

# Memorandum



CITY OF DALLAS

DATE March 25, 2022

TO Honorable Mayor and Members of the City Council

SUBJECT **Winter Storm Landon After Action Report**

The Office of Emergency Management (OEM) has completed the Winter Storm Landon After Action Report. This report expands upon the presentation that was briefed to you on March 2<sup>nd</sup>, 2022. You will find the report attached to this memo.

There were a few areas in which the Council asked for additional information. Below you will find answers to those questions.

## **Which libraries and recreation centers were open during the event?**

On February 3<sup>rd</sup> and 4<sup>th</sup> no Recreation Centers were able to open. The following table shows which libraries opened on the 3<sup>rd</sup> and 4<sup>th</sup> as well as how many customers were served:

<b>Branch</b>	<b>2/3/22</b>	<b>2/4/22</b>
Dallas West	2	
Forest Green	10	24
Highland Hills		13
Lakewood	7	15
Martin Luther King, Jr.	15	
North Oak Cliff	12	11
Oak Lawn	2	
Park Forest	4	5
Prairie Creek	8	22
Timberglen	14	

## **How did the number of 3-1-1 calls compare to an average day?**

On an average weekday in February, 3-1-1 handles 2,463 calls. During the winter storm, a total of 953 service requests were opened, the most common being service requests related to sanding.

## **What is the cost per mile for sanding operations?**

The cost per mile to sand roads breaks down as follows:

Labor	\$101,952
Equipment	\$16,068

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Materials	\$32,879
Total	\$150,899
Route lane miles	4,440
Cost per lane mile	\$34.30

Please contact me if you have any questions.

Sincerely,



Rocky Vaz  
Director  
Office of Emergency Management  
[Attachment]

- c: T.C. Broadnax, City Manager  
Chris Caso, City Attorney  
Mark Swann, City Auditor  
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Directors and Assistant Directors



**City of Dallas**  
**Winter Storm Landon After Action**  
**Report**

**Office of Emergency Management**



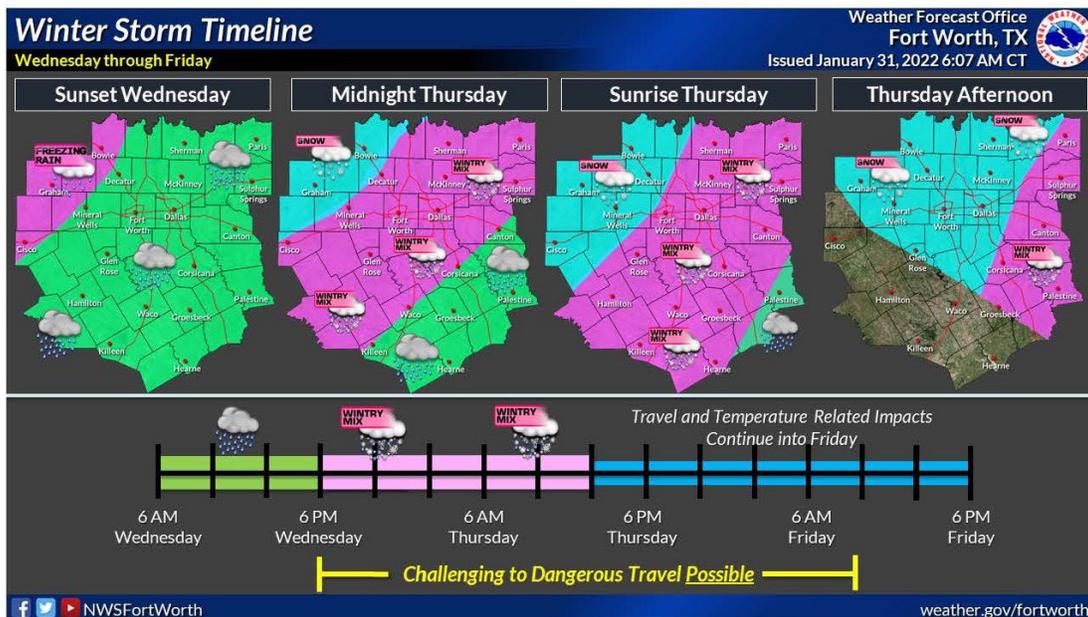
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## Executive Summary

### Background

On Sunday, Jan. 30, 2022, the National Weather Service (NWS) began producing forecast products regarding potential winter weather for the first week of Feb. 2022. The Office of Emergency Management (OEM) began planning for the winter weather when the Monday, Jan. 31, 2022 forecast product showed increasing confidences in the storm developing and impacting the City of Dallas. The primary concerns for this event were ice, sleet, and snow. OEM organized a virtual meeting on Jan. 31 to begin planning the response.



On Feb. 1, 2022, forecast confidence increased. Planning and coordination calls began across the region from various organizations including NWS and the Texas Department of Emergency Management (TDEM) and Dallas County. OEM hosted a City of Dallas coordination call at 2:00 p.m. to ensure our departments and partner agencies were aware of the timelines and had their plans and procedures in place.

