



# Power and Productivity

How to help maximize fleet performance and range with your F-150<sup>®</sup> Lightning<sup>®</sup>.

Computer-generated images with available features shown throughout.



When developing the F-150® Lightning® Pro, we visited job sites around the country to listen to customers like you, see how you work and uncover how to create an electric truck that helps you get even more done.

While electric vehicles are different from what you're used to, we're proud to say this one is as strong as any F-150 coming off our assembly lines. Even the battery pack is BUILT FORD TOUGH.® We know this is a big transition for your business. To make the change smooth, we've put together information and tips to ensure the best experience possible.

It's important to explore your needs to understand if an EV is a good fit for your vehicle usage, especially if you have an extreme use case or if charging is not easily accessible. Fortunately, the Ford Pro Charging team can work with you to help determine if Lightning is right for you. To schedule a consultation with a Ford Pro Charging expert, call 1-800-34-FLEET (1-800-343-5338).

### This guide provides:

- Performance capabilities of F-150 Lightning Pro
- An overview of Ford Pro™ commercial charging solutions<sup>1</sup>
- Factors that impact electric range
- Tools to help manage electric range
- Unique advantages of F-150 Lightning Pro



<sup>1</sup>Ford Pro Charging depot software subscription and Ford Telematics subscription required. Chargers must conform to Open Charge Point Protocol (OCPP) 1.6-J industry standard and be Internet-connected. Ford Telematics requires modem activation or plug-in device (PID) purchase and activation for non-Ford electric vehicles. Ford Pro Charging depot software, Ford Telematics and Ford Data Services are subscription services subject to agreement to Ford Smart Mobility terms and conditions. Subscription subject to monthly charge. Subject to OFAC and credit check for subscription eligibility. Connected service and features, and access to vehicle and charger data depend on subscription and compatible cellular network availability. Evolving technology/cellular networks/vehicle and charger capability may limit functionality and prevent operation of connected features.



# All-Electric. All Truck.

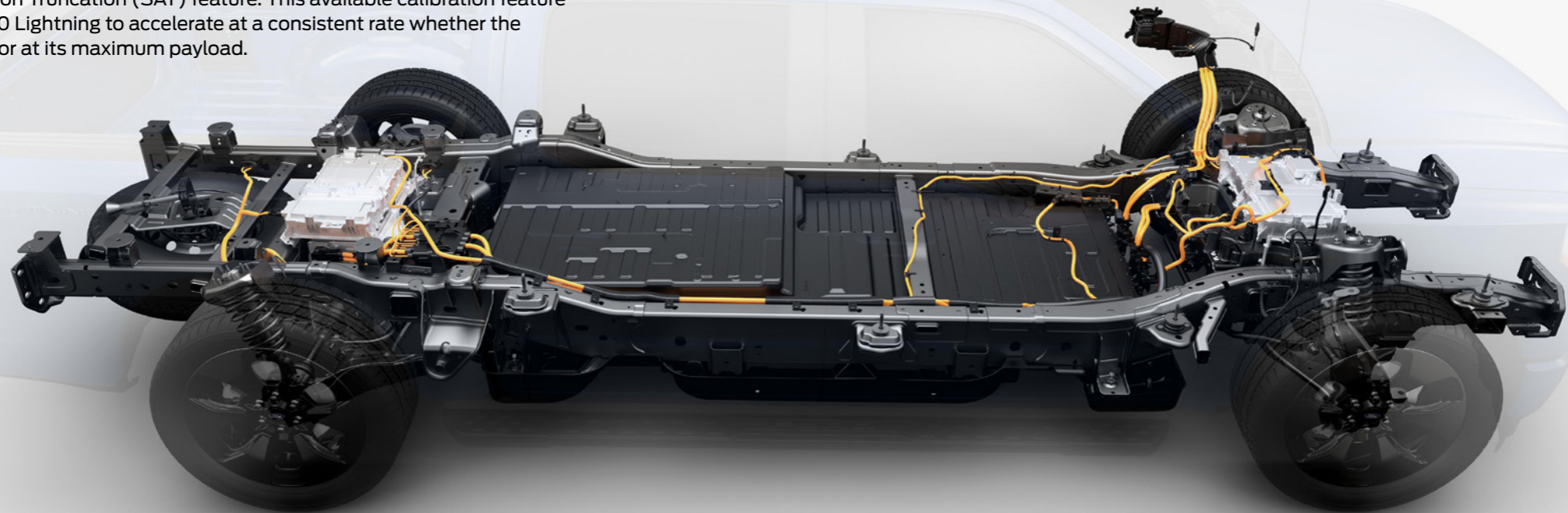
More than 145 million miles of telematics data show that for the average F-150® commercial customer in the U.S., 95% of their daily travel is less than 174 miles. So, we designed the 2023 F-150 Lightning® with a standard EPA-estimated range of 240 miles<sup>1</sup> and an available extended-range battery which offers an EPA-estimated range of 320 miles.<sup>1</sup> The F-150 Lightning features one of the largest capacity batteries available in any electric truck. To isolate the battery pack from the road and the rest of the vehicle, we included an upgraded high-strength steel frame. Plus, we added extra steel shielding to give you another layer of protection in even the most rugged terrain. Each battery is covered by a limited warranty that provides coverage if the battery does not retain at least 70% of the original charging capacity for eight years/100,000 miles, whichever comes first.

