

Electric Vehicle Total Cost to Transport Analysis  
May 2024

**CHARGED LOGISTICS:**  
The cost of electric vehicle conversion  
for U.S. commercial fleets

## EXECUTIVE SUMMARY

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With evolving state and federal legal requirements, and potential mandates, aimed at converting commercial diesel vehicles to zero-emission vehicles (ZEV), Ryder customers frequently ask about the costs and benefits of incorporating electric vehicles (EV) into their fleets. As a result, Ryder conducted this analysis to determine the cost of EV conversion in today's market. In the analysis:

- Ryder analyzed the total cost to transport (TCT), in one-to-one comparisons, for transitioning Class 4 (light-duty), Class 6 (medium-duty), and Class 8 (heavy-duty) vehicles operating in California and Georgia from internal combustion engines (ICE) to EVs in today's market.
- Then, because most companies have more than one commercial vehicle, Ryder examined the TCT for transitioning a mixed fleet (light, medium, and heavy) of 25 ICE vehicles to EVs. The mix was based on the overall mix of commercial vehicles in the U.S. according to Polk Data Services.
- The analysis is based on representative network loads and routes from Ryder's dedicated fleet operations, which includes more than 13,000 commercial vehicles and professional drivers, as well as the impact of EV charging time and maximum payload to achieve equivalent delivery times.
- Our quantitative results show a relatively modest increase of up to 5% for light-duty EVs, and increases from 94% to 114% to convert heavy-duty trucks and from 56% to 67% to convert mixed fleets.
- Assuming that the price of goods would increase due to higher transportation costs, based on the cost impact to convert a mixed fleet from ICE to EV, we estimate these increases could cumulatively add approximately 0.5% to 1% to overall inflation.

## INTRODUCTION

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Ryder is at the forefront of identifying new technology for operational advancements and acts as an extended research and development arm for our suppliers and customers. Moreover, we are at the table with regulators, vehicle manufacturers, technology innovators, and industry peers as we discuss ways the industry can implement potential solutions. While Ryder is actively involved in the testing and successful deployment of EVs and charging infrastructure – as well as other alternative fuels – Ryder views the rapidly evolving transportation landscape through the lens of one of the longest-running and largest fleet owners in North America, with over 90 years of experience in truck transportation and nearly 250,000 commercial vehicles under management. With more than 41,000 commercial customers in its portfolio today, Ryder utilizes its expertise to implement logistics and transportation solutions for businesses across most industries.

With this in mind, using extensive Ryder historical data and current market prices for electric and ICE vehicles and charging infrastructure, Ryder examined the potential economic impacts of implementing an all-EV fleet. Ryder analyzed the impact in California and Georgia, as electricity, fuel, and labor costs range from some of the highest in the country to more modest. Ultimately, the analysis set out to understand the cost of electrifying a fleet and the potential impacts on businesses and consumers.

<sup>1</sup>Economics and Industry Data, American Trucking Associations (2022), <https://www.trucking.org/economics-and-industry-data>

## TCT ANALYSIS: Objective and Variables

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To understand the economic impacts of utilizing EVs in place of ICE vehicles, Ryder first examined the TCT for Class 4 light-duty transit vans, Class 6 medium-duty straight trucks, and Class 8 heavy-duty tractors.

Using quantitative data from representative network loads and routes from Ryder's dedicated transportation operating models, which include approximately 13,000 vehicles and professional drivers, the analysis factored in the cost of the vehicle, maintenance, drivers, range, payload, diesel fuel versus electricity, and the required EV charging time. It is important to note that the analysis assumes the accessibility and use of the fastest applicable commercial vehicle chargers – though this network infrastructure is not yet built out.

First, Ryder conducted a one-to-one analysis of a single vehicle (ICE vs. EV) in each of the light-, medium-, and heavy-duty classes using cost assumptions from California, where fuel, electricity, and labor are typically the highest in the nation, and Georgia, where cost assumptions are more favorable.