The storm, named Winter Storm Landon by the Weather Channel, was forecast to arrive between Wednesday, Feb. 2, 2022 and Thursday, Feb. 3. The plans included sanding of roads and bridges, public safety, and the safety of our residents experiencing homelessness. OEM coordinated with Dallas Public Libraries (LIB) and Park and Recreation (PKR) to encourage residents to go to these city facilities for temporary relief from cold temperatures if they lost power.

As we were solidifying our plans, Communication, Outreach and Marketing (COM) suggested and planned once daily virtual press conferences to address the media requests for information on the City's winter weather preparation plans. COM also coordinated to provide graphics and messaging assistance as well as a landing page on the City's website to alert residents to warming stations and other needed preparedness information.



## Response

The Emergency Operations Center (EOC) opened at Noon on Wednesday, Feb. 2, 2022, to a limited number of personnel per COVID-19 recommendations. The Office of Homeless Solutions (OHS) worked with their homeless service partners to implement their inclement weather shelter plan and then identified Fair Park's Automobile Building as an overflow overnight shelter. Intake was established through Our Calling and Oak Lawn United Methodist Church.

Public Works (PBW) and Dallas Water Utilities (DWU) began scouting runs with sand trucks at 6 p.m. on Feb. 2, 2022 ahead of the forecast timeline of rain switching over to freezing rain or sleet as temperatures dropped below freezing. PBW and DWU began 12-hour shifts for 24 hours a day beginning at Midnight on Feb. 3 running until Noon on Saturday, Feb. 5 when melting had begun, and sanding was no longer necessary.

On Thursday, Feb. 3, 2022, operations ramped up. Roads were icy and dangerous. Dallas Fire Rescue (DFR) and Dallas Police Department (DPD) responded to a greater number of emergency calls from vehicular accidents and structure fires than on normal days. 311 received over 1,700 calls for services many of which were due to icing. On a typical day, 311 responds to an average of 2,463 calls. 311, PBW, and OEM worked diligently to triage the calls for sand trucks to ensure our emergency responders and infrastructure avenues were addressed.

As the Automobile Building filled up, OHS worked with Fair Park to also open up the Tower Building. OHS sheltered over 1,000 individuals between the two buildings over the course of the winter weather event. LIB

opened the first floor of the J. Eriksson Central Library for individuals experiencing homeless to get warm. They hosted about 338 individuals over the two days and assisted getting many of them to Fair Park and encouraging the rest to find shelter. Of our warming centers for housed residents needing temporary relief from the cold, we were only able to utilize a total of 20 libraries over the course of the event. These locations served 134 residents on Feb. 3, 2022,



and 204 residents on Feb. 4, 2022. Many branches and all of the recreation centers were unable to open.

Many were concerned that the city would experience the power outages we saw in 2021. That was not the case in this event. Oncor had nearly 6,000 employees and 1,700 contractors from 10 states on hand to restore power. At the height of the event, there was only 1,700 outages with those outages being mainly from ice on lines or broken tree limbs.

Due to the icing, DART made the decision to suspend service through the event. Light rail had been suspended on Feb. 3, but on Feb. 4, 2022, bus service was suspended at Noon through Sunday, Feb. 6. They worked diligently to get all who relied on their services to get into work on Feb. 4 home.

Temperatures were able to rise above freezing by late afternoon on Friday, Feb. 4. The sun also came out about 3 p.m. Both elements helped roads clear more quickly than anticipated. The EOC closed at 7 p.m. on Feb. 4. PBW and DWU kept crews on duty until Noon on Saturday, Feb. 5 before standing down the Ice Task Force and returning to monitoring. Overall Public Works and DWU sanded 4,400 lane miles of roads.

## **Conclusion**

The City of Dallas has responded to more dangerous storms and events, but with this being the first winter weather event since the historic Winter Storm Uri in 2021, caution was our first concern. Several of the lessons learned and improvements proposed from Uri had been put into place, allowing the City to be better prepared. However, the biggest improvement proposed, the addition of generators to several facilities and our portable power packs were not yet available due to supply chain issues. We were fortunate that the power outages were not widespread, but plans were in place to assist residents if the need arose.

These events are never without cost. Though not all costs from all departments have been captured as of yet, we have already identified over \$1.25 million spent. Just over \$500,000 is in labor costs – both straight and over time. Over \$300,000 was spent in equipment, materials, and rentals. The largest cost was \$436,000 in contracts mostly in OHS for the shelter operations. Public Works calculates the 4,400 lanes miles sanded cost \$34.30 per lane mile. Attachment B has a summary of costs for this event.

This report outlines the various departments and partners involved in the winter weather response, their practices to sustain and areas for improvement for future events. Some of these improvements were put into place immediately and were tested in the winter storm event just a few weeks later at the end of Feb. 2022 and to a smaller extent on March 11, 2022 with the potential weather event.

