

**North Carolina Department of
Transportation**
North Carolina Turnpike Authority

**Pandemic Annex
Plan**

North Carolina Department of Transportation

Pandemic Annex

Per guidelines as set forth in Executive Order No. 118, Governor Easley has mandated:

By August 1, 2007, each North Carolina Executive Branch agency (at the Division level) will include in its Continuity of Operations Plan provisions to deal with a pandemic influenza event. Plans will be developed using guidance available from the North Carolina Office of State Personnel, the North Carolina Division of Public Health, and the Federal Emergency Management Agency.

The following provides guidance and information on how units and divisions of NC DOT intend to implement the outlined directive.

BACKGROUND:

WHAT IS “PANDEMIC FLU” AND WHY DO WE NEED TO PLAN FOR IT?

Influenza Overview

There are three types of influenza viruses: A, B, and C. These letter classifications are based on the type of protein contained inside the virus, or the nucleoprotein. Only Type A is further classified by subtype based on the two main proteins on the surface of the virus, hemagglutinin (H), and neuraminidase (N). These two surface proteins are important to the virus's ability to infect cells. There are different kinds of H and N, designated by number, and a particular combination of H and N determines a subtype of influenza A, for example H5N1.

Humans can be infected with all three types of influenza viruses. Types A and B are responsible for annual wintertime epidemics, or seasonal influenza (flu), in humans. Type C causes a very mild and sporadic illness in humans that has minimal public health impact. Only Type A viruses causes avian influenza (bird flu) and pandemic influenza. Migratory birds, such as ducks and geese, are the natural reservoir for many subtypes of influenza A.

Seasonal Influenza or Flu

Influenza, or flu, is a highly contagious disease in humans that is caused by human influenza viruses A and B. It is usually spread through droplets of moisture caused by coughing or sneezing. As the virus attacks our bodies, it causes any of a variety of symptoms, the most usual of which include:

Fever	Headache	Sore throat
Body Aches	Cough	Stomach and Intestinal Discomfort
Extreme Fatigue	Runny nose	

Flu season comes every year, usually in the winter. Normally, approximately 10% of the population is affected by flu symptoms. For most people, it is unpleasant, but not life-threatening. However, approximately 35,000 people die each year in the United States from the infection or complications.

There are only three types of H proteins and two types of N proteins currently found in human influenza A viruses. Subtypes of influenza A that is currently in general circulation among people and capable of causing seasonal influenza are H1N1, H1N2, and H3N2.

Avian Influenza or Bird Flu

Avian influenza or bird flu is an infection in birds caused by avian influenza viruses, which again are only Type A viruses. Generally, infection does not cause major symptoms of illness in infected birds. A few of the avian influenza viruses cause infection in humans as well, but they are not considered human influenza viruses because they do not spread easily from human to human.

There are 16 known H proteins and 9 known N proteins in avian viruses, many more than found in human viruses, so there are many more different combinations present in avian viruses compared to human viruses and thus many more avian influenza subtypes than human subtypes. However, only a few have infected humans; three examples include H5N1, H7N7, and H9N2.

H5N1: The Flu Strain That's Raising Concerns Today

The avian influenza A subtype of most current concern is "H5N1". In 1997, a human in South East Asia was identified as having died of this strain of flu, transmitted from a bird. According to the World Health Organization, through July 11, 2007, 318 cases of human infection by H5N1 have been identified. More than half (192) of those persons have died. The incidence among humans remains very low. However, the H5N1 strain has been identified as being widespread in bird populations, now reaching across all of Asia, most of Europe, and into Africa. Wild bird migration patterns raise the concern that H5N1 will spread to wild bird populations throughout the world. Another concern is that H5N1 might mutate into a human variety that remains deadly to humans and can spread easily from person to person.

Pandemic influenza

Pandemic influenza occurs when a new subtype of influenza A virus evolves, usually from an avian influenza virus that can spread easily from person to person. Because there is little if any immunity in the world population, there is rapid spread throughout most of the world with high potential for large numbers of illnesses and deaths. An exceptionally high proportion of the population is affected – typically about 30% of the populations develops illness – and impacts are usually felt in all communities in the world.

Normally, forms of flu change only a little from year to year – minor mutations of the previous year’s variety of flu virus. Humans infected during a recent flu season retain immunity, because their immune systems “recognize” the slightly changed new flu strain and attack invading viruses, killing them.

Influenza Virus A sometimes recombines (or mutates through a process called *antigen shift*) into a form that is a sudden, large change of form. If a human population has not recently experienced a similar form, its immune systems do not recognize the virus, do not attack and the virus enters the body successfully and begins its spread. When immunity is low within a population, the disease spreads rapidly. If it spreads over a wide portion of the globe, we call this episode of flu a “pandemic flu.”

