

Truck Drivers (Heavy and Tractor-Trailer)

Generative AI touches little of a driver's day; the exposure comes from telematics, AI dispatch and driverless freight on a few US corridors.

EXPOSURE	WINDOW	ADOPTION TODAY	READING
32 Moderate exposure	4–9 yrs until change lands	Medium	Augmented more than replaced. Exposure is the share of today's work AI can plausibly take on within the window.

§ 01WHAT IS HAPPENING

What is happening to truck drivers (heavy and tractor-trailer)

Impact

AI reaches the cab mainly through fleet platforms such as Samsara and Motive, which use cameras and machine learning to monitor driving, coach on safety and automate logs, inspections and fuel management. Dispatch and routing software optimises loads and schedules, and back-office tasks such as paperwork, compliance and settlement are increasingly handled by automated systems. Driverless trucks from Aurora and Kodiak are carrying freight commercially on a small number of hub-to-hub routes in the southern United States, with human drivers still doing the first and last miles and the overwhelming majority of all freight.

Risk

Moderate exposure: the driving stays human for now, with AI augmenting safety and dispatch and automation arriving corridor by corridor.

The score is in the moderate band because the measured generative-AI exposure for drivers is low; the work is physical and almost none of it involves the text and analysis tasks that language models handle. The editorial adjustment reflects a physical-automation channel the text-usage measures cannot see: driverless freight is running commercially on a few interstate corridors, and the hub-to-hub long-haul segment is the part of the job most likely to be automated within 4-9 years. Urban delivery, construction and specialised haulage, loading and securing freight, dealing with shippers and receivers, and operating in weather and on roads outside the mapped corridors remain human throughout the window. For most drivers the practical change is a cab full of monitoring and assistance technology and a dispatch system that plans more of the day, with long-haul interstate work gradually shifting to transfer hubs.

Sector readiness

Medium Adoption via Telematics and Corridor Pilots

Large carriers have fitted AI-enabled cameras, telematics and automated compliance tools across their fleets, and the major logistics firms use AI-driven dispatch and routing. Driverless trucking is in commercial operation with a small number of vehicles on specific corridors and remains dependent on state-by-state regulation, weather limits and hub infrastructure, so most of the industry is watching rather than deploying.

§ 02 POSITION

Where you stand

- i Position yourself in regional, specialised or urban haulage, where loading, customer contact and complex roads keep the job human for the full window.
- ii Add endorsements and skills, such as hazardous materials, tanker, oversize or heavy haul, that raise the bar for any automated substitute.
- iii Be the driver with a clean telematics record who can also handle technology, because carriers deploying driverless hubs will need experienced people for first and last mile, yard and oversight roles.

§ 03 ACTIONS

6 POINTS

What this means for you

Concrete changes to how the work gets done, in the order you are likely to meet them.

- 01 **Work with the camera, not against it.** AI dash cameras and telematics now score every trip, and a clean record is both a safety benefit and your strongest asset when carriers decide who to retain.
- 02 **Think about your segment.** Hub-to-hub interstate long haul on southern corridors is where driverless trucks are being deployed first; regional and local work is far less exposed.
- 03 **Collect endorsements.** Hazmat, tanker, doubles and oversize endorsements add pay now and make your work harder to automate later.
- 04 **Learn the dispatch and ELD systems.** Drivers who understand the planning software and keep their logs and inspections clean are easier to dispatch and more valued.
- 05 **Watch the transfer hubs.** Driverless freight creates work at the hubs, in local shuttles, yard moves and vehicle preparation; these jobs will go to experienced drivers first.
- 06 **Keep your health and your licence.** Automation will arrive more slowly than the headlines suggest, and staying fit to drive through the window is the most reliable protection you have.

§ 04 CAUSES

6 DRIVERS

What is pushing this change

- 01 **AI dash cameras and telematics.** Samsara and Motive use machine vision to detect distraction, following distance and harsh events, and automate coaching, logs and inspections.
- 02 **AI dispatch and routing.** Load-matching and routing software plans more of the driver's day, reducing empty miles and changing how work is allocated.
- 03 **Driverless freight on fixed corridors.** Aurora, Kodiak and others run autonomous trucks commercially between hubs on a small number of interstate routes; this is the physical-automation channel behind the score adjustment.
- 04 **Automated back office.** Document capture, settlement and compliance tasks are increasingly handled by software, reducing paperwork for drivers and administrative staff at carriers.
- 05 **Advanced driver assistance.** Adaptive cruise, lane keeping and automatic braking are becoming standard in new tractors, changing the driving experience before full autonomy arrives.
- 06 **Regulation and infrastructure.** State rules, weather limits and the need for transfer hubs set the pace of driverless freight and keep it corridor by corridor for the foreseeable future.