## Most Torque of Any F-150 Ever

The F-150 Lightning has two inboard motors – one for each axle – offering 775 lb.-ft. of nearly instant torque.<sup>2</sup> When equipped with the extended-range battery, the truck puts out 580 horsepower<sup>2</sup> while hitting 60-mph in the sub four second range.<sup>3</sup> To help manage acceleration, F-150 Lightning offers the Smart Acceleration Truncation (SAT) feature. This available calibration feature enables the F-150 Lightning to accelerate at a consistent rate whether the vehicle is empty or at its maximum payload.

## 10,000 lbs. of Maximum Towing Capability

Combining your battery with the Max Trailer Tow Package enables the standard and extended-range battery to tow their highest potential load. That's 7,700 lbs. for the standard battery and 10,000 for the extended range.<sup>5</sup>



## Lower Scheduled Maintenance Costs

Scheduled maintenance costs for the F-150 Lightning pickup truck are estimated to be more than 45 percent less than the average scheduled maintenance costs for a gas-powered F-150 over 5 years/75,000 miles (whichever comes first). Estimated average maintenance costs per gas vehicle are \$1,499, while the estimated average maintenance costs per electric vehicle are \$813.<sup>4</sup>

## Coverage that Goes the Distance

Ford Roadside Assistance covers you in the U.S. for 5 years or 60,000 miles (whichever comes first). If you ever run out of charge while on the road, we'll have your vehicle towed to your home, a public charge station or a Ford EV-certified dealership within 50 miles of your vehicle location to get recharged. If the nearest charging option is beyond 50 miles, your vehicle will be taken to the closest public charger or Ford EV-certified dealer.

<sup>1</sup>Based on full charge. Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, lithium-ion battery age and state of health. F-150 Lightning Pro with extended-range battery is a fleet configuration only, not available for retail sale. EPA-estimated city/hwy mpg for the model indicated. See [fuelconomy.gov](http://fuelconomy.gov) for fuel economy of other engine/transmission combinations. Actual mileage will vary. <sup>2</sup>Calculated via peak performance of the electric motor(s) at peak battery power. Horsepower and torque are independent attributes and may not be achieved simultaneously. Your results may vary. <sup>3</sup>Ford test data based on typical industry methodology using 1-ft rollout. Your results may vary. <sup>4</sup>Scheduled maintenance costs compared to 2.7L EcoBoost® gas model based on recommended service schedule as published in the Owner's Manual. Analysis reflects Ford Motor Company's standard method for calculating scheduled maintenance cost, and reflects data available in 2022. <sup>5</sup>When properly equipped, max towing varies based on cargo, vehicle configuration, accessories and number of passengers.



# Commercial Charging Solutions<sup>1</sup>

Your electric vehicle fleet will require complete, integrated, scalable charging solutions<sup>1</sup> designed for commercial use. That's what we've built at Ford Pro.<sup>™</sup> And it includes designing, implementing, and operating the charging infrastructure. Plus, we make financing your charging infrastructure easy with Ford Pro<sup>™</sup> FinSimple<sup>™</sup> financing.

## Charging<sup>1</sup> for the Depot and Employees' Homes

The Ford Pro charging line starts with Level Two (L2) AC and includes Level Three (L3) DC fast chargers with a comprehensive range to choose from. Most commercial customers will be able to charge their vehicle overnight with a low-cost AC charger. Whether installed at the depot or at employees' homes, these chargers all connect directly into Ford Pro software<sup>2</sup> and adapt to your fleet's specific needs. Our software<sup>2</sup> understands how your fleet operates and what your energy needs are, helping ensure that your vehicles are charged up and ready at the lowest possible cost. [Learn more about Ford Pro charging.](#)

## Charging While On The Road

When your drivers need to charge<sup>1</sup> on the go, they'll have access to over 79,000 plugs and 9,600 DC fast-charging plugs through our BlueOval<sup>™</sup> Charge Network; the largest public charging network in North America.<sup>3</sup> BlueOval provides integrated, seamless billing, letting you see all your charges together and pay for it in one place. This saves you from the frustration of chasing down bills from multiple vendors and eliminates the need for fuel cards or manual reimbursements. [Find chargers along your routes.](#)

## Overnight Charging

Preconditioning is a feature that prepares your vehicle during an overnight charge for optimum range. Using a departure time that you set in Ford Pro software<sup>2</sup>, the system pre-heats (or pre-cools) your EV battery and cabin while the vehicle is charging. This enables you to begin the day with your vehicle ready to go, reducing demand on the battery when you're on the road. For more information on preconditioning, watch [Remote Preconditioning.](#)

## Charge Times

Ford estimates the standard battery will charge from 15% to 100% in 10 Hours<sup>4</sup> with a Ford Charge Station Pro and/or Ford Pro AC Charging Station 80A. The extended-range battery uses dual onboard chargers for faster overnight AC charging. The extended range battery can charge from 15% to 100% in 8 Hours<sup>4</sup> with a Ford Charge Station Pro and/or Ford Pro AC Charging Station 80A.

