

FIRE CASE STUDY

Transportation



Tunnel Fire, Baltimore City

July 18, 2001

Statistics

Type of fire

Hazardous Material

Ignition Source

Most likely cause of ignition the derailed cars providing frictional heat and sparks.

Duration of fire

Several days

Number of casualties

5 emergency responders injured

Cost to industry

Estimate cost to replace the tunnel \$1 billion, clean up operations \$12 million

References

SAIC US D of T. 2001.[Online]. [Accessed 9 December 2014]. http://ntl.bts.gov/lib/jpdocs/repts_te/13754.html

Baltimore Sun. 2001.[Online]. [Accessed 9 December 2014]. <http://www.baltimoresun.com/bal-te.md.train19jul19-story.html#page=1>

Event

A cargo train containing 60 cars travelled through a tunnel under Howard Street, the cargo on board the train contained hazardous waste, paper, products, plywood, soy oils. The crew realized something was wrong when the train came to a rough stop losing air pressure in the braking system. After a short time fumes from the diesel engine were building up so the crew decided to contact the train master for assistance however, radio signal was in a dead spot, they were unaware at the time that several cars had derailed and a fire had broken out. The crew decided to uncouple the cars from the engine and exit the tunnel, they intended to return with support to assess what the problem was when they notices smoke. Upon exiting the tunnel the then radioed Jacksonville and asked the dispatcher to notify Baltimore City that not only had a train derailed in the tunnel and caught fire, but also that the load carried hazardous materials. The fire department had it confirmed that the train was carrying hazardous materials which included tripropylene and hydrochloric acid. Emergency response was also hampered by a 40 inch water main brake located at Howard st. Both events took place at peak rush hour.

Lessons Learned

At first the fire services did not know the exact location of the fire, upon investigation they determined the water pipe brake was almost directly above the fire, adding to environmental and health concerns related to chemical acids. Evacuation of the street was difficult many people not knowing what was wrong added to the confusion for commuters and the additional thousands of visitors to the city who had arrived to watch sports at local venues. As the fire grew temperatures within the tunnel rose to over 1,500^oc, with wind blowing down the tunnel fuelling the paper burnt embers and chemicals on to the street above. Firefighters battled for a number of days to control the fire while other experts monitored the environment for signs of contamination. This event highlighted the need for up to date information of services and the need for a better emergency response plan. The Howard St fire represents a major transportation incident that had potential for a catastrophic impact on the city and surrounding area. There was a call to change the transportation route for chemical waste however, ten years on and the waste transportation routes remain the same.