TOYOTA

# Battery Electric Vehicle Owner's Guide

Battery electric vehicles (BEVs) are becoming an increasingly important part of the global landscape. Toyota is committed to supporting this transition with a growing range of BEV options.

**This guide is here to help you get started and make informed decisions as you explore BEV ownership.**

# Welcome

Welcome to Toyota Battery Electric Vehicle (BEV) Ownership. Toyota's Electrified journey began over 25 years ago with the Prius. Since then, we have diversified our lineup to fit the many needs of Canadians.

This guide is designed to answer your questions and provide information that will help you maximize the use of your Toyota BEV.

## Let's get started.

*To learn more about the different electrified solutions from Toyota, scan the QR code below:

# Battery Electric Vehicle Ownership Essentials:

## What is charging?

At the most basic level, charging is the process of returning energy to the battery of a BEV. There are a couple different ways to return energy to a battery, such as through the process of regenerative braking and plug-in charging.

**Regenerative braking** is the process by which kinetic energy involved in slowing down the vehicle is converted to electricity to top up your battery.

**Plug-in charging** is the process by which the BEV uses an external power source to transfer energy back to the battery.

## Electric Charging Levels

**Level 1 (Home)**

- Uses the standard 120V home outlet, but is also the slowest mode of EV charging, since AC (Alternating Current) must be converted to DC (Direct Current).
- Best for plug-in hybrids or topping up your EV charge overnight.
- Starting in 2026, Toyota BEVs will come equipped with a dual-voltage charging cable to facilitate Level 1 EV charging.

**Level 2 (Home and Public)**

- 240V outlets (like NEMA 14-50 outlets) are designed to power high-power appliances like dryers and ovens. They enable much faster charging at home or in public, and can be used with a dual-voltage charging cable.
- The vehicle's onboard charger will convert AC to DC.

**Direct Current Fast Charging (DCFC) (Public)**

- DC Fast Charging power charges batteries directly without conversion.
- Requires specialized equipment and manufacturer-specific plugs, available at Public Charging Stations only.
- Charging speed varies with weather and other conditions, but is significantly faster than Level 1 and 2.

**Did you know?** BEVs will only accept the power it can handle. Each BEV has a maximum charging speed, regardless of how powerful the EV charging station is. Some stations may advertise a high power output (e.g., 350 kW), but that full speed may only be achievable on specific vehicles with more than 400V battery systems, when properly preconditioned or in ideal ambient temperatures. Be mindful of selecting stations, DC fast charging stations at different outputs can vary in cost. Be sure to check before charging.

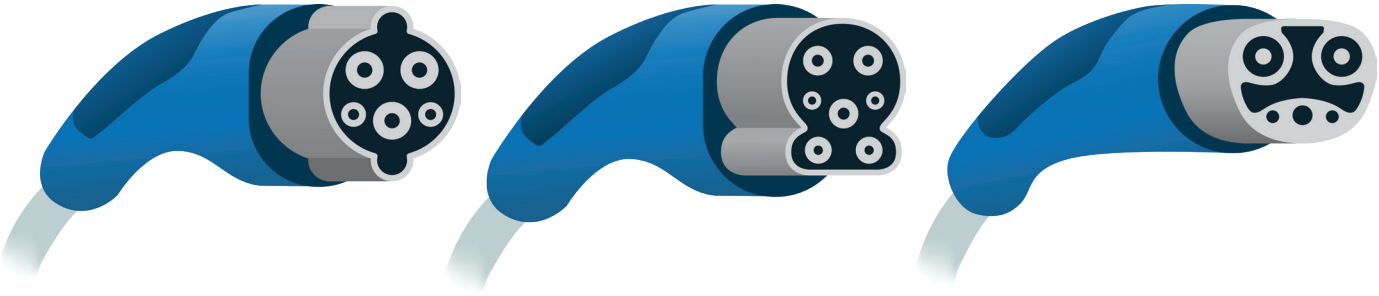
## Charging Connectors

There are different charging connectors that serve different functions when it comes to recharging your BEV. You can find compatible public electric vehicle charging stations via the Toyota App.

