

**City of Seattle
Corrective Action Plan
2008 Winter Storm**

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Corrective Action Plan 2008 Winter Storm

The Corrective Action Plan for the 2008 Winter Storm documents areas where improvements have been made in the response plan for winter storms. These areas for improvement were identified in the Winter Storm After Action Report. The After Action Report was approved by the Mayor and the Council in Resolution No. 31136, May 26, 2009. The additional items identified in the resolution have also been added to this follow up.

Executive Summary

The response to the 2008 Winter Storm revealed a number of deficiencies. The following departments contributed to this report and have committed to taking corrective action to improve the response to a Winter Storm:

- Fleets and Facility Division
- Human Services Department
- Joint Information Center
- Seattle Department of Transportation
- Seattle Department of Parks and Recreation
- Public Health Seattle and King County
- Seattle City Light
- Seattle Fire Department
- Seattle Office of Emergency Management
- Seattle Public Utilities
- Seattle Police Department
- Customer Service Bureau

The response to the influenza outbreak in the spring and fall of 2009, the Heat Emergency during the summer and the planning efforts related to the Howard Hansen Dam competed for available planning time and delayed the publication of this report.

While the Corrective Action Plan is now completed, preparations for a winter storm are ongoing. The newly released Seattle Department of Transportation plan will continue to be refined. The annual Winter Storm Tabletop exercise, which was held in October, provided an opportunity for all to practice and refine the latest response procedures. The Take Winter by Storm public education campaign is in progress as well.

While many issues are addressed in the report, two of them stand out:

1. The update to the Seattle Department of Transportation storm plan is central to ensuring an effective strategy is in place for addressing the primary cause of the disruption; snow and ice accumulation and its impact on transportation and other sectors. Fundamental changes have been made to address how salt and deicer are applied, key streets have been identified along with standards for maintaining them and coordination with Metro has been improved.
2. The second issue is effective public messaging. In any critical incident or disaster public messaging is part of the response strategy. Without such engagement an effective response can be perceived as inadequate. Providing useful, accurate and

timely public messaging continues to be challenging in a Web 2.0 world where instant access to information is expected. An emergency version of the City homepage is now available. It will be the one stop for accessing information about the event and available City services. The homepage also includes a blog called Alerts.Seattle.gov which provides another route for information release to the public.

The 2008 winter storm had a significant impact on the residents of Seattle and the responders. The extended heavy snowfall and low temperatures exceeded the ability of existing capabilities to clear the streets in a timely manner. While such storms are fortunately not a frequent occurrence, the City must remain prepared for such events.

Fleets and Facilities Department

Area for Improvement	Due Date and Solution	Responsibility
<p>Due to the extended period of difficult driving conditions some departments needed 4x4 vehicles to support their operations but were unable to obtain them.</p>	<p>Identify 4x4 vehicles currently in the City fleet available for loan to other departments in an emergency.</p> <p>Completed <i>List of available vehicles now posted on shared site for all departments to access.</i> http://inweb/fleetsfacilities/FSSnowIce.htm</p> <p><i>OEM will coordinate with FFD on sharing of 4x4 vehicles before or during the storm as needed.</i></p> <p><i>With assistance from Department of Executive Administration, procedures for vehicle rental, prices, vendors are updated and are available to all departments on the Inweb.</i> http://inweb.ci.seattle.wa.us/purchasing/ltsAnEmergency.htm</p> <p><i>The Strategic Workgroup and the Disaster Management Committee have been briefed on the procedures for acquiring vehicles.</i></p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop Exercise.</i></p>	<p>Fleets and Facilities Department</p>
<p>Fleets and Facilities Department determined their internal procedures for lodging needed revision.</p>	<p>Research and develop procedures for providing lodging.</p> <p>Completed <i>With the assistance of the Department of Executive Administration, procedures for obtaining lodging along with list of hotels the City has an existing contracts for service with has been posted on the Inweb.</i> http://inweb.ci.seattle.wa.us/purchasing/ltsAnEmergency.htm</p> <p><i>This Fleets and Facilities Department solution assisted all City Departments on this issue.</i></p> <p><i>The Strategic Workgroup, the Disaster</i></p>	<p>Fleets and Facilities Department</p>

	<p><i>Management Committee and the Emergency Executive Board have been briefed on these procedures.</i></p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop Exercise.</i></p>	
<p>Improve communication with departmental staff and EOC regarding fuel supply status on fueling sites and emergency generators. During the storm it was difficult to determine status of the fuel supply in different departments.</p>	<p>Develop Fuel Status Report for fueling sites that can be uploaded onto internet site.</p> <p>Completed <i>Creation of Fuel Status Report at fueling sites complete and available on SharePoint. Will use existing procedures for generators.</i></p>	Fleets and Facilities Department
<p>Address cold weather impacts on biodiesel and Seattle Public Utilities generator fueling needs. During the cold weather an additive is needed to protect the fuel, concerns were raised regarding the use of this in generators.</p>	<p>Evaluate the use of seasonal additives to biodiesel fuel.</p> <p>Completed <i>Biodiesel will not be used in generator tanks.</i></p>	Fleets and Facilities Department
<p>Ensure adequate supply of parts for sanders and snow plows in periods of extended use of equipment.</p>	<p>Reassess parts inventory and restock critical parts for the remainder of this winter.</p> <p>Completed <i>Data to support the checklist has been entered into FleetFocus. A seasonal part identifier has been entered into the Parts Primary field so that a report can be run to identify part location, description, on hand quantity, amount on order and part ETA.</i></p>	Fleets and Facilities Department
<p>Alternatives are needed for chain up of police department vehicles, in the event vendor unable to perform effectively.</p>	<p>Develop internal fleet alternatives to be incorporated into SOP/Checklist.</p> <p>Completed <i>Winter chain up process written. Process approved by Seattle Police Department Fleet Coordinator and Station Masters.</i></p>	Fleets and Facilities Department
<p>The difficult driving conditions proved challenging for all drivers. While no serious accidents occurred involving city vehicles, the storm served as a</p>	<p>Provide information to departments on installation of chains and winter driving.</p> <p>Completed</p>	Fleets and Facilities Department