This report stems from an after-action meeting held on Feb. 18 and a briefing presentation given to the City Council on March 2, 2022 at the request of Mayor Johnson. All participating departments and partners were asked to share openly what they thought they did well, and what they thought could be improved upon. That feedback is the basis of the report.

## Participating Partners and Departments

### Partners

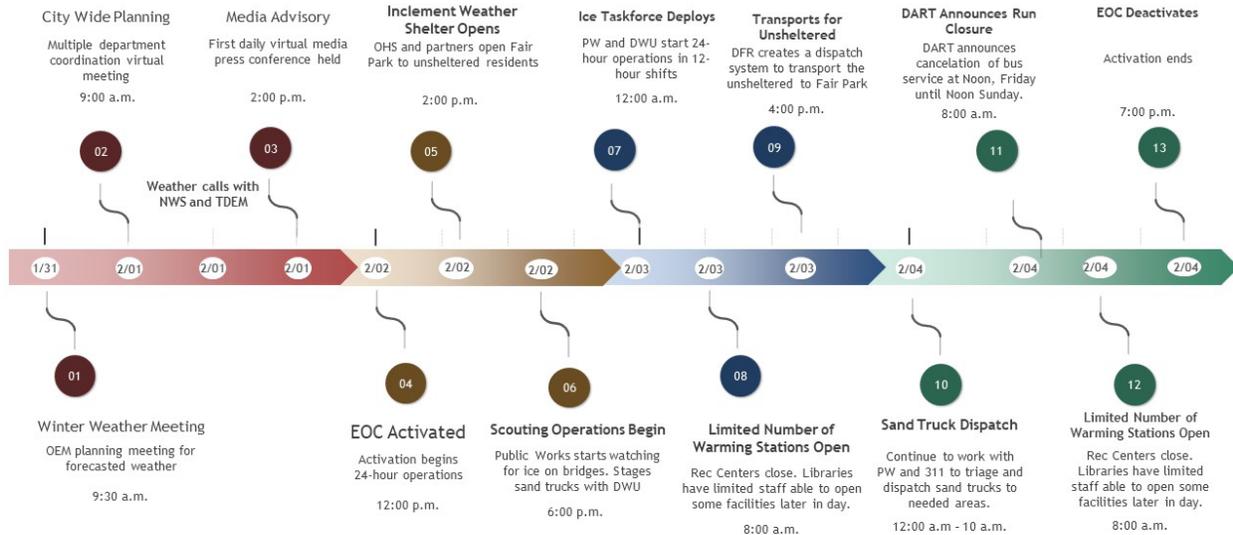
- Atmos
- Dallas Area Rapid Transit
- National Weather Service
- Oncor
- Texas Department of Emergency Management
- Texas Department of Transportation

### Departments

- Department of Aviation
- Building Services Department
- Code Compliance Services
- Convention and Event Services
- Communication, Outreach, and Marketing
- Court and Detention Services
- Data Analytics and Business Intelligence
- Dallas Animal Services
- Dallas Department of Transportation
- Dallas Fire Rescue
- Dallas Police Department
- Dallas Water Utilities
- Equipment and Fleet Management
- Information and Technology Services
- Dallas Public Library
- Office of Emergency Management
- Office of Homeless Solutions
- Public Works
- Park and Recreation
- Sanitation

## Timeline of Events

### Winter Weather Storm Landon Timeline



#### January 31<sup>st</sup>, 2022

The OEM held a planning meeting for forecasted weather

#### February 1<sup>st</sup>, 2022

- The Office of Emergency Management held a city-wide coordination call included multiple departments and private stakeholders via Teams
- National Weather Service and the Texas Department of Emergency Management (TDEM) began holding Daily Inclement Weather Calls
- Communications, Marketing and Outreach (COM) held the first daily virtual press conference for local tv and radio stations

#### February 2<sup>nd</sup>, 2022

- The Emergency Operations Center was activated at 12:00 p.m. for 24/7 operations
- Office of Homeless Solutions (OHS) and partners opened Fair Park Automobile Building to unsheltered residents
- Public Works (PW) began watching for ice on bridges and staging trucks with Dallas Water Utilities (DWU)

#### February 3<sup>rd</sup>, 2022

- Public Works and Dallas Water Utilities started their 24-hour operations
- Parks and Recreation (PKR) announced that they would not be opening recreation centers and Dallas Public Libraries (LIB) had limited staff but were able to open some locations

