



Are You Prepared for Zombies?

How to Survive a Zombie Outbreak at University of Washington, Tacoma

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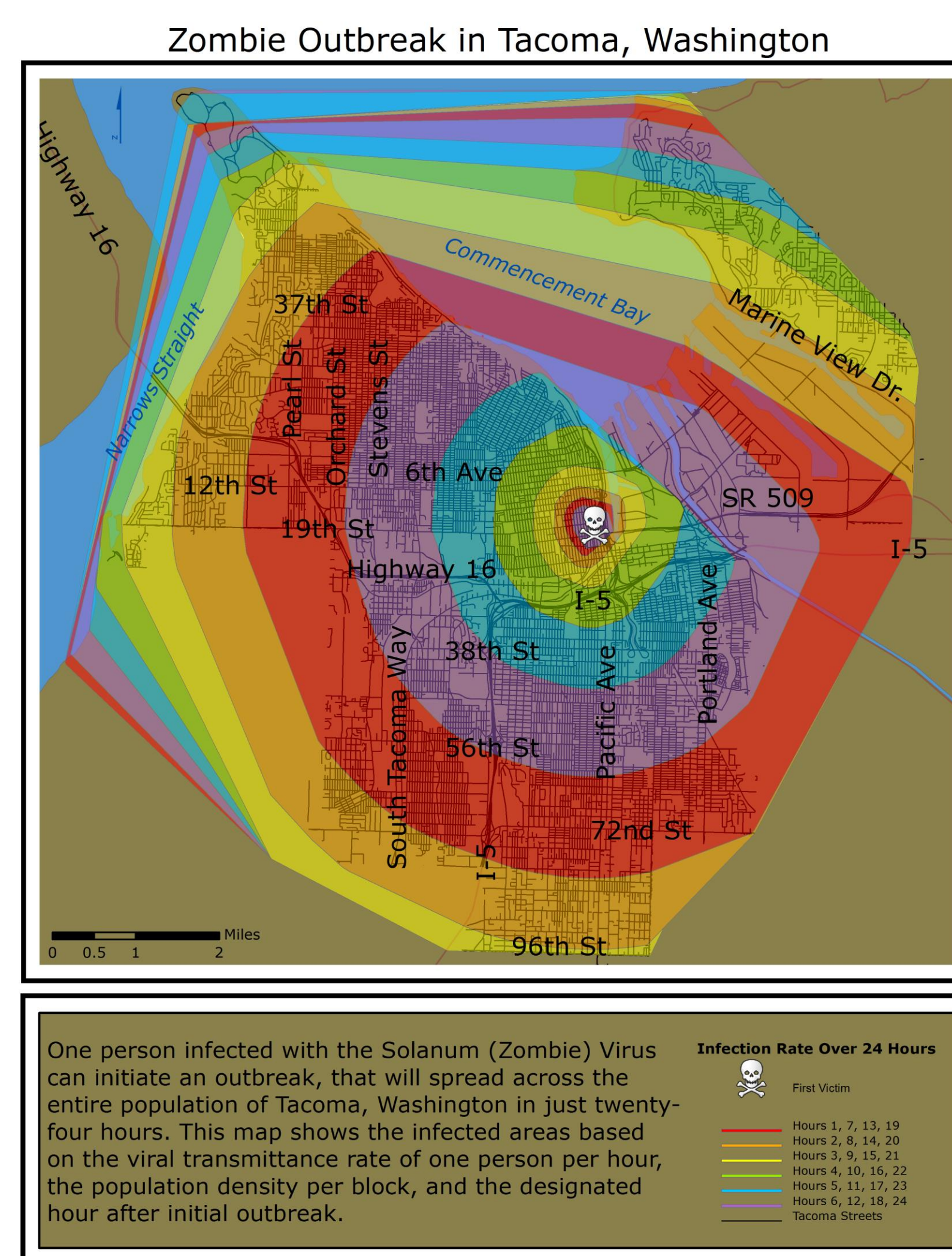
Could a Zombie Outbreak Really Happen?

As population continues to grow, so does the threat of viruses. The reason for this is that the rate of transmission is directly correlated to population density. This project studied the transmission of a possible viral infection, called Solanum Zombie Virus, moving through a population starting at University of Washington, Tacoma.

