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## **Surveillance, Control, and Datafication of Labor with Electronic Logging Devices: How ELDs treat truck drivers like the robots we imagine will one day replace them.**

Electronic Logging Devices, referred to as ELDs, were federally mandated in 2015 and officially went into effect in December 2017. ELDs are now implemented into all trucks across America. This automated logging device replaces the manually written-in paper logs of quotidian use in the trucking world. The ELD mandate was enforced by the Federal Motor Carrier Safety Administration (FMCSA) in 2017, and researchers studying the effects of the mandate are questioning the truthfulness of the reasoning behind its use—justifications for its use place much emphasis on road safety/accident prevention.

Through the lenses of the Human Context and Ethics frameworks taught at UC Berkeley, I will attempt to handle the complexity of automated logging devices, especially as I situate the technology within the larger socio-technical systems at play. By analyzing ELD effects on workers themselves, the myth of road safety, and the monetary incentive ELDs may bring to wealthy corporations; I will align these problematized effects to a pattern of a similar *trajectory of the industrial revolution(s)* following labor organization from mid 19th century/ early 1900s western industrialization.

Firstly, here is a brief explanation of the complex lines of differentiation within the trucking industry: Short-haul activities are more local in nature and are, for legal reasons, limited to within 150 air miles of the truck's home base. considerable-haul operations, often known as "over-the-road," or OTR, are typically interstate and occur over considerable distances. For this paper, I will hone in on timekeeping regulations and tracking technology specific to long-haul operations, where fatigue is a considerably bigger issue. There is also the differentiation between Fleet Owners, who have a managerial position of hiring and compensating a 'fleet' of truckers—those are called Owner Operators and employee truckers (the workers actually on the road, driving the trucks).

Scale is at stake in the trucking companies' level of surveillance on their workers. Workers will have less learning/knowledge of the complexities of the American highway system as their attention will now be incentivized to lay on gratifying the demands of the ELDs. This surveillance allows a top-down, scalable information availability of viscerally personal data such as measurable "tiredness" of drivers to economically useful data on fuel usage and mileage. Scale is at stake in the ability to zero in on individual workers alongside the bureaucratic view

from above. Although the uncontested research on road safety and how ELDs may help make the claims of this paper uncertain, the actionable steps towards giving employee truck drivers an ethical say in their labor practices, compensation, and overall quality of work life require us to look closely at the possibilities of what this technology enables or disables, and for whose agenda.

### **Outcomes of the ELD mandate:**

Work and safety have been major concerns of ELD use, and proponents of the ELD mandate argue that it has improved safety by ensuring drivers adhere to Hours of Service (HOS) regulations, which limit the amount of time a driver can be on the road (Scott et al. 2). However, critics of the mandate, such as Ronald Fosu in his article "Electronic Logging Device Controversy," argue that it has led to increased stress and fatigue for drivers, as they are forced to adhere to strict schedules and cannot take breaks when they need to (Fosu). A study by Scott et al. titled "Did the Electronic Logging Device Mandate Reduce Accidents?" found that while the mandate did lead to a decrease in the number of accidents, it also led to an increase in the number of non-fatal accidents (2). This suggests that while the supporters of the ELD mandate claim it is to improve road safety, it may actually contribute to higher fatigue and distractedness and speeding to meet the monitor time requirements, which are causing more crashes. According to Fosu's paper, "several drivers have commented that they have no choice but to make their deliveries as fast as possible to make up for productivity losses due to Electronic Logging Data adaption" meaning the strict rules imposed by automated logging devices may actually be detrimental to safety. Fosu also notes how the inability for truckers to stop at safe parking spots and "shift hours to allow time to find places to rest" is an overlooked harm of ELDs.

In addition to safety concerns, the implementation of the ELD mandate has significantly impacted the culture and work-life of truck drivers. The article "Early Outcomes of Use in the Trucking Industry" highlights how the ELD mandate has led to a shift away from paper logs, which some drivers saw as a way to maintain a sense of control over their work, to a more automated system that can be more easily monitored by their employer (Washburn et al. 28). In regards to safety, they use data visualization and diverging attention to "raw numbers" of only registered trucks to satisfy their findings that the ELD system hasn't contributed to more crashes (Washburn 30). However, research shows that accidents have actually increased since the mandate, and road safety has not improved. There has also been reported increased stress and fatigue for drivers (Lockridge). This has led to a sense of mistrust and a feeling of being constantly surveilled among some drivers, since it is impossible to falsify logs. Falsified logs were less of a mode of "cheating" and more of a way drivers in trucking culture maintained that sense of autonomy. They could slightly alter the timekeeping to fit their breaks, and make up for poor compensation that way. The strictness of the ELDs eliminates any last bit of autonomy the

drivers had and turns logbooks from informal towards an “every-second-counts,” rigid form of timekeeping and surveillance.

The implementation of the ELD mandate raises important ethical concerns about the impact of technology on the labor and culture of truck drivers. It is important to consider the collection of vast amounts of data on drivers' performance, behavior, and movements and biometric data on measures such as ‘Tiredness.’ However, this digital surveillance technology has also raised concerns about the exploitation of labor and a complete ignorance of the real, experienced knowledge of the employee truckers themselves. Karen Levy argues that the use of digital surveillance technology in trucking is part of a broader trend of data capitalism, which seeks to extract value from workers' data and devalues their contributions to the industry (Levy 5).