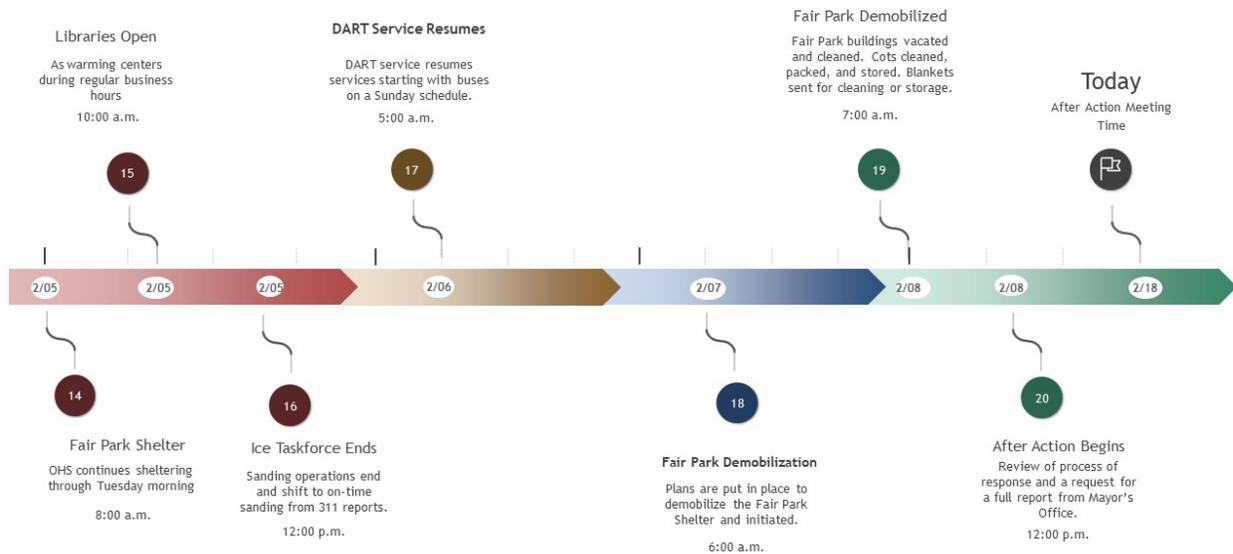
- Dallas Fire Rescue (DFR) created a system to assist OHS in transporting unsheltered to Fair Park

**February 4<sup>th</sup>, 2022**

- Public Works and 311 continued to triage and dispatch sanding trucks to critical roadways
- Dallas Area Rapid Transit (DART) announced cancellation of bus services at 12 p.m. due to road conditions
- Dallas Public Libraries continued to operate several warming stations while recreation centers stayed closed
- The Emergency Operation Center deactivated at 7:00 p.m.



## Winter Weather Storm Landon Timeline



## Introduction to Community Lifelines



In 2019, the Federal Emergency Management Agency (FEMA) developed the community lifelines to increase effectiveness in disaster operations and better position agencies to respond to catastrophic events. FEMA used lifelines in events such as Hurricane Florence and the Alaska Earthquake to validate the use of this method. They took lessons learned from each event along with stakeholder feedback to refine and improve the community lifelines methodology.

### What are Lifelines?

During any initial response, priority efforts focus on stabilizing critical infrastructures that are seen in the community lifelines methodology. Lifelines are the most fundamental services in the community that enable all other aspects of society. When these are disrupted, society is unable to continue as normal and the emergency management office must employ contingency response solutions or work to rapidly re-establish the services.

There are seven community lifelines in which various stakeholders and departments would fall under during activation.

- Safety and Security
- Food, Water, Shelter
- Health and Medical
- Energy (Power and Fuel)
- Communications
- Transportations
- Hazardous Materials

Each lifeline is contains multiple components and subcomponents that help define the services within that lifeline.

When conducting a lifeline assessment, the emergency operations center will update the lifelines according to the following chart

Assessment	
<b>Status</b>	“What?”
<b>Impact</b>	“So What?”
<b>Actions</b>	“Now What?”
<b>Limiting Factors</b>	“What’s the Gap?”
<b>ETA to Green</b>	“When Will it be Recovered?”



# Community Lifeline: Safety and Security

The Safety and Security Lifeline includes not only our first responders: law enforcement/security, fire departments, EMS, and search and rescue, but also those departments and agencies involved community safety and governmental services involved in safety like emergency management, animal services and code compliance.

## Key Departments

- Dallas Police Department (DPD)
- Dallas Fire-Rescue (DFR)
- Court & Detention Services (CTS)
- Dallas Animal Services (DAS)
- Sanitation (SAN)
- Code Compliance (CCS)
- Office of Emergency Management (OEM)

## Overview

- The safety and security branch had representatives in the EOC along with a virtual presence during activation.
- DFR, CTS, and DPD assisted OHS with transporting unsheltered residents to Fair Park
- CCS triaged 311 calls regarding hot water shut offs along with isolated power outages
- SAN monitored road conditions to see if trash collections needed to be halted
- OEM activated the Emergency Operation Center from 2/2-2/4



## **Areas for Improvement**

<b>Key Finding #1:</b> Dallas Fire-Rescue had to create an ad-hoc transportation plan to assist the office of Homeless Solutions with transporting homeless individuals to Fair Park	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Dallas Fire Rescue
<b>Analysis:</b> When it came to transportation, the Office of Homeless Solution had vans that could be utilized to transport but there was no one willing to drive during the inclement weather. Dallas Fire-Rescue came up with a solution on how to assist with transportation.	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Having a finalized plan in place to assist with future transportation</li> </ul>	

