NORTH/WEST PASSAGE

North/West Passage Responses to the COVID-19 Pandemic

Project 15.5 – FINAL

Prepared by: Athey Creek Consultants

North/West
Passage
INTERSTATE 90 INTERSTATE 94

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Cover photo provided courtesy of the Minnesota Department of Transportation.

1. INTRODUCTION

The North/West Passage (NWP) pooled fund study program focuses on cross-border intelligent transportation systems (ITS) coordination along the I-90 and I-94 corridors through the states of Washington, Idaho, Montana, Wyoming, North Dakota, South Dakota, and Minnesota, as illustrated in Figure 1.
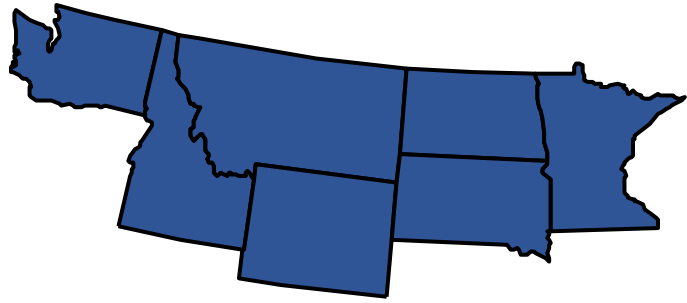
Figure 1: North/West Passage Members

In March 2020, due to the COVID-19 pandemic, many employees that could accomplish their jobs remotely at state departments of transportation (DOTs) were ordered to work from home at the direction of their governor. This occurred very quickly, and DOTs had to adjust to this change. Adjustments included decentralizing work activities, transitioning information technology (IT) support actions to accommodate the new work environments, participating in COVID-19 messaging, and in some states relocating operations center staff to their homes.

This report documents what worked well and shares lessons learned during the COVID-19 pandemic from NWP member states to apply during future events or in daily operations.

It is important to note that the information gathered for this project focuses on initial COVID-19 experiences from March 2020 through June 2021.

> This summary document highlights NWP member COVID-19 experiences from March 2020 – June 2021.

To gather information on NWP member responses to the COVID-19 pandemic the following states were interviewed, provided written responses, and/or participated in a peer exchange webinar:

- Idaho Transportation Department (ITD)
- Minnesota Department of Transportation (MnDOT)
- Montana Department of Transportation (MDT)
- North Dakota Department of Transportation (NDDOT)
- South Dakota Department of Transportation (SDDOT)
- Washington State Department of Transportation DOT (WSDOT)
- Wyoming Department of Transportation (WYDOT)

The sections of this report include:

- 2. Project Approach – Describes the project tasks taken to complete this project.
- 3. North/West Passage DOT COVID-19 Operational Experiences – Highlights the DOT COVID-19 experiences from the NWP states.
- 4. Summary – Overall summary discovered during the interviews and peer exchange webinar.

2. PROJECT APPROACH

Tasks were completed for this project to provide NWP member agencies with an understanding of what worked well during the COVID-19 Pandemic and to identify lessons learned that may be applied in future events or towards daily operations. See Figure 2.

North/West Passage states were interviewed by phone using a questionnaire to guide the discussion. The questionnaire focused on areas of interest to the NWP member agencies regarding the responses from other agencies to the COVID-19 pandemic. See Appendix A for the complete questionnaire guide. The interviews gathered information relevant to each state and included information on employees working off-site, organizational adjustments, traffic management center (TMC) operations, traveler information, and maintenance. Each states' interview responses were documented and are included in Appendix B.

In addition to performing interviews, NWP hosted a peer exchange webinar on June 30, 2021. The webinar highlighted two differing approaches to TMC operations during the COVID-19 Pandemic (virtual TMC and TMC remaining in physical building) and allowed each NWP member to highlight additional COVID-19 experiences.

The final project task produced this document to summarize the information gathered and document the similarities and differences between the North/West Passage member responses to COVID-19.

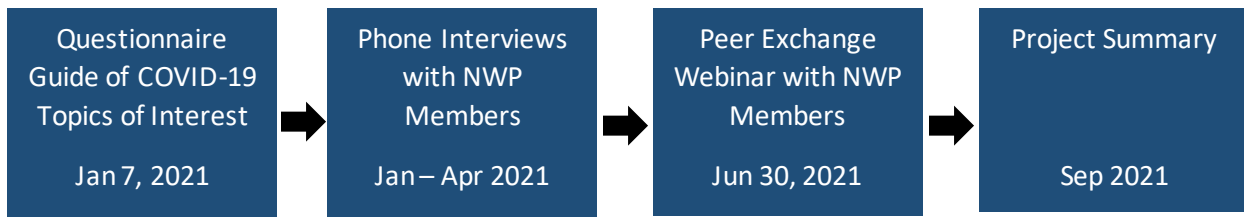| Questionnaire Guide of COVID-19 Topics of Interest Jan 7, 2021	→	Phone Interviews with NWP Members Jan – Apr 2021	→	Peer Exchange Webinar with NWP Members Jun 30, 2021	→	Project Summary Sep 2021

Figure 2: Project Approach

3. NORTH/WEST PASSAGE DOT COVID-19 OPERATIONAL EXPERIENCES

Six North/West Passage member DOTs were interviewed, and one member provided information through a written response to document transportation agency operational experiences with the COVID-19 Pandemic. This section will identify common themes as well as some unique responses. In addition, a peer exchange webinar was held on June 30, 2021. The purpose of this webinar was to share the information gathered from the phone interviews, highlight different approaches to TMC operations, and allow North/West Passage members to highlight additional COVID-19 experiences.

The information in this section is categorized as follows:

- Employees Working Off-site
- Organizational Adjustments/COVID-related Job Assignments
- TMC Operations
- Managing Traveler Information
- Maintenance
- Service Patrols/Motorist Assist
- Funding Implications
- Debrief Documents
- Lessons Learned
- Other Observations

For each category, NWP states provided examples of how their agency has addressed the specific needs of their state.

3.1 Employees Working Off-site

The COVID-19 pandemic caused DOTs around the country to transition to remote operations. Most agencies were not prepared but accomplished it because there was not another option.

Transition to Working from Home

In March 2020, **Montana's** governor issued a directive that everyone who could work from home should do so. The majority of **NDDOT** employees transitioned to working from home as well. **WYDOT** monitored other states to determine their impending timeframe and sent staff home before the COVID-19 hit Wyoming. **ITD** employees also began working remotely. Some ITD employees returned on their own, but when a COVID-19 peak hit Idaho, some staff went back home.

> All NWP agencies moved to remote work in March 2020 for jobs that could be done remotely.

Since March 2020, **MnDOT** employees have been teleworking as much as possible if they can do their jobs from home. MnDOT transformed to a teleworking agency within a week and has been holding most meetings virtually. **SDDOT** employees worked from home from mid-March 2020 to mid-June 2020. During the first week they secured access to computer systems and were able to operate at nearly 100% after the first week. Shortly after a State of Emergency was declared by **Washington**'s governor, **WSDOT** employees were told to work from home in early March 2020. Emergency operations centers were activated and guidance on COVID protocols were quickly developed to help address what activities were considered essential for in-person work.

