intent is for the Energy and Climate Committee to use this memo as a resource when making any recommendations to the City Council regarding EV charging infrastructure.

EV Peer Learning Cohort - Key Findings

1. **In order to support current and projected demand for electric vehicles among residents, commuters, and visitors, between 163-417 level two (L2) chargers and between 20-38 direct current fast chargers (DCFC) will need to be installed for public use by 2030.**

   The lower end of the range assumes 26.8% electrification, and the higher end of the range assumes 73.1% electrification by 2030. In addition, these projections assume a low level of at-home charging, consistent with the fact that 47% of households in Keene are renters.

Projected # of chargers (plugs) needed by 2030*	Private L2 (multi-family)	Private L2 (workplace)	Public L2 Chargers	Public DCFC
Low estimate (26.8% electrification)	17	110	163	20
High estimate (73.1% electrification)	42	287	417	38

*Assumes 50% of households have access to home charging

2. **Sites for public EV charging should be prioritized based on proximity to existing chargers (i.e., where there is a charging desert), proximity to multifamily dwellings (esp. those without onsite parking), in low-income census blocks, and areas with a mix of land uses that generate parking demand.**

   The top locations for public EV charging based on these criteria are the Commercial St. and Gilbo Ave. surface parking lots, followed by other downtown locations.

3. **The City has already taken meaningful steps to eliminate barriers to EV charging infrastructure; however, more can and should be done to make it easier to install charging infrastructure in the city.**

   A zoning and permitting review revealed that the City is generally in line with best practices with respect to zoning; however, there are steps the city could take to remove unnecessary permitting barriers and encourage or require EV-ready development.

EV Peer Learning Cohort Recommendations: Zoning & Permitting for EV Infrastructure

1. **Update the City's website to better communicate the permitting processes, timelines, and required documents for installing EV charging.**

   The City of Keene's website should be updated with clear instructions and guidelines for how private landholders and businesses should go about applying to install EV charging at their sites. A timeline illustrated with key events in the process of installing charging, from applying to final installation, should accompany easy access to links to key documents.

2. **Adopt an EV-ready code amendment for new buildings and construction in Keene.**

   An EV-ready building code amendment would, in certain cases as defined by the City, require that new buildings, building expansions, and parking expansions require the accompanying installation of one or more EV charging stations. This step is becoming a more common one in cities across the country. The City of Boston, Massachusetts has developed an EV Readiness Policy for new developments which accomplishes this aim. See also page 278 of the City of Denver, Colorado's Building and Fire code, which stipulates EV readiness for buildings in most instances of new construction.

3. **Revise City Code pertaining to parking restrictions and enforcement for publicly accessible EV charging stations operated by the City of Keene.**

   Section 236:134 of Chapter 236 of New Hampshire's state code prohibits any driver from parking "in a space equipped with a public electric vehicle charging station, unless such person is operating a plug-in hybrid electric vehicle or battery electric vehicle." The section does not, however, outline appropriate ticketing requirements for violators of this rule. The City of Keene Parking Services Division and Police Department should work collaboratively to develop a set of enforcement mechanisms for vehicles that are parked improperly in EV-only parking spaces.

4. **Evaluate permit fees for EV charging—including direct current fast-charger (DCFC) installations.**

   The permit fees for DCFC stations should be evaluated relative to the permit fees for level-2 charging stations. Currently, the permit fee for both is based on the cost of the overall project; however, the level of staff review and the number of inspections required are similar for the two types of installations.

5. **Develop curbside EV charging station standards.**

   Several cities across the country, including New York City, have successfully deployed municipally operated curbside EV charging stations in parallel parking spots along their roadsides. Keene should endeavor to develop standards for installing this particular type of charging station infrastructure to diversify the number of ways it is able to offer EV charging as an amenity for residents, business owners, and visitors.

6. **Clarify that EV charging stations at residential properties are designated as private restricted use.**

   The City should clarify that EV charging stations located on residential properties—both single-family homes and apartment buildings—should be designated as a private restricted use, so that

privately owned charging equipment in residential districts cannot be used commercially by non-tenants with electric vehicles.

7. **Explore whether to offer incentives to provide EV charging infrastructure beyond minimum requirements (if any).**

   As the state of New Hampshire does not currently offer any incentive programs to encourage the installation of EV charging stations, the City should explore incentives that may entice property owners to install EVSE. These incentives could include reduced permit fees.