Standard Range: **19 Miles** per AC charging hour average<sup>4</sup>  
Extended Range: **30 Miles** per AC charging hour average<sup>4</sup>



<sup>1</sup> Ford Pro Charging depot software subscription and Ford Telematics subscription required. Chargers must conform to Open Charge Point Protocol (OCPP) 1.6-J industry standard and be Internet-connected. Ford Telematics requires modem activation or plug-in device (PID) purchase and activation for non-Ford electric vehicles. Ford Pro Charging depot software, Ford Telematics and Ford Data Services are subscription services subject to agreement to Ford Smart Mobility terms and conditions. Subscription subject to monthly charge. Subject to OFAC and credit check for subscription eligibility. Connected service and features, and access to vehicle and charger data depend on subscription and compatible cellular network availability. Evolving technology/cellular networks/vehicle and charger capability may limit functionality and prevent operation of connected features. <sup>2</sup> Some software packages may require a fee and/or subscription. Terms and conditions apply. See dealer for details. <sup>3</sup> Based on original equipment manufacturers (OEM)/automotive manufacturers that sell all-electric vehicles and have active charging networks. Department of Energy data as of November 29, 2022 used. Numbers subject to change. FordPass<sup>®</sup>, compatible with select smartphone platforms, is available via a download. Message and data rates may apply. <sup>4</sup> Range and charge time based on manufacturer computer engineering simulations and US EPA MCT drive cycle methodology (EPA Test Procedures for Electric Vehicles). The charging rate decreases as battery reaches full capacity. Your results may vary based on peak charging times and battery state of charge. Actual vehicle range varies with conditions such as external elements, driving behaviors, vehicle maintenance, lithium-ion battery age and state of health.



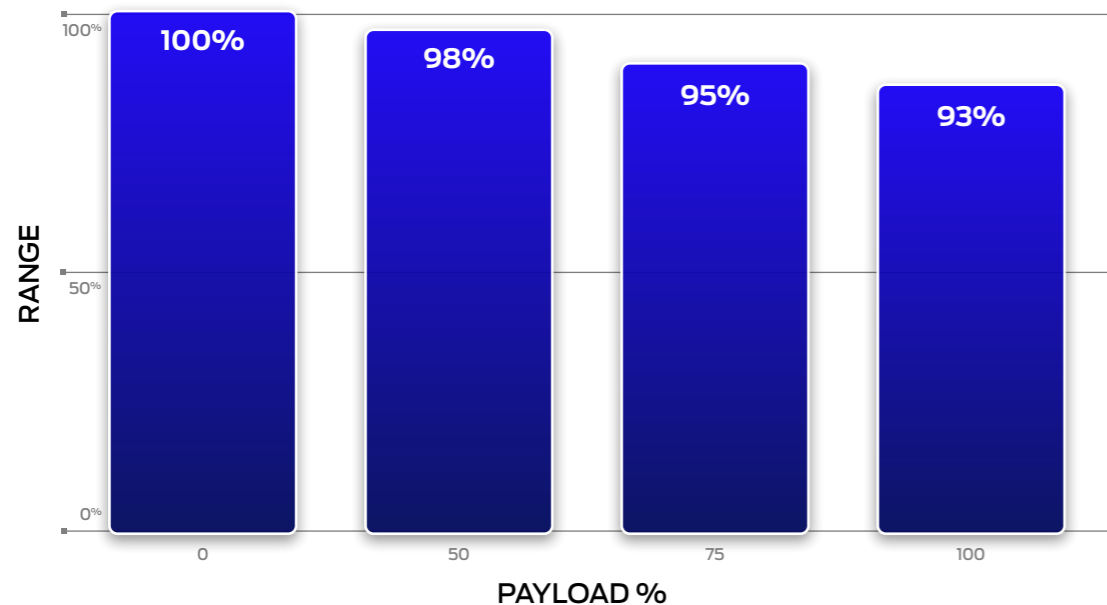
# Understanding Range Impact: Hauling & Towing

Just like gas-powered vehicles, the heavier the load or pull, the more energy needed to move it. When compared against trailers with larger frontal areas, our testing shows that trailers with lower frontal areas have better aerodynamics and a less negative impact on range capacity. Use the charts below to compare how your daily needs could be impacted.

The estimated range comparisons contained in the charts throughout this brochure reflect the results from a non-EPA engineering study conducted by Ford. Each chart focuses on a different variable that impacts range. The EPA-estimated ranges for the 2023 F-150® Lightning® are as follows: standard range battery, 240 miles<sup>1</sup>; Pro, XLT, Lariat trims with available extended-range battery, 320 miles<sup>1</sup>; Platinum trim, 300 miles.<sup>1</sup> Keep in mind that your actual range will vary with conditions such as external environment, trailer use, trailer weight, vehicle weight, vehicle maintenance, driver behavior, jobsite or vehicle use case, upfits and alterations, and lithium-ion battery age and state of health.