Telecommuting Policies

DOTs handled their telecommuting policies in a variety of ways. Some states had telecommuting policies that required only slight modifications while others adopted policies from other state agencies or created new policies.

WYDOT established a new policy that required employees to sign a contract to work from home. Initially, **ITD** did not have its own telecommuting policy and fell under the state Division of Human Resources (DHR) telecommuting policy which was revised for the pandemic. ITD has since developed its own telecommuting policy.

NDDOT has a work at home policy for teleworking that includes performance metrics since whole divisions were working from home. NDDOT put working teams together and changed or developed policies such as telecommuting. They were headed toward pay for performance prior to COVID, so including performance measures in the telecommuting policy was a natural choice. Before COVID, **WSDOT** was leaning toward more flexibility in teleworking and planned to test it, but they were thrust ahead of schedule and had to adjust.

MDT had a telework policy which they reviewed but did not change, however, MDT did alter some processes and procedures to allow employees to telework. Starting June 14, 2021, MDT brought back 50% of the State employees and 100% came back on September 7, 2021. MDT is no longer allowing telework unless an employee had an agreement prior to COVID. **SDDOT** also does not view COVID as a reason to telework without another reason.

Equipment

Equipment usage was another consideration for DOTs.

MDT faced some challenges with equipment and met with administration and directors to evaluate the equipment on hand, determine what could be taken home, and identify who had internet access at home. MDT did not have sufficient equipment for all employees to work from home, so some staff took desktops, monitors, and even CAD stations home. MDT then bought Chromebooks and laptops to send home with employees as needed. **SDDOT** designers also had some issues since most had desktop computers. SDDOT found some older surplus laptops within the state to distribute to employees who needed them. As a result, SDDOT has purchased many laptops for future use and could transition to remote operations seamlessly now.

Prior to transitioning to working from home, most **ITD** employees had laptops although there were some employees who were using desktops in the office. Consequently, there were some minor hurdles involving employees wanting to take home desktops, printers, or chairs. ITD resolved the situation by documenting what went home. Most of **NDDOT**'s maintenance division had laptops and brought those home. NDDOT employees who had desktops took their desktop home. Keyboards and mice were also sent home with NDDOT employees, but furniture such as chairs remained in the office. Headphones, cameras, and USB ports were purchased and sent with employees since prior to COVID NDDOT did not have extensive needs for these items.

Access

Access issues also created a variety of challenges for DOTs. Typical areas of concern involved WiFi, the DOT network, virtual private network (VPN) access, or security. DOTs found a variety of solutions to their access issues. Some examples of their issues and solutions are:

- **MnDOT**'s IT staff found multiple ways for teleworking employees to connect to the network including VPN, providing MiFi, or supplying WiFi, if necessary.
- **SDDOT** had some hot spots that employees could check out if they did not have home internet available. Most staff who could not work remotely reported to work.
- **North Dakota** has a centralized IT department for all state government. The IT infrastructure had to catch up for people without access. Additional VPN was needed to handle the load.
- **MDT** had to scale up VPN to transition from very few employees needing remote access to almost all employees working remotely. MDT retained its multifactor authentication for security even with VPN.
- **ITD** purchased additional VPN licenses to allow employees to access specific areas of the network.
- **ITD** did not have significant network issues but did enhance network security training. If ITD employees didn't use VPN there were security concerns, however, using VPN allowed IT to review and minimize most security issues.
- The State of Wyoming employees used Portal2 to access work systems. **WYDOT** used VPN and GoGlobal Network and installed CrowdStrike to handle security which uses artificial intelligence (AI) to check for unusual computer activity.
- Software updates and password reboots for **ITD** employees working from home caused a few problems. Employees worked with IT to overcome issues with specific programs such as those used for engineering. By May 2020, ITD's technical solutions were in place.
- Due to a capacity limitation on the existing VPN used on many staff-issued laptops, **WSDOT** migrated to a new VPN with more capacity for concurrent remote connections.

Transition Return to Onsite

Some DOTs transitioned back to the office and others were or are still in the process of developing and implementing transition plans to return to the office.

SDDOT had employees in a wide range of work situations. Many employees worked a combination of at home and in office, some employees chose to be in the building 100% of the time, and employees with health issues continued to work remotely. SDDOT started transitioning back to the office in June 2020. **NDDOT** began transitioning back to the office but with a November 2020 COVID-19 surge they dropped back to 25% capacity. By January 2021, NDDOT was allowed to return up to 50% capacity.

As of January 2021, **ITD**'s transition was ongoing and many **ITD** office workers continued to provide essential services from their homes. ITD headquarters was approximately 10-15% back in the office, however, approximately 90% of ITD district employees were back in the office, some with split schedule and others full time.

MDT, MnDOT, and WSDOT employees were primarily continuing to work from home. As of January 2021, **MDT** had not scheduled an official return to the office yet, but some employees began the transition back

to the office on their own. **MnDOT**'s return to offices was scheduled to begin July 1, 2021 (the start of the next fiscal year) as a hybrid model where some time is in person and other time will be remote. **WSDOT** plans to transition back to the office in the fall of 2021. Some employees are not planning to return to the office while others will go into the office periodically or as needed. WSDOT has established a teleworking goal to save office space and resources.

Working Onsite - Safety Precautions
Throughout the pandemic, DOTs needed some employees to continue to report to their designated sites, taking safety precautions to minimize the risk of contracting and spreading COVID-19.

MnDOT field staff and mechanics reported to their work sites since March 2020 and construction inspectors initially reported as needed. **MDT** developed additional guidance for vehicle cleaning, and **NDDOT** district offices decreased to 25% staff in the office. **NDDOT** districts ramped up cleaning protocols for employees who remained at their normal work location and tried to stagger shifts to limit occupancy. For **WYDOT** and all of Wyoming's state government, masks were required if employees were within 6 ft. and in all common areas.

Employees at **ITD**'s points of entry continued to work onsite with safety measures in place. **ITD** had some positive COVID cases, but plexiglass was installed, and employees were reminded to wash hands frequently. ITD has policies and procedures for cleaning and sanitizing in place, and employees going into the office maintained social distance and wearing a mask in common areas. If an ITD employee goes home and is positive for COVID or needs to quarantine, the office area is cleaned.

Many **SDDOT** employees worked onsite most of the time by following state and center for disease control (CDC) guidelines for social distances, barrier installation, cleaning protocol, and screening stations. For outbreaks and quarantining, **SDDOT** also followed CDC guidance and doing their own contact tracing. Employees who have been exposed are following CDC quarantining guidance. Changes to the office environment included installing plexiglass round common areas, requiring employees to wear masks, installing check in stations for entering the building to take employee temperatures, establishing a protocol for increased cleaning of common equipment, and shutting down the break area. The majority of **SDDOT** field workers continued to work in the field as field employees were considered essential workers so they were required to report to their designated locations throughout.

Changes Moving Forward
During COVID operations, one of **WYDOT**'s building lease spaces was up. Since many employees would continue to work from home, WYDOT consolidated and reduced the space they lease by approximately 2,000 sf.

> There were no large staff reductions, permanent layoffs, or extended furloughs. However, some states implemented a hiring freeze.