<b>Key Finding #2:</b> Not having key stakeholders in the EOC during activation made it hard to communicate directly to department representatives	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Office of Emergency Management
<b>Analysis:</b> During activation, the EOC was opened however departments did not have a representative present in the EOC. When situations came up, OEM had to make calls to department representatives and sometimes could not reach them.	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Requiring departments to pre-identify key personnel to staff the EOC</li> <li>• Expansion of the EOC to better accommodate personnel, breakout rooms, workstations and sleeping quarters</li> </ul>	

<b>Key Finding #3:</b> People utilizing the warming centers needed additional resources for their pets such as food, water, and other necessities	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Dallas Animal Services
<b>Analysis:</b> When utilizing the libraries as warming centers, DAS identified that additional resources would be needed to assist people with their animals.	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Working with procurement to source additional resources for pets and owners who utilize warming centers</li> </ul>	

<b>Key Finding #4:</b> There was not communication with city residents and councilmembers on when trash collections would resume	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Sanitation
<b>Analysis:</b> While Sanitation cancelled collections due to inclement weather, there was not communication on when it would resume. Residents would contact their local council offices to ask on an update, but council also did not have communication on when collections would resume.	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Working on providing better communication throughout the city regarding cancellations or continuation of collections</li> </ul>	

## **Practices to Sustain**

<b>Practice to Sustain:</b> Having additional measures in place when it came to personnel placement kept response times the same even with inclement weather	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Dallas Fire Rescue
<b>Analysis:</b> DFR had pre-staged fire personnel across the city to respond to calls that came in. This allowed them to maintain their average response time even with the roads frozen over.	

<b>Practice to Sustain:</b> OEM held daily coordination calls with all internal and external stakeholders and implemented FEMA's community lifelines methodology	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Office of Emergency Management
<b>Analysis:</b> Prior to activation, OEM held daily coordination calls with both internal and external stakeholders to understand their preparedness and have agencies	

<b>Practice to Sustain:</b> Maintaining pre-event coordination allowed DPD to obtain equipment and support	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Dallas Police Department
<b>Analysis:</b> Prior to activation, OEM held daily coordination calls with both internal and external stakeholders to understand their levels of preparedness. OEM also implemented the new methodology rolled out by FEMA in 2019 that assessed the most critical lifelines within a community called community lifelines.	



# Community Lifeline: Food, Water, Shelter

This lifeline focuses on the basic needs of residents and employees: food, water, and shelter. These departments and agencies are involved in our sheltering operations and facility management to also support the safety and security lifeline.

Components
<ul style="list-style-type: none"> <li>• Office of Homeless Solutions (OHS)</li> <li>• Convention and Event Services (CES)</li> <li>• Office of Emergency Management (OEM)</li> <li>• Building Services (BSD)</li> <li>• Parks and Recreation (PKR)</li> <li>• Dallas Public Libraries (LIB)</li> <li>• Dallas Water Utilities (DWU)</li> <li>• Office of Procurement Services (OPS)</li> </ul>
Overview
<ul style="list-style-type: none"> <li>• OHS opened the Automobile Building and Tower Building at Fair Park as Temporary Inclement Weather Shelters that housed over 1000+ people</li> <li>• OEM provided 1200 cots, 800 blankets, and 10 pallets of water to Fair Park</li> <li>• Over 20 libraries opened during activation as public warming centers</li> <li>• Convention Center was on standby as a potential warming center in the event of widespread power outages</li> <li>• Water treatment facilities remained operational throughout the event</li> <li>• OPS prepared to purchase bulk palletized water and secured a transportation vendor</li> <li>• Please see attachment A for warming center utilization</li> </ul>

## Areas for Improvement

<b>Key Finding #5:</b> OHS did not have enough staff to run the shelter at Fair Park that quickly filled up and required the opening of a second shelter	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Homeless Solutions
<b>Analysis:</b> When it came to sheltering, OHS did not have the staff to run the shelters and had to call in other volunteers to assist. Volunteers had to commute from their homes and OHS had to find accommodations last minute	
<b>Proposed Solution/Improvement:</b> <ul style="list-style-type: none"> <li>• Look into procuring a third-party contractor that can oversee shelter management and wrap around services</li> </ul>	

<b>Key Finding #6:</b> Various departments requested resources through OEM but did not use resource requests	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Emergency Management
<b>Analysis:</b> Departments would request resources to be utilized but there was nothing written on paper regarding the resources.	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• OEM needs to formalize the resource request process so that all requests are routed through the EOC and fulfilled.</li> <li>• OEM needs to have assurance that vendors can and will provide adequate resources to meet objectives</li> </ul>	