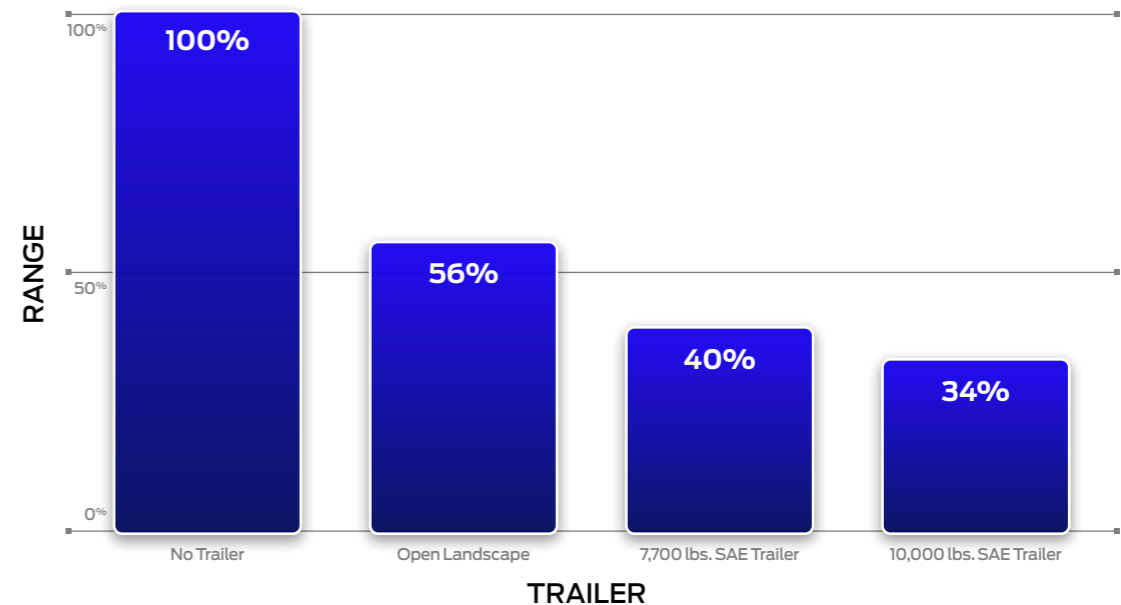


**PAYLOAD IMPACT ESTIMATES**  
2022 F-150 Lightning



The vehicle tested was a 2022 F-150 Lightning with Extended Range Battery with 20" All Season tires and all climate control and accessories off. Ford conducted the baseline test for the 0% condition on a vehicle with a fully-charged battery at EPA-defined test weight and no payload in the truck bed, using the EPA Multi-Cycle Test drive, which includes city and highway speeds and representative road loads, on a dynamometer in an indoor facility at 77°F. Ford used computer simulations to estimate results for payload weights, with the 100% condition reflecting maximum payload of the vehicle (payload percentage includes option weight). Max payload varies and is based on accessories and vehicle configuration. See label on doorjamb for carrying capacity of a specific vehicle. The estimated range comparisons are results from a non-EPA engineering study conducted by Ford. Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, upfits and alterations, lithium-ion battery age and state of health.

**TRAILER IMPACT ESTIMATES**  
2022 F-150 Lightning



The vehicle tested was a 2022 F-150 Lightning with Extended Range Battery with 20" All Season tires and all climate control and accessories off. Ford conducted baseline tests for the "No Trailer" condition on a vehicle with a fully-charged battery using the EPA Multi-Cycle Test drive schedule on a dynamometer in an indoor facility at 77°F, and used computer simulations to estimate results for the other trailer towing conditions (accounting for trailer tow weights, frontal areas, and representative road loads) listed in the graph. Trailer measurements (frontal area/weight): Open Landscape: 3.9m<sup>2</sup>, 5,000lbs; 7.7K SAE trailer: 5.3m<sup>2</sup>, 7,700lbs; 10K SAE trailer: 5.8m<sup>2</sup>, 10,000lbs. The estimated range comparisons are results from a non-EPA engineering study conducted by Ford. Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, upfits and alterations, lithium-ion battery age and state of health.

<sup>1</sup>Based on full charge. F-150 Lightning Pro with extended-range battery is a fleet configuration only, not available for retail sale. The EPA-estimated ranges for the 2022 F-150 Lightning are as follows: standard range battery, 230 miles; Pro, XLT, Lariat trims with available extended-range battery, 320 miles; Platinum trim, 300 miles.



# Understanding Range Impact: Extreme Weather Conditions

All vehicles face challenges in extreme temperatures, whether hot or cold. Cabin climate control systems, window defrosters and rolling resistance from snow and slush all put additional demand on batteries. These demands are greatest when the battery is cold. Unlike a gas-powered vehicle, which uses heat from the engine, electric vehicles use battery power to heat the cabin.

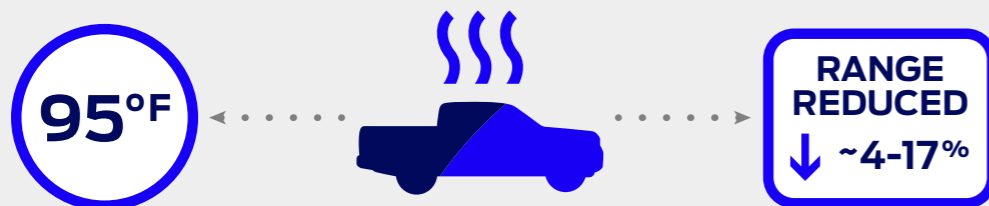


## AAA Testing

AAA tested how weather impacts the range of several popular electric vehicles. They found that when outside temperatures heat up to 95°F (35°C) and air conditioning is being used in the vehicle, driving ranges can decrease by 17%<sup>1</sup>. AAA also observed that 20°F (-7°C) weather alone could reduce range by 10-12%, while the use of in-vehicle climate control could amplify range loss to 41%<sup>1</sup>.