3.2 Organizational Adjustments / COVID-related Job Assignments
The pandemic caused DOTs to adjust how they operated and where their employees were most needed to continue normal, or as close to normal, operations. NWP members increased their use of online collaborative meetings and working groups. **SDDOT** used Microsoft Teams meetings more frequently to reduce the number of employees physically present at meetings even if they were working in the same building. **WYDOT** transitioned away from using phones for meetings and used Google Meet instead.

No North/West Passage states reported large staff reductions, permanent layoffs, or extended furloughs. **MnDOT**, **WSDOT** and **WYDOT** implemented a hiring freeze. **ITD** continued to fill positions and even hired and trained employees to avoid losing authorized positions. Though **SDDOT** did not reduce staff, some divisions did not actively recruit while other divisions continued to advertise and hire as usual with modified start dates. **NDDOT** was already lean at the start of COVID operations, so no additional reduction of workforce was necessary, and NDDOT maintained all its positions.

The needs of states changed due to the pandemic. To accommodate employees moving to operating remotely and states taking on additional safety precautions, the necessary tasks changed. Some DOTs assigned additional duties to DOT employees, others shifted employees within their departments to cover DOT activities, while still others temporarily re-assigned DOT employees experiencing a work slowdown to other state departments to support the COVID effort on either a full or part time basis. Some examples from provided by North/West Passage members are shown below.

- **ITD** supported the Emergency Support Function in the state emergency operations center (EOC) and assisted the Office of Emergency Management with transport or storage of personal protective equipment (PPE) to tribes or local health districts.
- Some **MnDOT** employees were reassigned to the Department of Health on a full-time, temporary basis to facilitate work balancing.
- The **MDT** motor pool did not need staffing at the same level since no one was traveling due to COVID, so some staff were reassigned on a temporary basis.
- **NDDOT**'s maintenance division worked with emergency response, embracing additional tasks to help during COVID including overseeing donation management centers, spending significant effort performing contact tracing, assisting the Department of Health with record keeping, and transporting PPE provided by the Department of Health.
- Some **SDDOT** employees have helped the Department of Health answer phone lines while other employees have helped at the lab if they had the skills.
- Wyoming's Department of Health was not set up to test quickly. Third party tests were available but there was no way to get them. **WYDOT** maintenance accepted the responsibility for coordinating transport of COVID tests. Maintenance and construction employees drove the tests to testing facilities and the TMC facilitated getting them where they needed to go. Maintenance and construction employees continued to do their regular jobs simultaneously. In addition, WYDOT's lab obtained ingredients to mix up hand sanitizer to help with COVID efforts.

3.3 TMC Operations

Not all NWP members operate a physical TMC. This section provides a summary of each North/West Passage state as an example of how TMC operations were addressed during the COVID-19 Pandemic.

ITD

ITD is dispatched by the Department of Health and Welfare's State Communications Center who also dispatch many other emergency services throughout the state. State Communications staff could not work remotely or provide dispatch services virtually due to required access to multiple state agency networks, the statewide radio system, emergency phone and audio recording systems. ITD continued to

receive support from State Communications even when State Communications experienced COVID-related employee absences and had to rehire retirees to assure adequate shift coverage.

MnDOT

At MnDOT, Regional Transportation Management Center (RTMC) operations continued in-person, onsite and did not move to remote operations. Though the RTMC's equipment could be operated remotely, the phone service and 911 service operate at higher access security. The RTMC is a large space with medical grade air filters, therefore MnDOT felt they could easily physically distance employees. See Figure 3. However, the benefits of being co-located with other state offices was a liability because the limited information available and differences in the interpretation and adoption of safety precautions between offices led to employee anxiety.

Figure 3: MnDOT RTMC
Photo courtesy of MnDOT

Figure 4: MnDOT RTMC Workstations with Clear Screen Curtains attached to PVC pipe
Photo courtesy of MnDOT

When disinfectant for cleaning was difficult to procure, MnDOT identified alternative options including bleach spray, ethanol alcohol they purchased from local breweries, and keyboard covers. MnDOT provided employees with different styles of mask options and added clear screen curtains attached to PVC pipe to help keep aerosols isolated. See Figure 4. They also developed a backup dispatch area so that if someone was sick and had been at the TMC, operations would move to the backup area so the main facility could be cleaned and disinfected. For the future, MnDOT is working on an offsite backup facility at their Arden Hills training facility, however, this site would not have been adequate for a pandemic.

MDT

MDT launched their TMC during the pandemic. TMC employees were required to be in the office because MDT uses radio over IP. TMC staff was hired during COVID and prior to hiring it was made clear that the position must be in person. As a precaution to prevent unnecessary exposure, the TMC is locked down so people who do not need to be there are not invited in. The plan for furniture was modified and walls were made taller to minimize the transmission of the disease. All MDT's TMC staff were required to wear a face mask outside of their office. Though the TMC uses shared workstations, each employee uses their own keyboard and mouse that has been disinfected. When employees finish their shift, they wipe down the workstation to disinfect it.

NDDOT

NDDOT does not have a TMC and had no change in traffic operations.

SDDOT

SDDOT does not have a TMC. They do set up a TOC for the Sturgis Motorcycle Rally but did not make any changes to the TOC during the pandemic.

WSDOT

WSDOT continued operations at all 6 TMCs which each adhering to their specific building protocols. Some centers found space that had been vacated (e.g. unused EOC consoles and conference spaces) within their building to spread people out while bringing new operators onboard and distancing from other co-located operations.

WYDOT

WYDOT has 5 districts, each with communications and ITS operations. In the past, WYDOT hired 6 seasonal employees to assist with weather-based workflow. WYDOT found that it took twice as long to train these new hires due to the complexity of ITS equipment and standardization, so in February 2020, WYDOT distributed their workflow, hiring 10 seasonal employees for communications and moving the more experience employees to handle the ITS needs.

When COVID became an issue, WYDOT already had their TMC working in a distributed environment. Seasonal employees were required to work onsite in the TMC to handle radio communications while permanent operators worked from home to ensure there was appropriate spacing within the TMC.

WYDOT is continuing with their distributed environment and allows operators who can telecommute to work from home one day per week to test the system. In March 2021, a severe snowstorm also caused WYDOT to implement their backup TMC protocols. A backup TMC, located in Cheyenne and Laramie, logs TMC communications remotely, and WYDOT's Transportation Reports and Action Console (TRAC) list

Figure 5: WYDOT TRAC
Courtesy of WYDOT

documents anything that needs action. See Figure 5. COVID operations and the March 2021 snowstorm have proven that WYDOT's distributed system works.

3.4 Managing Traveler Information

North/West Passage states posted dynamic message sign (DMS) messages related to COVID-19. For example, **SDDOT** placed portable message boards to advise motorists of two tribal checkpoints at reservation boundaries where tribes were trying to reduce the risk of COVID-19 spreading on their reservations. **ITD**'s DMS messages were posted by the districts but centrally coordinated, using a peer team to approve DMS messages.

ITD displayed messages identified through the governor's orders to address the pandemic by telling motorists to stay home, wash hands, or wear a mask. **SDDOT** also posted some public service messages (e.g., handwashing) requested by the Department of Health on the interstate from mid-March to late April

2020, and **NDDOT** COVID safety messages followed the unified command and the governor's joint information system to put messages such as #MaskupND, ND Smart, or images provided by the governor on DMS. **WYDOT** posted COVID-inspired DMS messages such as, "Arrive Alive, Wear a Mask When You Arrive."