**SAE J1772:** This connection type is primarily used for Alternate Current (AC) charging, which is utilized for Level 1 and Level 2 charging. This connection type can transmit up to 240 volts to a battery. AC energy is transmitted from the power grid and into your vehicle's battery. Applicable to 2023-2025 Toyota bZ4X.

**CCS1:** Combined Charging System (CCS), is primarily used for Direct Current (DC) charging, this connection is used only for Level 3 (Direct Current Fast Charging) and can transmit up to 480 volts to a battery. AC voltage from an external power source, like the grid, is converted into DC voltage, and transmitted into your vehicle's battery. Applicable to 2023-2025 Toyota bZ4X.

**NACS:** Toyota has adapted the North American Charging System (NACS) for battery electric vehicles starting in 2026. Additionally, customers owning or leasing 2023-2025 Toyota bZ4X with the Combined Charging System (CCS) have been offered access to an adaptor to enable NACS charging starting in 2025.



**Level 1 & 2**
**SAE J1772**

**DC Fast-Charging**
**CCS1**

**NACS**
**North American**
**Charging System**

For illustrative purposes only. Connectors not shown to scale.

Toyota Genuine Accessories come with the added confidence of Toyota's Accessory Warranty. To ensure the best performance and peace of mind, choose Toyota Genuine Adaptors. For more details on home chargers and compatible adaptors by vehicle, refer to this guide here: www.toyota.ca/chargingoptions

# Prepare Your Home for BEV Charging

### 1. Understand Home Charging Levels

- Level 1 Charging (120V): Plugs into a standard outlet; slow charging at ~3–8 km/hr [0.5-1.7kW/hr]. Best suited for occasional use or low daily mileage.
- Level 2 Charging (240V): Requires a dedicated 240V circuit; charges at ~25–50 km/hr [4-11kW/hr]. This is the most common and practical option for daily home charging.

### 2. Assess Electrical Capacity

- Assess if you have ample electrical service in your neighborhood – check if an upgrade to the transformer is required with your licensed electrician.
- Review your panel's capacity with your licensed electrician (commonly 100A, 150A, or 200A).
- Consider futureproofing with a higher amperage circuit (e.g., 50A+) for future EV upgrades.
- If your panel is near capacity, discuss potential upgrades during planning.

### 3. Hire a Licensed Electrician for Level 2 Charger Installation

- Before installation, explore any federal, provincial, or utility rebates that may reduce the cost of equipment or labour.
    - Choose an experienced, licensed electrician with EV chargers. They will:
    - Assess if you have ample electrical service in your neighborhood
    - Assess your home's electrical system
    - Add a dedicated breaker, if needed
    - Install and test the charger
    - Ensure compliance with local building and safety codes
    - Help manage permits and inspections
    - Tip: Keep proper documentation for insurance or future resale.

For condo/apartment owners: Always consult your property manager first. Review shared space policies and explore the pros and cons of portable vs. fixed chargers.

**4. Choose the Right Installation Location**

- Install in a garage or sheltered area when possible. Consider proximity to your EV's charge port.
- Shorter runs to the main panel reduce materials and labour costs.
- Tip: If your charger is inside and the cable runs outside, consider a cable protector to avoid damage and reduce tripping risks.

**5. Select the Right Equipment**

- Look for safety-certified chargers (e.g., CSA, UL). Avoid uncertified devices that could pose electrical hazards.
- Verify compatibility with your specific BEV model.
- Consider a Home Flex EV Charger by ChargePoint for scheduling, energy usage monitoring, and remote control.
- For outdoor setups, choose weather-resistant models (rated NEMA 3R or better).

**6. Maintenance & Troubleshooting**

- Keep your charger clean and dry; regularly inspect the cable for wear.
- Know your charger's warning indicators and how to perform a reset or disconnect safely.
- Follow the manufacturer's maintenance guidelines.
- Tip: Many utility providers offer off-peak electricity rates. Schedule your charging to save on energy costs.

*Resources: This document is intended for general guidance only and does not substitute expert advice. Always consult a licensed electrician, or visit your local municipality or utility provider's EV support page.*

# Optimizing your Range, Battery & Charging

## Range

### Electric Vehicle Range Explained

Electric vehicle range is determined by a third-party to the manufacturer, Natural Resources Canada (NRCan). NRCan uses a mix of highway driving and city driving conditions on a dynamometer to develop a rating for a vehicle's range.