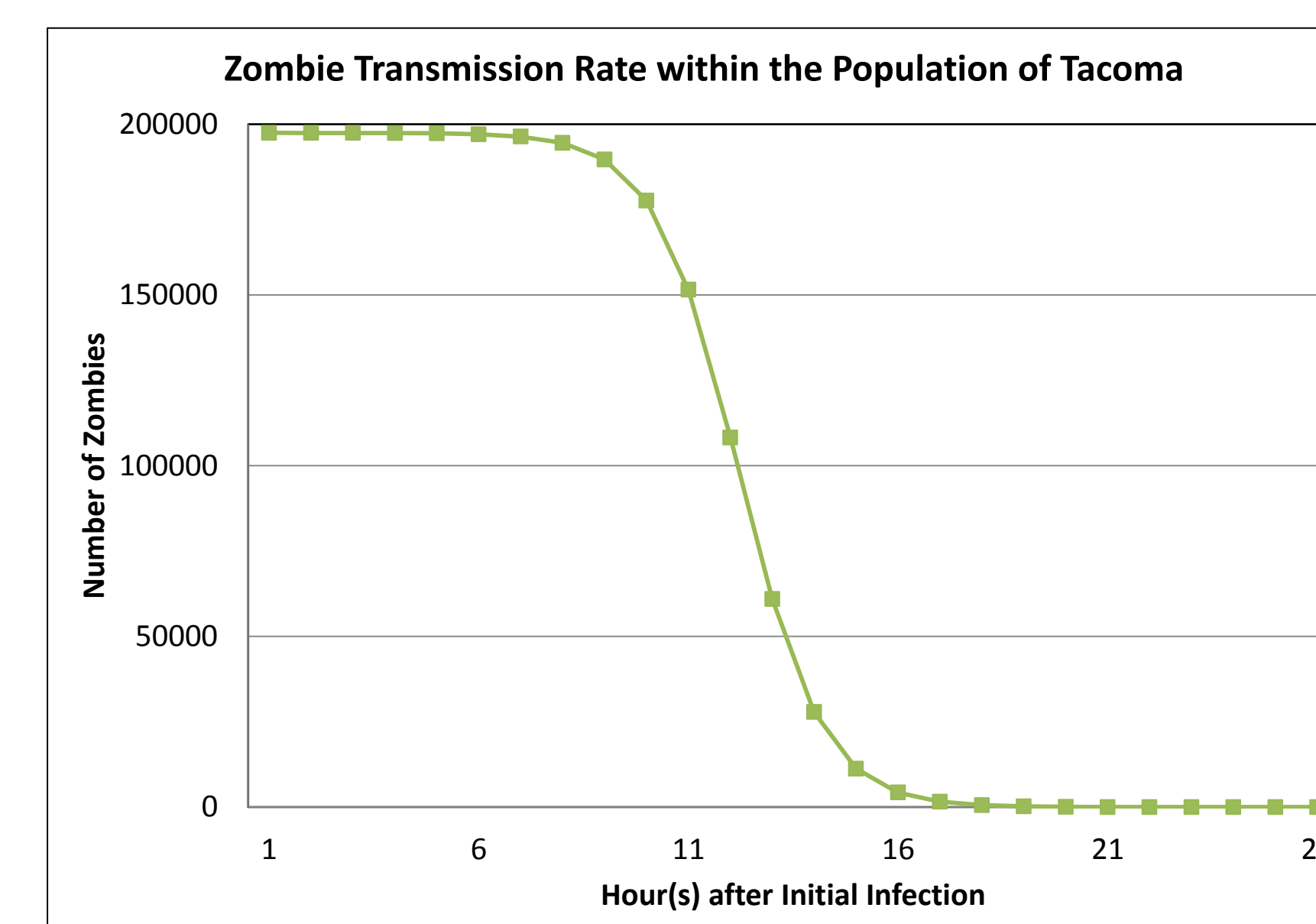
The "zombie" virus, commonly misconceived as originating first in West African voodoo during the seventeenth century, is actually believed to have existed as early as sixty thousand BCE (Table 1) amongst our predecessors *Australopithicenes* and *Homo erectus* (AIA, 2006).

Date	Location
60,000 B.C.E.	Katanda, Central Africa
3000 B.C.E.	Hierakonpolis, Egypt
500 B.C.E.	Africa (reports from Hanno of Carthage)
329 B.C.E.	Afghanistan
212 B.C.E.	China
C.E. 121	Fanum Cocidi, Caledonia (Scotland)
C.E. 140-41	Thamugadi, Mumidia (Algeria)
C.E. 156	Castra Regina, Germania
C.E. 177	Tolosa, Aquitania (southwest France)
C.E. 700	Frisia (northern Holland)
C.E. 850	Saxony
C.E. 1073	Jerusalem
C.E. 1253	Fiskurhofn, Greenland
C.E. 1587	Roanoke Island, North Carolina

The Effects of Infection on Tacoma



When all is Said and Done...



Zombie's can take over an entire population in a very short amount of time (Chart 1). For the city of Tacoma, Washington mathematically the outbreak was estimated to take twenty-six hours. The simulation actually took only twenty-four the difference of three people, for the entire population to become zombies. This is most likely because of an error in the simulation. Most of our resources will be unattainable within eighteen hours of the outbreak occurring. The safest time to leave town is within the first four hours of occurrence. This simulation indicates that Brown's Point and Point Defiance will be the last places the infection will spread to, before the population is completely over run with undead.