Some states have received negative feedback on their use of DMS messages to distribute COVID-related messages. **MDT** put COVID messages on DMS when entering the state, especially when entering during a governor's order. Public feedback in Montana has been mostly negative although some within the state appreciate the DMS messages for things like testing. **NDDOT** also used DMS messaging to convey information on COVID testing sites and vaccine sites, but NDDOT has some citizens who only want operational messages, resulting in a resolution to not allow non-safety messages on DMS. **WYDOT** received some negative feedback on COVID messages, but some appreciated them.

States also continued regular traveler information operations. For example, though not a change due to COVID, **MnDOT** continued to pursue traveler information initiatives and completed a project in March 2021 to automate 511 entries from their maintenance decision support system (MDSS). **WSDOT** wanted to provide on-demand travel data and found a way to streamline that data on a public-facing dashboard so anyone could view the status of transportation within Washington including transit, ferries, and tolling.

Washington state reported a significant decline in travel across all modes of transportation since mid-March 2020. In early July 2021, the WSDOT COVID-19 Transportation System Performance Multimodal Executive Summary shows Washington's traffic level at 2% less than their baseline year. See Figure 6.
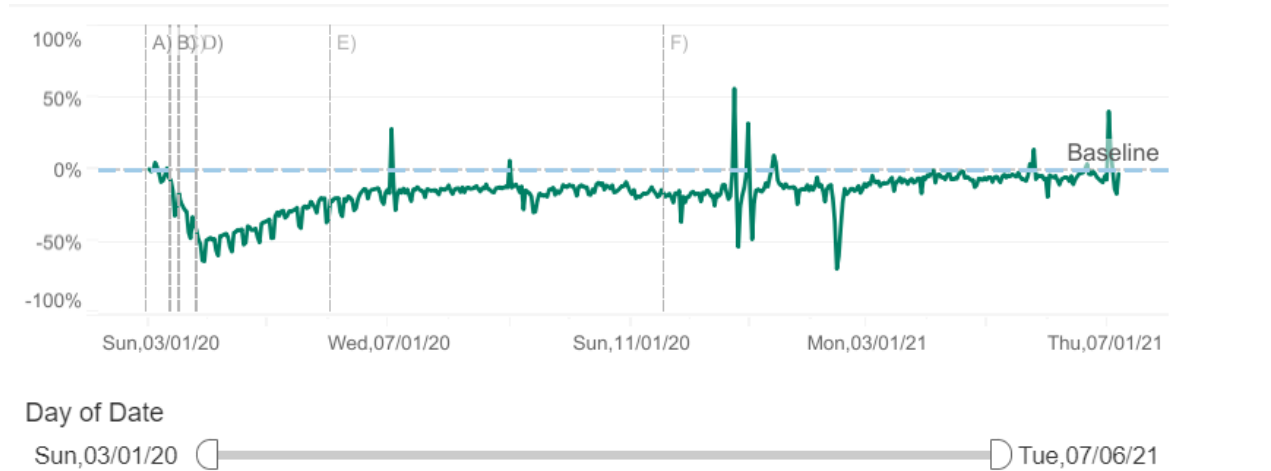
Figure 6: Washington state traffic compared to baseline year traffic as reported by the WSDOT COVID-19 Transportation System Performance Multimodal Executive Summary

3.5 Maintenance

North/West Passage members continued to perform maintenance since March 2020 as it was essential to the transportation system. Maintenance personnel were required to plow the roads during snowstorms and perform critical maintenance work, such as filling potholes, removing roadway hazards, and fixing guardrail.

Enhanced COVID precautions

In March 2020, **SDDOT** maintenance performed only essential, safety work. However, by April 2020 it was business as usual with staff following CDC protocols. SDDOT split crew start times to reduce close contact and modified work activities to ensure social distancing. When possible, there was only one employee per vehicle. Initially, **WYDOT** changed their procedures to only one maintenance employee per vehicle while **ITD** limited the number of employees to 2 per vehicle. ITD's striping truck is close quarters, so employees had to wear masks and were separated by a plastic divider.

In the beginning of COVID, **MnDOT** committed to a professional cleaning service, but maintenance is now self-sanitizing and routine cleaning is done internally. MnDOT maintenance facilities and equipment are disinfected if a positive COVID case is confirmed or presumed. In the office, MnDOT maintenance personnel wore PPE and observed physical distancing. Some MnDOT districts isolated truck stations while others shared staff and work teams.

Fleet vehicles

SDDOT secured extra vehicles from fleet management to social distance employees. **MnDOT** expanded their fleet with rentals since initially only one person was allowed in a vehicle. Eventually, guidelines allowed 2 people per vehicle (driver and back seat passenger with windows open) and more than 2 people for shorter durations. **NDDOT** maintenance added fleet vehicles to assist with social distancing. When social distancing was not an option, masks were required.

Winter maintenance and weather events

NDDOT already had a standard contract for equipment but contracted for drivers to operate NDDOT plows and made provisions for additional contracts for operators, plows, and equipment if needed. **MnDOT** developed staffing contingency plans by establishing nine levels to guide their staffing needs for keeping the roads plowed. The first 4 levels were handled internally through normal operations, backup operations (normally used for employee training, vacation, etc.), adjacent districts, and a mobile statewide volunteer strike force. Levels 5-7 were external and included a shared response from snow fighters, other agencies (particularly the Department of Natural Resources who also employs CDLs), and private contracts, if needed, and Level 8 involved the national guard while Level 9 closed roads. These levels required union discussions and acceptance. MnDOT did not have to move beyond levels 1 and 2 with one known exception that involved deploying level 3.

Generally, **WYDOT** maintenance has over delivered for snow removal. In Winter 2020-2021, they needed to cut back to merely delivering services at the promised level since revenue is down for snow routes. There have been some complaints that not all routes are cleaned to the same level. WYDOT is working to scale back expectations to meet committed services.

Impact to projects

MDT maintenance activities have been impacted by social distancing and modifying shifts to decrease the number of employees working in an area. Work was slowed and MDT shifted to their winter shift schedule in mid-summer to help distance employees. MDT maintenance also experienced some issues getting goods delivered.

COVID-related additional experiences

ITD experienced an issue when a contractor team came down with COVID and had to be quarantined. This slowed completion dates because the contractor was understaffed. **NDDOT** maintenance held weekly operations calls to discuss COVID and quarantine numbers to facilitate shifting staff, if necessary.

3.6 Service Patrols/Motorist Assist/Incident Response

MDT, **NDDOT**, and **SDDOT** do not have service patrols. In Wyoming, patrol does service when called. **MnDOT** and **WSDOT** patrols continued operating with extra cleaning precautions and wearing masks. **ITD** safety patrols were implemented last year. The incident response team rode in the same vehicle but wore masks and social distanced. Since traffic volumes decreased with most people staying home, hours were reduced initially, but after about 1 month, traffic started to increase again, and hours returned to normal.

