



Comparison of Urban Transit Planning Responses to Pandemic Influenza

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As an NCDP Research Brief, the contents of this report are solely the responsibility of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention or the New York City Department of Health and Mental Hygiene. Please address all correspondence to Dr. David Abramson, NCDP Director of Research, Columbia University Mailman School of Public Health, 215 West 125th Street Suite 303, New York NY 10027, dma3@columbia.edu

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Background

Pandemic influenza and other large scale communicable disease outbreaks pose a unique public safety concern in respect to transit and emergency planning. While local transit agencies, supported by federal funds, have identified disaster planning and response as critical to maintaining continuity of service and quality of life, most plans contend solely with event-based scenarios such as responding to natural hazards and manmade disasters. A pandemic is particularly challenging, given no discrete event but a slow accumulation of organizational and social disruption. Contending with 'second order' consequences and of the long-term effects of an influenza pandemic is of equal importance in city planning and operations. A major objective for City of New York and the Metropolitan Transit Authority will be to mitigate the effects of second order consequences. Pre-planning and connecting the public and employees to those plans will serve to minimize concerns and aid in the continuity of transit usage, service delivery and potentially minimize negative economic, social and political impacts.

Gathering & Analyzing Data

In order to best recommend actions to local planners a review of existing urban transit plans was conducted. The data gathered during this survey complements the CDC's pandemic rating system and community strategy recommendation released in February 2007, with further information specific to transit operations included. The comparison of seven major U.S. cities and of six major international cities revealed a wide range of transit authority or governmental contingency planning for pandemic influenza. We compared available public documents from 14 mass transit authorities, news articles and documents generated by security consultants. The results of the comparison highlight a varying degree of preparedness.

Domestic cities were chosen based upon funding allocations from the Department of Homeland Security to improve security and disaster planning, operations and infrastructure. We reviewed documentation from metropolitan and regional transit authorities, and local governments of Atlanta, Chicago, Miami, Portland, OR, Seattle, San Francisco and Washington, DC. International cities reviewed include London, Madrid, Mumbai, Hong Kong, Tokyo and Toronto, where each city has experienced either a transit-related disaster or public health epidemic that affected transit operations. Findings regarding international cities are not included in this memorandum.

Findings

Most cities do identify transit, in documentation, as a primary concern, not only as a vital component of daily city operations but also for moving ailing populations to health providers, hospitals and clinics. The documents provided in this packet are meant to simply a search across municipal practices. A quick reference table (Master Matrix) reflects to what extent pandemic flu-specific planning has been implemented within each city, and from what type of source the information came.

A one-page summary is included for each transit system surveyed with the subsequent information:

- Ridership information when available;
- What airports connect with the public transit system;
- What modes of public transit are utilized within that city;
- Who the regional or local planning authority is for pandemics and/or transit
- Where local plans identify transit within the hierarchy of emergency service operations;
- Among other relevant information.

Following each summary is a matrix detailing transit preparedness per locale. Transit plans were compared using the following criteria:

- Closing or partial curtailment of public transit systems;
- Sanitizing and disinfecting of the transit environment;

- Promoting social distancing on rapid transit;
- Restricting or surveillance of passenger vehicle traffic;
- Stockpiling and or securing the transit authority supply chain; and
- Communicating with the public prior to and during the crisis.

Discussion

The complete closure of transit systems, though explicitly mentioned in the Federal Pandemic Response Plan released in 2005, is clearly noted by most cities as having too high an economic impact to employ. Partial closures and route changes are being considered by many municipalities. Social distancing, though mentioned in local public health department pandemic plans, is only incorporated in a marginal number of municipal transit plans. Sanitizing or disinfection of the environment including the provision of masks, hand sanitizer and the cleaning of bus/train interiors is mentioned in documentation from the Chicago and Seattle.

In cities where transit authority plans specific to pandemic flu were not readily available, transit operations and responses to other disasters and hazards were taken into account. Hurricanes, tornadoes, floods and extreme temperature conditions are reflected in general hazard mitigation planning. Using transit as a means to evacuate residents is a common practice in Miami, as is shifting populations to emergency shelters. It is likely that further planning around pandemic influenza will be able to incorporate similar transportation measures, moving passengers to healthcare facilities. The partnership and or cooperation between city agencies and private businesses are of high importance in most of the cities surveyed, as is the need to maintain transit operations at some level during a pandemic or other hazard. A few cities have left the greater bulk of pandemic response to state and federal agencies.

