

[Reference Appendix A – Suburbia Background, and Appendix B – Suburbia Background.]

A Beautiful Sunday Morning in Suburbia

Sunday morning, December 10th is a beautiful day in Suburbia. It has been a relatively quiet weekend in Suburbia, but the afternoon is set to get exciting, with traffic and parties, as Urbana's football team plays a game at Suburbia's Lombardi Field.

For the last several months the weekly threat reports have contained relatively non-specific reports suggesting that terrorist cells in the United States are targeting major population concentrations. One intercepted message attributed to a senior terrorist operative alludes to imminent mass American casualties. There are almost daily reports of suspicious non-Foreignlandians being turned back at various border crossings.

Unfortunately, Sunday's football game is not well attended, with only ~15,400 fans, to include ~100 citizens of Suburbia. The football game ends around 4pm in the afternoon, and thankfully, the Urbana football team wins. Despite the light attendance, traffic is snarled for several hours following the game. All in Suburbia appears back to normal by mealtime Sunday evening.



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Case Study: *Intentional Act (cont'd)*

Outbreak of Flu-Like Symptoms

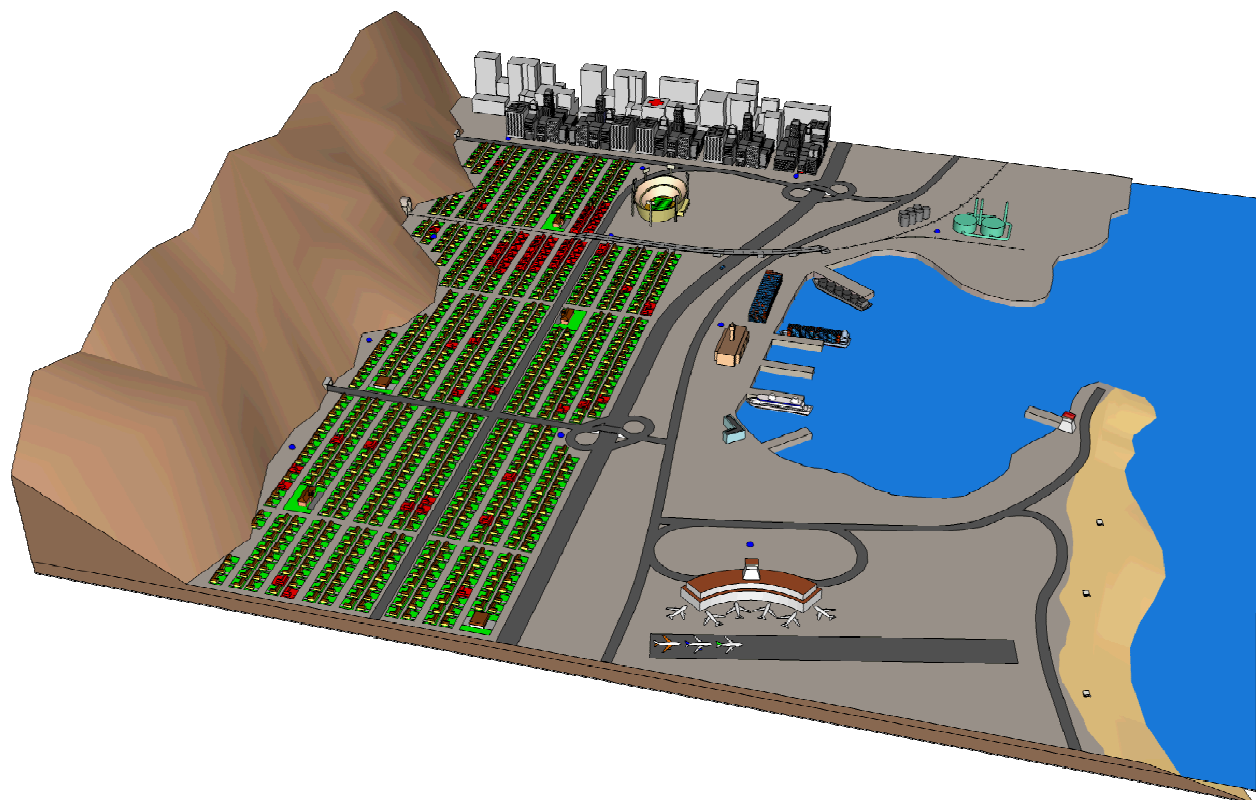
The week following the football game is uneventful. However, inexplicably by the following Sunday, 17 December, health care providers and urgent care facilities receive an overwhelming number (100+) of walk-in citizens from Suburbia and Urbana complaining of flu-like symptoms.