While NRCan provides a range rating, NRCan estimated range often exceeds the range that you can expect as testing takes place under in a controlled environment depicting ideal driving conditions.

### Understanding What Impacts My Driving Range

There are a number of factors that can impact your range, such as:

- Driving speed and habits (i.e. heavy acceleration, high speed driving)
- Elevation changes or road conditions (i.e. driving through rolling hills vs flat terrain)
- Temperature and weather
- Usage of electrical components
- Load on the vehicle (i.e. number of passengers, cargo, and towing)
- Charging habits

# Battery

## Battery State of Health

Batteries in BEVs naturally degrade over time, shown as a gradual loss of capacity. While this decline is inevitable, good charging habits can help maintain your battery state of health and maximize performance.

## How to Maintain your Battery State of Health?

Battery state of health can be attributed to a number of factors such as: charging habits, driving habits and even temperature. Consider these charging habits to ensure your battery health is maintained:

- **Keep your charge between 10%–80%:** This helps preserve battery health. Avoid charging to 100%, unless you need the range to make your trip. Consult your Owner's Manual for adjusting charge limits.

- **Limit fast charging (DCFC) use:** Excessive DCFC use generates heat and strains the battery. To protect your battery state of health, 2026 model year and beyond are limited to 5 DCFC charges per 24 hour span. Older models may have different limits; always consult your owner's manual. If you do use DCFC, pre-condition your battery first.

- **Use the right public chargers:** Toyota BEVs are compatible with J1772 (Level 2), CCS1 (DCFC), and NACS connectors. BEVs made in 2026 and later are compatible with NACS connectors but earlier models will need to utilize an adaptor.

## Preserving Battery Health When Away

Consider the following to preserve your battery when not using your BEV for long stretches of time.

- Charge the traction battery monthly to prevent voltage decline due to self-discharging.
- Don't leave the charging lid open or cable connected; it will drain the 12-volt battery.
- The cooling fan may run, which is normal.

**Did you know?** Your battery life will decrease while your vehicle is parked. If you are going to go away for an extended period, ensure it is charged to 50% or more before you leave, so it does not go below 10% by the time you return. Be sure to also unplug before you go!

## Charging Networks

It's easier than ever to recharge your BEV in public. Within Canada, there are over 5,000 public charging stations, to find a charging station closest to you, via the Toyota App.

Your Toyota battery electric vehicle is compatible with any network that has a J1772 (Level 2), CCS 1 (DC Fast Charging) or NACS connector, including ChargePoint, Flo, EV Connect. BEVs manufactured in 2026 and later are compatible with the Tesla Supercharger Network V3/V4 while earlier models require a NACS adaptor.

You can find compatible public electric vehicle charging stations via the Toyota App.

## Paying for Charging: Plug & Charge

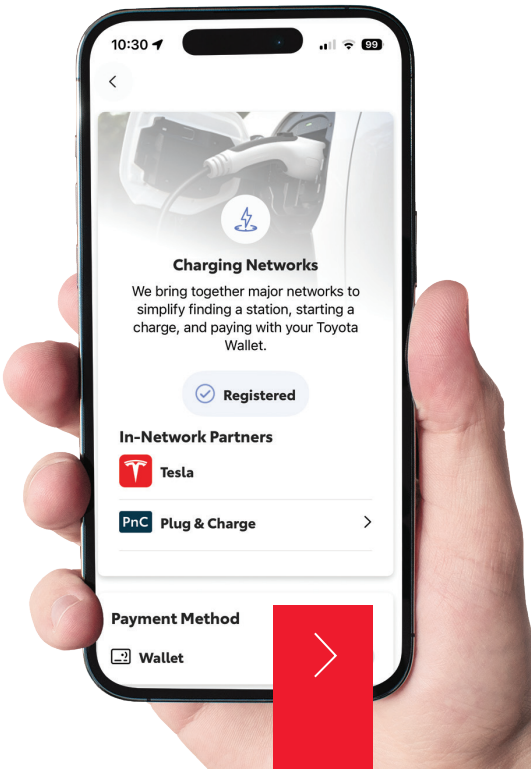
Paying to charge your vehicle on a public charging network has never been easier.