A few transportation plans did mention the ongoing concern of stockpiling sufficient fuel supplies; however, most municipalities did not have this information available in public documentation. One screening criteria was looking at surveillance of passenger vehicles and/or closing of bridges and tunnels to passenger or commuter traffic, though none of the cities within the survey discuss this practice. Instead, much of the commuter traffic mitigation during a pandemic came from workplace social distancing measures provided in public health department statements and plans.

The efficacy of these transit plans has yet to be tested in a real-time pandemic flu situation and it is unknown as to what extent these selected municipalities engage in exercises and drills specific to outbreaks.

Best Practices

Some of the most noteworthy practices of outward integration of the criteria of this study and the Federal Pandemic Response Plan released in 2005 come from the City of Seattle. King County Metro, serving the City of Seattle and other outlying locales in Washington State’s most populous county, has released a version of its plan specific to pandemic influenza, made available via their website. The city does have a unique relationship to communicable disease planning responding to the SARS outbreak of 2004.

The King County Metro Pandemic Flu Plan is guided by five major assumptions placing emphasis on delivery of service, protection of employees, social distancing, public communications, supply chain security and interdepartmental coordination. A few highlights include:

- Planners have identified that, "Transit is essential [and] must operate under pandemic conditions";
- Not defined as option. Plan instead accounts for contingencies of 60% and 40% reductions in drivers and other transit employees;
- Maintaining services for special needs populations is prioritized

- Employees are directed to sanitize immediate workspace, which given context would mean driver seats and immediate surroundings.
- Reserving a 4-6 day supply of fuel and other necessities is noted in the plan;
- Understanding that cuts to routes and/or transit fleet may become necessary;
- Social distancing measures to be incorporated by extended service to certain high traffic routes.

What the King County Metro Plan transit plan does not outline is the system for determining service delivery changes, the exact form of public communications or the method for action-based outcomes to contend with any or all of these contingencies.

As New York City looks to strengthening its operational planning to contend with pandemic influenza, transit policies will no doubt be one of the most trafficked service delivery points the city has with its residents and daily commuter/tourist populations. The distinctive characteristics of a pandemic influenza crisis warrant sufficient lead time for government officials, employees and the general public to mitigate the situation. An example of which occurred following the 2005 3-day transit strike, which cost the city approximately \$1 billion, where the mitigating factor was providing the public and the city time to plan for contingencies. The recognition being that a strike with no warning would have cost the city considerably more.¹

¹ Susan Kim, Transit Strike Teaches Lessons, Disaster News Network, 23 December 2005. <http://www.disasternews.net/news/news.php?articleid=2999>

General Comparison of Transit Preparedness: Pandemic Influenza

Policy Action	United States							International				
	Atlanta	Chicago	Miami	Portland, OR	San Fran	Seattle	Wash, DC	Beijing	London	Madrid	Mumbai	Toronto
Close or Curtail Service	4	3	3		3	1	3	3	3		2	
Sanitize the Environment						1		3	2			2
Social Distancing		3			3	3		4	2		2	2
Surveillance of Passenger Vehicles							3					
Stockpiling and Supply Chain		3	3	3		1	3		2	1		2
Communications Plan		3	3	3	3	1	3		2	1		

1 -- Transit specific plan, pandemic influenza

2 -- Non-transit specific plan, pandemic influenza

3 -- Specific plan, all hazards, non-specific to pandemic influenza

4 -- Data from other sources

Gray Cell -- No mention in available documentation

Atlanta

Planning Authority:

Transit System: **Metropolitan Atlanta Rapid Transit Authority
(MARTA)**

Ridership Information:

Connects with Regional Transit System(s) via: **Bus
Commuter Train**

High Level of Commuter Traffic: **Yes**

Connects to Airport(s): **Hartsfield International Airport**

Transit system(s) utilizes urban population circulator: **Yes**

Primary Emergency Support Authority: **District Department of Transportation
Emergency Support Function #1**