<p>reminder about the importance of providing information to city employees about winter driving and chain up procedures.</p>	<p><i>A Snow and Ice website has been created to provide customers training videos and other pertinent winter guidelines.</i> http://inweb/fleetsfacilities/FSSnowIce.htm</p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop Exercise</i></p> <p><i>The Strategic Workgroup and the Disaster Management Committee were briefed.</i></p>	
<p>Fleets and Facilities is responsible for the maintenance of the property they control. Extended winter weather conditions required a level of expertise not available in the department to assess buildings for structural integrity due to snow and ice load.</p>	<p>Establish process to ensure necessary professional and engineering expertise is available to supplement skilled trades, as needed, to assess condition of buildings.</p> <p>Completed <i>Contract is in place for Structural Engineer Services. Contract was signed on August 3, 2009.</i></p>	<p>Fleets and Facilities Department</p>
<p>There were not enough snow shovels and other snow clearing supplies available to departments.</p>	<p>Acquire better quality snow shovels for staff to use.</p> <p>Completed <i>Snow removal kits have been identified to provide to all tenants. The kits consist of one 40 gal container, 2 shovels, deicer, deicer spreader and snow removal instruction with on-call instructions and contact numbers.</i></p> <p><i>Additional shovels and materials have been ordered for replacement in the kits. Three pallets of 40# bags of deicer is on order. Seattle Police Department has 3 pallets of material to distribute to their stations as needed, FFD will store 3 pallets for distribution to other facilities.</i></p> <p>Identify alternative measures for snow removal at facilities if vendor is unable to perform contractual obligations.</p> <p>Completed <i>Contracts in place with equipment rental companies to provide snow removal equipment which Fleets and Facilities will use to correct problems if vendor is not</i></p>	<p>Fleets and Facilities Department</p>

	<p><i>available.</i></p> <p><i>Facility Operations has developed a Snow and Ice Removal checklist to follow up with vendors and assess property sites with tenants.</i></p> <p><i>In an agreement with Seattle Police, Seattle Department of Transportation will provide emergency snow plowing of critical police facilities if necessary.</i></p>	
<p>Improve methods for allocating and securing critical supplies, which may become difficult to obtain locally during a snowstorm.</p>	<p>Develop plan to review facilities and pre-position critical supplies each fall.</p> <p>Completed <i>Facility Operations has reviewed existing plans, developed snow kits, determined the quantities needed and delivery locations.</i></p>	<p>Fleets and Facilities Department</p>
<p>While developing contingency plans for sheltering stranded travelers it became apparent that existing policies and procedures did not clearly specify triggers points for activating emergency shelter caches.</p>	<p>Develop threshold for activating emergency shelter caches.</p> <p>Completed <i>Issue discussed at recent Emergency Executive Board meeting where it was decided that the cache would only be used for large events (impacting more than 100). Also, in planning for the potential for the Howard Hanson Dam flood, the board supported providing shelter supplies outside the City while maintaining enough for City needs.</i></p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop Exercise, 2009 Parks Human Services Tabletop Exercise and the 2009 Fleets and Facilities Department sponsored emergency shelter cache exercise.</i></p>	<p>Fleets and Facilities Department</p>

Human Services Department


Area for Improvement	Due Date and Solution	Responsibility
<p>The Human Services Department provides in-home case management services for thousands of vulnerable clients. By the third day of the storm, some case management workers experienced delays in traveling to their clients or were unable to reach some clients due a lack of chains or inability to acquire a 4x4 vehicle.</p>	<p>Secure chained or all wheel drive vehicles for use by key case management workers to reach critical clients through an agreement with Fleets and Facilities Department or outside resource.</p> <p>Completed <i>In lieu of purchasing additional vehicles, four sets of car chains were obtained by Fleets and Facilities for use by the Case Management program.</i></p> <p><i>Procedures for vehicle rental and intradepartmental vehicle loan were updated by Fleets and Facilities and are available on the Inweb. See Fleets and Facilities Page 4.</i></p>	<p>Human Services Department</p>
<p>People not receiving case management services, but who have limited mobility or other issues, became homebound by the weather conditions and experienced difficulty in obtaining needed food and medicines.</p>	<p>Work with Public Health, Aging and Disability Services, 2-1-1 and other partners to develop a plan of response so that people who become homebound in a disaster are able to have critical basic needs met.</p> <p>Completed <i>Human Services Department hosted a meeting for 2-1-1, the Customer Service Bureau, Department of Neighborhoods, Public Health, and others to identify ways to share and coordinate information between agencies that receive and provide resource information to the public. Changes included that those listed above will inform the Emergency Operations Center of needs being reported and locations impacted. This was implemented effectively during July's Heat Wave activation.</i></p> <p><i>Human Services Department worked with food banks that provide home delivery to develop an adverse weather plan, which includes notifying Human Services Department if deliveries cannot be made.</i></p> <p><i>Human Services Department facilitated a meeting between Seattle Department of</i></p>	<p>Human Services Department</p>