3.7 Funding Implications

The funding implications of the COVID-19 pandemic varied by state. **SDDOT** has not seen a significant change in funding. There was a drop in traffic in April 2020, so fuel tax dollars were down slightly for 2020, but traffic was only about 5% less than normal by June 2020. **MDT** has not had any significant funding challenges. MDT is funded 100% on gas tax and though revenue did decrease slightly, gas tax revenue did not decrease substantially as Montana saw a lot of out-of-state traffic during the summer and into the fall. MDT did not have to reprioritize or bump any projects.

ITD projects also continued to move forward. ITD has sufficient funding since current transportation sourced revenue exceeds forecasts, ITD has exercised good fiscal responsibility, and Idaho's governor proposed one-time and on-going revenue sources to ITD this legislative session, as well as available FEMA and FHWA funding. ITD is monitoring future potential revenue impacts, but currently, scheduled projects remain as planned.

MnDOT's funding has been impacted due to a reduction in traffic volumes, but the impact was less than anticipated. MnDOT expects some challenges related to the gas tax that will be permanent. **WYDOT** is experiencing decreased revenue since vehicle miles are down, resulting in the gas tax also being down. Now, vehicle miles traveled has rebounded, but Wyoming's economy is still down. **NDDOT** submitted their needs to Emergency Communications and FEMA. The Cares Act paid for some of NDDOT's increases in operations.

3.8 Debrief Documents

Writing debrief documents is an ongoing process and many DOTs have not completed debrief documents. **MnDOT** has created a continuity of operations document and a document regarding preparedness and cleaning. MnDOT also started a best practices document early on to address issues such as how to make Microsoft Teams more effective, how to stay connected in a disconnected world, and what the return to the workplace will look like. **ITD** put procedures in place for rest areas, rewrote a pandemic response document, and developed procedures focused on the facility. ITD is in the process of gathering information to complete an after action review (AAR) for COVID-19. **MDT** has created a COVID Information Employee page which includes links to state issued COVID guidance, vaccine and testing information, press releases as well as MDT issued guidance on cleaning of facilities as well as vehicle disinfecting

guidelines.   **NDDOT** has also changed many policies including a District guideline and a spreadsheet detailing COVID work options.

3.9 Lessons Learned

North/West Passage states reported some lessons learned but most agree that it is still early as the situation continues to change and evolve. Many lessons learned focused on remote operations, telecommuting, and virtual meetings. Some of the comments and lessons learned offered by North/West Passage members are shown below:

Operations

SDDOT was pleasantly surprised by state government's ability to transition and get the necessary technology very quickly to provide access within 1 week. **MDT** learned they must prepare for the future with the understanding that they can't predict what will affect operations or how things will change and that the changes depend on needs. **ITD**'s AAR will identify beneficial procedures that were implemented during the pandemic, ITD may want to keep such procedures for rest areas, common office areas, or vehicle cleaning.

NDDOT identified that they need to ensure that the programs being used can be run virtually so that if employees can't be in the office, they can do the work remotely. **SDDOT** increased their preparedness in terms of hardware and permissions to allow remote work by doing things such as replacing computer towers with laptops.

In the future, illness may be dealt with in a different way. **MDT** acknowledged that being sick at work will no longer be acceptable and that there may be an organizational change for sick employees to stay at home and work. COVID has forced **SDDOT** to show a willingness to try new things. For example, hiring remote workers. Prior to COVID this may not have been allowed. It has also expanded their pool of applicants between geographic locations.

Telecommuting

ITD will want to keep the more robust VPN and infrastructure in place to support employees working remotely. Prior to COVID-19, **ITD** had few employees telecommuting. The pandemic forced this issue and ITD realizes that they may be able to save space by allowing employees to work remotely. This experience has driven ITD to review guidance on the telecommuting issue and potentially create a change in attitude from management.

In the future, **MnDOT** will likely buy laptops instead of desktops to allow employees to make a quick transition to teleworking, if needed. MnDOT expects more employees working from home, at least partially, moving forward (ex. 2 days telework/3 days in the office). This brings up a concern for the long-term impact of reduced "hallway business." In addition, MnDOT is heavily dependent on IT but that has recently been moved into another department so teleworking increased the communication struggle. However, since there is a TSMO goal to enhance and encourage teleworking and District Engineers have been denied requests for building expansions, MnDOT expects a large portion of employees to take advantage of teleworking at some point in the future.

Teleworking options may become more standard. Before the pandemic, **MDT** believed they had to be in the office to be productive and get the job done. Now, it seems teleworking does allow the job to be done. Since leadership can see that teleworking is working, **WSDOT** plans to move forward with a teleworking policy and allow more employees to participate.

Prior to COVID very few employees telecommuted and **NDDOT** was not considering remote work as a viable option. COVID showed that telework is a possibility and that the work gets done without a decrease in service. North Dakota's governor is now pushing work at home as a permanent solution for the state, so a lot of employees are not going into the office. This saves the state money since many offices were leasing space. **SDDOT** learned what works and what doesn't for remote work and developed a greater comfort level with what, by whom, and where work takes place.

Some employees like teleworking, others feel it is isolating not being in the office. **MDT** is wondering about how to reach a balance in the future. Even with teleworking options, state law prevents MDT employees from living and working outside Montana although contractors can live anywhere.

Virtual Meetings
Though there is some benefit to large gatherings, a lot can be accomplished virtually, decreasing the cost and time involved with travel. In the future, **SDDOT** anticipates there will be more reliance on virtual meetings, but in-person meetings will also have their place as remote meetings diminish the quality of individual dialogue and secondary conversations. SDDOT learned to utilize technology better including using Microsoft Teams to become more flexible with different platforms. In addition, SDDOT recently equipped two meeting rooms to be smart compatible. **WYDOT** created online meetings very early on to establish strategies. Zoom meetings have worked well for **ITD** and in the future could continue to work well although employees will still need to travel for some meetings. **NDDOT** found high value in using Microsoft Teams.

Cooperation, Communication, and Planning
In the past, **ITD** viewed itself as fully independent within Idaho. COVID-19 demonstrated the potential role ITD could play and how they could be more proactive by working with other state agencies and the Office of Emergency Management. For example, ITD acknowledged that though Coeur d'Alene, ID and Spokane, WA are close in proximity, the states have handled some issues differently. Perhaps looking at what was done in each area would be beneficial to try to present more cohesive communication in the future. ITD also observed that messaging for COVID or weather could be considered for a coordination effort between states throughout the corridor to provide motorists with consistent messages. **MDT** built collaboration efforts and utilized other pooled funds (e.g., Clear Roads) to avoid reinventing and utilized some things that were already in place to help.

WYDOT compiled notes for each program and each district and distributed them to employees. This information communicated what was being done and how products would be distributed. Employees seemed to appreciate being kept in the loop. **MnDOT** learned not to let perfection lead to confusion as policies were refined. For example, early communication contained a lot of uncertainty as MnDOT wanted communications approved. Trying to make things perfect caused confusion. The pandemic revealed the

need for a more robust Contingency of Operations Plan (COOP). **NDDOT** met the risk management requirement, but the plan consisted mainly of a calling tree and backup procedures. NDDOT is looking at other states for help updating their COOP for the future.

3.10 Other Observations

MnDOT observed that COVID brought up entirely new employee management challenges. Evaluating work performance was challenging, but managers had to trust and have faith that the day-to-day business would get done. However, MnDOT had to work out some union issues for at-home employees and there continues to be some tension between those required to work in the office every day and those teleworking which may be an issue when the department transitions back to primarily working in the office.