Scott's notion of "Authoritarian High Modernism" provides a framework for understanding the historical context of the ELD mandate. According to Scott, authoritarian high modernism is a state-led effort to impose an ideal vision of a rational, scientific, and technologically advanced society onto its citizens (Scott 2). The ELD mandate attempts to create a more efficient and streamlined trucking industry, which aligns with this magnified control, linear progress, and technological innovation as inherently positive for progress. This approach ignores the local knowledge and practices of workers who are actually interacting with the materiality of the road: and this comes down to knowing. Take this truckers’ thoughts on the mandate:

Posted by mer.318 Dec 19th, 2018 5:09am

Log books and elogs are the same very unsafe we are human not a robot. So why has accidents increased? For one the eelog mandait is one reason . You see with paper logs you could alter your time so you could sleep when you were actually tired or not drive in rush hour traffic. So anybody with common sense would know that the removal of elogs and log books would be the safest. Fmcsa doesn't want safe drivers they don't care and president Trump doesn't either

(A comment by user mer.318 on article Jason Cannon, CCJ chief editor. “Fleets Not Increasing Speed Limiters despite Efficiency Loss.” Commercial Carrier Journal, 17 Dec. 2018, <https://www.ccjdigital.com/business/article/14937771/fleets-not-increasing-speed-limiters-despite-efficiency-loss>.)

This shows how the relationship employee drivers have with the conditions on the road are shaped by the real lived experience of making those treks over and over again. There is also a shared cultural demographic of men who embrace a ‘lone wolf’ lifestyle, perhaps effects of the alienation of individualistic culture in America, and a similar distrust of government. Many truckers have had previous experiences in traditional company jobs but have found that trucking

offers the ability to work hard without a manager looking over their shoulder and making their own decisions in the day-to-day schedule showing that they value the individualism the job offers. As Levy puts it, “Trucking skills have been essential for serving their families or their country, and have been a source of honor. This sense of honor, autonomy, and independence is thoroughly bound up with the imagery of the open road” ( 27). The use of ELDs also raises questions about the performativity of these claims to safety and its impact on labor. ELDs incentivize drivers to optimize their performance to meet the standards set by the technology, rather than focusing on their own preferences or needs. This can lead to a devaluation of drivers' skills and experiences and reinforces the power dynamics between management and workers (Levy 35). The concept of socio-technical imaginaries highlights the importance of considering whose imagination this technology is aiding in. Implementing ELDs can be seen as a manifestation of a socio-technical imaginary that values efficiency and productivity over the truck drivers' culture (where there are common values, needs, desires, and knowledge).

ELDs in the trucking industry exemplifies the co-production of technology and the rigorous capitalism in American society. In respect to the federal ELD mandate, James Scott's “Seeing like a State” offers some insight into this performativity: “[T]hese state fictions transformed the reality they presumed to observe, although never so precisely as to precisely fit the grid” (24). Far from being a neutral tool, the ELDs were implemented in large companies and had the least to lose and the most to gain from the mandate, which could be why large companies “estimated that about 80 percent of large carriers had already installed ELDs, while only about 30 percent of small carriers had” (Levy 44). The implementation of ELDs has led to a transformation of trucker culture. Levy talks about the highly masculinized, “lone wolf” positionality of many truck drivers who have chosen such a profession because of the autonomy and lessened interactions with higher management. But ELD technology allows management to have a strict control over the time drivers spend driving, and it is economically profitable for these large companies and fleet owners. As such, it is crucial to consider the ethical implications of the co-production of technology and society and prioritize workers' well-being over profit motives (Geller). Safety guidelines have always been a dictator of what truck drivers can do, and they have the power to shape what the labor becomes.

In conclusion, implementing ELDs in the trucking industry raises ethical concerns regarding the heightened control over truckers' time spent driving and the performativity of federally mandated laws that seek power through data collection, surveillance, and gamification of labor. The historical context of authoritarian high modernism and the co-production of technology with the economic elite in America provides a framework for understanding these issues. It highlights the importance of prioritizing the experiences of workers who have acquired this learned knowledge and skills that cannot be totalized in data or research. Early 1900s industrial practices are nearly repeated here: an obliteration of workers' autonomy to make labor that effectively consists of obedient “robots” who follow the strictness of numbers, mileage,

minutes and seconds, and measurable tiredness. ELDs bring a complex issue to the table that is part of a larger mode of progress in capitalism toward automation and AI, and the future implications of these technologies are uncertain. But it appears that we mustn't take road safety regulations and the research that backs them as unbiased, factual data — it is important to hear the opinions and stories of truck drivers themselves and seek to understand what they want their labor conditions to be and try to meet those needs. If falsified log books are because of under-compensation, we should question if employees are being paid a fair wage and allow unions to form. We must allow the space for alternative possibilities and imaginaries to have a real say in the matter of how this technology is used.

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