Then, as most companies have more than one vehicle, Ryder applied the individual costs to a fleet of 25 vehicles of mixed classes and types, and compared the cost of owning and operating that fleet in California and Georgia. The fleet mix is based on the overall mix of commercial vehicles in the U.S., according to third-party data, and includes 11 light-duty vans, four medium-duty straight trucks, and 10 heavy-duty tractors.

The analysis factors in a number of variables and other assumptions, including the average labor costs for California and Georgia. It also assumes fixed monthly tractor costs based on actual freight management system equipment pricing and lower EV maintenance costs, compared to ICE maintenance costs, due to fewer moving parts and no need to change oil or diesel exhaust fluid. The analysis estimates EV energy costs using current assessment models and fuel costs of \$6.13 per gallon in California and \$4.19 per gallon in Georgia. The cost of hardware, installation, and maintenance of EV chargers reflects actual infrastructure projects at current Ryder locations amortized over the life of the charger and multiple power units. The analysis estimates insurance and other general and administrative expenses (G&A) to be equal for one ICE unit and one EV unit.

# CLASS 4

## One-to-One Comparison



The Class 4 comparison assumes short-haul deliveries of about 80 miles, two trips per day, about 40,000 miles annually, and one local Class C driver per vehicle. The average payload for each is 2,500 pounds.

The first chart shows the comparison results for a single ICE transit van versus an EV transit van in California. The annual cost to convert to an EV is estimated at just under \$5,000 or a 3% increase. While the cost of the vehicle is 71% more and labor is 19% more due to additional hours of service for EV charging time, fuel vs. energy and maintenance costs decrease 71% and 22% respectively, resulting in a relatively modest increase in TCT.

### CALIFORNIA

| 1 Driver - 1 Van |

| 1 Driver - 1 Van |

Category	ICE VANS		EV VANS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1 driver, \$23/hr @ 48 hours weekly	\$62,192	1 driver, \$23/hr @ 55 hours weekly	\$74,032	\$11,840	19%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$30,441	PTO, Payroll Tax, Workers Comp	\$33,115	\$2,674	9%
Equipment Cost*	1 van, \$1,030/month per unit	\$12,360	1 van, \$1,766/month per unit	\$21,192	\$8,832	71%
Equipment Maintenance Cost*	\$0.09/mile	\$3,805	\$0.07/mile	\$2,959	\$(846)	(22%)
Fuel vs. Energy Cost	\$0.67/mile fuel cost, 9.1 MPG	\$28,479	\$0.19/mile energy cost	\$8,158	\$(20,321)	(71%)
EV Charger Cost	N/A	\$ -	\$124k hardware, installation, maintenance	\$2,756	\$2,756	-
Other Operating Costs	1 van, insurance, G&A, CVCs, etc.	\$34,046	1 van, insurance, G&A, CVCs, etc.	\$34,046	\$ -	0%
<b>Total</b>	<b>Annual TCT</b>	<b>\$171,323</b>	<b>Annual TCT</b>	<b>\$176,258</b>	<b>\$4,935</b>	<b>3%</b>

**3% TOTAL COST INCREASE**

The second chart shows the comparison results in Georgia in which the TCT for an ICE vehicle and is estimated to have a variance of nearly \$8,000 or an increase of approximately 5%. The variance in Georgia is greater than California due to the difference between gas and energy costs in each state.

### GEORGIA

| 1 Driver - 1 Van |

| 1 Driver - 1 Van |

Category	ICE VANS		EV VANS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1 driver, \$22/hr @ 48 hours weekly	\$58,535	1 driver, \$22/hr @ 55 hours weekly	\$70,071	\$11,536	20%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$29,616	PTO, Payroll Tax, Workers Comp	\$32,220	\$2,604	9%
Equipment Cost*	1 van, \$1,030/month per unit	\$12,360	1 van, \$1,766/month per unit	\$21,192	\$8,832	71%
Equipment Maintenance Cost*	\$0.09/mile	\$3,805	\$0.07/mile	\$2,959	\$(846)	(22%)
Fuel vs. Energy Cost	\$0.44/mile fuel cost, 9.1 MPG	\$18,649	\$0.04/mile energy cost	\$1,694	\$(16,955)	(91%)
EV Charger Cost	N/A	\$ -	\$124k hardware, installation, maintenance	\$2,756	\$2,756	-
Other Operating Costs	1 van, insurance, G&A, CVCs, etc.	\$33,075	1 van, insurance, G&A, CVCs, etc.	\$33,075	\$ -	0%
<b>Total</b>	<b>Annual TCT</b>	<b>\$156,040</b>	<b>Annual TCT</b>	<b>\$163,967</b>	<b>\$7,927</b>	<b>5%</b>