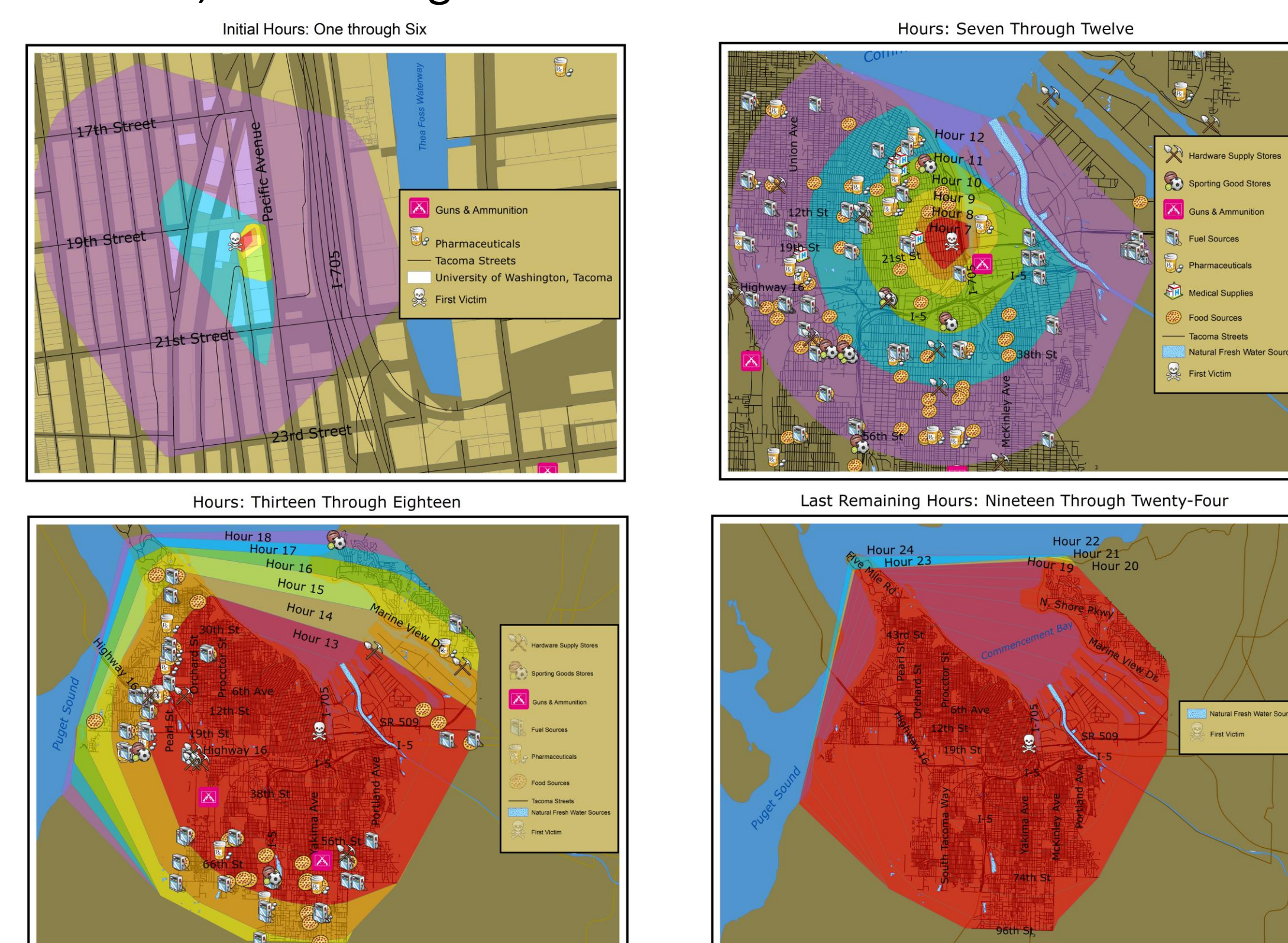
How do You Become a Zombie?

The zombie virus is transmitted through an exchange of body fluids between an infected host and a susceptible individual. Once the exchange has been made, the susceptible is now infected with the virus. It travels through the host's body to the frontal lobe. Where it uses this area of the body to multiply, destroying all brain cells in the replication process. The virus then simultaneously sends the victim into multisystem organ failure while mutating the glia, suppliers of nutrients and oxygen in the brain, into anaerobic cells. With no functioning organs, no heart beat the infected is technically dead (Brooks, 2003). Zombies have the same range of movements as their prey however lack comparable mobility. They have no conscious brain function. And because of this, zombies are restricted from doing activities like swimming, climbing, driving, or even running for any extended amount of time.

In this simulation each zombie only infected one susceptible target per hour. Victims were not removed from the population but were reanimated into zombies. This was modeled, using a logistics function that took into consideration population density and transmission rate. In order for this to work the Zombies could not be eliminated by defensive tactics or leave the extent of Tacoma. The population must also remain static.

How to Survive?

These maps will provide locations of the resources needed to help you survive and protect yourself against a zombie outbreak. Important locations to be aware of are hardware supply stores, pharmacies, hospitals, grocery stores, convenience stores, gas stations, sporting goods stores, as well as guns and ammunition stores.



Acknowledgements and Metadata

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References

This project was design and projected in NAD 1983 HARN Washington state plane south. Data collected from the Census Bureau, WSDOT, and WAGDA. Special thanks to Dr. Matthew Kelley for all the hard work that went into helping design this simulation. Thanks to Melora Shelton for providing me with important data. And thanks to GIS certificate class, the input was greatly appreciated.