Despite restrictions to COVID, many states found that construction activities needed to and could move forward. **MnDOT** construction used mixed protocols. Virtual interactions were used between work groups, for contractor meetings, and for pre-construction meetings. Mobile apps and weekly updates were also used. Construction managers benefitted as it became easier to be in more places and provide better support. Since COVID occurred ahead of summer construction, **NDDOT** could meet to work through potential issues to get ready for the construction season. However, NDDOT observed a lag in procuring equipment and supplies due to a slowdown in the supply chain. **SDDOT** construction projects continued. Contractors had some labor and supply issues but those were limited.

If trucks were hauling emergency supplies, **SDDOT** increased the allowable weight of divisible load by 10%. **ITD** freight management moved online. FHWA Waivers for hauling freight related to COVID-19 helped. **NDDOT** CDL testing continued during shutdowns. **WYDOT** issued an emergency exemption from permissible operating time regulations and waiver of allowable size and weight permit fees for drivers transporting emergency relief supplies within Wyoming. WYDOT also suspended non-commercial driving tests for 90 days and allowed a 90-day grace period for expiring drivers licenses. To assist freight drivers in finding food and facilities, WYDOT posted messages on DMS and used HAR to provide the details for services.

NDDOT provided only online or mail-in driver's license and motor vehicle services with employees working remotely to continue business operations. A major shift for NDDOT Motor Vehicle to work online created a permanent process for appointment only service and expanded apps and kiosks.

In the beginning, **MnDOT** put food trucks in rest areas. Rest area custodial staff are largely retirees 70-75 years old. With COVID, some self-selected out while others used PPE and sanitized. **MDT** contracts rest area upkeep to a caretaker. A plan was in place that if the caretaker got sick, the rest area would close. MDT has not had to implement this plan. Throughout this experience, **SDDOT** rest areas have remained open with additional cleaning contracts. **NDDOT** incurred additional costs from increased cleaning at rest areas.

In addition to the pandemic, the country was experiencing civil unrest in many states. **ITD** developed plans in case civil unrest blocked freeways.

4. SUMMARY

This section highlights key COVID-19 experiences gathered from the NWP members.

- Most agencies were not prepared to transition to teleworking, however it was accomplished quickly because there was not another option.
- Some states had telecommuting policies that required only slight modifications while others adopted policies from other state agencies or created new policies.
- Many agencies faced challenges with ensuring each employee that was teleworking had the necessary equipment.
- Access issues also created a variety of challenges for DOTs. Typical areas of concern involved WiFi, the DOT network, virtual private network (VPN) access, or security. DOTs found a variety of solutions to their access issues.
- Some DOTs transitioned back to the office and others were or are still in the process of developing and implementing transition plans to return to the office.
- DOTs needed some employees to continue to report to their designated sites, taking safety precautions to minimize the risk of contracting and spreading COVID-19.
- There were no large staff reductions, permanent layoffs, or extended furloughs. However, some states implemented a hiring freeze.
- Not all NWP members operate a physical TMC. However, MDT, WSDOT and MnDOT operated in-person and onsite. WYDOT operated remotely.
- North/West Passage states posted dynamic message sign (DMS) messages related to COVID-19.
- North/West Passage members continued to perform maintenance since March 2020 as it was essential to the transportation system. Maintenance personnel were required to plow the roads during snowstorms and perform critical maintenance work, such as filling potholes, removing roadway hazards, and fixing guardrail.
- Service patrols continued to operate with extra cleaning precautions and wearing masks.
- Writing debrief documents is an ongoing process and many DOTs have not completed debrief documents.
- Remote work has provided management with some added comfort that employees can work remotely and get things done.
- In the future states will likely buy laptops instead of desktops to ease transitions to teleworking.
- Though there is some benefit to large gatherings, a lot can be accomplished virtually, decreasing the cost and time involved with travel.

As the COVID-19 pandemic continues, NWP agencies continue to review and apply what has worked well within their agency for teleworking, communication to employees, and safety precautions. Overall, NWP members were surprised how quickly they were able to transition to teleworking and will use the lessons learned from the process to apply to future events.

Appendix A: Interview Questionnaire Guide

Questionnaire Guide – January 7, 2021

Employees Working Off-site

1. Have any new or revised policies been developed for employees working virtually?
2. What groups worked or are working virtually?
3. Did staff have equipment needed to perform their jobs at home?
4. What was the process for accessing the network? Issues? What went well?
5. Were there any adjustments to security (e.g., software, protocols)?
6. Have employees transitioned back to the office?

COVID-related Job Assignments

7. Were any DOT employees reassigned to work on COVID efforts or assigned new tasks due to the pandemic?
8. Were there any organizational adjustments (e.g., staff reductions or other organizational changes)?
9. Were there changes to overall staffing (e.g., employees switching jobs)?

TMC Operations

10. Did your center(s) go to virtual operations or remain in a physical space?
    - Virtual
        - How long did your agency's TMC functions operate virtually?
        - What is/was the schedule to move back to the TMC physical space?
        - Were there any functions that couldn't be conducted virtually?
    - Physical Building/Space
        - What changes were implemented? (e.g., how do you social distance?)
        - What guidelines are in place for employees working in the physical TMC space?

Managing Traveler Information

11. Have there been changes to how traveler information is managed?
12. Have any procedures/policies changed, such as ability to post non-traffic messages? What COVID-related messages have been posted?

Maintenance

13. To what extent were maintenance activities impacted due to COVID?
14. Were there any policy/procedure changes for staff maintaining roadways, snow/ice operations?
15. Has the agency defined parameters that need to be met (or a preliminary timeline) before maintenance activities will return to pre-COVID status?
16. How did COVID impact your routine maintenance and repairs of ITS devices?

Service Patrols/Motorist Assist

17. What changes or modifications, if any, were made with service patrols/motorist assist?

Funding Implications

18. Were there any funding challenges with the pandemic that impacted operations or project prioritization?
19. Are the funding challenges expected to be temporary or permanent?

Debrief Documents

20. Did your agency document changes in agency operations or other responses to COVID?

Lessons Learned

21. How has the experience prepared your agency for future similar events?
22. Will any changes become standard after the pandemic ends?

Other

23. Anything additional to add regarding your state's response to the COVID Pandemic (e.g., freight operations, construction, rest areas)?

Appendix B: Interview Notes

- Idaho Transportation Department (ITD)
- Minnesota Department of Transportation (MnDOT)
- Montana Department of Transportation (MDT)
- North Dakota Department of Transportation (NDDOT)
- South Dakota Department of Transportation (SDDOT)
- Wyoming Department of Transportation (WYDOT)

Idaho Transportation Department Interview Notes

The following table includes information gathered from an online search and during a phone interview with Tony Ernest and Neal Murphy from ITD on 1/13/21.