**5% TOTAL COST INCREASE**

\* Equipment and maintenance costs are averages

# CLASS 6

## One-to-One Comparison



The Class 6 comparison assumes short to medium hauls from 100 to 230 miles, one to two trips per day, about 55,000 miles annually, and one local Class B driver per vehicle. The average payload is 11,000 pounds.

The first chart below shows the comparison results for a single ICE straight truck and an equivalent EV in California. The annual TCT to convert to an EV is approximately \$48,000 or nearly 22% higher. The cost of the vehicle increases 216%, which is only partially offset by a 57% savings in fuel and energy costs and 22% savings on maintenance.

### CALIFORNIA

| 1 Driver - 1 Truck |

| 1 Driver - 1 Truck |

Category	ICE TRUCKS		EV TRUCKS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1 driver, \$27/hr @ 48 hours weekly	\$73,008	1 driver, \$27/hr @ 51 hours weekly	\$78,589	\$5,581	8%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$32,884	PTO, Payroll Tax, Workers Comp	\$34,144	\$1,260	4%
Equipment Cost*	1 truck, \$2,364/month per unit	\$28,366	1 truck, \$7,466/month per unit	\$89,592	\$61,226	216%
Equipment Maintenance Cost*	\$0.09/mile	\$5,171	\$0.07/mile	\$4,022	\$(1,149)	(22%)
Fuel vs. Energy Cost	\$0.67/mile fuel cost, 9.1 MPG	\$38,707	\$0.29/mile energy cost	\$16,700	\$(22,007)	(57%)
EV Charger Cost	N/A	\$ -	\$186k hardware, installation, maintenance	\$2,657	\$2,657	-
Other Operating Costs	1 truck, insurance, G&A, CVCs, etc.	\$42,411	1 truck, insurance, G&A, CVCs, etc.	\$42,411	\$ -	0%
<b>Total</b>	<b>Annual TCT</b>	<b>\$220,547</b>	<b>Annual TCT</b>	<b>\$268,115</b>	<b>\$47,568</b>	<b>22%</b>

**22% TOTAL COST INCREASE**

The second chart shows the comparison results in Georgia, where the annual TCT convert to an EV is estimated to increase nearly \$54,000 or almost 28%. As in the Class 4 comparison, the variance in Georgia is greater than California due to the difference between gas and energy costs in each state. Once again, the variance in Georgia is greater than California due to the difference between gas and energy costs in each state.

### GEORGIA

| 1 Driver - 1 Truck |

| 1 Driver - 1 Truck |

Category	ICE TRUCKS		EV TRUCKS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1 driver, \$24/hr @ 48 hours weekly	\$63,625	1 driver, \$24/hr @ 51 hours weekly	\$68,349	\$4,724	7%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$30,765	PTO, Payroll Tax, Workers Comp	\$31,831	\$1,066	3%
Equipment Cost*	1 truck, \$2,364/month per unit	\$28,366	1 truck, \$7,466/month per unit	\$89,592	\$61,226	216%
Equipment Maintenance Cost*	\$0.09/mile	\$5,171	\$0.07/mile	\$4,022	\$(1,149)	(22%)
Fuel vs. Energy Cost	\$0.44/mile fuel cost, 9.1 MPG	\$25,346	\$0.18/mile energy cost	\$10,236	\$(15,110)	(60%)
EV Charger Cost	N/A	\$ -	\$186k hardware, installation, maintenance	\$2,657	\$2,657	-
Other Operating Costs	1 truck, insurance, G&A, CVCs, etc.	\$40,494	1 truck, Insurance, G&A, CVCs, etc.	\$40,494	\$ -	0%
<b>Total</b>	<b>Annual TCT</b>	<b>\$193,767</b>	<b>Annual TCT</b>	<b>\$247,181</b>	<b>\$53,414</b>	<b>28%</b>