In the last century, there have been notable pandemic flu episodes - in 1918, 1957, and 1968. The 1918 flu – “The Great Influenza” (as a recent book titles it), an H1N1 Influenza Virus A - erupted during the last year of World War I. It caused especially strong symptoms and extremely high mortality rates. The worldwide death toll in 1918 can only be estimated. Between 20 million and 50 million people died. It is this episode which gives us our “worst case” images of what a pandemic flu could be.

WHAT IS OUR PURPOSE IN PANDEMIC INFLUENZA PLANNING?

The World Health Organization (WHO) has identified six *Phases to a Pandemic Alert System*. The world is currently in “phase three” of this alert system. “Phase Three” means that humans have been infected by a new subtype virus that is spreading through an animal population (H5N1, in the current case), but that there is no (or only rare instances of) human-to-human spread. (Note: There have been a few cases of what appear to be human to human transmission.)

During Phase 3 of a Pandemic Alert, it is important to: minimize transmission to humans, establish early detection, notification and response systems, and prepare to contain possible human-to-human transmission within isolated communities.

Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

Our purpose in pandemic influenza planning is two-fold:

(1) to plan for and implement 'prevention' processes – simple awareness and infection control practices and habits;

(2) to prepare for possible onset of pandemic influenza and the need for immediate responses. Pandemic influenza preparedness is a process, not an isolated event. To be “prepared,” we must develop specific capabilities in DOT staff, our stakeholders, and in a collaborative community system of health emergency response agencies.

WHAT ASSUMPTIONS DO WE MAKE IN PANDEMIC INFLUENZA PLANNING?

The U.S. Center for Disease Control makes the following assumptions and projections for pandemic flu planning:

- Typical incubation period of two days
- Persons who become infected may transmit for a full day prior to the onset of symptoms
- On average, two secondary infections occur as a result of transmission from someone who is ill
- In a community, a pandemic “wave” will last approximately 6-8 weeks
- Absenteeism from work may reach 40% at the peak of the pandemic wave
- At least two waves or more could occur

Experience during the “Great Influenza” of 1918 demonstrates that it is possible during a pandemic that:

- The health care system will be swamped by sick people seeking assistance
- The undertaking/funereal industry may be overwhelmed
- State and national emergency delivery systems may be overwhelmed and unable to address local needs in a timely manner
- Fear may run rampant within a community
- Community assistance and neighborly support may break down nearly completely

This pandemic plan recognizes these past experiences and future possibilities. Our assumptions, drawn from the above, include:

- Absenteeism of workers could be in the 30-40% range

- Workers may be absent due to family care needs
- Workers may simply not report due to fear of becoming infected
- We may experience the loss of suppliers (utilities, waste removal, food distributors, etc.)
- Government proclamations and fuel shortages may create travel restrictions
- Businesses may close
- Litigation may emerge from any number of the above circumstances

Social Distancing

Social distancing is designed to limit the spread of a disease by reducing the opportunities for close contact between people. It can be accomplished by administrative and engineering controls.

Examples include:

- Reducing face-to-face exposure by using conference calls and video conferencing;
- Avoiding unnecessary travel;
 - Canceling meetings, workshops, training sessions and scheduled events;
- Requiring employees to work from home to reduce exposure in the workplace;
- Establishing flexible working hours to avoid mass transportation, at least during peak hours;
- Installing protective barriers between work stations or increasing space between workers;
- Reinforcing hand washing and requiring the use of protective equipment such as hand sanitizers and masks (provided by the agency);
 - Scheduling employees in shifts;
 - Controlling access to buildings;
 - Requiring asymptomatic individuals traveling to affected countries/areas not to return to work until one incubation period has passed after returning home.

Other Social Distancing Measures

- Avoid handshakes - Handshaking as a customary greeting enables virus transmission through skin-to-skin contact. Substitute something else — smile, wave or bump elbows.
- Avoid the lunch time rush - Whether you eat lunch in the break room, a snack bar or at a restaurant, avoid the rush.
- Eat earlier or later to avoid the rush, or eat with just a few people in the break room, a conference room or a large office.

- Use telemeetings to replace face-to-face meetings - Reducing the number or duration of face-to-face meetings limits the opportunity for virus transmission. Shift as much of the agenda as possible to email or teleconference.
- Use larger conference rooms - If you must meet face-to-face, use the largest available conference room. Larger rooms have better ventilation, and there's more room to spread out.
- Avoid using public pens - Public pens are found at the retail counter, at the building or hotel guest registration, at the bank, and many other places. Use your own pen. In conference rooms, don't use the public whiteboard markers. Carry your own.
- Avoid the commuter rush periods - If you commute via public transportation, take advantage of the flex time policy to shift your working hours. Avoid times when you'll be exposed to crowded buses.