<b>Key Finding #7:</b> Parks and Recreation centers could not open during inclement weather due to staff not being able to get to centers.	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Parks and Recreations
<b>Analysis:</b> During pre-storm coordination, Parks and Recreation pre-identified warming centers but the day of activation, they were unable to open any of them due to staff not being able to drive on ice	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Parks and Recreations is currently working on developing an emergency plan that identifies staff members that live in close proximity to their work locations, so they are able to open warming centers as needed</li> </ul>	

<b>Key Finding #8:</b> Dallas Public Libraries utilized some of their libraries as warming centers, however it was advertised that all of them would be open	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Dallas Public Libraries
<b>Analysis:</b> During the pre-coordination call held by OEM, Dallas Public Libraries was told to open all of their branches to ensure all neighborhoods can provide warming relief to their residents who were experiencing localized power outages	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Provide clear communication to staff regarding their opening and closing times</li> <li>• Find ways to ensure there is enough staff on standby to open warming centers when needed</li> </ul>	

<b>Key Finding #9:</b> Individuals staying at the warming center did not have food or water	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Procurement Services
<b>Analysis:</b> There were individuals who utilized warming centers during activation did not have access to snacks or water while waiting out the weather	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Procurement will investigate sourcing items such as caterers and snacks for those who are utilizing warming shelters</li> </ul>	

## **Practices to Sustain**

<b>Practice to Sustain:</b> Coordinating with various departments allowed for successful sheltering operations	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Homeless Solutions
<b>Analysis:</b> OHS was able to secure resources through other departments and forego the procurement process and utilize other resources. They coordinated with various departments such as DFR, OEM, and Building Services to ensure success of sheltering operations at Fair Park.	

<b>Practice to Sustain:</b> Coordinated with other departments to ensure resources were accessible prior to event	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Emergency Management
<b>Analysis:</b> OEM had pre-staged resources at warming centers and worked with procurement to ensure resources would be on standby in case they were needed	

<b>Practice to Sustain:</b> Dallas Libraries coordinated with non-profits to help OHS with their operations	
<b>Lifeline Sector:</b> Safety and Security	<b>Department:</b> Dallas Public Libraries
<b>Analysis:</b> Dallas Public Libraries worked with the Stew Pot to coordinate transportation for the homeless residents that would arrive needing shelter. They also worked with non-profits who wanted to provide food to those who were utilizing the warming centers.	

<b>Practice to Sustain:</b> Dallas Water Utilities pre-staged crews at water plants to ensure continuity of operations	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Dallas Water Utilities
<b>Analysis:</b> Dallas Water Utilities pre-staged crews at water plants by providing them with cots to ensure staff was available to maintain operations in case of incidents arising.	

<b>Practice to Sustain:</b> Having vendors on standby to support emergency purchases	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Office of Procurement Services
<b>Analysis:</b> Procurement had vendors on standby ready to support any emergency purchases that were going to be needed and made sure master agreements were in place prior to event to make sure all purchasing processes went smoothly.	



# Community Lifeline: Energy

The Energy lifeline focuses on our utility partners to ensure that power and gas stays on where possible within their purview. We work closely with our utility partners in every emergency.

Components
<ul style="list-style-type: none"> <li>• Oncor</li> <li>• Atmos</li> </ul>
Overview
<ul style="list-style-type: none"> <li>• Primarily experienced localized power outages due to storm impacts</li> <li>• Nearly 6,000 Oncor employees and contractors, supported by more than 1,700 mutual assistance personnel from 10 states, worked around the clock to restore power</li> </ul>

<b>Key Finding #10:</b> Oncor pre-position personnel and equipment to ensure resources were proportional across the city.	
<b>Lifeline Sector:</b> Energy	<b>Department:</b> Oncor
<b>Analysis:</b> Oncor pre-positioned personnel and also had over 6,000 employees and over 1,700 mutual aid personnel spanned over 10 states on standby ready to assist in case of regional power outages. They also identified warming centers and critical infrastructure on their restoration list to ensure quick power restorage in case of outage.	



# Community Lifeline: Communications

The Communications Lifeline deals with both internal and external communications. We work with departments to ensure communications to our safety responders are in working order, dispatch is maintained, and data moves freely. This lifeline also addresses alerts, warnings, and communication to residents about the emergency.

Components
<ul style="list-style-type: none"> <li>• Communications, Outreach, &amp; Marketing (COM)</li> <li>• Information &amp; Technology Services (ITS)</li> <li>• 311</li> <li>• DFR/DPD Dispatch</li> <li>• Data Analytics and Business Intelligence (DBI)</li> <li>•</li> </ul>
Overview
<ul style="list-style-type: none"> <li>• Held daily bilingual press conferences</li> <li>• Maintained the winter weather information map</li> <li>• Ensured backup generators were fueled and tested in the event a radio tower lost power</li> <li>• Triaged sanding requests</li> <li>• 311 handled 1,778 calls on 3/2 compared to a daily average of 2,700 calls</li> <li>• Various departments with COM to provide important information regarding status of city facilities and operations</li> </ul>