	<p><i>Transportation and representatives of food banks and meal programs. A process was developed for food programs to request assistance from Seattle Department of Transportation during a snow event.</i></p> <p><i>The Emergency Support Function-6 (Mass Care, Housing and Human Services) group coordinated by Human Services Department held a winter storm tabletop exercise that included how service providers could identify emerging problems in the community and communicate them to each other and the Emergency Operations Center.</i></p> <p><i>The regional Take Winter by Storm and Office of Emergency Management's Seattle Neighborhoods Actively Prepare programs are in progress. These programs encourage preparedness.</i></p> <p><i>Seattle's Office of Emergency Management has committed to establishing in 2010 a Citizen Corps Council which will take better advantage of volunteer resources.</i></p>	
<p>More trained personnel are needed in the Human Services Department to support their emergency response mission in the Emergency Operations Center. Had the EOC been activated for a longer period of time, the Human Services Department would have had difficulty maintaining its staffing in the EOC.</p>	<p>Train all Human Services Department staff in what their role is in an emergency and build the depth of the Human Services Department Emergency Response Team.</p> <p>Completed <i>HSD trained 40 Emergency Response Team members to work in the Emergency Operations Center and support Human Services Department response activities. Some members received additional training including WebEOC and advanced Emergency Operations Center instruction. An Human Services Department disaster response training was also held for all staff.</i></p>	<p>Human Services Department</p>

<p>The City Hall and Seattle Center severe weather shelter sites had to close at 5:00 a.m. each morning due to staffing limitations. The early closure resulted in people being moved out into the cold before daytime facilities are open.</p>	<p>Investigate whether arrangements can be made to open other facilities in the early morning.</p> <p>Completed <i>Human Services Department will work with existing providers to offer early morning hours of operation during periods of extended cold. Additional funding may be needed to implement the plan, depending on the situation and the need.</i></p>	<p>Human Services Department</p>
<p>The snow storm and later floods left many stranded travelers in Seattle. Some transportation agencies did not have adequate plans for addressing passenger needs during an extended, severe storm.</p>	<p>Work with transportation agencies providing public transportation to assist with developing more comprehensive plans.</p> <p>In Process <i>Human Services Department and Seattle's Office of Emergency Management met with Amtrak and Greyhound to review and update their plans. Amtrak has a comprehensive plan and Greyhound's plan needs further development. The City lacks any regulatory authority over a private business to mandate emergency planning but will certainly continue to work with our private transportation partners toward mutually agreeable solutions. Office of Emergency Management also met with Port of Seattle to update their plan.</i></p> <p><i>Critical transportation agencies have been added to the Emergency Operations Center Planning Section list of areas to monitor more closely during a storm.</i></p>	<p>Human Services Department</p>
<p>The Frye shelter for women exceeded normal capacity, particularly when Tanya's Room, a regular women's shelter, could not open due to staff being unable to get to the shelter. This resulted in 25 women's beds not being available. While everyone seeking shelter received it, the increased need put additional pressure on the Frye severe weather shelter.</p>	<p>Investigate whether the capacity for severe weather shelters needs to be expanded, particularly for women, and continue to work with shelter agencies on their ability to remain open.</p> <p>Completed <i>The current system has capacity to provide overflow beds for both men and women that should meet severe weather needs.</i></p> <p><i>Tanya's Room, a shelter for women, now</i></p>	<p>Human Services Department</p>

	<p><i>has a snow plan.</i></p> <p><i>Shelters have reviewed their severe weather plans and have been instructed to contact Human Service Department if they cannot remain open.</i></p>	
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Joint Information Center

Area for Improvement	Due Date and Solution	Responsibility
<p>New methods of communication, such as social networking sites (blogs, Twitter and others), present opportunities and challenges for the Joint Information Center. While these tools can improve how the City and community exchange information, they also can create unreasonable expectations regarding the amount and type information available and the speed at which it is provided. At the same time the City must still ensure accuracy is maintained in all official communications.</p> <p>During the storm, social networks were active in providing information about road conditions, where to obtain resources, status of public transit etc. This type of communication is expected to increase. The City must continue to refine its methods for messaging to ensure it is effectively utilizing all available tools for communication.</p>	<p>Establish a policy and procedure for communicating with customers through new online technologies.</p>  <p>Completed <i>Real-time blog established that will deliver immediate information directly to residents during an emergency. It will offer RSS feeds and will be tied into the front page of seattle.gov during emergencies. It also has its own address: http://alerts.seattle.gov.</i></p>	<p>Mayor's Communications Director</p>
<p>The deaf and hard of hearing communities are best served during an emergency by sign language interpreters and closed captioning of announcements.</p>	<p>Establish vendor relationships to provide American Sign Language interpretation.</p> <p>Completed <i>Three vendors identified (Sign On, ASL Interpretation Network and an independent contractor) that the Joint Information Center may contact during an emergency. Contact information is posted in the ESF 15 drive.</i></p>	<p>Mayor's Communications Director</p>
<p>Many citizens found it difficult to determine what City offices/services were open or available and their hours of operation; courts, neighborhood service centers, libraries etc.</p>	<p>Deliver information through one location on the City web.</p> <p>Completed <i>In addition to alerts.seattle.gov, established blogs for: Police, Transportation, City Light and Public Utilities. Each blog will be tied in to the department's home page, and will allow each department to deliver timely information about their services. In an emergency, this information can also be</i></p>	<p>Mayor's Communications Director</p>