DOT Pandemic Influenza Plan Assumptions

1. Pandemic occurs
2. 40% reduction in workforce for 2 weeks during peak of pandemic waves
3. 50% loss of key suppliers/providers
4. Likely illness exposures at work
5. Loss of 20% of leadership personnel

Department/Unit Information	Section A
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Unit/Department: North Carolina Turnpike Authority

Plan Developer: JJ Eden

Implementation Leader: Michael Heminuk

Continuity of Operations Objective	Section B
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List your key objectives to increase the chance of your business's continued functioning:

1. Identify mandatory personnel
2. Identify backup personnel
3. Maintain communication during event
4. Have a backup plan

Emergency Communications Systems	Section C
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Specify how personnel will receive notification of pandemic event related work directives, e.g. phone, call tree, email, pager, website, other:

All of the above

Emergency Access to Information and Systems	Section D
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Describe how personnel will access information and/or other systems designated essential to continuity of operations, e.g. telecommuting requiring access to network drives:

Telephone, email, conference calls

Scenario	Section F
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- Suspension of non-essential work for a period of 4-8 weeks.
- Attempts to maintain *Essential Functions and Services*

Essential Functions & Associated Employees				Section F
Function	Name(s), phone	*Alternate phone	*2 nd Alternate phone	PPE**
Administration	JJ Eden (919) 219-1446	Marvin Butler (919) 271-1562		N/A
Payroll	Logann Perry (336) 847-9056	Tracey Jackson (919) 707-2800	n/a	N/A
Operations	Manish Chourey (984) 302-1875	Angela Queenland 919-441-0871		
Maintenance	Dennis Jernigan 919-796-2332	Alan Shapiro 919-671-5390		
Projects	Roger Rochelle 919-426-3075	Dennis Jernigan 919-796-2332		

*Name of individual who can assume the function as a backup.

** Personal Protective Equipment (number of staff who will need PPE)

Key Internal Dependencies (Add Mitigating Actions for each) Section G

What functions or services does your unit depend on that are part of your overall organization?

Dependency	Providers	Mitigating Action
Administration	JJ Eden	
Payroll	<p>Logann Perry NOTE: E-mail FROM: Matt Daughtrey, Director, Payroll and Insurance SUBJECT: New Fax Number (919) 715-4313 Please note the new private fax number for submitting any Payroll/Time Entry/Insurance forms: (919) 715-4313. Should you need to fax any forms to our Unit that may contain non-public information such as Social Security number, Medical information, etc. please start using the above number. Please contact the Payroll and Insurance Unit at (919) 707-4287 if you have any questions.</p>	Drive Payroll to Raleigh Payroll Section

Key External Dependencies (Add Mitigating Actions for each) Section H

What functions or services does your unit depend on that are *NOT* part of your overall organization?

Dependency	Providers	Mitigating Action
Access to System	IT	

Delegation of Authority

Section I

List here the people who can make operational decisions if the head of your business or unit is absent.

Head of Operations First Successor Second Successor Third Successor	Name	Phone Number	Alt Phone Number
	JJ Eden	(919)707-2718	(919) 219-1446
	Manish Chourey	(919)674-5569	(984) 302-1875
	Marvin Butler	(919)707-2733	(919) 271-1562
	Dennis Jernigan	(919)707-2705	(919) 796-2332

Testing and Training	Section J
Share your completed Plan with your staff. Hold exercises to test the Plan and maintain awareness. Note below the type of exercises you will use and their scheduled dates.	
Staff meeting orientation	Emergency communications test
Call tree drill	Off site information access test
Table top exercise	Unscheduled work at home day
Interdepartmental exercise	Emergency assembly drill
Other exercise:	

Type of Exercise	Date
Staff Meeting Orientation	DATE TBD
Staff Meeting Orientation	DATE TBD
Plan Audit	Refresher when needed

Recovery	Section K
Describe your Plan to fully resume operations as soon as possible after the wave has passed. Identify and address resumption /scheduling of normal activities and services, work backlog, re-supply of inventories, continued absenteeism, the use of earned time off, and emotional needs.	

Recovery activities needed:

- Resume SOP
- Maintain communication with any personnel still impacted by the event
- Resolve any personnel issues as a result of the event

Special Considerations	Section L
n/a	