## Areas for Improvement

<b>Key Finding #11:</b> Issues with translated material issued by communications team	
<b>Lifeline Sector:</b> Communications	<b>Department:</b> Communications, Outreach and Marketing
<p><b>Analysis:</b> COM organized several press conferences and with various media outlets via virtual platforms. They utilized their crisis communications tool kits to make sure to provide live interpretations and translations of essential information. City councilmembers pointed out that there was incorrectly translated and ended up being offensive language</p>	

**Proposed Solution/Improvement:**

- Continue working on updating crisis communication tool kits to ensure correct translation tools are being used
- Media representatives request a consistent time for each media briefing

**Practices to Sustain**

<b>Practice to Sustain:</b> Providing bilingual press conferences with live interpretation	
<b>Lifeline Sector:</b> Communication	<b>Department:</b> COM
<b>Analysis:</b> COMs utilized their crisis communication toolkit to provide translations of any material that was pushed out to ensures all resident demographics are reached	

<b>Practice to Sustain:</b> Using COOP plans during inclement weather allows for continuity of operations without having all agents in the office	
<b>Lifeline Sector:</b> Communications	<b>Department:</b> 311
<b>Analysis:</b> Providing accommodations for critical staff and learning to utilize remote agents allowed for 311 to keep up with influx of calls	

<b>Practice to Sustain:</b> Continuous communication with departments to advise of their access to tools for communication	
<b>Lifeline Sector:</b> Communications	<b>Department:</b> DBI
<b>Analysis:</b> DBI provided various technology tools to have insight into response and foot traffic to websites that provide residents with winter weather information	

<b>Practice to Sustain:</b> Dallas Water Utilities pre-staged crews at water plants to ensure continuity of operations	
<b>Lifeline Sector:</b> Food, Water, Shelter	<b>Department:</b> Dallas Water Utilities
<b>Analysis:</b> Dallas Water Utilities pre-staged crews at water plants by providing them with cots to ensure staff was available to maintain operations in case of incidents arising.	



# Community Lifeline: Transportation

The Transportation Lifeline focuses on both modes of transportation as well as infrastructure. This lifeline engages local, state, and federal partners when dealing with all modes of transportation including rapid transit and airports. This is not just roads and bridges, but also signal lights and traffic signs.

## Components

- Department of Aviation (AVI)
- Public Works (PBW)
- Dallas Department of Transportation (DDOT)
- Equipment and Fleet Management (EFM)
- Dallas Area Rapid Transit (DART)
- Texas Department of Transportation (TXDOT)

## Overview

- DART ceased operations due to road conditions on 2/4
- Airport ran a Priority 2 scenario for the rest of the event
- Focused on streetlights that were out of service and older traffic signals
- Kept service centers operational and worked on work orders for city vehicles
- Prioritized sanding to critical infrastructures such as major roads, hospitals, and public safety buildings



**Areas for Improvement**

<b>Key Finding #12:</b> Coordination and communication improvement between DART and residents to have insight on transportation operations	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Dallas Area Rapid Transit
<b>Analysis:</b> DART stopped operations during activation due to road conditions and unable to allow their conductors to work safely. Tow trucks could not access stuck buses due to road conditions therefore it took buses out of service.	
<b>Proposed Solution/Improvement:</b> <ul style="list-style-type: none"> <li>• DART communications should create a tool kit for communication and utilize social media more to convey DART stations and bussing operations</li> <li>• Investigate ways to change scheduling service system longer than 24 hours</li> <li>• Working with the city to obtain sanding plan to ensure DART routes are included on plan</li> </ul>	

<b>Key Finding #13:</b> Airport priority locations and resource assignments should be adjusted to better balance snow and ice operations	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Aviation
<b>Analysis:</b> The Airport had issues with priority locations and resource assignments when it came to snow and ice operations. This resulted in some priority areas not being sanded and targeted while others had plenty of resources	
<b>Proposed Solution/Improvement:</b> <ul style="list-style-type: none"> <li>• Pre-assigning and spreading out resources around airport in order to ensure all areas are targeted when sanded</li> </ul>	

<b>Key Finding #14:</b> Maintenance and repair facility staff had issues getting to their buildings due to road condition	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Equipment Fleet and Management
<b>Analysis:</b> Facilities operated on skeleton crews due to staff not being able to make it into work. Once DART ended operations, many people had to leave early to ensure they are able to get home.	
<b>Proposed Solution/Improvement:</b> <ul style="list-style-type: none"> <li>• Providing pre-assigned accommodations for staff close to work locations</li> </ul>	

<b>Key Finding #15:</b> TXDOT trucks had to drive to a central location to retrieve brine to treat the roads	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Texas Department of Transportation
<b>Analysis:</b> TXDOT had brine at a central spot that trucks had to go pick up when they were out	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Pre-stage brine solution throughout Dallas</li> </ul>	