	<p><i>fed into seattle.gov and the alerts blog. A new seattle.gov emergency home page presents this information divided by category.</i></p>	
<p>The Joint Information Center was activated only during times of most need with departments covering public messaging when it was not activated. This made coordination difficult between departments.</p>	<p>Develop plan for better utilizing the Joint Information Center.</p> <p>Completed <i>City strategy will now favor Joint Information Center activation to ensure coordinated and effective response messaging. Not activating the Joint Information Center will be considered an exception to that strategy.</i></p> <p><i>For emergencies that do not require an Emergency Operations Center activation, the Mayor's Communication Director will issue coordinating instructions for public messaging to all departments.</i></p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop Exercise.</i></p>	<p>Mayor's Communications Director</p>
<p>Public messaging was available through many different department websites. This made it difficult for the public to locate the information they needed. The Joint Information Center shall establish a "one stop" information page/portal at www.seattle.gov that aggregates relevant incident specific information across departments.</p>	<p>Work with the citywide web team to identify appropriate content and create page/portal.</p> <p>Completed <i>A new emergency home page for seattle.gov has been created. During emergencies the home page will be activated by the Mayor's Communication Director. Features include:</i> <i>Safety alerts: Important safety alerts at top of page.</i></p> <p><i>News releases: Top news releases regarding the emergency.</i></p> <p><i>Alerts blog: An integrated blog that provides the latest real-time information on emergency response.</i></p> <p><i>Related links: Relevant links for transportation, power, human services, etc</i></p>	<p>Mayor's Communications Director</p>

Seattle Department of Transportation

Area for Improvement	Due Date and Solution	Responsibility
<p>Metro and Seattle Department of Transportation had not coordinated their response plans. This hindered Metro operations, for example; some Metro buses were unable to complete their routes because their turn around areas were impassible due to snow.</p>	<p>Seattle Department and Metro should review their respective plans and improve coordination during the response to a snow storm.</p> <p>Completed <i>Additional snow plow routes identified and added to Seattle Department of Transportation plan to support Metro operations. Metro will provide a plow for key downtown areas and, to improve coordination, a liaison in Charles St. Tactical Operations Center when necessary.</i></p>	<p>Seattle Department of Transportation</p>
<p>The existing policy regarding road salt restricted its use which impacted the ability of crews to clear the roads.</p>	<p>Define policies for the use of salt.</p> <p>Completed <i>Road salt will be used for anti-icing when there is a greater than 50% probability of snow and for de-icing during snowstorms.</i></p>	<p>Seattle Department of Transportation</p>
<p>Institutionalize the early mobilization of the Seattle Department of Transportation Incident Management Team</p>	<p>Identify and train personnel for Department Operations Center duty.</p> <p>Completed <i>An expanded Incident Management Team has been identified and has completed ICS and other training.</i></p>	<p>Seattle Department of Transportation</p>
<p>The winter response plan did not address a severe winter weather conditions. Response plans for extreme weather conditions and sustained operations are needed.</p>	<p>Revise Seattle Department of Transportation Snow and Ice Response Plan.</p> <p>Completed <i>The 2009-2010 Seattle Department of Transportation Snow and Ice Readiness and Response Plan incorporates capabilities for extreme conditions. The Strategic Workgroup the Disaster Management Committee, local hospitals and other groups have been briefed on the plan. The plan was tested in the 2009 Winter Storm Tabletop Exercise.</i></p>	<p>Seattle Department of Transportation</p>

<p>The winter response plan did not address how to quickly acquire emergency snow and ice clearing assistance from private contractors</p>	<p>Identify contractors who can provide plowing services to augment existing Seattle Department of Transportation resources. Develop contracts.</p> <p>Completed <i>Contract in place with one contractor to provide 14 pieces of equipment.</i></p>	<p>Seattle Department of Transportation</p>
<p>During periods of extreme weather, as many vehicles as possible should be made available to assist in the effort to clear the streets.</p>	<p>Upgrade two new Seattle Department vehicles for snow fighting (already on order prior to storm) to plows.</p> <p>Completed <i>Upgraded of vehicles have been added to the fleet. There are now 29 snow plows.</i></p>	<p>Seattle Department of Transportation</p>
<p>During the prolonged response operations there were not enough Seattle Department of Transportation Public Information Officers to support the needs of the department. An increase in Public Information Officer (PIO) capacity during prolonged events is needed.</p>	<p>Augment communications staff with existing resources. Develop a plan to address staffing needs for extended periods of 24-hour operations</p> <p>Completed <i>PIO Command Staff positions identified and are now trained and staffed five deep.</i></p>	<p>Seattle Department of Transportation</p>
<p>It was difficult to develop and maintain situational awareness regarding the impact of the snow storm on the City. Traffic Management Center (TMC) cameras should be better utilized to provide real time information on road and traffic conditions.</p>	<p>Provide for monitoring of traffic cameras at the Charles Street Operations Center. Increase TMC staffing during weather events and deploy inspectors to the field to gauge road conditions.</p> <p>Completed <i>The Snow Response Tactical Operations Center has been upgraded to improve situational awareness including monitor of area Traffic Cameras (SDOT, WSDOT & KC DOT). Snow plows and other response vehicles (39) report their locations using Global Position Satellite tracking system to the Department of Transportation Tactical Operations Center.</i></p> <p><i>Seattle Department of Transportation will assign Field Supervisors to assess and report the condition of the streets before and after plowing.</i></p>	<p>Seattle Department of Transportation</p>