Local or Regional Transit Identified in Disaster Plan: **Yes**

Transit Disaster Plan Available to Public: **No**

Pandemic Flu Identified in Transit Disaster Plan: **No**

Summary: Atlanta completed an event-based terrorism drill in 2002, field testing a series of software aimed at tracking injured and exposed populations, administering treatment and transmitting vital medical data to area hospitals of victims on route for emergent care. This drill, coupled with MARTA's experience following the 1996 Olympics has benefited Atlanta in event-based disaster planning. There are no publications or plans available to the public and no information readily available detailing steps to ensure social distancing, sanitation measures, reduced or increased passenger flow under pandemic disease conditions. The state disaster plan does identify transit as a vital service during disasters, but does not identify planning specific to pandemic influenza or other pandemics. The only mention of partial closures is from the media following the 1996 bombing when for more than one hour, thousands of passengers were stranded as transit shut down. The shut down was a planned response to violent disruptions during the Olympics coordinated with the Federal Bureau of Investigations.

Comparison of Public Transit Policies in a Pandemic Environment

Atlanta, GA

	Reference Made in Public Documentation specific to Pandemic	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit				
Close all transit systems	In response to attacks, rather than long-term pandemic conditions it is recommended to close all transit to assist first responders – Public Health GIS News ²	N/A	N/A	N/A
Partial closure	Following 1996 Olympic Park bombing, partial road closures and MARTA's 5 Points Hub was shut down for one hour – CNN report ¹	None	As Noted	Thousands of people reported stranded during the bombing investigation ¹
Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A
Decrease number of routes available	N/A	N/A	N/A	N/A
Close inter-city travel	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (transit employees)	N/A	N/A	N/A	N/A
Prioritize Special Needs Ridership				

Prioritize transit for medical reasons	N/A	N/A	N/A	N/A	N/A

Sanitize the Environment

Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A	N/A
Provide passengers with: Protective masks	N/A	N/A	N/A	N/A	N/A
Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A	N/A

Promote Social Distancing

Reduction of Peak Time Services	N/A	N/A	N/A	N/A	N/A
Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A	N/A

Restriction or Surveillance of Passenger Vehicle traffic

Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A	N/A
Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A	N/A

Stockpiling and or Securing Supply Chain

Guaranteeing Fuel Supply	N/A	N/A	N/A	N/A	N/A
Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A	N/A
maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A	N/A
Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A	N/A

Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	N/A
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Public Communications Strategy				
Available Documentation on Current Plan	N/A	N/A	N/A	N/A
Current information includes tips on staying healthy during a Pandemic	N/A	N/A	N/A	N/A
Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use	N/A	N/A	N/A	N/A
Communication strategy exists for public disclosure during crisis	N/A	N/A	N/A	N/A

¹"Games go on after day of shock, grief: Bomb investigators report progress" 28 July 1996, www.cnn.com/US/9607/27/bomb

²Jim Tobias" Geographic Information Systems and Bioterrorism/Disaster Planning: A Simple Model to Find First Responders during a Terror Attack on the Atlanta MARTA System", Public Health GIS News and Information, #67, November 2005.

Chicago

Illinois Natural Hazard Mitigation Plan

Planning Authority:	Regional Transportation Authority (RTA)
Transit System:	Chicago Transit Authority (CTA)
Ridership Information:	≈ 1 million Bus passengers ≈ 600,000 train passengers
Connects with Regional Transit System(s) via:	Elevated "L" rail system Bus
High Level of Commuter Traffic:	Yes
Connects to Airport(s):	Midway International Airport O'Hare International Airport
Transit system(s) utilizes urban population circulator:	Downtown Corridor, all seven lines service downtown corridor, several run in distinct loops around the city core Bus
Primary Emergency Support Authority:	District Department of Transportation Emergency Support Function #1
Local or Regional Transit Identified in Disaster Plan:	No
Transit Disaster Plan Available to Public:	No
Pandemic Flu Identified in Transit Disaster Plan:	No

Summary: Though there is some mention of pandemic flu planning in documentation made available through the Chicago Department of Public Health, there is no distinct mention of transit-related disaster planning. Documentation is not available on these topics on the RTA, the CTA, or City of Chicago websites. Pandemic influenza itself is not mentioned specifically as it would impact transit in the few official documents available. The Illinois Natural Hazard Mitigation Plan makes no mention of planning for pandemics, and does not directly discuss disaster planning in general for mass transit in the Chicago area.