**28% TOTAL COST INCREASE**

\* Equipment and maintenance costs are averages

# CLASS 8

## One-to-One Comparison



The Class 8 comparison assumes hauls ranging from 100 to 500 miles, one to two trips per day, about 109,000 miles annually, and 1.2 local Class A drivers per diesel vehicle (typical for an ICE unit in Ryder's dedication transportation operations). The average payload in this scenario is 29,000 pounds for an ICE unit. At this time, the maximum payload for an EV is approximately 22,000 pounds. Given the payload differences between ICE and EV heavy-duty commercial vehicles, as well as accounting for EV charging time and equivalent delivery times, Ryder estimates that nearly two EVs and more than two drivers are needed to equal the output of one ICE vehicle.

The first chart shows the comparison results for a single ICE heavy-duty tractor and equivalent EV in California. Due to the increased number of tractors and drivers needed, the annual TCT to convert to EVs is nearly double, with a variance of \$314,000 or 94%. The cost of the vehicles is the largest contributor at more than 500%, followed by operating costs at 87%, labor costs at 76%, and other personnel costs at 74%. Fuel and energy savings are 52%.

### CALIFORNIA

1.2 Drivers - 1 Tractor

2.07 Drivers - 1.87 Tractors

Category	ICE TRUCKS		EV TRUCKS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1.2 drivers, \$29/hr, ~58 hours/week	\$93,285	2.07 drivers, \$30/hr, ~97 hours/week	\$164,151	\$70,866	76%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$40,742	PTO, Payroll Tax, Workers Comp	\$70,955	\$30,213	74%
Equipment Cost*	1 tractor, \$3,444/month per unit	\$41,328	1.87 tractors, \$11,091/month per unit	\$248,438	\$207,110	501%
Equipment Maintenance Cost*	\$0.065/mile	\$7,097	\$0.06/mile	\$8,734	\$1,637	23%
Fuel vs. Energy Cost	\$0.89/mile fuel cost, 6.9 MPG	\$96,997	\$0.32/mile energy cost	\$46,126	\$(50,871)	(52%)
EV Charger Cost	N/A	\$ -	\$186k hardware, installation, maintenance	\$8,267	\$8,267	-
Other Operating Costs	1 tractor, insurance, G&A, CVCs, etc.	\$54,665	1.87 tractors, insurance, G&A, CVCs, etc.	\$102,041	\$47,376	87%
<b>Total</b>	<b>Annual TCT</b>	<b>\$334,114</b>	<b>Annual TCT</b>	<b>\$648,712</b>	<b>\$314,598</b>	<b>94%</b>

**94% TOTAL COST INCREASE**

The second chart shows the comparison results in Georgia in which the TCT for an ICE vehicle versus an EV shows a variance of more than \$330,000 or just under 114%. Here again, the variance in Georgia is greater than California due to the difference between gas and energy costs in each state.