<p>Due the severity and duration of the storm, Seattle Department of Transportation crews worked long hours. The existing plan did not adequately provide for staffing during extended operations.</p>	<p>Develop plans address crew fatigue.</p> <p>Completed <i>Additional personnel have been trained to operate snow removal equipment. This includes 8 drivers from Seattle Public Utilities that have received training and 8 additional drivers who will receive training on December 11th.</i></p>	<p>Seattle Department of Transportation</p>
<p>During the storm, private citizens and businesses did not keep the sidewalks in front of their property clear. Increase awareness about the need to clear snow from sidewalks in front of private residences, businesses and government buildings.</p>	<p>Coordinate messaging with the Office of Emergency Management. Incorporate into communications materials.</p> <p>Completed <i>The regional Take Winter By Storm campaign is responsible for public messaging regarding winter preparedness, including snow shoveling.</i></p> <p><i>Seattle Department of Transportation has included information on sidewalk clearing in its public messaging printed materials and on their Department website.</i></p> <p><i>This issue was addressed during the 2009 Winter Storm Tabletop exercise.</i></p>	<p>Seattle Department of Transportation</p>
<p>Utilize technology to improve the efficiency of snowplow operations.</p>	<p>Study the cost and feasibility of a GPS tracking system for the winter storm fleet. Utilize this information to adjust resources in real time</p> <p>Completed <i>Cost and feasibility study complete. Vehicle tracking system is now operational on 39 snow fighting vehicles</i></p>	<p>Seattle Department of Transportation</p>
<p>Pursue an agreement with Washington State Department of Transportation for emergency access to snow and ice clearing supplies when necessary.</p>	<p>Develop a Memorandum of Agreement (MOA) with Washington State DOT.</p> <p>Completed <i>Signed MOA in place.</i></p>	<p>Seattle Department of Transportation</p>

Seattle Department of Parks and Recreation

Area for Improvement	Due Date and Solution	Responsibility
<p>Had the EOC been activated for a longer period of time, Parks would have needed more trained EOC responders.</p>	<p>Identify and train additional Parks employees as EOC responders and increase the capacity of the Parks EOC Responder Team.</p> <p>Completed <i>Nineteen of an identified twenty one employees have been trained. 19 have completed training. 3 more will complete their training by December 10th.</i></p>	<p>Seattle Parks and Recreation</p>
<p>Training: prior to winter season, conduct annual winter weather response exercises with staff to communicate clear expectations and clarify severe weather staffing assignments and responsibilities. Provide information to staff on METRO bus snow routing response and contact info.</p>	<p>Conduct annual winter storm response and staffing plan preparedness training.</p> <p>Completed <i>Completed 2009 Tabletop Exercise for Parks Crew Chiefs; reviewed report to work rules, discussed how to prepare vehicles for snow operations and shoveling sidewalks.</i></p> <p><i>Disseminated flyer from Seattle Department of Transportation to Parks staff explaining winter weather preparedness information, Metro information, how to sign up for emergency information, and where to find winter weather information on the web.</i></p> <p><i>Completed Tabletop Exercise for Community Center staff which reviewed report to work rules and the plan for winter weather child care. Also discussed shelter operations.</i></p>	<p>Seattle Parks and Recreation</p>

Public Health Seattle and King County

Area for Improvement	Due Date and Solution	Responsibility
<p>The Department lacked sufficient plans to enable essential staff to get to and from work and to field operation sites.</p>	<p>Develop emergency transportation plans to enable essential staff and volunteers to get to and from work and field operation sites.</p> <p>Completed <i>Three additional 4x4 vehicles have been acquired and plan developed for transporting essential staff.</i></p>	<p>Public Health Seattle and King County</p>
<p>Some essential staff were unable to get home from the downtown Seattle area after their shifts and had to remain overnight at the Chinook Building to enable sufficient staffing for Area Command and critical department functions. Staff lacked sufficient supplies to support staying overnight.</p>	<p>Develop housing plans to temporarily lodge critical department staff in Seattle downtown core.</p> <p>Completed <i>Developed policies for lodging staff, purchased cots and blankets, and reviewed lodging locations.</i></p> <p><i>Reviewed lodging issues during the 2009 Winter Storm Tabletop Exercise.</i></p>	<p>Public Health Seattle and King County</p>
<p>Healthcare Workers and patients had difficulty getting to and from work/points of care.</p>	<p>Work with local emergency management, healthcare organizations and the private sector to develop critical personnel/patient transport strategy and identify necessary resources.</p> <p>Completed <i>Public Health worked with local health care community to develop plans for transporting their own staff.</i></p> <p><i>Coordinated with Metro to identify critical bus routes for the health care community and developed new route to support Hospitals on Capitol Hill.</i></p> <p><i>Seattle Department of Transportation, Public Health and Seattle Office of Emergency Management met with local hospitals to review the plan, communication procedures, priority plowing and staff transportation.</i></p> <p><i>This area was reviewed during the 2009 Winter Storm Tabletop Exercise.</i></p>	<p>Public Health Seattle and King County</p>