Comparison of Public Transit Policies in a Pandemic Environment

Chicago, IL		Reference Made in Public Documentation	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit					
Close all transit systems					
Partial closure	Chicago Department of Public Health recommends scaling back to only critical operations	N/A	N/A	N/A	N/A
Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A	N/A
Decrease number of routes available	N/A	N/A	N/A	N/A	N/A
Close inter-city travel	N/A	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (transit employees)	N/A	N/A	N/A	N/A	N/A
Prioritize Special Needs Ridership	Identifies residents/tenants with special needs as population that must be properly served in pandemic planning	N/A	N/A	N/A	N/A
Prioritize transit for medical reasons	N/A	N/A	N/A	N/A	N/A
Sanitize the Environment					
Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A	N/A
Provide passengers with:	N/A	N/A	N/A	N/A	N/A
Protective masks	N/A	N/A	N/A	N/A	N/A
Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A	N/A

Promote Social Distancing					
	Reduction of Peak Time Services	N/A	N/A	N/A	N/A
	Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A
	Workforce Redistribution	Implementing "snow days". If possible, develop work at home plans. Working with local businesses to assure that they encourage sick workers to stay home.	N/A	N/A	N/A
Restriction or Surveillance of Passenger Vehicle traffic					
	Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A
	Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A
Stockpiling and or Securing Supply Chain					
	Guaranteeing Fuel Supply	Chicago Department of Public Health recommends city agencies maintain plan for continued supply for continuity of operations	N/A	N/A	N/A
	Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A
	Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A
	Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A
	Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	N/A
Public Communications Strategy					

Available Documentation on Current Plan	CDPH does mention its responsibility in providing up-to-date information to the public during each phase of the pandemic, but no mention is made in utilizing public transit to convey those messages.	N/A	N/A	N/A
Current information includes tips on staying healthy during a Pandemic	N/A	N/A	N/A	N/A
Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use	N/A	N/A	N/A	N/A
Communication strategy exists for public disclosure during crisis	N/A	N/A	N/A	N/A

¹"CDPH Pandemic Preparedness Program", Christine Kosmos Deputy Commissioner, Chicago Department of Public Health, Pow

²"Performance Indicators 2006", Chicago Transit Authority, <http://www.transitchicago.com/news/motion/board/122046matricwogo>:

Miami/ Dade County

Miami-Dade Local Mitigation Strategy

Planning Authority:	Miami-Dade Transit Agency
Transit System:	Tri-Rail, AMTRAK, MetroRail, Metromover
Ridership Information:	164 million passengers annually
Connects with Regional Transit System(s) via:	Bus Commuter Train
High Level of Commuter Traffic:	Yes
Connects to Airport(s):	Miami International Airport (MIA)
Transit system(s) utilizes urban population circulator:	Yes <u>MetroRail</u> , elevated fixed-rail system, and local bus service serves locations throughout Miami-Dade County. <u>Metromover</u> moves passengers around one inner and one outer loop through the downtown area
Primary Emergency Support Authority:	District Department of Transportation Emergency Support Function #1
Local or Regional Transit Identified in Disaster Plan:	Yes
Transit Disaster Plan Available to Public:	No
Pandemic Flu Identified in Transit Disaster Plan:	No

Summary: Regarding Pandemic Influenza, the Miami-Dade Local Mitigation Strategy makes one reference: "While epidemic diseases are certainly a threat to Miami-Dade County and its citizens, mitigating factors are under the control of the federal government through the Centers for Disease Control and Prevention, the Food and Drug Administration and other agencies. Therefore, this threat is not one that can be easily mitigated through the Local Mitigation Strategy." Hurricane planning does, however, include securing the supply chain, "to have backup infrastructure options in place when natural disasters strike in order to mitigate service interruptions to the greatest degree possible...[involving]the design and construction of a bulk fuel storage and transfer station." This could apply to operational concerns during a pandemic such as route reduction and/or changes. Miami does not currently plan for full closure of the transit system in the event of a disaster. Officials assert that, "Before, during and after a disaster event, it is imperative that transportation systems continue to operate." How this relates to longer-term effects of a pandemic is unclear.