### HOT WEATHER POTENTIAL RANGE IMPACT

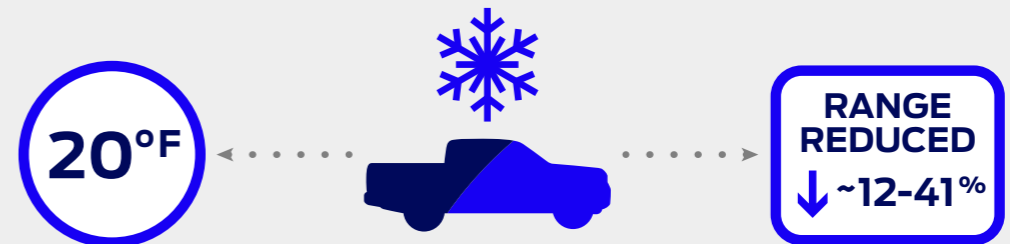
(Source : AAA Study<sup>1</sup> on Several Popular EVs)



Up to 17% Decrease When Climate Control is Used

### COLD WEATHER POTENTIAL RANGE IMPACT

(Source : AAA Study<sup>1</sup> on Several Popular EVs)



Up to 41% When Climate Control is Used

<sup>1</sup>AAA Electric Vehicle Range Testing," Feb. 2019, available at <https://newsroom.aaa.com/2019/02/cold-weather-reduces-electric-vehicle-range/>. Testing conducted on various 2017-2018 non-Ford vehicles. Reductions based on comparison to testing conducted at 75°F.



# EV Best Practices: How Ford Pro™ Solutions Can Help You Maximize Range

While extreme weather can reduce range, Ford Pro offers solutions that can help you mitigate the impact. Here's how you can use Ford Pro E-Telematics<sup>1</sup> software and EV best practices to consistently get the best performance out of your truck.

## Cold Temperatures Tips

- Precondition your vehicle by scheduling departure times with Ford Pro E-Telematics software.<sup>1</sup> This will heat the battery ahead of time to help optimize range and warm up the cabin too
- Keep your vehicle plugged in when parked. The vehicle will use power from the charger to heat the battery and cabin
- When away from home, use an indoor parking facility if available. The relative warmth will help reduce the impacts of extreme cold temperatures
- If your vehicle is covered in snow, start it remotely or schedule preconditioning to melt snow, and brush off any remaining snow before driving to reduce weight and drag
- Instead of heating the entire vehicle cabin, use the standard heated seats in the F-150® Lightning® for warmth

## Hot Weather Tips

- Keep your vehicle plugged in when parked. The vehicle will use power from the charger to cool the battery and cabin

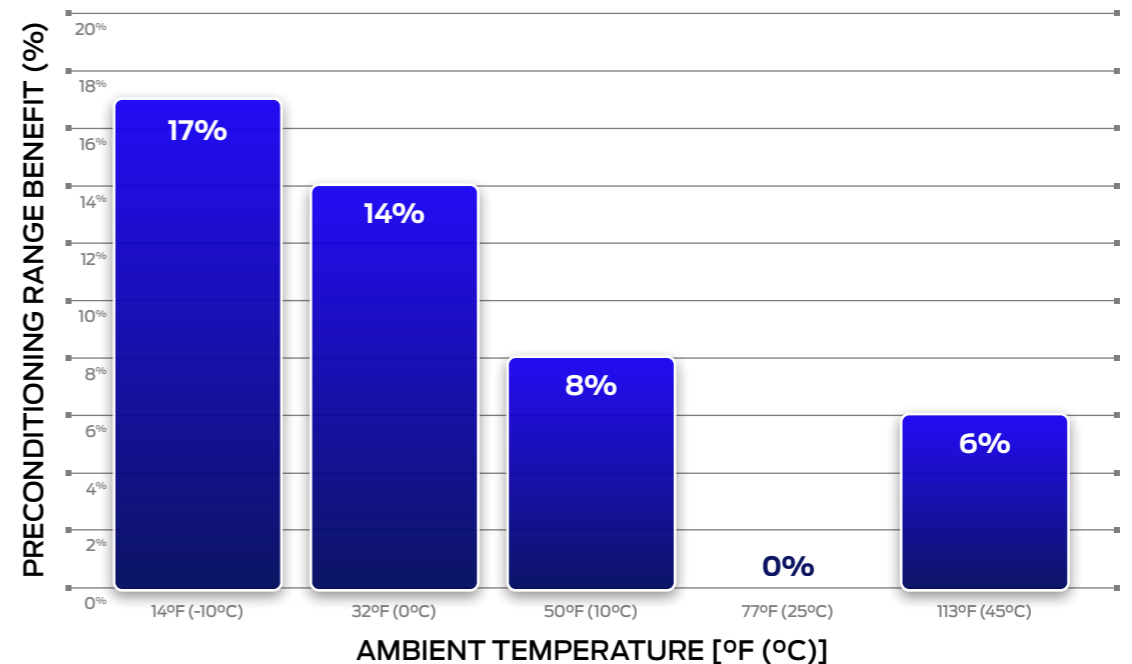
## Cabin Climate Control Tips

- Keep your doors and windows closed to conserve energy and maintain climate levels
- Use recirculated air to adjust cabin temperature, as this requires less energy use for the vehicle's heater and blower