### GEORGIA

1.2 Drivers - 1 Tractor

2.07 Drivers - 1.87 Tractors

Category	ICE TRUCKS		EV TRUCKS		VARIANCE	
	Cost Detail	Amount	Cost Detail	Amount	Variance	% Change
Labor Cost	1.2 drivers, \$27/hr, ~58 hours/week	\$87,090	2.07 drivers, \$30/hr, ~97 hours/week	\$156,179	\$69,089	79%
Other Personnel Costs	PTO, Payroll Tax, Workers Comp	\$39,343	PTO, Payroll Tax, Workers Comp	\$69,155	\$29,812	76%
Equipment Cost*	1 tractor, \$3,444/month per unit	\$41,328	1.87 tractors, \$11,091/month per unit	\$248,438	\$207,110	501%
Equipment Maintenance Cost*	\$0.065/mile	\$7,097	\$0.06/mile	\$8,734	\$1,637	23%
Fuel vs. Energy Cost	\$0.58/mile fuel cost, 6.9 MPG	\$63,515	\$0.23/mile energy cost	\$33,091	\$(30,424)	(48%)
EV Charger Cost	N/A	\$ -	\$186k hardware, installation, maintenance	\$8,267	\$8,267	-
Other Operating Costs	1 tractor, insurance, G&A, CVCs, etc.	\$52,808	1.87 tractors, insurance, G&A, CVCs, etc.	\$98,574	\$45,766	87%
<b>Total</b>	<b>Annual TCT</b>	<b>\$291,181</b>	<b>Annual TCT</b>	<b>\$622,438</b>	<b>\$331,257</b>	<b>114%</b>

\* Equipment and maintenance costs are averages

**114% TOTAL COST INCREASE**



# Mixed Fleet Comparison

Ryder applied the TCT for individual vehicles (as outlined previously) to a fleet of 25 commercial vehicles of mixed classes and types in California and Georgia. The mix of the 25 units is a representative sample of the fleet mix in the U.S. today according to Polk Data, which is approximately 43% Class 3-4 (light-duty) vehicles, 17% Class 5-6 (medium-duty) vehicles, and 40% Class 7-8 (heavy-duty) vehicles.

For light- and medium-duty vehicles, the analysis estimates one driver per vehicle for both ICE and EV. For heavy-duty vehicles, as found in the one-to-one comparisons, it is estimated that a company would need nearly two EV tractors and more than two drivers to haul the same load on the same route as one ICE vehicle. In this scenario, a company converting 10 ICE tractors, is estimated to need almost 19 EV tractors and 21 total drivers for the same level of service. This is estimated to increase the number of vehicles from 25 to 34.

Therefore, to convert a mixed fleet of vehicles in California from ICE to EV, the annual TCT is estimated to be nearly \$3.4 million or a 56% increase. To convert that same size fleet in Georgia, the TCT is estimated to be more than \$3.7 million or a 67% increase.

## CALIFORNIA

TRUCK TYPE	ICE TRUCKS			EV TRUCKS			TOTAL COST IMPACT	
	TOTAL ICE UNITS REQUIRED	TOTAL DRIVERS REQUIRED	ICE TCT	TOTAL EV UNITS REQUIRED	TOTAL DRIVERS REQUIRED	EV TCT	COST IMPACT	% IMPACT
Transit Van*	11	11	\$1,884,560	11	11	\$1,938,845	\$(54,284)	3
Straight Truck*	4	4	\$882,286	4	4	\$1,072,459	\$(190,173)	22
Tractor**	10	12	\$3,341,132	18.7	20.7	\$6,487,119	\$(3,145,987)	94
<b>Total</b>	<b>25</b>	<b>27</b>	<b>\$6,107,878</b>	<b>33.7</b>	<b>35.7</b>	<b>\$9,498,423</b>	<b>\$(3,390,545)</b>	<b>56</b>

**56% TOTAL COST INCREASE**

\* Assumes 1 truck and 1 driver for ICE and EV transit van and straight truck

\*\* Assumes 1.2 drivers and 1 tractor for ICE and 2.07 drivers and 1.87 tractors for EV

## GEORGIA

TRUCK TYPE	ICE TRUCKS			EV TRUCKS			TOTAL COST IMPACT	
	TOTAL ICE UNITS REQUIRED	TOTAL DRIVERS REQUIRED	ICE TCT	TOTAL EV UNITS REQUIRED	TOTAL DRIVERS REQUIRED	EV TCT	COST IMPACT	% IMPACT
Transit Van*	11	11	\$1,716,434	11	11	\$1,803,643	\$(87,208)	5
Straight Truck*	4	4	\$775,070	4	4	\$988,724	\$(213,654)	28
Tractor**	10	12	\$2,911,808	18.7	20.7	\$6,224,393	\$(3,312,585)	114
<b>Total</b>	<b>25</b>	<b>27</b>	<b>\$5,403,312</b>	<b>33.7</b>	<b>35.7</b>	<b>\$9,016,760</b>	<b>\$(3,613,447)</b>	<b>67</b>