Comparison of Public Transit Policies in a Pandemic Environment

Miami, FL		Reference Made in Public Documentation specific to Pandemic	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit					
	Close all transit systems	N/A	N/A	N/A	N/A
	Partial closure	N/A	N/A	N/A	N/A
	Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A
	Decrease number of routes available	N/A	N/A	N/A	N/A
	Close inter-city travel	N/A	N/A	N/A	N/A
	Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	N/A
	Account for reduced Ridership due to absenteeism in workforce (transit employees)	N/A	N/A	N/A	N/A
	Prioritize Special Needs Ridership	N/A	N/A	N/A	In Miami-Dade Be Storm Smart Hurricane Guide, there is explicit mention of transporting residents with special needs-- <i>Miami-Dade Hurricane Guide 2006</i>
	Prioritize transit for medical reasons	N/A	N/A	N/A	1. In Miami-Dade Be Storm Smart Hurricane Guide, there is explicit mention of transporting residents to evacuation centers -- <i>Miami-Dade Hurricane Guide 2006</i> 2. For each site identified determine: availability of space , accessibility (to patient and staff) by private and public transportation, requirements for movement of patients -- <i>Action Plan for Pandemic Influenza Florida Department of Health 2004</i>
Sanitize the Environment					
	Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A
	Provide passengers with:	N/A	N/A	N/A	N/A
	Protective masks	N/A	N/A	N/A	N/A
	Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A

Promote Social Distancing					
	Reduction of Peak Time Services	N/A	N/A	N/A	N/A
	Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A

Restriction or Surveillance of Passenger Vehicle traffic					
	Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A
	Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A

Stockpiling and or Securing Supply Chain					
	Guaranteeing Fuel Supply	N/A	N/A	N/A	...supplies, storage capacity for pharmacy and other supplies, -- <i>Action Plan 2004</i>
	Stockpiling tires for busses and other equipment	N/A	N/A	N/A	
	Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A
	Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A
	Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	N/A

Public Communications Strategy					
	Available Documentation on Current Plan				
	Current information includes tips on staying healthy during a Pandemic				
	Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use				
	Communication strategy exists for public disclosure during crisis				Need for communications capability identified in state Action Plan

Portland, OR/ Tri-Met

Basic Emergency Operations Plan

Planning Authority: **TriMet**

Transit System: **TriMet**

Ridership Information:

Connects with Regional Transit System(s) via: **Bus**
Light Rail

High Level of Commuter Traffic: **Yes**

Connects to Airport(s): **Portland International Airport**

Transit system(s) utilizes urban population circulator: **Yes**
Portland Streetcar

Primary Emergency Support Authority: **Transit is**

Local or Regional Transit Identified in Disaster Plan: **Yes**

Transit Disaster Plan Available to Public: **No**

Pandemic Flu Identified in Transit Disaster Plan: **No**

Summary: While transit is identified in the *Portland Basic Operations Plan*, there is explicit mention of pandemic influenza or conditions that would affect the transit system for the long-term. Again, much of the planning centers on event-based scenarios; earthquakes, fires, windstorms and other hazards. There is, however, explicit mention of the responsibility assigned to public communications during disasters in the public health planning around pandemic influenza. The city and county (Multnomah) are prepared to keep the public abreast of changes and disruptions in public services, transit included. The city does have a list of website links available for those interested in pandemic influenza planning, with a direct link to the King County Metro pandemic influenza plan (see Seattle).

Comparison of Public Transit Policies in a Pandemic Environment

Portland, OR

	Reference Made in Public Documentation	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit				
Close all transit systems	N/A	N/A	N/A	N/A
Partial closure	N/A	N/A	N/A	N/A
Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A
Decrease number of routes available	N/A	N/A	N/A	N/A
Close inter-city travel	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (transit employees)	N/A	N/A	N/A	N/A
Prioritize Special Needs Ridership	N/A	N/A	N/A	N/A
Prioritize transit for medical reasons	N/A	N/A	N/A	N/A
Sanitize the Environment				
Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A
Provide passengers with:	N/A	N/A	N/A	N/A
Protective masks	N/A	N/A	N/A	N/A

Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A
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Promote Social Distancing

Reduction of Peak Time Services	N/A	N/A	N/A	N/A
Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A

Restriction or Surveillance of Passenger Vehicle traffic

Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A
Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A

Stockpiling and or Securing Supply Chain

Guaranteeing Fuel Supply	N/A	N/A	N/A	N/A
Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A
Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A
Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A
Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	Extensive mention in responsibility allocation - <i>Portland Basic Operations Plan</i>

Public Communications Strategy

Available Documentation on Current Plan				Online- Multnomah County website-- <i>Communicable Disease Prevention and Control, 2006. Multnomah County Health Dept.</i>
Current information includes tips on staying healthy during a Pandemic				

Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent				County plan includes communications under the Community Engagement Phase for pandemic control— <i>CDPC Multnomah</i>
Communication strategy exists for public disclosure during crisis				As noted above— <i>CDPC Multnomah</i>

San Francisco

Pandemic Influenza Continuity of Operations Guide and Template Bay Area Municipal Action Guide

Planning Authority: **San Francisco Department of Public Health**

Transit System: **Bay Area Rapid Transit Authority (BART)**

Ridership Information:

Connects with Regional Transit System(s) via: **Bus**
Commuter Train
Ferries
Heavy Rail

High Level of Commuter Traffic: **Yes**

Connects to Airport(s): **San Francisco International Airport**
Oakland International Airport

Transit system(s) utilizes urban population circulator:

Primary Emergency Support Authority:

Local or Regional Transit Identified in Disaster Plan: **Yes**

Transit Disaster Plan Available to Public: **Yes**

Pandemic Flu Identified in Transit Disaster Plan: **No**

Summary: The Operations Guide and Template does note public communications and social distancing techniques to be employed during a crisis. These include recommendations on personal hygiene, voluntary absence from work or school, avoiding public gatherings and government closures and service delivery changes. San Francisco operates the website www.72hours.org. This resource does list communicable diseases as potential safety concerns for passengers and redirects them to San Francisco Department of Public Health for information on basic hygiene. The site also mentions control of vectors, though this language is not necessarily common usage. As for explicit transit-related disaster planning, San Francisco did implement an information kiosk program in 2005 through the Governor's Office of Emergency Services. These kiosks could be used in the even of a pandemic as a point-source for passenger information. The transit system is an overlay of approximately 25 local bus operators, multiple ferry operators, commuter trains and downtown San Francisco streetcar service.

Comparison of Public Transit Policies in a Pandemic Environment

San Francisco, CA

		Reference Made in Public Documentation	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit					
	Close all transit systems	N/A	N/A	N/A	N/A
	Partial closure	N/A	N/A	N/A	N/A
	Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A
	Decrease number of routes available	N/A	N/A	N/A	N/A
	Close inter-city travel	N/A	N/A	N/A	N/A
	Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	City encourages identification of jobs where remote access is possible— <i>Pandemic Influenza Continuity of Operations Guide 2006</i>
	Account for reduced Ridership due to absenteeism in workforce (transit employees)	City Plan encourages the City to consider how to deal with absenteeism. No implicit course of action outlined	N/A	N/A	N/A
	Prioritize Special Needs Ridership	N/A	N/A	N/A	N/A

Prioritize transit for medical reasons					
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Sanitize the Environment					
Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A	N/A
Provide passengers with:	N/A	N/A	N/A	N/A	N/A
Protective masks	N/A	N/A	N/A	N/A	N/A
Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A	N/A

Promote Social Distancing					
Reduction of Peak Time Services	N/A	N/A	N/A	N/A	N/A
Changes to protect transit employees	Employee leave policies to be reviewed; flexible work schedules to be considered; telecommuting options to be identified.	N/A	N/A	N/A	N/A
Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A	N/A

Restriction or Surveillance of Passenger Vehicle traffic					
Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A	N/A
Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A	N/A

Stockpiling and or Securing Supply Chain					
Guaranteeing Fuel Supply	N/A	N/A	N/A	N/A	N/A

Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A
Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A
Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A
Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	N/A

Public Communications Strategy

Available Documentation on Current Plan	Available through Governor's Office	N/A	N/A	N/A
Current information includes tips on staying healthy during a Pandemic	Not specifically, but kiosk program in place could be used in time of crisis.	N/A	N/A	N/A
Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use	Yes	N/A	N/A	N/A
Communication strategy exists for public disclosure during crisis	Yes	N/A	N/A	N/A

Seattle/ King County

King County Metro Pandemic Flu Plan

Planning Authority: **King County Metro**

Transit System: **Metro**

Ridership Information: **103.2 million Bus passenger boardings (2006)**
3.2 million Van Pool and Special Needs riders (2006)

Connects with Regional Transit System(s) via: **Bus**
Light Rail (under construction)
Commuter Train
Van Pool

High Level of Commuter Traffic: **Yes**

Connects to Airport(s): **SeaTac International**

Transit system(s) utilizes urban population circulator: **Bus**

Primary Emergency Support Authority: **District Department of Transportation**
Emergency Support Function #1

Local or Regional Transit Identified in Disaster Plan: **Yes**

Transit Disaster Plan Available to Public: **Yes**

Pandemic Flu Identified in Transit Disaster Plan: **Yes**

Summary: The King County Metro Pandemic Flu Plan is guided by five major assumptions placing emphasis on delivery of service, protection of employees, social distancing, public communications, supply chain security and interdepartmental coordination. What the transit plan does not outline for the public is the system for determining service delivery changes, the exact form of public communications or the method for action-based outcomes to contend with contingencies. The documents are readily accessible to the public. The defining characteristic of the KC Metro Plan is its clear connection to city, county, state and federal pandemic influenza plans.

