Terrorist Nukes: Shipping Containers the Next Delivery System?
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Terrorists could deliver a nuclear strike in the US using commercial shipping containers. Such an attack would cripple the US economy and would kill thousands.

Making the nuke
With several rogue nations, including Iran and North Korea, already enriching uranium, it may take as little as a year before they produce the highly enriched uranium (HEU) that is required for a bomb. Because of retaliation it is unlikely that a rogue nation will use a nuclear device in a first strike, but they could supply the HEU to a terrorist group for an attack on US soil. And given enriched uranium, it is trivial to construct a nuclear weapon. All that is required is a small conventional explosive and an ignition system.

The hardest part is the delivery system
It is just as difficult to import HEU as it is to import a complete weapon because
- The fuel is the heaviest part of the bomb
- The fuel is radioactive and could be detected

Furthermore, bomb assembly inside the US has further risks of detection. A terrorist organization that wants to explode a nuclear device on US soil would therefore probably construct the device offshore and then smuggle it in. HEU is more than 95% U-235 which emits alpha and gamma radiation. Alpha radiation is easily shielded, but gammas are more difficult to shield. Shipping a nuclear device into the US via commercial package delivery systems won't work because these are routinely screened for radiation, and bulky packages are subjected to greater scrutiny. Bringing the device in by private plane or boat is difficult because these crafts are thoroughly searched, as are their cargos.

Loophole one: Volume
US ports handle about 20% of the maritime trade worldwide.[1] More than 6 million shipping containers arrive in US ports each year.[2] A single ship can carry more than 3,000 containers.[2] The huge number of containers makes detailed screening impossible. Only 2% of containers are checked at all [2] and these mainly for contraband materials such as drugs or human trafficking cargo.[3]

Loophole two: Volume
Shipping containers are big. The *smallest* standard container, the "20' container" has an interior volume of about 1100 cubic feet.[4] A nuclear device is small. Even an amateur could construct a crude nuclear device that would fit into a small portion of a shipping container, with the rest of space occupied by legitimate products. With all that space, the terrorist has room for the few inches of lead required to shield the gamma rays – the alphas won't even get through the steel of shipping container. So even if the shipping container is screened for radiation, the nuclear device could pass undetected.

Potential for big damage
The Port Long Beach, California handles only 3% of US shipping.[5] Yet if this facility were closed down for just 10 days it would cost an estimated $2 billion.[6] Even a small nuclear device packs a potent punch. One nuke at the Long Beach Port would effectively knock it out for decades and would therefore be crippling to the US economy. But even an event at a smaller facility would crush the economy because all shipping would stop until a reliable testing system could be installed at all US ports, and right now no such system exists. Currently, the US imports over $40 billion of merchandise from China alone. Most of those product types are not even produced in the US so the cost of clothing, tools, toys, etc would skyrocket. It would take more than a decade – if ever – for US manufacturing to fill the void in cut-off imported goods. Even US manufacturing would be crushed because machine tools are also imported. The US economy would be ruined and that would cause the ruination of the world's economy.

The nuclear explosion could kill 50,000 to 1,000,000 people.[7] And the psychological damage would be even greater than the 9-11 attack. Lack of understanding of radiation effects would cause panic and huge population movements away from the attacked port. The panic may spread to other potential targets of nuclear attack, causing mass movement and consequent unemployment. This would add to the chaos as well as the destruction of the US economy.

Summary
Rogue nations could soon provide the material for building nuclear weapons to terrorist organizations. In turn, these organizations could readily build the weapons and deliver them to US soil via commercial shipping containers. The containers are large enough and common enough for imbedded nuclear devices to pass undetected. The damage would be catastrophic to the US economy, as well as to civilians near the docks where the explosion occurs.

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5. http://en.wikipedia.org/wiki/List_of_ports_in_the_United_States
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