



// FREIGHT AUTOMATION //

Dangers, Threats, and Opportunities
for Health and Equity



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Moving Forward
Network

APRIL 2021

INTERNATIONAL URBAN FREIGHT CONFERENCE

Long Beach, CA
May 26, 2022

TODAY'S GOAL

- Goals:
 - Provide a high-level overview of our new report
 - Share policy and program recommendations for health and equity

WHY WE'RE HERE

The freight and logistic industry is complex with many impacts.

Both local communities and frontline workers face both opportunities and challenges as the freight industry continues to grow.

The introduction of automation into freight transportation present environmental justice, climate crisis and worker rights concerns.



WHAT WE DID

- Given today's freight impacts, will automation help or hurt workers and communities?



WHAT WE DID

- Developed research questions
- Scoped out issue areas: **Traffic Safety, Air Quality, Employment Security and Safety, and Noise/Vibrations.**
- Conducted research through literature reviews and stakeholder interviews.
 - Used dangers/threats/opportunities as a framework
- Developed policy and program recommendations for health and equity.

COMMUNITY ADVISORY COMMITTEE

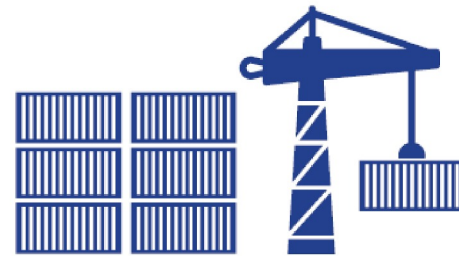
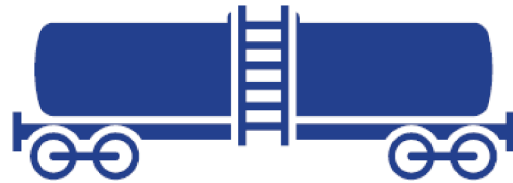
- P. Qasimah Boston, Tallahassee Food Network
- Roberto Clack, Warehouse Workers for Justice
- Jimmy O'Dea, Union of Concerned Scientists
- Theral Golden, West Long Beach Neighborhood Association
- Vivian Malauulu, International Longshore and Warehouse Union Local 13 Registered Longshore Worker and Benefits Officer
- David A. Rahn, University of Kansas
- Regina Townes, ILA, Local 1233, Port of New York and New Jersey
- Kim Gaddy, Clean Water Action

TOP-LEVEL FINDINGS

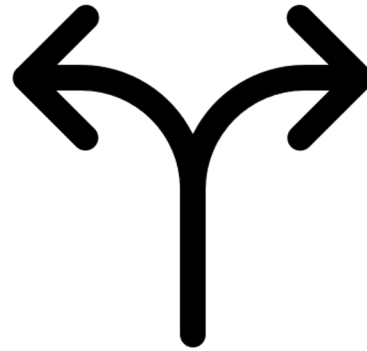
- Automation is here and growing, and we have a critical window of opportunity for action
- Increased freight automation will have significant and largely negative health and equity effects on frontline workers and fence-line communities.
- Automation is at an inflection point. Policymakers, industry stakeholders, frontline workers, fence-line community members, and the public can make decisions—through policies and programs—that promote health and equity.



THE CURRENT STATE OF FREIGHT AUTOMATION



THE CURRENT STATE OF FREIGHT AUTOMATION



There is a critical window of opportunity.

Policymakers, industry stakeholders, frontline workers, fence-line community members, and the public can make decisions—through policies and programs—that promote health and equity.

KEY FINDINGS

- Economic Security, Health, and Safety
- Air Quality
- Noise and Vibrations
- Traffic

KEY FINDINGS: ECONOMIC SECURITY, HEALTH AND SAFETY



“[W]hen people get hurt on our job they don’t get paper cuts, they don’t get headaches. When people get hurt on the docks they lose limbs or they lose lives.”
— Vivian Malauulu, ILWU Local 13 Registered Longshore Worker and Benefits Officer

“Health and safety is an issue. Because the pace is increasing [with automation], are we going to see more accidents and injuries or even heart attacks? We’ve had a couple members at Amazon have strokes.”
— Roberto Clack, Associate Director Warehouse Workers for Justice



KEY FINDINGS: ECONOMIC SECURITY, HEALTH AND SAFETY

- Automation has — and will likely continue to — cut jobs for frontline workers, and wages and benefits may also decline
- Local economies tied to freight infrastructure experience negative ripple effects
- Automation has and will likely continue to negatively affect frontline worker safety
- These impacts will inequitably affect lower-wage workers and workers of color