<b>Key Finding #1:</b> Roads were treated prior to event, however, rain washed away sand	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Public Works
<b>Analysis:</b> Public Works worked with DWU to sand major road arteries throughout the city before the incident but due to rain, the sanding work done was washed away	
<b>Proposed Solution/Improvement:</b>	
<ul style="list-style-type: none"> <li>• Running sanding operations on all major roads and critical infrastructures constantly to ensure roads are able to be used</li> <li>• Enhancing budget to research alternatives to sanding to ensure treatment is effective</li> <li>• Acquire additional fleet to meet demand for sanding</li> </ul>	

**Practices to Sustain**

<b>Practice to Sustain:</b> Providing status of streetlights and signs that are impacted by weather	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Dallas Department of Transportation
<b>Analysis:</b> Transportation kept track of all streetlights and signs that lost function during activation and gave an estimate time of restoration	

<b>Practice to Sustain:</b> Keeping EOC operations open to coordinate transportation for those who needed it even after the buses were shut down	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> DART
<b>Analysis:</b> Even though DART discontinued bus services due to road conditions, they still maintained operations to help those who needed transportation back home. They also coordinated with Dallas Police patrol and Uber to transport individuals	

<b>Practice to Sustain:</b> Aviation worked to maintained readiness while keeping staff safe	
<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Aviation

**Analysis:** Aviation implemented their snow and ice response plan and notified critical staff of weather and made sure to conduct readiness checks for operations. They also recalled employees for safety and continuity of operations

**Practice to Sustain:** Having chains and diesel additive ready for departments to pick up prior to ice event

<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Equipment and Fleet Management
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**Analysis:** During pre-coordination calls, EFM would let departments know they had chains available for cars as well as diesel additive that could be added to diesel vehicles to ensure gasoline did not gel over. They also had vendors on standby to assist with any surge capacity of vehicle maintenance needed

**Practice to Sustain:** Pre-treating roads in advance

<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Department of Transportation
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**Analysis:** TXDOT pre-treated roads with brine solution prior to ice event allowing for safer road travel

**Practice to Sustain:** Using city resources to pre-treat roads and triage calls from public

<b>Lifeline Sector:</b> Transportation	<b>Department:</b> Public Works
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**Analysis:** Public Works worked with Dallas Water Utilities to utilize their fleet for sanding operations. They also utilized 311 operators to triage calls from the public and other departments

## Attachment A. Acronyms

<b>AVI</b>	Department of Aviation/ Dallas Love Field
<b>BSD</b>	Building Services Department
<b>CCS</b>	Code Compliance Services
<b>CES</b>	Convention and Event Services
<b>COM</b>	Communication Outreach and Marketing
<b>CTS</b>	Courts and Detention Services
<b>DART</b>	Dallas Area Rapid Transit
<b>DAS</b>	Dallas Animal Services
<b>DDOT</b>	Dallas Department of Transportation
<b>DFR</b>	Dallas Fire Rescue
<b>DPD</b>	Dallas Police Department
<b>DWU</b>	Dallas Water Utilities
<b>EFM</b>	Equipment and Fleet Management
<b>EOC</b>	Emergency Operations Center
<b>ITS</b>	Information Technology Services
<b>LIB</b>	Dallas Public Library
<b>NWS</b>	National Weather Service
<b>OEM</b>	Office of Emergency Management
<b>OHS</b>	Office of Homeless Solutions
<b>PBW</b>	Department of Public Works
<b>PKR</b>	Park and Recreation
<b>SAN</b>	Department of Sanitation
<b>TDEM</b>	Texas Department of Emergency Management
<b>TxDOT</b>	Texas Department of Transportation

## Attachment B: Winter Storm Landon February 2022 Estimated Costs

City of Dallas

Winter Storm Landon February 2022

City Department		Labor (Reg)	Labor (OT, Comp)	Equipment	Materials	Rentals	Contracts	Total
DFR	Dallas Fire Rescue	302.12	56,473.06					56,775.18
DPD	Dallas Police Department	76,730.66	23,333.64		26,464.88			126,529.18
DWU	Stormwater	46,248.14	37,832.62	64,882.46				148,963.22
AVI	Aviation	79,640.37	23,694.82	23,842.54	113,811.74			240,989.47
OEM	Office of Emergency Management	12,931.49	3,514.25		948.14		8,388.09	25,781.97
OHS	Office of Homeless Solutions	12,709.78	10,207.20		8,138.90	17,734.37	425,871.39	474,661.64
IPS	IPS	5,323.16						5,323.16
311	311 Customer Service		801.36				1,964.20	2,765.56
CTS	Court and Detention Services	2,170.63	16,062.96					18,233.59
PBW	Public Works	101,952.00		16,068.00	32,879.00			150,899.00
EFM	Equipment and Fleet Management	1,346.36	2,255.41					3,601.77
<b>Total by Category</b>		<b>\$ 339,354.71</b>	<b>\$ 174,175.32</b>	<b>\$ 104,793.00</b>	<b>\$ 182,242.66</b>	<b>\$ 17,734.37</b>	<b>\$ 436,223.68</b>	<b>\$ 1,254,523.74</b>

**Total Costs Identified \$1,254,523.74**