<p>Situation status updates from healthcare organizations varied in frequency and content making it difficult to obtain information needed to support operations.</p>	<p>Develop standardized healthcare organization status reporting template and institute routine reporting timeframes.</p> <p>Completed <i>The system used by the health care community to monitor hospital bed capacity and coordinate medical resources, called WATrac, was updated with the new reporting procedures for health care institutions and tested during the H1N1 response.</i></p>	<p>Public Health Seattle and King County</p>
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Seattle City Light

Area for Improvement	Due Date and Solution	Responsibility
<p>It was difficult to drive on City streets. Also, many residential streets are not routinely plowed. More four wheel drive vehicles are needed to support operations.</p>	<p>Seattle City Light will replace three vehicles with four-wheel-drive vehicles during our normal vehicle replacement cycle for 2009.</p> <p>Completed <i>Three four wheel drive vehicles have been obtained and are now assigned</i></p>	<p>Seattle City Light</p>
<p>Seattle City Light and Seattle Public Utilities received comments that some calls had been dropped or routed incorrectly in the Call Center.</p>	<p>Seattle City Light, Department of Information Technology and Seattle Public Utilities are investigating the complaints about the Outage Hotline to determine the problem and select a corrective action.</p> <p>Completed <i>The source codes in the Integrated Voice Response (IVR) application have been changed so that it will accept more than one phone number per account to be recognized. This should prevent customers from being stuck in a loop when they call in as the result of phone numbers not being recognized. As part of the Outage Management System (OMS) project SCL is collecting updated contact information (phone numbers and email addresses).</i></p> <p><i>The changes to the source codes for the IVR application are complete.</i></p>	<p>Seattle City Light</p>

Seattle Fire Department

Area for Improvement	Due Date and Solution	Responsibility
<p>Many Administrative Staff personnel could not make it in to work or had difficulty because of a lack of 4-wheel drive vehicles.</p>	<p>Secure 4-wheel drive vehicles for use by critical administrative positions through an agreement with Fleets and Facilities.</p> <p>Completed <i>The Seattle Fire Department began implementing this in mid 2007 with three orders for hybrid all-wheel drive SUV models. Project completed in August of 2009.</i></p> <p><i>Additionally, one existing 4WD SUV was reassigned to MIS Division to provide staff with the ability to get in to work and/or respond throughout the City make repairs or replace equipment.</i></p> <p><i>Funding for additional vehicles and/or upgrades of existing vehicles as part of the normal replacement plan was not currently available in the Fire Department budget. Other programs suffered in order to accommodate the increases.</i></p>	<p>Seattle Fire Department</p>
<p>To ensure continuity of operations, ensure winter supplies immediately accessible.</p>	<p>Establish a greater minimum inventory of winter supplies (chains, deicer, ice melt).</p> <p>Completed <i>The Fire Department increased its chain inventory by 25 percent in October of 2008 and again in October 2009. In the first few days of the storm that inventory was further augmented with larger, three-rail type chains for dual rear tires for some of the districts that had extra difficulty with ice conditions. The three-rail type chains can be installed by the firefighters without having to remove the outer wheels as opposed to requiring Fire Garage mechanics to install in order to gain inside dual tire traction.</i></p> <p><i>Similarly, Inventories of de-icer and/or ice melt both at the stations and at the Warehouse have been increased in October of each year along with other items such as snow shovel, scoop shovels and other tools used to clear walks and ramps.</i></p>	<p>Seattle Fire Department</p>
<p>Reduce time and labor required for putting together tire chain caches.</p>	<p>Palletize and shrink wrap tire chains for quick access and transportation to Battalion Headquarters. Support Services to explore with Fleets and Facilities Fire Garage.</p>	<p>Seattle Fire Department</p>

	<p>Completed <i>The Fire Department chain inventory, formerly stored at the Fleets and Facilities Department Fire Garage, was moved back to the Fire Department Commissary.</i></p> <p><i>Individual Battalion caches were organized and placed in tote containers in November of 2009. The totes include additional de-icer and snow removal equipment. These pre-determined caches of chains are stored for delivery at the Services Warehouse for Battalion Headquarter stations and/or other designated stations. Delivery will occur when necessary due to station storage and staffing shortages.</i></p> <p><i>Each year in October the caches are to be inventoried and then replaced as needed.</i></p>	
<p>Ability to safely distribute equipment and supplies on a 24-hour basis to fire stations and emergency scenes.</p>	<p>Provide the type of support vehicles necessary to respond to all types of natural and manmade transportation challenges.</p> <p>Unable to Complete Due to Budget. <i>SFD Support Services Division has one 4WD pickup truck assigned.</i></p> <p><i>Funding for additional vehicles or upgrades of existing Services Division vehicles is not currently available in the Fire Department budget</i></p>	<p>Seattle Fire Department</p>