KEY FINDINGS: AIR QUALITY

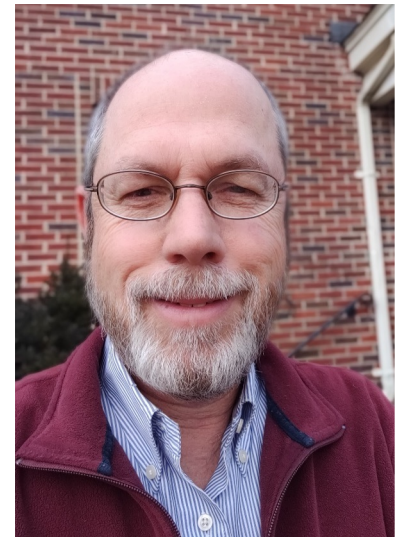


“Ya hay muchos niños con cáncer, asma, problemas respiratorios, y pensar agregar otro proyecto a la comunidad es mucho.” [There’s already a lot of kids with cancer, asthma, respiratory health, lung issues, and to add another large project it is too much for our community.]

-- Veronica Roman, San Bernardino community member

“When [there are] changes [and] improvement in air quality, there’s improvement in health.”

-- Dr. Robert Laumbach, Rutgers University
School of Public Health



KEY FINDINGS: AIR QUALITY

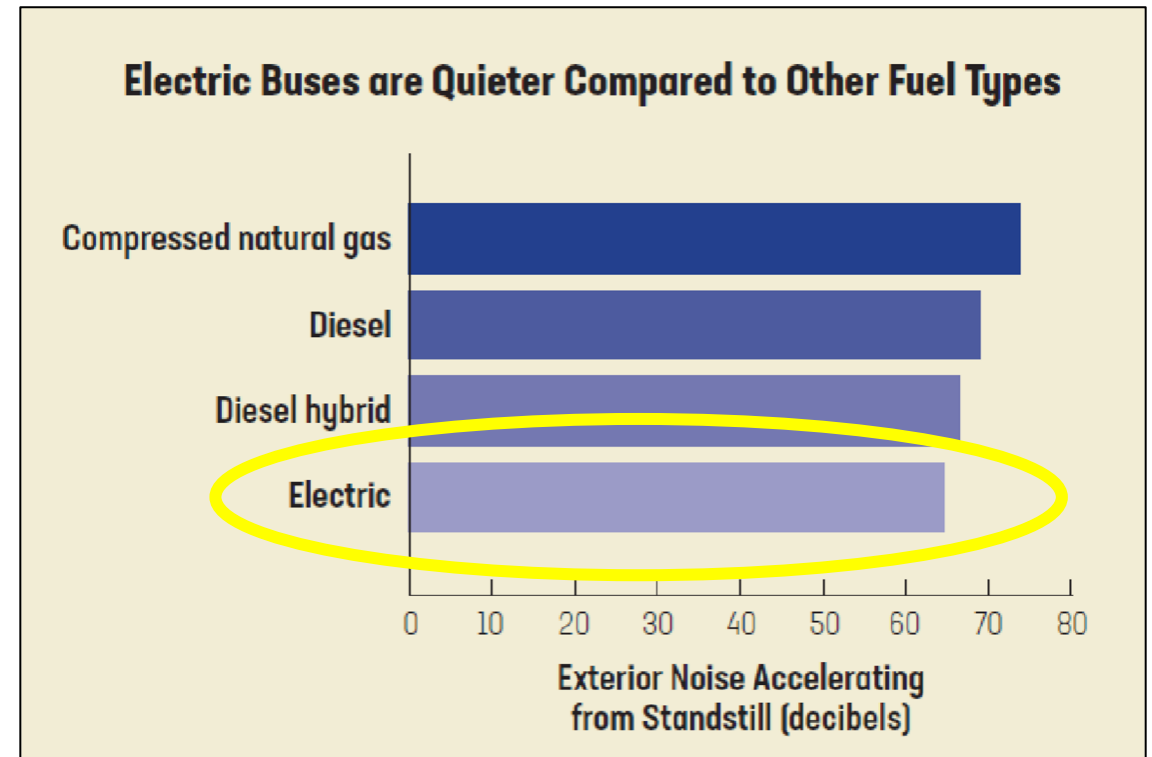
- In limited scenarios, automation may slightly reduce pollution through efficiency gains...
 - Train “cruise control”
 - Truck platooning
- But caution is warranted especially with possible trucking operational changes

KEY FINDINGS: AIR QUALITY

- Adopting zero-emission technologies, with or without automation, would provide much more significant pollution reductions.
- Pollution increases or decreases will be concentrated in low-income communities and communities of color.

KEY FINDINGS: NOISE AND VIBRATIONS

- If freight automation permits freight facilities to run for longer periods, including during more traditional “off-hours,” the burden of noise and vibrations for fence-line communities may increase.
- Separate from automation, electrifying freight with zero-emission technologies can reduce noise and vibrations.



