Chapter 1
When Trucks Stop Running, America Stops

Trucks aren't going to all stop running at the same time as in a dystopian movie or novel. But since fossil fuels are finite, if a renewable way to run trucks isn't found, they will stop. As a thought experiment to appreciate how important trucks are, let's look at what would happen if they all stopped. What follows are just a few of the consequences described in Holcomb's (2006) *When Trucks Stop, America Stops*, McKinnon's (2004) *Life without Lorries*, and SARHC's (2009) *A Week without Truck Transport*.

Day 1: One or more deliveries of produce, fresh meat, beer, chilled goods, fresh bread, and dairy products are made to grocery stores, schools, restaurants, and hospitals every day. With such frequent arrivals, there are no inventories, and these goods would disappear the first or second day. For example, hospitals can get syringes, catheters, and clean linen with hours of ordering them, so they have little inventory, and would run out quickly if deliveries were disrupted, according to Al Cook, former president of the Materials Management Association. Businesses relying on many daily deliveries begin to run out of various items. Construction slows down as materials required aren't delivered.

Day 2: Panic and hoarding begin to empty most grocery store shelves, restaurants and pharmacies close, construction stops, garbage starts to pile up fast and creates a health hazard, especially at hospitals. Businesses depending on just-in-time delivery start to lay off workers, especially in the auto industry or from lack of packaging. Pharmacies get deliveries every day and are already running out of some medicines.

Day 3: Widespread layoffs begin. Sewage treatment plant sludge and slime storage tanks are now full and wastewater sludge can no longer be trucked to a landfill or incinerator or bio-solids to farms. Mass transit is scarce, infrastructure repair and essential services like police, fire, ambulance, telecommunications, utilities, and mail last as long as private fleet tanks have diesel. Banks move billions of dollars of cash, coins, and checks to check clearing centers. Within a few days, ATMs will run out of cash, causing major problems for those without bank accounts and credit cards.

Day 4: Most service stations have fuel deliveries 2–3 times a week, and so they are out of fuel now. The repercussions start to reverberate globally, as 48,000 imported containers per day can't be unloaded off of ships nor can export

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containers be loaded in the U.S. With no fuel, airplanes and railroads shut down, and garbage is piling up everywhere, 685,000 tons of trash each and every day in the U.S.

Day 5: Industrial production ends, a large proportion of the labor force is laid-off or unable to get to work, travel and recreation stop, health care is confined to emergency services, and livestock begins to suffer from lack of feed deliveries.

Day 7: Many cars are out of gasoline, and many people will be unable to get to work, shop for food, or get medical care. Hospitals will begin to run out of oxygen supplies.

Two weeks: Clean water supplies will begin to run dry as trucks are unable to deliver purification chemicals. Only boiled water will be safe to drink.

Within four weeks: Hospitals have 30 days or less of drugs, vaccines, insulin, surgery anesthetics, and blood products due to reliance on just-in-time deliveries. Erin Fox at the Salt Lake City hospital said that "the supply chain is horribly thin" (Wysocki et al. 2006). If farm tractors are unable to harvest crops they will rot in the fields. Department of Defense supply chains will break down, crippling the military "in ways no adversary has been able to achieve."

After 1–2 months: Coal stockpiles at 40 % of coal power plants run out from lack of rail, truck, and barge delivery (EIA 2015), causing blackouts in regions most dependent on coal power generation. About five percent of the compressors moving natural gas through pipelines are electric, so natural gas power plants connected to these electricity-dependent pipelines will stop operating as well (DOE 2015). In a blackout, fuel pumps for vehicles, ships, and railroads stop, because they use electricity. Refineries also depend on electricity to make gasoline and diesel to get trucks moving again.

No, trucks aren't going to all stop running at once. But the scenario reveals how utterly dependent we are on trucks. And it brings home a hidden truth which bears repeating: Everything in our homes, everything in our stores, got there on a truck at some point.

The scenario also hints at an interdependency. National Academy Engineer Paul H. Gilbert describes this interdependency as "Our basic infrastructure systems include our electric power, food, and water supplies, waste disposal, natural gas, communications, transportation, petroleum products, shelter, employment, medical support and emergency services, and facilities to meet all our basic needs. These are a highly integrated, mutually dependent, heavily utilized mix of components that provide us with vitally needed services and life support. While all these elements are essential to our economy and our well-being, only one has the unique impact, if lost, of causing all the others to either be seriously degraded or completely lost. And that, of course, is electric power. Our technically advanced society is literally hard-wired to a firm, reliable electric supply" (House 108-23 2003).

While it seems extremely unlikely that anything like this would occur in the U.S., there are precedents. Some examples of real-world situations where oil has been cut off include:

- In North Korea, trucks did stop running in 1991 when Russia cut oil supplies by 90 %. Crops weren't planted, coal mining and coal-based fertilizer production ended, and the coal-based electric grid blacked-out, so irrigation water couldn't be pumped. In the end, the result was famine (Williams et al. 2002).
- Russia cut off the oil supply to Cuba in 1988. Cuba abruptly had no fuel, fertilizer, or pesticides for agriculture, or the ability to import food due to the absence of foreign exchange. People began to go hungry and Cuba was rapidly approaching collapse (OXFAM 2001).
- When railroads stopped running after 9/11 to guard hazardous materials, in only two days the city of Los Angeles was out of chlorine and faced the threat of no drinking water (House 108-23 2003).

Scenarios in which oil supplies could be greatly reduced in the U.S. over a short period include a war in the Middle East, war or terrorist blocking of the Straits of Hormuz or Straits of Mallaca, terrorist or other destruction of refineries. World oil is produced in about 500 refineries (the U.S. has 135 of them, with half of refining done in the hurricane vulnerable Gulf coast states of Texas and Louisiana).

We hate trucks when they turn freeways into parking lots, and detest their toxic fumes and emissions. But "love 'em or hate 'em", we can't live without 'em. When trucks stop running, we stop too.

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