**67% TOTAL COST INCREASE**

\* Assumes 1 truck and 1 driver for ICE and EV transit van and straight truck

\*\* Assumes 1.2 drivers and 1 tractor for ICE and 2.07 drivers and 1.87 tractors for EV

## TCT IMPACT ON BUSINESSES AND CONSUMERS

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According to the American Trucking Associations, approximately 72% of goods are transported by trucks in the U.S. today. Ryder's analysis estimates cost increases of 94% to 114% to convert heavy-duty trucks to EVs and 56% to 67% to convert mixed fleets of 25 vehicles, depending on the geographic region. If businesses pass the increased cost of transportation onto consumers through higher prices, based on the average cost impact to convert mixed fleets, Ryder estimates that such increased costs could cumulatively add approximately 0.5% to 1% to overall inflation.<sup>2</sup>

## INDUSTRY VARIABLES TO CONSIDER

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There has been an increased focus on the development of commercial EVs over the past decade. That said, the commercial EV market is still nascent, and there are ongoing challenges such as infrastructure development, battery technology improvements, and cost considerations that continue to hinder adoption.

While this analysis centers on the TCT to convert a fleet in today's landscape, Ryder and the entire industry are considering additional major variables in the adoption of commercial EVs. Two of those variables are EV availability and charging infrastructure.

### EV Vehicle Availability

Today, there are 16.4 million Class 3-8 commercial vehicles in operation in the U.S.; of this number only an estimated 18,000 EVs are currently deployed<sup>3</sup>. Additionally, production estimates continue to be volatile in part due to the changing regulatory landscape. Therefore, if companies are required to convert to EVs in the near future, availability and production of EVs may be far less than the vehicles needed to run America's supply chains.

### Charging Infrastructure

The Clean Freight Coalition (CFC), an alliance of truck transportation stakeholders, has stated that there is no network in the U.S. where over-the-road professional truck drivers can stop for legally mandated rest breaks and charge a vehicle battery at the same time. According to a report released by the CFC, preparing today's commercial vehicle fleet for electrification would require an investment of nearly \$1 trillion in charging infrastructure and electric service upgrades<sup>4</sup>.

Additionally, the International Council on Clean Transportation estimates that nearly 700,000 chargers will be needed nationwide to accommodate the one million Class 4, 6, and 8 EVs anticipated to be deployed by 2030, which will consume 140,000 megawatts of electricity every day, equivalent to the daily energy needs of nearly 5 million American homes<sup>5</sup>. Along with these above findings, the Joint Office of Energy and Transportation recently released a zero-emission freight corridor strategy that would not achieve a national charging network in the U.S. until between 2035 and 2040.

<sup>2</sup>Estimated impact on inflation based on Consumer Price Index (CPI) data for all urban consumers from the U.S. Bureau of Labor Statistics assuming transportation costs are 2-4% of certain CPI expenditure categories. See Consumer Price Index data, U.S. Bureau of Labor Statistics (as of February 2024), available at <https://www.bls.gov/cpi/>. See also F. Curtis Barry & Company, <https://www.fcbco.com/articles-and-whitepapers/articles/bid/129441/rising-transportation-costs-and-what-to-do-about-them> ("Inbound freight costs for domestically sourced product typically range from 2%-4% of gross sales")., <sup>3</sup>CALSTART report Zeroing in on Zero-Emission Trucks January 2024, <sup>4</sup>CFC Whitepaper: Forecasting a Realistic Electricity Infrastructure Buildout for Medium- & Heavy-Duty Battery Electric Vehicles, <sup>5</sup>The International Council on Clean Transportation – [theicct.org](https://theicct.org)



It must be noted, the American Trucking Associations opposes the recently announced EPA emission standard for heavy-duty trucks, saying it's entirely unachievable given the lack of charging infrastructure and restrictions on the power grid.