Idaho Transportation Department (ITD)	
Employees Working Off-site	• Initially, ITD did not have its own telecommuting policy and fell under the state Division of Human Resources (DHR) telecommuting policy which was revised for the pandemic. ITD has since developed its own telecommuting policy. • In March 2020, all employees went remote. Some returned on their own but when the peak hit some of those went back home. • Most employees had laptops prior to transitioning to working from home although there were some employees who used desktops. • Some minor hurdles involved employees wanting to take home desktops, printers, or chairs. ITD had to document what went home. • There were some issues with WiFi. Some employees did not have WiFi at home. ITD created solutions for approximately 8 -10% of their employees to work from home. • Prior to the pandemic ITD rolled out Office 365. This proved to be critical with staff working from home. In addition, ITD purchased additional VPN licenses to allow employees to access specific areas of the network. • Software updates and password reboots for employees working from home have caused a few problems. Employees worked with IT to overcome issues with specific programs such as those used for engineering. By April/May 2020, ITD's technical solutions were in place, this is a continuing process. • ITD did not have significant network issues but did enhance network security training. If employees didn't use VPN there were some security issues that ITD has been made aware of. VPN allows IT to review and minimize most security issues. • Many office workers are providing essential services from their homes although ITD is transitioning back into the office. ITD's transition is ongoing and there is no pressure to return or to stay home. ITD headquarters is approximately 10-15% back in the office. • Approximately 90% of district employees are back in the office, some split schedule and others full time. Some ITD employees do not want to continue to work from home. Another 15% prefer not to go into the office at all so they are continuing to work from home. • Employees at Idaho's points of entry continued to work during the whole pandemic with safety measures in place. Operation employees continued to work and have transitioned to plow operations during the whole pandemic. During the initial phase, work was slowed as ITD implemented safety measures and guidelines. • In the office there have been some positive COVID cases, but protocols are in place. Plexiglass has been installed and employees are reminded to wash hands frequently. ITD has policies and procedures for cleaning and

Idaho Transportation Department (ITD)	
	sanitizing in place. Employees going into the office are maintaining social distance and wearing mask in common areas.
	• If someone goes home and is positive for COVID or needs to quarantine, the office area is cleaned. ITD is trying to find a way to clean only the nearby parts of the office instead of having to clean all the office, but this has been difficult to do without violating HIPAA.
Organizational Adjustments/ COVID-related Job Assignments	• ITD has mobilized its IT resources to provide the equipment to keep work going.
	• Collaborative meetings and working groups are conducted online.
	• ITD has been assigned and supports Emergency Support Function 1 in the state EOC working with the Office of Emergency Management. Some of the responsibilities have included 20-25 missions to transport/storage of PPE to tribes/local health districts. Many employees have been assigned a temporary rotation in this role for approximately a week each. Some continue to fully support the COVID effort.
	• Some staff were reassigned initially due to work slowdown. For example, a receptionist would have additional time since buildings were not open. However, assignments are mostly back to normal now.
	• At first there was a lot of uncertainty about positions and roles, but ITD did not have to make any staff reductions. ITD continued to fill positions and even hired and trained employees to avoid losing authorized positions.
	• Most employees have stayed in their jobs, but there has been the normal transition of employees with retirements and employees accepting new opportunities.
TMC Operations	• ITD is dispatched by the Department of Health and Welfare's State Communications Center who also dispatch many other emergency services throughout the state. State Communications staff could not work remotely or provide dispatch services virtually due to required access to multiple state agency networks, the statewide radio system, emergency phone and audio recording systems. ITD continued to receive support from State Communications even when State Communications experienced COVID-related employee absences and had to rehire retirees to assure adequate shift coverage.
Managing Traveler Information	• ITD had no major shifts in business practices for 511 information. State Communications inputs a lot of the information, but districts are responsible for updating construction and maintenance information. ITD employees were able to complete these updates from home since the 511 software is web-based.
	• One change in traveler information was that ITD began displaying COVID information to the public to describe what they were likely to encounter while driving into an area.
	• DMS messages were posted by the districts but centrally coordinated. ITD used a peer team to approve DMS messages that were not typically displayed. This gave them some support for addressing public complaints. They also displayed messages identified through the governor's orders.

Idaho Transportation Department (ITD)	
	• DMS messages posted under the change to address the pandemic included messages telling motorists to stay home, wash hands, or wear a mask. ITD could justify these messages since the DMS boards were authorized for use during emergencies in addition to highway communications.
Maintenance	• Maintenance made some policy changes and continued to do their work. One of the changes they implemented was to limit the number of employees to 2 per vehicle. • Maintenance personnel are on-hand to plow the road during snowstorms and do critical maintenance work, such as filling potholes, removing roadway hazards, and fixing guardrail. • The striping truck is close quarters. Employees wear masks and were separated by a plastic divider. • One issue occurred when a contractor team came down with COVID and had to be quarantined. This slowed completion dates because the contractor was understaffed.
Service Patrols/ Motorist Assist	• Safety Patrols were implemented last year. The incident response team rode in the same vehicle but wore masks and social distanced. • Since traffic volumes decreased with most people staying home, hours were reduced initially. After about 1 month, traffic started to increase again, and hours returned to normal.
Funding Implications	• ITD projects continue to move forward. Idaho has sufficient funding due to current transportation sourced revenue exceeding forecasts, good fiscal responsibility, and the governor proposing one-time and on-going revenue sources to the department this legislative session, as well as available FEMA and FHWA funding. • As always, ITD keeps a close eye on future potential revenue impacts, but as of now, currently scheduled projects remain as planned.
Debrief Documents	• ITD put procedures in place for rest areas, rewrote a pandemic response document, and developed procedures focused on the facility. • ITD is in the process of gathering information to complete an after action review (AAR).
Lessons Learned	• Prior to COVID-19, ITD had limited employees telecommuting. The pandemic pushed this issue and ITD realizes that they may be able to save space by allowing employees to work remotely. This experience has driven ITD to review guidance on telecommuting issue and potentially creating a change in attitude from management. • Zoom meetings have worked well and in the future could continue to work well at times although employees will still need to travel for some meetings. • ITD's AAR will identify beneficial procedures that were implemented during the pandemic, ITD may want to keep such procedures for rest areas, common areas, or vehicle cleaning. • In the past, ITD viewed itself as fully independent within Idaho. COVID-19 demonstrated the potential role ITD could play and how they could be

Idaho Transportation Department (ITD)	
	more proactive by working with other state agencies and the Office of Emergency Management. • Enterprise technical services were not fully prepared to send all employees home. ITD will want to keep the more robust VPN and infrastructure in place to support employees working remotely.
Other	• Construction is continuing to move forward. • ITD developed plans in case civil unrest blocked freeways. • Freight management moved online. FHWA Waivers for hauling freight related to COVID-19 helped. • Coeur d'Alene and Spokane are close in proximity, but their different states have handled some issues differently. Perhaps looking at what was done in each area would be beneficial to try to present more cohesive communication in the future. • Messaging for COVID or weather could be considered for a coordination effort between states throughout the corridor to provide motorists with consistent messages.

Minnesota DOT Interview Notes

The following table includes information gathered from an online search and a phone interview with Cory Johnson, Steve Lund, and Jed Falgren from MnDOT on 4/2/21.