## ESTIMATED RANGE BENEFIT WITH 1-HOUR PRECONDITIONING VS. NON-PRECONDITIONING AT VARIOUS AMBIENT TEMPERATURES

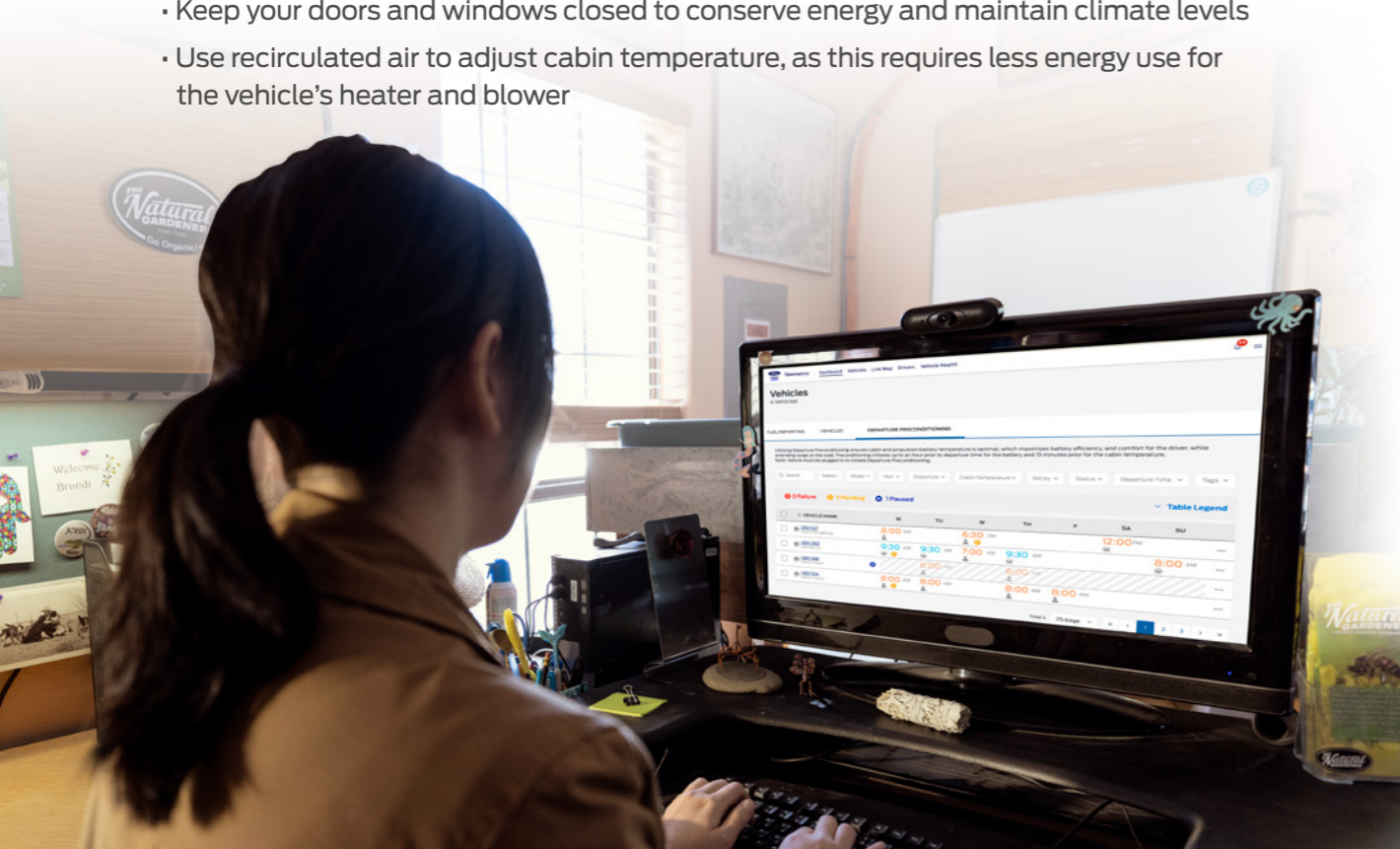
### Driving Range Estimates

(Figures apply only to 2022 F-150 Lightning)



The vehicle tested was a 2022 F-150 Lightning with Extended Range Battery with 20" All Season tires, with all accessories off except for climate control. Ford conducted the tests at 14°F (-10°C), 32°F (0°C), 50°F (10°C), 77°F (25°C) and 113°F (45°C) temperature conditions on a vehicle with a fully charged battery using portions of the EPA Multi-Cycle Test drive, which includes city and highway speeds and representative road loads, on a dynamometer in an indoor facility. Preconditioning includes one hour of preconditioning with a cabin temperature setting of 72°F (22°C). All tests used a constant cabin temperature setting of Auto 72°F (22°C) throughout, with vehicle starting the test at the listed ambient temperature and the test chamber maintaining the listed ambient temperature throughout the test. The estimated range comparisons are results from a non-EPA engineering study conducted by Ford. Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, upfits and alterations, lithium-ion battery age and state of health.

<sup>1</sup>Eligible vehicles receive a complimentary 3-year trial of E-Telematics services that begins on the new vehicle warranty start date. Requires modem activation. Terms and conditions apply. Telematics service and features, and access to vehicle data depend on compatible AT&T network availability. Evolving technology/cellular networks/vehicle capability may limit functionality and prevent operation of connected features. After the 3-year trial, annual service contract is required for E-Telematics service. Call 1-833-811-3673 to activate E-Telematics service.



# Understanding Range Impact: Tips on Driving Style & Road Conditions

It's important to make sure you and your drivers understand how daily driving habits could negatively impact range.