Impact by sector

The headline figure is an average. Where you work changes the picture.

Long-haul truckload on interstate corridors	The most exposed segment; driverless hub-to-hub operations are already commercial in parts of the US Sun Belt and will expand there first.
Regional and less-than-truckload	Multiple stops, docks and customer contact keep drivers essential, with AI mainly in dispatch and safety monitoring.
Urban and final-mile heavy delivery	Complex roads, tight manoeuvring and unloading mean low exposure; telematics and routing are the main AI presence.
Specialised haulage	Hazardous materials, tankers, oversize loads and construction haulage require judgement and endorsements that automation is not close to replacing.

Skills to build

The skills that keep the human part of this work valuable as the routine part is automated.

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| 01 | Clean, defensive driving under monitoring. Telematics scores now shape pay and retention; treat the camera coaching as training and keep your record spotless. |
| 02 | Specialised endorsements. Hazmat, tanker, doubles and oversize endorsements raise your pay and your resilience; they are attainable with study and testing through the licensing authority. |
| 03 | Load securement and cargo handling. Physical skill with straps, chains and freight handling is unchanged by AI and essential outside the hub-to-hub model. |
| 04 | Technology fluency. Comfort with ELDs, dispatch apps and in-cab systems makes you easier to work with and prepares you for hub and oversight roles. |
| 05 | Customer and shipper relations. Dealing with receivers, resolving dock problems and representing the carrier are human skills that local and regional work depends on. |
| 06 | Mechanical awareness. Understanding the tractor and the increasingly complex sensors and systems on it helps you spot problems and could lead into yard and maintenance roles. |

Tools in use

KINDS OF TOOL WORTH KNOWING

01 **AI load boards and dispatch platforms.** Freight marketplaces and dispatch systems increasingly use machine learning to match loads and price lanes; understand how they affect what work you are offered.

NAMED TOOLS ALREADY IN USE

Samsara VISIT
Fleet platform with AI dash cameras, electronic logs, route tracking and automated safety coaching used across US and UK fleets.

Motive VISIT
Driver app and fleet system with AI cameras, automated logs, inspections and fuel management.

Aurora Driver VISIT
Autonomous driving system operating commercial driverless freight between hubs on Texas corridors.

Kodiak VISIT
Autonomous trucking company running driverless freight operations on fixed routes in the southern United States.

Trucker Path VISIT
Driver app for truck-specific navigation, parking availability and fuel pricing that uses crowd and predictive data.

In practice

Ways people in this role are already using AI, and what they get from it.

AI safety coaching EXAMPLE 1	HOW	An in-cab camera detects distraction or tailgating, alerts the driver in real time and flags the clip for a coaching conversation with the safety manager.
	GAIN	Collision rates fall and drivers with clean records can demonstrate it to employers and insurers.
Hub-to-hub driverless freight EXAMPLE 2	HOW	A human driver brings a trailer to a transfer hub, an autonomous tractor hauls it along a mapped interstate corridor and another driver completes delivery from the far hub.
	GAIN	The carrier runs the long interstate leg around the clock while human drivers take the local legs and sleep at home.

Automated compliance EXAMPLE 3	HOW	Electronic logs, inspection reports and document capture are completed through the driver app and checked automatically for hours-of-service and compliance issues.
	GAIN	Paperwork time falls and violations are caught before an audit.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Dispatchers MORE EXPOSED	AI IMPACT	Load planning, routing and driver communication are text and data tasks that AI dispatch systems increasingly perform directly.
	WORK MOVES TO	Drivers keep a physical role that dispatchers do not; the lesson is that the office side of trucking changes first.
Logistics Coordinators DIFFERENT SKILLS, GROWING	AI IMPACT	AI handles tracking and documentation, but coordinators who manage exceptions and relationships are in rising demand as supply chains grow more complex.
	WORK MOVES TO	Planning, communication and systems skills; a realistic move off the road for an experienced driver.
Automotive Technicians and Mechanics COMPLEMENTARY, LESS EXPOSED	AI IMPACT	Diagnostics are assisted by AI, but the physical repair of vehicles, including sensor-laden trucks, remains hands-on work.
	WORK MOVES TO	Mechanical skill and diagnostics; a path that benefits from a driver's practical vehicle knowledge.

§ 10 VERDICT

Closing judgement

Your score is low to moderate because the systems reshaping office work do not drive a truck, back into a dock or secure a load. The real question for your career is the driverless truck, and the honest answer is that it is working on a few flat, dry, well-mapped interstate corridors and will spread slowly from there, starting with the hub-to-hub long haul. If that is your segment, start thinking now about regional, specialised or local work, about the transfer-hub and yard roles that automation creates, or about the endorsements that make you harder to replace. In the meantime, learn to live with the camera and the telematics, because they are already here and they are also what employers use to decide who to keep.