By Tuesday, 19 December, the number of Suburbia and Urbana citizens seeking treatment for flu-like symptoms is approaching 1000. More significantly, several (~3) severely symptomatic citizens from Suburbia and Urbana citizens are checked into emergency wards in Urbana for severely symptomatic conditions, including rash with scabs, indications of organ function failure, etc. While it is not clear what is wrong with the patients, doctors send out medical samples from the severely symptomatic citizens for laboratory analysis.

The following day, Wednesday, 20 December, hospital emergency wards, urgent care facilities, and health care providers are overwhelmed with 250+ severely symptomatic citizens from Urbana and Suburbia. That same day, the laboratory results from the previous day came back positive for Agent-X, a contagious disease.

Public Health Determination

Public health officials begin assembling information about the work and home locations of the severely symptomatic patients. The mapping of home locations for those individuals from Suburbia shows a concentration of affected people living to the southwest of the stadium. In addition, a number of the patients live in homes dispersed throughout the Suburbia (it does not take officials long to realize those Suburbia citizens attended the football game on December 10th).



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Case Study: *Intentional Act (cont'd)*



Case Study Questions to Consider

1. What happened? Write a detailed timeline of events, starting on December 10th, identifying emergency response actions by organization, taking special care to identify communication between organizations, responders, and officials.
2. Describe the various emergency response organizations within Suburbia and Urbana, and how they interact with each other, the state of Majestica, and the nearby country of Foreignlandia.
3. What outside agencies do you need to notify? What do you tell them? Do you ask for help?
4. How does your plan address medical assistance? If you decide to vaccinate the population, what is your vaccination strategy? If you have a limited supply of vaccines at first, who do you vaccinate first (e.g. first responder personnel)? Do you tell everyone to come to distribution points for vaccines? Even though this is a contagious disease? What if people don't comply with your vaccination order?

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Case Study: *Intentional Act (cont'd)*

5. Under what circumstances would people be required to shelter in place, evacuate, etc.? How would it be enforced – how do you keep people from traveling? How would you prevent panic?
6. What is your strategy for dealing with the media and public panic? What about the worried well – people with no signs or symptoms, but who demand treatment anyway?
7. What is your estimate of casualties/dead as a function of time? How would you control growth of that number?
8. How will community training for an event like this be handled, and how often will drills be conducted?
9. How will you revise your emergency response plans based on lessons learned from this case study?

Consider the following optional case study elements:

13 December [Optional Case Study Element] Wednesday, laboratory analysis of environmental samples taken three days (12/10) earlier from the environmental detector located closest to Lombardi Field indicate the possible presence of an infectious airborne biological agent. The Suburbia public health official orders additional confirming sample collection (known as secondary sampling) from the area surrounding the environmental detector.

15 December [Optional Case Study Element] Friday, secondary sampling results order by the public health official come back from the laboratory as inconclusive – it is not clear anything happened on 12/10.

10. If an environmental detector alarms, but there are no public health indicators of the disease (sick people showing up to hospitals), what should you do? Investigate more—is this a false alarm? What do you do to investigate?
11. Lean forward resources, like request activation of the strategic national stockpile, request medical resources from neighboring regions, and wait for public health indicators?
12. What if you launch a response and it turns out to be a false alarm?

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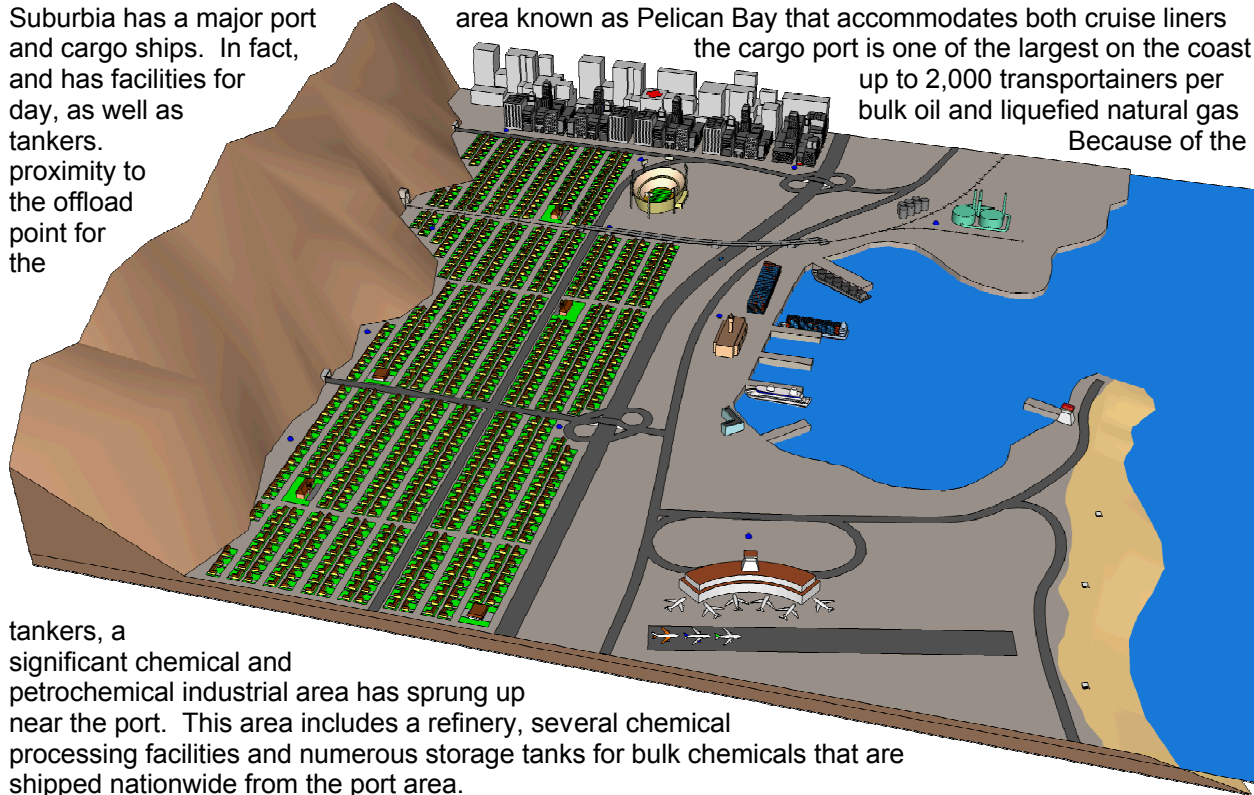
Case Study: *Intentional Act (cont'd)*