KEY FINDINGS: TRAFFIC

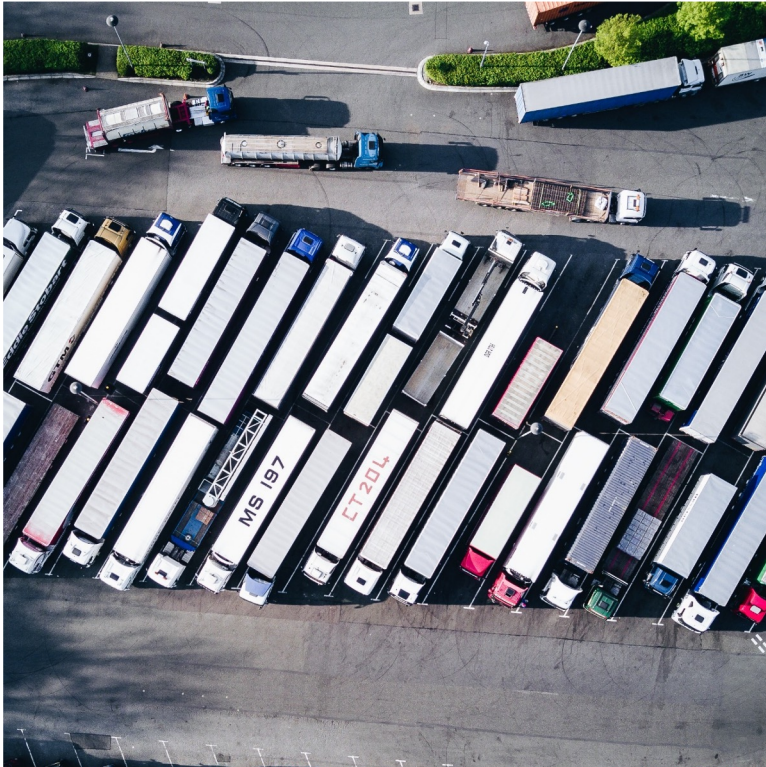
Wendell Mitchell has been driving trucks for over 25 years. “Truck drivers, you know, we’re the heart of America.”

Is driving stressful? “Aww man, stress isn’t the word for it... You got a lot of cars on the road now, and a lot of people aren’t really thinking about safety. When you don’t think about safety, you have accidents.”

One thing that makes Wendell feel safer: his new Volvo 2020 truck, which has automatic braking that kicks in when the truck senses a car slowing down quickly in front of it.



KEY FINDINGS: TRAFFIC



- Automation that **complements or augments** some truck and train driver labor holds significant promise for improving traffic-related safety.

KEY FINDINGS: TRAFFIC



- Automation that **replaces most or all truck and train driver labor** may worsen traffic-related safety in some situations. Overall, much more research is needed.

PUTTING PEOPLE FIRST: POLICY AND PROGRAM RECOMMENDATIONS

- Engaging frontline workers and fence-line communities in automation decisions
- Supporting frontline workers
- Supporting frontline workers and fence-line communities

ENGAGING FRONTLINE WORKERS AND FENCE-LINE COMMUNITIES IN AUTOMATION DECISIONS

- Meaningful engagement should take into account barriers to participation including: language access, access to information, limited ability to participate in meetings during work hours etc.
- Business leaders should engage the workers when thinking through automation-related decisions and impacts.

SUPPORTING FRONTLINE WORKERS

- Plan for automation that advances frontline workers
- Strengthen workers' rights to organize for fair wages, benefits, and to have a say in automation-related decisions
- Enforce and improve workplace safety standards for worker safety and health
- Correct worker-status misclassification of truck drivers and other freight workers to promote livable wages and benefits
- Reinvigorate and expand programs to meet the needs of frontline workers displaced by automation
- Implement broad policies to address automation's impact on the US economy

SUPPORTING FRONTLINE WORKERS AND FENCE-LINE COMMUNITIES

- Require Automation Impact Reports to better understand and mitigate automation's effects on health and equity
- Prohibit the use of public funding for any freight automation project that may have negative effects on worker and community health
- Accelerate efforts to shift freight transportation to a zero-emission system through incentives, regulations, and permitting decisions
- Implement federal policies to prioritize the safety of freight drivers and other road users

ADDITIONAL RESEARCH NEEDED



- Select examples
 - What percentage of displaced freight workers will be able to transition into new positions created by automation?
 - How will platooning trucks and passenger vehicles interact? Does the chance of collisions increase?
 - How would the reduction in train crew size affect traffic safety in a variety of real-world conditions?

NEXT STEPS

- Share the report with your networks and colleagues
 - <https://www.movingforwardnetwork.com/resource-collections/>
- Use the report as a tool for automation-related proposals and policies

THANK YOU!

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- Angelo Logan, info@movingforward.com
- Lili Farhang, lili@humanimpact.org

<https://www.movingforwardnetwork.com/resource-collections/>