Evidence and revisions

What the exposure figure rests on, what changed when it was last revised, and the published work cited for this role.

SCORE

32

WINDOW

4-9 years (unchanged)

The 5 October 2026 review held the score.

Exposure Index v2. Inputs: task applicability 28/100 (Microsoft AI applicability score 0.14 for Heavy and tractor-trailer truck drivers); observed usage 0/100 (Anthropic observed exposure 0.00); official exposure tier 40/100 (BLS: moderate); labour-market trajectory not yet mapped for this occupation, so its weight was spread across the other inputs; published adoption rating 40/100 (medium adoption). Weighted base 26.3. Editorial adjustment +6: Driverless freight is running commercially on a small number of US corridors; a physical-automation channel the text-usage measures cannot see. Final score 32. New report: the window of 4-9 years is set from the score band.

HOW THE FIGURE IS BUILT (EXPOSURE INDEX V2)

Task applicability — Microsoft Research, AI applicability score	28 × 39%	10.7
Observed usage — Anthropic Economic Index, observed exposure	0 × 22%	0.0
Official exposure tier — US BLS AI-exposure category	40 × 22%	8.9
Labour-market trajectory — US BLS projected employment change 2025–35	not measured	—
Published adoption rating — This report’s adoption level	40 × 17%	6.7
Weighted base		26.3
Editorial adjustment: Driverless freight is running commercially on a small number of US corridors; a physical-automation channel the text-usage measures cannot see.		+6
Exposure score		32

MEASURES BEHIND THE SCORE

US Bureau of Labor Statistics · *Employment Projections 2025–35 and AI Exposure Categories* (27 August 2026)

AI-exposure tier: Moderate. Projected employment change not yet mapped for this occupation. Matched to Heavy and tractor-trailer truck drivers.

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Microsoft Research · *Working with AI: Measuring the Applicability of Generative AI to Occupations* (10 July 2025)

AI applicability score 0.14 for SOC 53-3032; scaled to 28/100 as the task-applicability input.

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Anthropic · *Anthropic Economic Index report: Cadences* (26 June 2026)

Observed exposure 0.00 for SOC 53-3032; scaled to 0/100 as the observed-usage input.

PUBLISHER PDF

UK Department for Science, Innovation and Technology · *Assessment of AI capabilities and the impact on the UK labour market* (28 January 2026)

UK context: around 70% of UK workers are in occupations with tasks AI could perform or enhance, above the US average; a one-standard-deviation rise in exposure was associated with a 3.9% fall in UK job postings.

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<https://www.careerguard.ai/sources>

§ 12 APPENDIX

Method and sources

Each report was written from a large body of published research. The exposure score itself is computed, not written: it is the CareerGuard Exposure Index, a weighted average of occupation-level measures from the US Bureau of Labor Statistics (AI-exposure classification and 2025–35 projections), Microsoft Research (AI applicability scores) and Anthropic (observed exposure), together with the adoption rating published on the report. The organisations and publications below are the standing literature behind the narrative sections. Every source, with dates, licences and archived copies where we are permitted to hold them, is catalogued in the research library.

Exposure Index v2 (October 2026). Each input is scaled to 0–100 and weighted: task applicability 35% (Microsoft AI applicability score ÷ 0.5), observed usage 20% (Anthropic observed exposure ÷ 0.75), official exposure tier 20% (BLS very high = 100, high = 70, moderate = 40, low = 10), labour-market trajectory 10% ($50 - 2.5 \times$ projected % employment change), published adoption rating 15% (very high = 85, high = 70, medium-high = 55, medium = 40, low-medium = 25, low = 10). Inputs not measured for an occupation are dropped and the remaining weights renormalised. An editorial adjustment of at most ± 12 points is allowed only for automation channels the measures cannot see (robotics, self-service, machine vision, medical imaging, RPA/OCR, generative video) and is always logged with its reason. Scores are whole numbers, not rounded to five. The change window shifts one notch (a year at each end) per ten points of movement.

World Economic Forum

The Future of Jobs Report series — Employer survey of expected job growth and decline, skill shifts and technology adoption (2020, 2023 and 2025 editions); *Artificial Intelligence and the Future of Entry-Level Work* (2026).

AI governance and transformation reports — Frameworks on ethical AI, talent strategy and industry transformation.

McKinsey Global Institute

AI, Automation and the Future of Work series — Research quantifying automation potential by task, sector and demographic, from "Jobs Lost, Jobs Gained" to "Agents, robots, and us" (2025).