Instead of downloading an app or making an account for each charging network, you can utilize Plug & Charge directly through your Toyota App.

Plug & Charge enables encrypted communication between an EV and a charging station, eliminating the need for key fobs, apps, or logins. Once the vehicle's credentials and payment information are set up in the Toyota app, drivers can plug in to start charging. The charging station recognizes the vehicle directly, handles and processes all payment automatically. The billing details linked to the registered Toyota App account and the associated vehicle are authenticated and charged each time the vehicle is plugged in.

Plug & Charge is only available for 2026 BEV models and beyond, and is currently restricted for use in the originating country. Services and feature availability may vary based on location and device.

An active and enrolled Remote Connect subscription is required to access this service.



# Living the Battery Electric Vehicle Lifestyle (Tips & Tricks)

## Public Charging Etiquette

Good charging habits help keep stations accessible, safe, and efficient for everyone. Keep these etiquette tips in mind when using public chargers:

- Aiming to maintain a charge between 10% (low battery light) and 80% will optimize battery life. DC Fast charging speed typically reduces after the battery level reaches 80% to optimize battery health.
- Move your BEV as soon as possible.
- Only use an BEV charging spot if you are charging.
- Don't unplug someone else who is charging.
- Return the charger connector to its proper place and keep cables tidy.
- Use the charger speed that most matches the vehicle charging limits.
- Report public charging stations issues to the station operator or via the appropriate app.

## Route Planning

Planning ahead is key to a smooth BEV journey. With some preparation, you can avoid range anxiety, minimize downtime, and make the most of your charging stops. Here are a few tips to keep in mind:

**Account for your range:** Plan routes within your BEV's range, allowing a buffer for terrain, weather, and detours.

**Consider charging time:** Factor in how long your BEV takes to recharge, using fast chargers when possible to reduce delays.

**Plan charging stops ahead of time:** Identify compatible stations along your route and confirm availability before you travel.

**Keep alternatives in mind:** Have backup stations in case your primary option is busy or out of service.

**Choose convenient charging locations:** Prioritize chargers near amenities or at your destination (like hotels or workplaces) so you can use the downtime effectively.

**Use multiple charging networks:** Familiarize yourself with different apps and providers to expand your options.

**Plan for round trips:** Make sure you'll have enough charge or access to stations for the return journey.

Create a route to your destination that shows when and where you need to charge using Apple Maps*. Routing logic considers current vehicle state of charge (SoC), BEV characteristics, road and temperature conditions to provide the best route.

* Apple Maps EV Route planning requires an active connected services subscription.

**Did you know?** Toyota recently introduced access to Apple Maps EV Routing via Apple CarPlay. Available for all 2023 and newer Toyota BEVs, Apple Maps can now access real-time vehicle information to efficiently navigate iPhone users to compatible chargers on the way to their destinations, taking into account factors like battery performance and elevation changes.

# Cold Weather

Canadians are no strangers to winter conditions. When temperatures drop, the lithium-ion batteries that power your Toyota battery electric vehicle may experience reduced driving range and longer charging times. This is a typical characteristic of battery electric vehicles. However, with a few simple steps, you can optimize cold weather driving with confidence.

## Before You Drive

### Keep the Vehicle and Battery Warm

- Park your vehicle indoors, such as in a garage, to help maintain a warmer temperature.
- Using the remote functions, warm your vehicle cabin while it's still plugged in. This will minimize battery usage before starting your drive. Use Remote Connect* on the Toyota App or the Multimedia system to schedule cabin temperature.

*Available on select models only. Requires an active DCM with paid or trial Remote Connect subscription. Services are dependent upon connection to a compatible wireless network provided by a third-party wireless service provider. Toyota is not responsible for cellular network discontinuance and will not provide compensation for reduced service availability.

### Clear your vehicle

- Remove snow from the roof and hood to reduce drag and ensure visibility.

## While Driving

### Improve your Cabin Heating Efficiency

- Toyota BEVs use a heat pump system to reduce energy use and extend range. This system can absorb heat from outside air and uses it to warm the vehicle.
- Use AUTO mode on your climate control to prioritize direct heating, such as seat heaters, over heated air.
- Use S-Flow mode to heat front seats only when rear seats are empty.