## Driving Style

Rate of acceleration and cruising speed have a significant impact on energy consumption.

- Keep driving speeds moderate, as higher speeds use more energy
- Use "Normal" drive mode with One-Pedal Driving Mode to increase regenerative braking to help recover more energy to the battery
- Avoid unnecessary harsh acceleration and braking

## Road Conditions

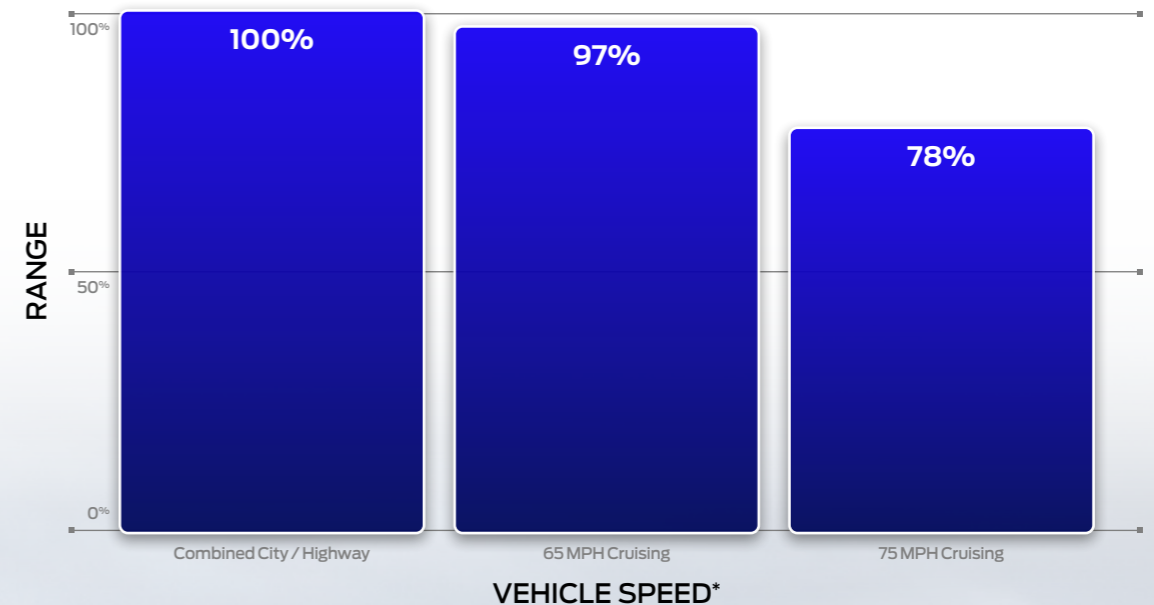
Road conditions and weather elements like wind and precipitation can impact range.

- Ensure your tires are inflated to the proper pressure and do not overload the vehicle with more than what is needed

## VEHICLE SPEED IMPACT ESTIMATES

2022 F-150® Lightning®

(Figures apply only to 2022 F-150 Lightning)



The vehicle tested was a 2022 F-150 Lightning with Extended Range Battery with 20" All Season tires and all climate control and accessories off. Ford conducted the City/Hwy and steady state 65 mph testing on a vehicle with a fully-charged battery on a dynamometer in an indoor facility at 77°F, and used computer simulations to estimate results for 75 mph steady state driving. Baseline combined City/Hwy figures are as measured on the EPA Multi-Cycle Test drive schedule, which includes city and highway speeds, and at road loads consistent with EPA testing methods. 65 mph testing and 75 mph simulation reflects steady state driving (not based on EPA highway drive cycle) with road loads representing such driving speeds. The estimated range comparisons are results from a non-EPA engineering study conducted by Ford. Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, upfits and alterations, lithium-ion battery age and state of health.





# Tools to Help Manage Range

## Ford Pro™ E-Telematics

Ford Pro E-Telematics<sup>1</sup> is a set of features designed to help manage your electric fleet: real-time range and plug-in status; remote preconditioning; and tools to manage driver reimbursement for home charging. All accessible from an easy-to-use dashboard. Ford Pro E-Telematics<sup>1</sup> is complimentary for the first 3 years of all-electric Ford fleet vehicle ownership. [Schedule a demo](#) to take a test drive of Ford Pro E-Telematics<sup>1</sup> today.

### Real-time Charge & Range Status

See which vehicles are/are not charging and view a live map to see available range. Data on weather, driver behavior, payload, and traffic conditions are factored in to provide an actual range that your electric vehicles can travel before needing to be recharged.

### Remote Preconditioning

Batteries work best when they are a certain temperature. Using Ford Pro E-Telematics<sup>1</sup> software, you can set the departure time for your vehicles. E-Telematics<sup>1</sup> uses this time and local weather information to ensure that your vehicles are ready to go with a full charge, a warm battery and a comfortable cabin when your crews arrive. If a temperature below 50°F (10°C) is detected, preconditioning will heat the battery system to a target of 59°F (15°C) at the departure time, in order to help optimize battery range.

### Intelligent Range

The F-150® Lightning® learns while being driven. The Intelligent Range<sup>2</sup> feature provides a more accurate vehicle range estimate by using in-vehicle data like traffic speed, ambient temperature, climate control use and available battery energy as well as driver habit information and route topography. When towing, Intelligent Range<sup>2</sup> leverages data from other F-150 Lightning vehicles to supply more precise tow range estimates.

