



BOMB TRAINS 101: THE OHIO RIVER VALLEY & BEYOND

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WHAT ARE BOMB TRAINS?

Bomb trains are [train cars that often carry](#) chemicals, liquefied natural gas (LNG), and other similar substances. They are referred to as “bomb trains” because the volatile nature of what they carry can lead to major disasters if these train cars are involved in an incident. The transportation of LNG by train [was illegal](#) until 2020 when the Trump Administration finalized a rule allowing the practice.

Bomb trains (several of which were carrying petrochemicals) were involved in the [East Palestine, OH derailment](#) that happened in February 2023. This catastrophe can serve as a case study for the risks associated with the continued use of bomb trains.

INFRASTRUCTURE & SAFETY ISSUES

In 2015, the Department of Transportation (DOT) and the Federal Railroad Administration adopted a rule requiring updated brake systems for hazardous material (HAZMAT) rail travel when going above 30 mph for trains with over 70 rail cars loaded with flammable liquids. This was [repealed by Congress](#) in 2018, after they decided that the benefits of these changes would not outweigh the financial cost required to implement them.

As of 2019, there were five workers employed regionally in the Ohio River Valley (ORV) with the sole purpose of maintaining railway safety systems, such as hot box detectors, which can give warning in the event of axles fires. Following industry-wide layoffs, [that number is down](#) to zero as of early 2022.

HUMAN HEALTH IMPACTS

At the site of the derailment in East Palestine, carcinogenic chemicals (such as benzene and vinyl chloride) [were detected](#) at elevated levels. [Residents reported](#) experiencing symptoms, including, but not limited to, headaches, sore throats, bloody noses, and skin rashes.

While disaster relief teams have been working to remove contaminated material from East Palestine, not all of it is accessible. Chemicals that settled and leached into the soil underneath permanent structures such as buildings or train tracks [are likely to remain](#) where they are. As of June 2023, [cleanup was still ongoing](#) at the site.

Even the process of removing contaminated material is not without its risk. Just two months after the disaster, 40,000 pounds of contaminated soil overturned and spilled, OH as it was traveling away from East Palestine toward a disposal facility.

Not all train derailments involve toxic materials, but when they do, it is difficult to contain and dispose of without continued harm to people living in the area.

ENVIRONMENTAL IMPACTS

Following the initial derailment, environmentalists working in the region [reported](#) thousands of dead species of fish, amphibians, etc. littering the waterways surrounding East Palestine.

The Ohio EPA's initial testing [found](#) levels of several petrochemicals so high the equipment couldn't read it. Tetraphene and chrysene, carcinogens known to persist in soil and water, were also found at elevated levels.

The Ohio River passes just south of the town, eventually joining the Mississippi River before emptying into the Gulf of Mexico. While the concentration of any contaminants certainly will be higher closer to the disaster site itself, all watersheds are connected, and the impacts of any contamination [are not isolated](#).

The safety of the groundwater in surrounding watersheds is a major concern for the well-being of residents of the ORV and its natural environment. [Local ecologists expect](#) the real impacts of this disaster won't be known for years to come.

OVERALL CLIMATE IMPACTS

As previously mentioned, trains that transport LNG are often referred to as "bomb trains." This is a fossil fuel primarily composed of methane. Methane is a [greenhouse gas](#) that is less abundant than CO₂, but it is far more potent.

Fracking for natural gas is a [source of contention](#) in the ORV and throughout Appalachia. The use of natural gas and the fracking process itself have been shown to cause significant impacts to human and environmental health. However, many Appalachian communities have bought into the industry rhetoric that fracking and petrochemicals are vital for their communities' economic survival, despite evidence showing the negative economic impacts of these industries.

The contents of the bomb train involved in the East Palestine derailment [included petrochemicals](#) used in plastics manufacturing. Petrochemical facilities are dependent on fossil fuels to function - from feedstock to transportation.

POLITICAL IMPLICATIONS & NEXT STEPS

Bipartisan decisions have resulted in the current state of affairs. The Trump Administration's move towards deregulation [allowed](#) for the continued use of bomb trains. Under the current Biden Administration, the rail transport of LNG is [still allowed](#) with DOT special permits. Additionally, the Biden Administration [invoked](#) a 1926 law to prevent railroad workers from striking in 2022.

However, the East Palestine derailment also led to the introduction of legislation seeking to address the issues highlighted by this disaster. Senators John Fetterman (PA), Bob Casey (PA), and Sherrod Brown (OH) [introduced](#) the Railway Accountability Act, aiming for safety reforms, accountability for big rail companies, worker protections, and the prevention of future disasters. This was sponsored by several other PA and OH legislators and built off of the Railway Safety Act of 2023.

To learn more about the dangers of petrochemicals in the Ohio River Valley and how you can join us in pushing back against fossil fuel development in your community, visit our webpage at <https://www.climateactproject.org/initiatives/ohio-river-valley-petrochemical-opposition>.