### Use ECO Drive Mode

- ECO Drive Mode reduces torque, restrains heating and cooling functions, and optimizes energy use.

### Adjust your Driving Habits

- Brake gently and early to maximize the regeneration when slowing.
- In traffic, release the brake pedal smoothly to start moving, to reduce accelerator use.
- Maintain steady speeds when possible for optimal energy use.
- Accelerate and brake smoothly to avoid slipping on icy roads and reduce energy waste.

## After You Drive

**Charge after driving**

- Charge the battery immediately after driving while the battery is still warm.

## Regenerative Braking

**Toyota Regenerative Braking Boost**

To accentuate your regenerative braking, Toyota vehicles have an advanced Regenerative Braking Boost. Utilizing its electric motors, Regenerative Braking Boost Mode allows the convenience of accelerating and decelerating with just one pedal. Press down on the pedal to accelerate and let go to decelerate.

To engage Boost Mode, simply hit the button on under your infotainment system, close to the vents.

When you're not depressing the accelerator, the vehicle will continually slow down to 8 km/h. For your safety, it is necessary to apply the brake pedal to come to a complete stop. It may also be necessary to apply the brake pedal when needing to slow down more quickly.

If you'd like to turn off Boost Mode, simply hit the Boost Mode button again, and the indicator will turn off on the Multi-Information Display (MID.)

# Maintenance & Warranty

## Maintenance for BEVs vs. Traditional Vehicles

Toyota battery electric vehicles follow the same maintenance schedule as conventional vehicles: every 6 months or 8,000 KM (whichever comes first). Click the link to look up the maintenance schedule for your vehicle: https://www.toyota.ca/en/owners/maintenance-schedule/

## Tire Care and Rotation

To ensure optimal handling, braking efficiency, and tire longevity for your battery electric vehicle, selecting tires that meet or exceed the manufacturer's load & speed rating is critical for expected tire wear, performance and handling.

Regular tire rotation, as per the maintenance schedule will ensure even and consistent wear on your tires. Refer to your Owner's Manual for maintenance instructions.

https://www.toyota.ca/en/owners/manuals/

## Multimedia Software Updates

Enabling software updates for your vehicle will ensure that your vehicle is up to date with the latest improvements and enhancements. Learn more about Software Updates for your vehicle here: https://www.toyota.ca/en/my-toyota/multimedia-system-update/

# Driving Experience

## Battery Electric Vehicle Driving Tips

Now that you're becoming an expert with your battery electric vehicle, here are some extra tips to help improve your driving experience.

- **Maintain safe spacing and smooth driving:** Keep a safe distance, accelerate gently, and decelerate smoothly to reduce energy use and wear on your tires.
- **Drive at moderate, steady speeds:** Higher speeds drain the battery faster; use cruise control on highways to maintain efficiency.
- **Use regenerative braking:** Ease off the accelerator to recover energy while slowing down an efficient way to extend range.
- **Plan charging with a buffer:** Aim to reach public chargers with about 20% battery remaining to account for delays or detours. Bring your Level 1 charger, just in case.
- **Keep tires in top condition:** Use the specified tire size and maintain proper inflation to lower rolling resistance and maximize range.
- **Manage climate control wisely:** Set moderate temperatures and use cabin air recirculation, use seat and steering wheel heaters in the cold, and rely on energy-saving settings to conserve battery.
- **Travel light and reduce drag:** Avoid unnecessary weight and use rear-mounted storage instead of rooftop cargo to improve efficiency.
- **Be mindful of towing:** Trailers or heavy loads can significantly reduce range. Plan ahead if towing is necessary.

## Pre-conditioning and Fast Charging

Pre-conditioning optimizes your BEV's battery (2026 and beyond) and cabin temperature before driving. By warming the battery especially in cold weather you warm the battery to an optimal temperature to improve charging speed, preserve long-term battery health, and enjoy a more comfortable ride. Certain Toyota BEVs are equipped with a battery pre-conditioning function as standard. For 2026 BEVs and beyond, using the native vehicle navigation to find a charging station automatically pre-conditions the vehicle prior to charging.