Seattle Office of Emergency Management

Area for Improvement	Due Date and Solution	Responsibility
<p>Many departments use privately owned four wheel drive vehicles for transporting employees to and from work.</p>	<p>Study the issue of using privately owned vehicles in term of liability, responsibility and compensation.</p> <p>Completed <i>After review the Emergency Executive Board supported the existing City policy to keep the arrival at work an employee responsibility.</i></p> <p><i>The Disaster Management Committee and the Strategic Workgroup were briefed on this decision.</i></p>	<p>Office of Emergency Management</p>
<p>During the storm Metro advised that afternoon service would be significantly reduced. EOC staff experienced delays in getting this information passed on to all City employees. The process for keeping City employees updated during a disaster should be reviewed to ensure it provides the information needed in an efficient and timely manner.</p>	<p>Allow City Emergency Operations Center Director to authorize citywide email announcements and provide permission for all Emergency Management Duty Officers to transmit these messages over GroupWise.</p> <p>Completed <i>Emergency Operations Center Director can authorize email messages to all employees in an emergency.</i></p> <p><i>Office of Emergency Management staff will use Seattle-EOC email group for emergency announcements.</i></p>	<p>Office of Emergency Management</p>
<p>Health, Hospitals and Emergency Management have varying expectations as to how to organize the transport of healthcare employees and patients.</p>	<p>Develop plan for organizing the transport of employees and patients.</p> <p>Completed <i>Office of Emergency Management and Public Health Seattle and King County defined what transport resources are available and agreed to reach out to the health care community on this issue. See Public Health page 18.</i></p>	<p>Office of Emergency Management</p>
<p>Department of Transportation received multiple requests for priority plowing to maintain access to critical facilities such as the jail, blood bank, precincts, public transit areas, and hospitals. The list of what should be given priority needs better definition to avoid unrealistic</p>	<p>For the remainder of the winter season maintain list of areas that needed priority plowing.</p> <p>Completed Develop procedures for requesting priority plow services, prioritization plan for those requests and a tracking system for ensuring those requests are fulfilled.</p>	<p>Office of Emergency Management</p>

<p>expectations and support operations.</p>	<p>Completed <i>Seattle Department of Transportation met with organizations that might require priority plowing to define expectations and outline process for requesting a plow. Procedures are in place to request plowing. This issue was addressed during the 2009 Winter Storm Tabletop Exercise.</i></p>	
<p>Based on lessons learned update essential response information and information required by the Joint Information Center to support the response.</p>	<p>Seattle Office of Emergency Management will develop a list of information essential for supporting the response and for public messaging.</p> <p>Completed <i>Essential information for media response completed.</i></p>	<p>Office of Emergency Management</p>
<p>The Winter Snow and Ice Response Plan was not adequate to meet the challenges posed by a severe and prolonged winter storm.</p>	<p>Update City Plan and Winter Snow and Ice Response Plan</p> <p>Completed <i>Winter Snow and Ice Plan has been completed by Seattle Department of Transportation. Review by Seattle Office of Emergency Management has been done and sent to Seattle Department of Transportation. Planning is a continual process. The Seattle Office of Emergency Management will continue to work closely with newly appointed Director of Street Maintenance to update and refine response plans.</i></p>	<p>Office of Emergency Management</p>
<p>The EOC did not have sufficient information to maintain situational awareness in a severe snow storm.</p>	<p>Increase the number of information sources. Amend EOC standard operating procedure to include discussing human impacts with Customer Service Bureau and 2-1-1</p> <p>Completed <i>Winter storm related websites have been identified, OEM will monitor applicable websites, contact SPD/SFD for their assessment of road conditions, monitor traffic cameras throughout the region and review SDOT inspector's road conditions report.</i></p>	<p>Office of Emergency Management</p>

Seattle Public Utilities

Area for Improvement	Due Date and Solution	Responsibility
<p>Communication between SPU and the solid waste collection contractors was, on occasion, not timely and accurate enough to ensure that field conditions were clearly conveyed to Seattle Public Utilities management staff for assessment and decision support.</p>	<p>Develop and implement a procedure for collecting, verifying, and reporting operational condition information to managers; include a process for explicitly sharing information between Seattle Public Utilities and the solid waste contractors regarding: 1) Seattle Public Utilities objectives and expectations; and 2) contractor capabilities, safety concerns, and performance.</p> <p>Completed <i>Procedure developed and in place.</i></p>	<p>Seattle Public Utilities</p>
<p>There were some inconsistencies in information between the Seattle Public Utilities Solid Waste web page, the Call Center, and ORC regarding pickups.</p>	<p>Develop process for information management.</p> <p>Completed <i>Information will now be routed through a single Seattle Public Utilities process for vetting by the critical stakeholders, Incident Commander and the Public Information function prior to making it available to the various Seattle Public Utilities customer-contact outlets.</i></p>	<p>Seattle Public Utilities</p>
<p>Messaging to the general public regarding adjusted solid waste pickup schedules was, at times, unclear, inconsistent, or overly-optimistic. This highlighted the critical need to verify all public information before release.</p>	<p>Improve public messaging regarding solid waste pickup.</p> <p>Completed <i>Route all public information through a single Seattle Public Utilities process for vetting by the Incident Commander and the Public Information function prior to releasing to the public.</i></p>	<p>Seattle Public Utilities</p>
<p>Solid Waste. Current methods for communicating to the general public did not allow for timely and focused dissemination of information regarding changes in pickups routes/schedules in the face of changing weather, street conditions, and contractor capabilities.</p>	<p>Investigate Seattle Public Utilities capability for accessing alternative, real-time methods for disseminating information to the public, including: out-dialer, community blogs, web sites, media feeds, etc. Develop and implement a procedure to make maximum use of real-time public communication channels.</p> <p>Completed <i>See Joint Information Center page 12 for details.</i></p>	<p>Seattle Public Utilities</p>
<p>Drainage and Wastewater. Lack of flexibility in activating the Urban Flooding Plan.</p>	<p>Update Urban Flooding Plan to reflect current technological improvements in work scheduling and tracking.</p> <p>Review/revise criteria for plan activation.</p>	<p>Seattle Public Utilities</p>