Industry-specific reports — Financial services, healthcare, manufacturing and others.

PwC

Global AI Jobs Barometer — Annual analysis of job postings and productivity by AI exposure (2024–2026 editions).

Upskilling Hopes and Fears survey — Employee perceptions and readiness.

Microsoft Research and Anthropic

Working with AI (2025); Anthropic Economic Index (2025–2026) — Occupation-level usage data from Copilot and Claude conversations, the two observed-usage measures behind the 2026 revision.

Stanford Digital Economy Lab and Stanford HAI

Canaries in the Coal Mine? (2025–2026); AI Index Report (annual) — Payroll evidence on early-career employment in exposed occupations; annual measurement of AI capability, investment and adoption.

Deloitte

Human Capital Trends series — Workforce, talent and HR technology trends.

Tech Trends series — Emerging technologies and their business implications.

Accenture

Technology Vision series — Forward-looking analysis of emerging technology, with emphasis on AI.

Fjord Trends — Design, innovation and human experience in a digital world.

Boston Consulting Group

AI/ML insights and industry solutions — "The AI Revolution in the Workplace" and related research.

EY

AI and workforce reports — Adoption, talent strategy and ethics.

IBM Institute for Business Value

AI and automation studies — Business models, workforce evolution and leadership.

OECD

AI Policy Observatory — International data and policy on AI, labour markets and skills.

Employment Outlook — Labour-market trends including technological impact (2023–2026 editions).

International Labour Organization

Generative AI and Jobs: A Refined Global Index of Occupational Exposure (2025) — Task-level exposure gradients for every ISCO occupation; successor to the 2023 global index.

International Monetary Fund

Staff Discussion Notes on AI and work (2024, 2026) — Complementarity framing: where AI augments and where it substitutes.

UK Department for Science, Innovation and Technology

Assessment of AI capabilities and the impact on the UK labour market (2026) — UK occupational exposure and job-posting evidence.

Brookings Institution

AI and automation research — Economic and social implications, displacement and skills.

Yale Budget Lab and Goldman Sachs Research

Tracking the Impact of AI on the Labor Market; AI and the US labour market (2026) — Aggregate labour-market monitoring; macro displacement estimates.

Oxford University (Oxford Martin School)

The Future of Employment — Frey & Osborne and subsequent research on susceptibility to automation.

MIT Technology Review

AI & Work — Reporting on AI research and its implications for industries and jobs.

Gartner

Hype Cycle for Artificial Intelligence — Maturity and adoption of AI technologies.

Future of Work reports — Workplace models and talent strategy.

U.S. Bureau of Labor Statistics

Employment Projections 2025–35; AI Exposure Categories; Occupational Outlook Handbook — Ten-year employment projections and, from the 2025 cycle, an AI-exposure tier for every detailed occupation.

Indeed Hiring Lab

AI at Work Report (2025) and posting-market updates — Skill-level transformation estimates and job-posting trends by occupation.

II CORE AI AND MACHINE-LEARNING RESEARCH

OpenAI

Research papers, blog and API documentation — Large language models, generative AI, safety and societal impact.

Google DeepMind

Research papers and blog — Reinforcement learning, AI for science, AGI and ethics.

Meta AI

Research papers and blog — Large language models, computer vision, AI for social good.

Hugging Face

Transformers library and model hub — Open-source state-of-the-art NLP models.

TensorFlow and PyTorch

Documentation and community forums — Core frameworks illustrating practical capability.

arXiv

cs.AI, cs.LG, cs.CV, cs.CL — Pre-print research.

NeurIPS and ICML

Conference proceedings — Top-tier academic research.

ACM and IEEE

Journals and proceedings — ACM Computing Surveys; IEEE Transactions on AI.

Kaggle

Datasets and competition solutions — Applied machine learning on real-world problems.

The Alan Turing Institute

Research and reports — Responsible and applied AI.

III ETHICAL AND RESPONSIBLE AI DEPLOYMENT

NIST

AI Risk Management Framework — Voluntary framework for managing AI risk.

European Commission

AI Act — Risk-tiered legal framework for AI.

Ethics Guidelines for Trustworthy AI — Principles for responsible development.

Partnership on AI

Research and best practice — Responsible AI development.

AI Now Institute

Annual reports — Social implications: power, inequality, rights.

ACM FAcct

Proceedings — Fairness, accountability and transparency.

Data & Society

Publications — Social implications of data-centric technology.

WIPO

Conversation on IP and AI — Intellectual-property implications of AI.

IEEE Global Initiative on Ethics of AI/IS

Ethically Aligned Design — Recommendations for ethical AI design.

Center for AI and Digital Policy

Policy briefs — Accountable AI policy.