Comparison of Public Transit Policies in a Pandemic Environment

Seattle, WA

	Reference Made in Public Documentation	Documentation of Efficacy	Actions taken in previous transit-related disaster	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit				
Close all transit systems	"Transit is essential [and] must operate under pandemic conditions"—King County Metro Pandemic Flu Plan (KC Metro PFP)	N/A	N/A	N/A
Partial closure	Not defined as option. Plan instead accounts for contingencies of 60% and 40% reductions in drivers and other transit employees - KC Metro PFP	N/A	N/A	N/A
Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A
Decrease number of routes available	KC Metro PFP	N/A	N/A	N/A
Close inter-city travel	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (general population)	KC Metro PFP	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (transit employees)	KC Metro PFP	N/A	N/A	N/A

Prioritize Special Needs Ridership	KC Metro PFP	N/A	N/A	Implied hardship to general Ridership. Explicit mention of special needs population and lower income workers
Prioritize transit for medical reasons	N/A	N/A	N/A	N/A

Sanitize the Environment

Employees directed to sanitize their immediate work area

Disinfect Transit interior surfaces	Employee protection and training – King County PFP	N/A	N/A	N/A
Provide passengers with:		N/A	N/A	N/A
Protective masks	Explicit mention of these products for employees	N/A	N/A	N/A
Hand sanitizer or other personal care product	But not for passengers	N/A	N/A	N/A

Promote Social Distancing

Reduction of Peak Time Services	Option mentioned in King County PFP	N/A	N/A	Seattle/King County Public Health Pandemic Influenza Response Plan
Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A

Restriction or Surveillance of Passenger Vehicle traffic

Reduction of incoming passenger vehicles	N/A	N/A	N/A	Mentioned in Public Health Department strategy matrix
Reduction of outgoing passenger vehicles	N/A	N/A	N/A	Mentioned in Public Health Department strategy matrix

Stockpiling and or Securing Supply Chain

Guaranteeing Fuel Supply	4-6 day supply noted in plan, also to cut transit fleet and services to extend the supply- No means of increasing current stockpiling <i>County PFP</i>	N/A	N/A	N/A
Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A
Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A
Purchasing or maintaining additional busses for route changes	Purchase of fuel-efficient busses	N/A	N/A	N/A
Institutional Collaboration and distribution of responsibilities	Plan does include working with local government agencies to ensure proper service for continuity of government functions	N/A	N/A	Mention in the larger public health plan to coordinate with businesses and Community-based organizations to meet service needs/demands

Public Communications Strategy

Available Documentation on Current Plan	Documents available online and easily accessible	N/A	N/A	N/A
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Current information includes tips on staying healthy during a Pandemic	Public Health website	N/A	N/A	N/A
Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use	N/A	N/A	N/A	N/A
Communication strategy exists for public disclosure during crisis	N/A	N/A	N/A	N/A

Washington DC

District Response Plan/ Regional Emergency Coordination Plan

Planning Authority:	Washington Metropolitan Rapid Transit Authority (WMATA)
Ridership Information:	37% of population identified as transit-dependent
Connects with Regional Transit System(s) via:	Regional and Interstate Bus Service Commuter Train Commercial Trucking and Rail
High Level of Commuter Traffic:	Yes
Connects to Airport(s):	Washington Dulles International Airport (IAD) Ronald Reagan Washington National Airport (DCA) Baltimore/ Washington International Airport (BWI)
Transit system(s) utilizes urban population circulator:	Subway: DC Metro Bus
Primary Emergency Support Authority:	District Department of Transportation Emergency Support Function #1
Local or Regional Transit Identified in Disaster Plan:	Yes
Transit Disaster Plan Available to Public:	Yes
Pandemic Flu Identified in Transit Disaster Plan:	Yes