## Charge Assist

Drivers can easily locate, access and bill for charging while on the road from within an in-vehicle SYNC® 4 Technology touchscreen<sup>4</sup> app. They can also search in-network and out-of-network chargers along the route, see real-time charger availability, and filter specifically for DC fast chargers. Get started with Charge Assist by [signing up](#) for Public Charge Management at the Ford Pro Fleet Marketplace.

## Battery Health

Here are some ways to reduce strain on batteries and help increase performance and longevity:

- Make overnight depot and home charging your primary charging methods
- Limit the use of DC fast charging
- Use managed solutions like Ford Pro Charging Software that help you set the appropriate power limits on your chargers and the optimal charge level for your expected usage
- When fast charging at your depot, set your charger at 65 kW or less on an F-150 Lightning Extended Range and 50 kW or less on an F-150 Lightning Standard Range
- For vehicles that travel a standardized route, if the expected range allows, set the maximum charge level to be less than 100%

<sup>1</sup>Eligible vehicles receive a complimentary 3-year trial of E-Telematics services that begins on the new vehicle warranty start date. Requires modem activation. Terms and conditions apply. Telematics service and features, and access to vehicle data depend on compatible AT&T network availability. Evolving technology/cellular networks/vehicle capability may limit functionality and prevent operation of connected features. After the 3-year trial, annual service contract is required for E-Telematics service. Call 1-833-811-3673 to activate E-Telematics service. <sup>2</sup>Actual range varies with conditions such as external environment, vehicle use, vehicle maintenance, upfits and alterations, lithium-ion battery age and state of health. <sup>3</sup>Don't drive while distracted or while using handheld devices. Use voice-operated systems when possible. Some features may be locked out while the vehicle is in gear. Not all features are compatible with all phones.



# Advanced Technology. Powerful Performance.

We designed this truck for people who work. And we developed a range of innovations to make the job easier.



## Pro Power Onboard

This convenient feature provides up to 9.6 kWh of on-site, on-demand power for tools, electronics, appliances and other electric devices.<sup>1</sup>



## Mega Power Frunk

With 14.1 cubic feet<sup>2</sup> of space, the Mega Power Frunk is the largest front trunk on any electric pickup. This lockable watertight area also provides easy bumper height access, is lockable, lights up, and can hold up to 400 lbs. It's durable and washable, and equipped with a drain that makes it easy to clean out at the end of the day.



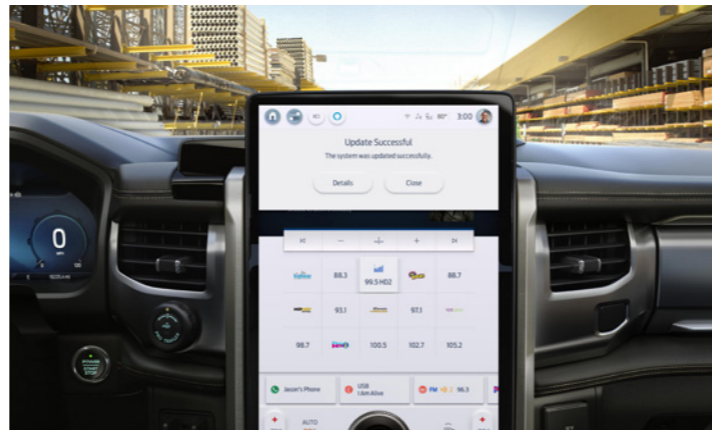
## Intelligent Backup Power

With Intelligent Backup Power, a Ford Charge Station Pro and an extended range battery – your F-150<sup>®</sup> Lightning<sup>®</sup> can re-direct power to your properly equipped home or shop for up to three days.<sup>3</sup>



## Independent Rear Suspension

F-150 Lightning has an independent rear suspension, a low center of gravity and a wheelbase over 12 feet. Together, these help make the driving experience smooth and steady.



## Easy Software Updates

Just like your phone, you can download Ford Power-Up software updates from anywhere there's a data connection.



## Fast and Affordable Charging

The dual onboard chargers enable affordable Level 2 overnight charging via battery-friendly AC power, eliminating the need for expensive DC power installation.

<sup>1</sup>See owner's manual for important operating instructions. <sup>2</sup>Max payload varies and is based on accessories and vehicle configuration. See label on door jamb for carrying capacity of a specific vehicle. <sup>3</sup>When home is properly equipped and home transfer switch disconnects home from the grid. Based on 30 kWh use per day using the F-150 Lightning with extended-range battery. Your results may vary depending on energy usage. Rationing power assumes limiting the number of devices and turning the truck off when not needed.



## Accelerate Your Productivity with Ford Pro™

We know that working with multiple vendors and using several software tools to manage your fleet can be time-consuming and overwhelming. Ford Pro integrates a digitally-powered suite of software<sup>1</sup>, charging, service and financing products for work vehicles. Ford Pro provides the tools you need to make your entire fleet more efficient, helping lower your total cost of ownership.

Our Ford Pro Solutions team can help you build a customized package to suit your business, and you can fund it all through Ford Pro™ FinSimple™ with one of our financing or leasing options.

To learn more, [visit FordPro.com](https://www.fordpro.com).



<sup>1</sup>Some software packages may require a fee and/or subscription. Terms and conditions apply. See dealer for details.