Appendix A – Suburbia Background

Suburbia, a city of 200,000 is south of Urbana, a city of 3.5 million in the state of Majestica. Suburbia is approximately fifty miles north of the border with Foreignlandia, a relatively depressed Third World country. The border between Majestica and Foreignlandia is considered by many to be relatively easy to cross without monitoring, and there has been near-constant wrangling in the Majestica State Legislature over issues to do with border security and illegal immigration.

Suburbia has a major port and cargo ships. In fact, and has facilities for day, as well as tankers. proximity to the offload point for the

area known as Pelican Bay that accommodates both cruise liners the cargo port is one of the largest on the coast up to 2,000 transportainers per bulk oil and liquefied natural gas Because of the



tankers, a significant chemical and petrochemical industrial area has sprung up near the port. This area includes a refinery, several chemical processing facilities and numerous storage tanks for bulk chemicals that are shipped nationwide from the port area.

Suburbia has three schools, an elementary, middle school, and high school, distributed across the community. Suburbia has two fire stations, with a third fire station in near-by Urbana. Residents of Suburbia receive health care through hospitals and private health care providers in Urbana.

Approximately four years ago, an NFL franchise moved to the area to take advantage of the depressed land prices. They built Lombardi Field, a 90,000-seat stadium, about one mile inland from the port area. The city of Suburbia originally built up around the area of the Urbana International Airport where approximately 100 flights per hour land and take off. This facility includes a major cargo hub, as well as a newly renovated passenger terminal. The airport is approximately four miles south of the football stadium.

Unfortunately, the freeway system has been unable to keep up with the explosive growth of Suburbia and the other cities around Urbana, so on days with major events such as football games, gridlock is the order of the day. Although it has been discussed at local and state levels, enhanced public transportation seems decades away.

Shortly after the tragedy of September 11, 2001, the Governor of Majestica established a State Department of Homeland Security. This organization is responsible for coordinating state and federal responses to homeland security events such as terrorist attacks, major natural disasters, etc. An FBI agent assigned to their organization is responsible for monitoring intelligence and law enforcement communications to provide threat information to state and local authorities. This agent provides a weekly report to the designated city authorities every Wednesday afternoon or when a threat appears imminent.

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Case Study: Intentional Act (cont'd)

The Mayor of Suburbia has designated the Chief of Police as his homeland security point of contact, so the weekly FBI reports go to the office of the Chief.

As part of a federal nation-wide biological terrorism protection initiative, Suburbia has meteorological (weather) stations and environmental detectors (air samplers that use paper filters to collect particles from the air) dispersed throughout the city (shown in the Suburbia diagram as blue semi-spheres). On a daily basis, officials from the Suburbia public health office monitor weather conditions and collect filters from the environmental detectors for laboratory analysis. Results of the analysis of the filters taken from the environmental detectors allow public health officials to understand what may have been traveling through the air near the location of the detector during the collection period.

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Case Study: *Intentional Act (cont'd)*

Appendix B – Agent-X, A Contagious Disease Assumptions

- If a person is exposed to Agent-X, he/she may become infected, depending on the dose received. Once infected, disease symptoms (illness) appear after an incubation period, 5-10 days after infection. First, mild symptoms appear including fever, headache and body aches; then severe symptoms occur, including a characteristic rash that scabs.
- People are contagious once they become ill and will infect people to whom they come in close physical contact.