## Towing with a Battery Electric Vehicle

Certain Toyota battery electric vehicles have towing capabilities. Just like with gas vehicles, towing will affect your range the weight and aerodynamic flow of your trailer, boat, or bike rack will have an impact no matter what vehicle you are driving. Be sure to plan charging stops ahead of time for a smooth, stress-free trip.

# Safety and Emergency Preparedness

## What if you Run Out of Charge?

Just like watching the fuel gauge in a gasoline vehicle, you need to watch the amount of charge in your electric vehicle. If you do run out of charge, Roadside Assistance can provide towing to your home, or the nearest public charging station.

## Toyota Warranty Roadside Assistance

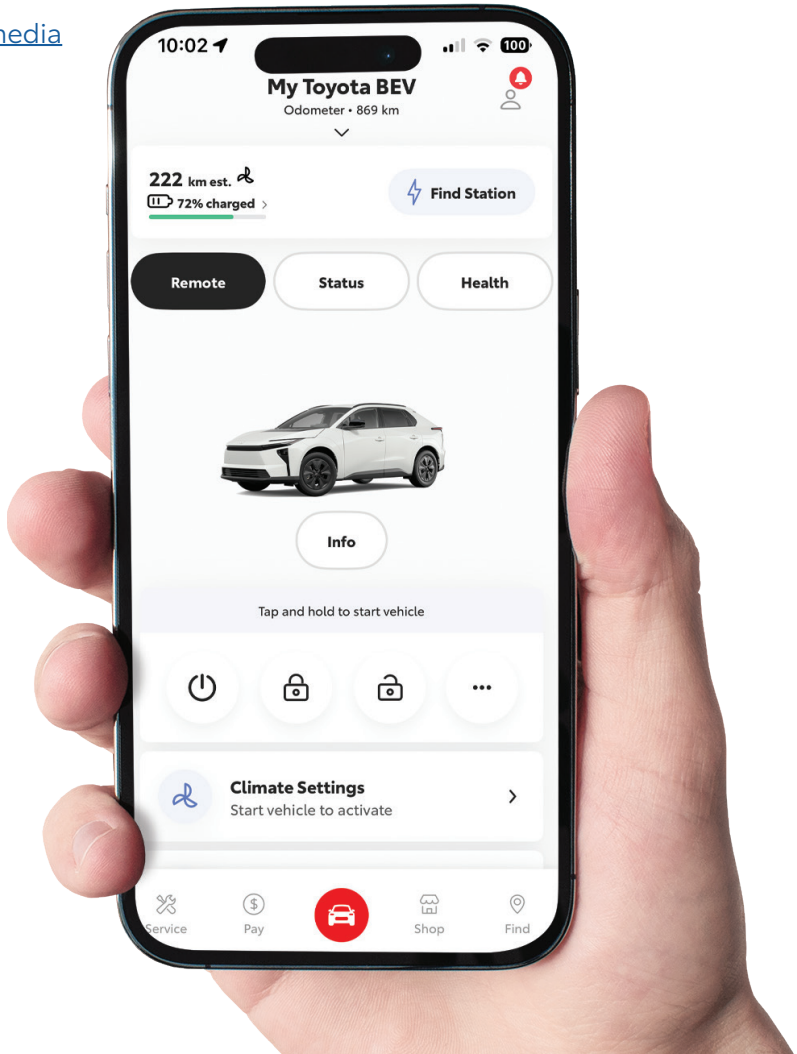
Roadside Assistance is included with your new car warranty for three years, for unlimited kilometers. Refer to the Owner's Manual for additional information about necessary towing precautions.

# The Toyota App

The Toyota app offers a suite of features that enhance your BEV experience such as: monitoring your battery level and range, set up your charging payment method, finding charging stations (including filtering by level type,) and start/stop charging.

**Learn more here:** http://www.toyota.ca/toyotamultimedia

**Note:** A Toyota Remote Connect trial or subscription is required for full access to the below features.



# TOYOTA

**Looking for Toyota resources? Start Here.**

Information on Toyota Electrified Vehicles

Maintenance for your BEV

Owner's Manual

Multimedia Systems Update

The Toyota App

*Japanese models shown. Canadian model may vary in features.