	<p>Completed <i>Forward looking triggers developed to identify events that require a response – supports proactive efforts</i></p>	
Lack of flexibility in activating the Winter Freeze Plan.	<p>Update Winter Freeze Plan to reflect current technological improvements in work scheduling and tracking.</p> <p>Review and revise criteria (as necessary) for plan activation</p> <p>Completed <i>Forward looking triggers developed to identify events that require a response – supports proactive efforts</i></p>	Seattle Public Utilities
Identification of priority facilities for plowing/snow clearing.	<p>Develop list of Seattle Public Utilities facilities that should be priority for plowing or snow clearing for access.</p> <p>Completed <i>List developed and shared with the Seattle Department of Transportation.</i></p>	Seattle Public Utilities

Seattle Police Department

Area for Improvement	Due Date and Solution	Responsibility
<p>Precincts encountered minor problems with snow removal when contractors pushed the snow towards the patrol cars in the precinct parking lot.</p>	<p>Work with Fleets and Facilities to better define expectations for contractor performance</p> <p>Completed <i>Fleets and Facilities directed contractors that plow precinct facilities to remove snow from the driveways, but not block the patrol cars that are in the parking lot. This procedure will be included in all future plowing contracts.</i></p> <p><i>The contractors will coordinate with facility coordinators (Stationmaster, etc.) for any assistance they may need to ensure that the lots are cleared and patrol vehicles can ingress and egress as needed.</i></p> <p><i>Additionally, SDOT will be available to assist with limited snow removal at the precincts in the event the private contractors are unable to meet the needs of the contracts.</i></p>	<p>Seattle Police Department</p>
<p>Officers encountered problems getting prisoners into King County Jail due to the road conditions around the jail entrance. Officers had to walk prisoners into the jail. The entrance is located on a steep hill and during a significant snow event plows may not be able to maintain access.</p>	<p>Seattle Police Department will meet with the King County Jail staff to develop a plan for access during snow events.</p> <p>Completed <i>SPD has confirmed with the King County Jail their policy concerning the use of alternate entrances to the jail. If the primary entrances to the jail are inaccessible, the jail will contact the 911 Center and advise on the alternate entrance. Alternate locations can include the 5th Ave or 6th Ave entrances. KCJ staff will assist with escorts within any areas inside the jail that are not considered secure. Prisoners will be in handcuffs until they are processed by KCJ staff.</i></p>	<p>Seattle Police Department</p>
<p>Precincts and the Traffic Section delivered signage to neighborhoods because Seattle Department of Transportation was overwhelmed with other demands. Better access to those signs is needed to support their rapid deployment.</p>	<p>Review policy for who is responsible for providing signs to neighborhoods and store adequate signage at the precinct and Traffic Unit.</p> <p>Completed <i>Seattle Department of Transportation has provided to each precinct and the SPD Traffic Section 10 "Street Closed" signs for use by SPD personnel as needed. If additional signage is required, SDOT will deliver to the precincts/Traffic Section as they are able. The</i></p>	<p>Seattle Police Department</p>

	<i>precincts/Traffic Section can also respond to SDOT facilities to pickup signs if required.</i>	
Officers encountered problems accessing certain parts of the City in patrol vehicles that did not have All Wheel or 4-Wheel Drive.	<p>Identify vehicles with all-wheel or 4-wheel drive from City Fleet that can be loaned to Precinct for use during snowstorms. Develop policy for deployment of vehicles in the event of major snowstorms.</p> <p>Completed <i>SPD has identified all of the all-wheel and 4-wheel drive vehicles within their fleet. Additionally, FFD has only a few of those vehicles available for SPD use. Neither of these sources would provide a significant number of vehicles to impact patrol operations during a snowstorm. The only truly effective means of getting these vehicles to patrol during snowstorm events in a timely manner would be for the Department to purchase a number of them for normal city-wide patrol operations.</i></p> <p><i>With assistance from Department of Executive Administration, procedures for vehicle rental, prices, vendors are updated and are available to all departments on the Inweb.</i></p>	Seattle Police Department
Seattle Police Department officers are authorized to close hazardous streets. During the storm it was difficult to communicate the large number of street closures to Seattle Department of Transportation and other departments.	<p>Develop a more efficient method for tracking and reporting street closures.</p> <p>Completed <i>The police department has developed an Excel spreadsheet that will enable 911 radio dispatchers to track street closures and then report those to the Seattle Police Operations Center and Seattle Department of Transportation This process has been completed and is now ready to be implemented. The list of routine street closures will be reviewed following every event.</i></p>	Seattle Police Department
Some police facilities lacked sufficient supplies for snow/ice removal.	<p>Ensure that the Precincts have a sufficient supply of rock salt and other snow/ice removal aids prior to snow.</p> <p>Completed <i>Additional quantities provided to each precinct as well as to the Quartermaster for continual re-supply needs. Winter Storm Response Plans are current; each precinct has copies of the city plan.</i></p>	Seattle Police Department

Customer Service Bureau

Area for Improvement	Due date and solution	Responsibility
<p>CSB's emergency response plan calls for CSB to provide a regular call summary to the EOC. CSB staff did not provide a summary during the snow storm.</p>	<p>Review emergency response plan with staff at monthly staff meeting.</p> <p>Due: Completed <i>Plan was reviewed.</i></p>	<p>Customer Service Bureau</p>