Summary: Transportation: Transit is identified as vital in the *District Response Plan* however; the plan still focuses heavily on event-based scenarios. Public communications will be a coordinated effort through WMATA during a crisis, though each jurisdiction (city, county, state) will retain autonomy in generating those messages. There is mention of decreased Ridership to and from area schools, hospitals and federal facilities. However, WMATA's primary functions include continuity of service and public information. The plan does not identify visiting populations, these include commuters from Maryland, Virginia and other states, as well as tourist populations, as primary concerns during disasters. The coordinating agency within Washington DC is the District Department of Transportation, making the mayor's office the single point of contact. DC does have neighborhood plans that identify communicable disease surveillance as part of community emergency response.

Comparison of Public Transit Policies in a Pandemic Environment

Washington, DC

Plan Identifies Washington Metropolitan Area Transit Authority as support agency to Emergency Support Function #1 (ESF#1)

	Reference Made in Public Documentation	Documentation of Efficacy	Actions taken in previous transit-related disaster	Consequences of Actions noted in plan	Applicable actions noted in other documentation (non-transit specific)
Close or Curtail public transit					
Close all transit systems	N/A	N/A	N/A	N/A	N/A
Partial closure	N/A	N/A	N/A	N/A	Public transit need is emphasized in District Response Plan, but still evacuation-based— <i>District Response Plan (DRP) 2006</i>
Increase commuter cars and/or busses to meet higher Ridership zones	N/A	N/A	N/A	N/A	N/A
Decrease number of routes available	N/A	N/A	N/A	N/A	N/A
Close inter-city travel	N/A	N/A	N/A	N/A	N/A
Account for reduced Ridership due to absenteeism in workforce (general population)	N/A	N/A	N/A	N/A	WMATA primary function noted to transport government employees for continuity of services
Account for reduced Ridership due to absenteeism in workforce (transit employees)	N/A	N/A	N/A	N/A	N/A
Prioritize Special Needs Ridership	N/A	N/A	N/A	N/A	Explicit mention of 37% of population having no other means of transportation— <i>DRP</i>

Prioritize transit for medical reasons	N/A	N/A	N/A	N/A	N/A
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Sanitize the Environment					
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Disinfect Transit interior surfaces	N/A	N/A	N/A	N/A	N/A
Provide passengers with:	N/A	N/A	N/A	N/A	N/A
Protective masks	N/A	N/A	N/A	N/A	N/A
Hand sanitizer or other personal care product	N/A	N/A	N/A	N/A	N/A

Promote Social Distancing					
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Reduction of Peak Time Services	N/A	N/A	N/A	N/A	N/A
Bridge and/or tunnel traffic revision	N/A	N/A	N/A	N/A	N/A

Surveillance of Passenger Vehicle					
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Reduction of incoming passenger vehicles	N/A	N/A	N/A	N/A	Mentioned in DRP
Reduction of outgoing passenger vehicles	N/A	N/A	N/A	N/A	N/A

Stockpiling and or Securing Supply Chain

Guaranteeing Fuel Supply	N/A	N/A	N/A	N/A	N/A
Stockpiling tires for busses and other equipment	N/A	N/A	N/A	N/A	N/A
Purchasing or maintaining additional rail cars as reserve	N/A	N/A	N/A	N/A	N/A
Purchasing or maintaining additional busses for route changes	N/A	N/A	N/A	N/A	N/A
Institutional Collaboration and distribution of responsibilities	N/A	N/A	N/A	N/A	Extensive discussion of collaboration in the Dept. of Homeland Security Regional Emergency Coordination Plan (RECP) 2002

Public Communications Strategy

Available Documentation on Current Plan					RECP available online as is the DRP
Current information includes tips on staying healthy during a Pandemic	N/A	N/A	N/A	N/A	N/A
Current documentation notes plan to keep public abreast of health situation, route changes and other information pertinent to mass transit use	N/A	N/A	N/A	N/A	Communications will be coordinated through WMATA and the RECP (level A agencies) to level B and others Washington DC Emergency Preparedness and Risk Management has public alerts available online at dcema.dc.gov -- information is scarce on the site, but does provide vehicle for the public during and leading up to a pandemic crisis.

Communication strategy exists for public disclosure during crisis	N/A	N/A	N/A	N/A	There is an emphasis on unified messaging between agencies, but not to override messages to public in each jurisdiction
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