With more than 80% of U.S. communities relying exclusively on trucking for goods<sup>6</sup>, charging infrastructure would need to be in place for the successful conversion of fleets from ICE to EV.

## CONCLUSION

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Ryder's analysis underscores the reasons EV adoption for commercial vehicles remains in its infancy. In addition to the limited support infrastructure and EV availability, the business case for converting to EV for most payload and mileage applications, is extremely challenging.

While Ryder's analysis estimated the one-to-one conversion to EV for light-duty vehicles to be a relatively modest up to 5% increase in cost – and a good introduction to EV adoption – the one-to-one conversion for medium- and heavy-duty vehicles is estimated to be up to nearly 114% more costly. When expanding the analysis to a mixed fleet, Ryder estimated it can cost 56% more to convert a fleet to EV in California, where fuel and energy costs are typically higher than other states. The cost to convert a fleet is up to 67% more in Georgia, which shows lower fuel and energy costs do not provide the same offsets to the substantially higher EV equipment, operating, and labor costs.

Furthermore, mandating an EV transition at this time may lead to disruptions in our nation's supply chains as well as crippling inflationary pressures on all products moved by trucks. Ryder's analysis shows that if EVs are mandated by law, or encouraged by implementing a tax or fee on ICE vehicles to tilt the economics in favor of EVs, the resulting transportation cost increases could cumulatively add approximately 0.5% to 1% to overall inflation.

Today, Ryder helps customers successfully introduce EVs into their fleets in cases in which the customers' transportation needs align with the technology's current capabilities and available infrastructure. Ryder stands ready to help lead our customers through any energy transition in the commercial transportation industry. However, the technology needed to implement a transition must be available, reliable, and cost competitive with current vehicle technology alternatives.

Now is the time for all stakeholders to come together to examine the big picture. It will take regulators, vehicle manufacturers, technology innovators, and other transportation companies working together to affect real change. This includes a focus on expanding EV payload and range to match ICE vehicles, while keeping the cost of EVs comparable to provide an economic advantage. We must also pursue other alternative fuel technologies—natural gas, hydrogen, hybrids, and carbon capture.

The key to successfully transitioning to a zero-emission future is to find a balance between encouraging innovation and safeguarding the interests of businesses, consumers, and the environment.

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## ABOUT RYDER

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Ryder System, Inc. (NYSE: R) is a fully integrated port-to-door logistics and transportation company. It provides supply chain, dedicated transportation, and fleet management solutions, including warehousing and distribution, contract manufacturing and packaging, e-commerce fulfillment, last-mile delivery, managed transportation, professional drivers, freight brokerage, nearshoring solutions, full-service leasing, maintenance, commercial truck rental, and used vehicle sales to some of the world's most-recognized brands. Ryder provides services throughout the United States, Mexico, and Canada. In addition, Ryder manages nearly 250,000 commercial vehicles, services fleets at 760 maintenance locations, and operates nearly 300 warehouses encompassing more than 100 million square feet. Ryder is regularly recognized for its industry-leading practices; technology-driven innovations; corporate responsibility; environmental management; safety, health and security programs; military veteran recruitment initiatives; and the hiring of a diverse workforce. [www.ryder.com](http://www.ryder.com)

*Note Regarding Forward-Looking Statements: Certain statements and information included in this news release are "forward-looking statements" within the meaning of the Federal Private Securities Litigation Reform Act of 1995. These forward-looking statements, including our expectations with respect costs of EVs, including related costs of maintenance, charging infrastructure, labor, and insurance, as well as our expectations related to the impact of converting fleets to EVs on supply chains and inflation, are based on our current plans and expectations and are subject to risks, uncertainties and assumptions. Accordingly, these forward-looking statements should be evaluated with consideration given to the many risks and uncertainties that could cause actual results and events to differ materially from those in the forward-looking statements including those risks set forth in our periodic filings with the Securities and Exchange Commission. New risks emerge from time to time. It is not possible for management to predict all such risk factors or to assess the impact of such risks on our business. Accordingly, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.*