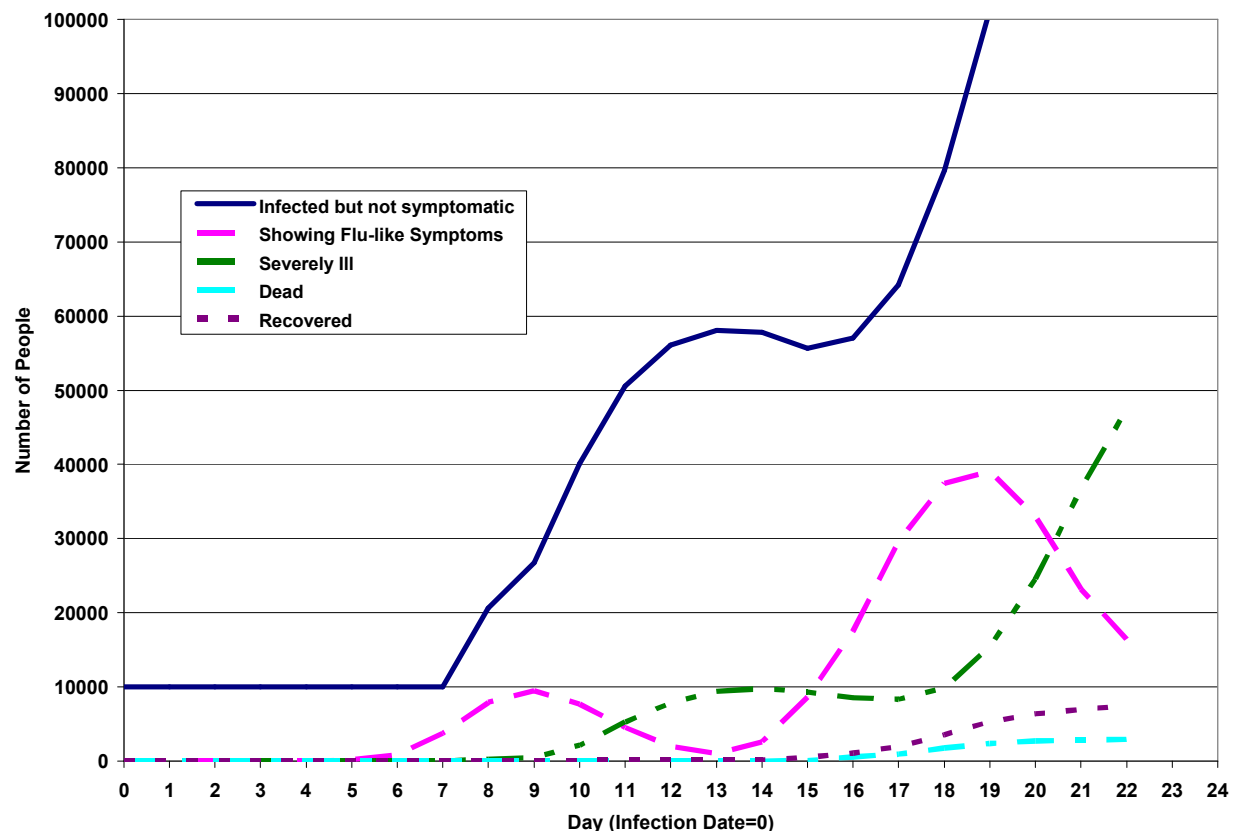


Figure 1: Agent-X, Contagious Disease States of Health

- Figure 1 shows an example of how people might transition through states of health if there are 10,000 people initially infected with the disease. This assumes that:
 - > an infected person would spread the disease to 3 other people in about a week's time once he/she is contagious, and
 - > no responsive actions are taken.
- You would not know who is infected until they become ill.
- Patients with this disease can be given supportive care but there is no proven treatment once they become ill.
- The fatality rate for this disease is 30% (unless vaccines are given in time—see below).
- Vaccines can be effective at preventing illness, depending on when it is given.
 - > If you provide vaccinations to people before they are infected, then they will not become infected.

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Case Study: Intentional Act (cont'd)

- > If you provide vaccinations to infected people in the first 3 days after they are infected, then 50% of them will never become symptomatic and contagious. Otherwise, 100% of them become ill and contagious.
- There are enough vaccines in the strategic national stockpile for one major city. The state government must request these resources from the federal government. Once a request is approved, it requires 12 hours for these supplies to arrive in the city.
- The disease has been eradicated for decades, and there is no environmental background level.
- There have been no environmental detector false alarms for this agent.
- The Homeland Security threat level is yellow. There are no unusual intelligence indicators.
- One environmental detector alarms for Agent-X.