Minnesota DOT (MnDOT)	
Employees Working Off-site	• MnDOT, since March 2020, is teleworking as much as possible for employees who can do their jobs from home. Field staff needed to report as did mechanics. Construction inspectors reported as needed. • MnDOT transformed to a teleworking agency within a week. • Most meetings are being held virtually. • MnDOT's IT staff found multiple ways for teleworking employees to connect to the network including VPN, providing MiFi, or supplying WiFi, if necessary. • MnDOT is not transitioning back to the office yet. As MnDOT considered moving back to physical offices in fall 2020 and prepared for winter activities, wave 2 of COVID hit, delaying their return to the office. Consequently, very few who were sent home have returned to the office, however, there is a process in place when the time comes. • MnDOT's return to offices will begin sometime after July 1, 2021 (the start of the next fiscal year) and will likely be a hybrid model where some time is in person and other time will be virtual.
Organizational Adjustments/ COVID-related Job Assignments	• A few employees were reassigned to a different assignment to facilitate work balancing. For example, the Office of Communications and TSMO director and other MnDOT staff were re-assigned to the Dept of Health on a full-time, temporary basis. • Currently, MnDOT's planning efforts would transition employees to different buildings if needed; however due to the quick nature of employees moving to teleworking for the COVID-19 pandemic, employees will telework instead of moving buildings. • MnDOT had no staff reductions but did not backfill as employees moved on. Minnesota implemented a state hiring freeze except for critical positions such as for snowplow drivers who retired.
TMC Operations	• TMC operations is still in-person, onsite and did not move to remote operations, however, most supervisors are teleworking. • Though the RTMC's equipment could be operated remotely, the phone service and 911 service operate at higher access security. Since the RTMC is a large space, MnDOT felt they could easily physically distance employees. • TMC operations are located with the state patrol including maintenance dispatchers and operations. Buildings were locked down so that only employees who needed to access the building were allowed in. • The RTMC accepted and distributed deliveries and mail with additional precautions. Employees needed authorization and health screening to collect mail in bulk monthly.

Minnesota DOT (MnDOT)	
Managing Traveler Information	• Though not a change due to COVID, MnDOT pursued traveler information initiatives and completed a project in March 2021 to automate 511 entries from MDSS.
Maintenance	• Daily interactions for cleaning, etc. changed. Maintenance is in the office with PPE and physical distancing. Some districts isolated truck stations. Others shared staff and work teams. • MnDOT expanded their fleet with rentals since initially only one person was allowed in a vehicle. Eventually, guidelines allowed 2 people per vehicle (driver and back seat passenger with windows open) and more than 2 for shorter durations. • In the beginning, MnDOT committed to a professional cleaning service, but now routine cleaning is done internally. Now, maintenance is self-sanitizing. Facilities and equipment are disinfected if a positive COVID case is confirmed or presumed. • MnDOT established levels on how to keep roads plowed. The first 4 levels were handled internally (1: normal, 2: backup (normally used for training, leaves, etc.), 3: adjacent districts, 4: mobile volunteers). Levels 5-7 were external and included a shared response from snow fighters, other agencies, and private contracts, if needed. Level 8 involved the national guard and level 9 closed roads. These levels required union discussions and acceptance. MnDOT did not have to move beyond levels 1 and 2 with one known exception that involved deploying level 3.
Service Patrols/ Motorist Assist	• Service patrols continued to operate with extra cleaning precautions and wearing masks.
Funding Implications	• Funding has been impacted due to a reduction in VMT but, so far, it has been less than anticipated. • MnDOT expects some challenges related to the gas tax that will be permanent.

Debrief Documents	• This is an ongoing process. MnDOT created a continuity of operations document and a document regarding preparedness and cleaning.
	• MnDOT started a best practices document early on to address issues such as:
	    ○ How to make Microsoft Teams more effective.
	    ○ How to stay connected in a disconnected world.
	    ○ What will the return to the workplace look like.

Lessons Learned	• In the future, MnDOT will likely buy laptops instead of desktops to allow employees to make a quick transition to teleworking, if needed. • MnDOT expects more employees working from home, at least partially, moving forward (ex. 2 days telework/3 days in the office). This brings up a concern for the long-term impact of reduced "hallway business." • MnDOT learned not to let perfection lead to confusion as policies were refined. For example, early communication contained a lot of uncertainty as MnDOT wanted communications approved. Trying to make things perfect caused confusion.

Minnesota DOT (MnDOT)
Other

Other	• In the beginning, MnDOT put food trucks in rest areas. Rest area custodial staff are largely retirees 70-75 years old. With COVID, some self-selected out while others used PPE and sanitized. • There is some tension between those required to work in the office every day and those teleworking. This may be an issue when the department transitions back to primarily working in the office. • MnDOT also had to work out union issues for at-home employees. • Construction used mixed protocols. Virtual interactions were used between work groups, for contractor meetings, and for pre-construction meetings. Mobile apps and weekly updates were also used. Construction managers benefitted as it became easier to be in more places and provide better support. • COVID brings up entirely new employee management challenges. Evaluating work performance is challenging, but managers have to trust and have faith the day-to-day business will get done.

Montana DOT Interview Notes

The following table includes information gathered from an online search and during a phone interview with Mike Warren, Doug McBroom, Susan McEachern, and Walt Kerttula from MDT on 1/11/21.

Montana DOT (MDT)	
Employees Working Off-site	• In March 2020, Montana's governor issued a directive that everyone who could work from home should do so. MDT had a telework policy which they reviewed but did not change. MDT did alter some processes and procedures to allow employees to telework. In addition, MDT developed guidance for things such as vehicle cleaning. • MDT met with administration and directors to evaluate the equipment on hand, what could be taken home, and who had internet access. Some employees needed internet connections at their house if they could not work in the office. • Challenges facing MDT came with equipment. MDT staff did not have the equipment to work at home, so some staff took desktops, monitors, and even CAD stations home. The IS Division bought Chromebooks and lower end laptops to send home with employees to use for VPN. • MDT had to scale up VPN to transition from very few employees needing remote access to almost all employees working remotely. • MDT retained its multifactor authentication for security even with VPN. • As of January 2021, most MDT employees are still working remotely. No return to the office has been scheduled yet, however, a very small number have transitioned back on their own. • MDT allowed a handful of employees with connectivity issues at home to go into the office periodically.
Organizational Adjustments/ COVID-related Job Assignments	• Additional duties were assigned to some MDT employees. Others were reassigned. For example, Motor Pool employees are contained within the Equipment group. Since no one was traveling, the Motor Pool did not need staffing at the same level, so some staff were reassigned to cleaning and remodeling on a temporary basis. MDT did not make any permanent reassignments. • At the beginning there were additional tasks regarding policies and procedures, but now these tasks are nearly back to normal. • MDT saw no staff reductions and was able to keep all staff working either at home or with precautions in the office.
TMC Operations	• MDT's TMC was launched during the pandemic. • TMC employees must be in the office because MDT uses radio over IP as other solutions are cost prohibitive. • TMC staff was hired during COVID and prior to hiring it was made clear to employees that the position must be in person. • As a precaution to prevent unnecessary exposure, the TMC is locked down so people who do not need to be there are not invited in. The plan for furniture was modified and walls were made taller to minimize the transmission of disease.

Montana DOT (MDT)	
	• All staff must wear a face mask outside of their office. • The TMC uses shared workstations, but each employee uses their own keyboard and mouse that has been disinfected. When employees finish their shift, they wipe down the workstation to disinfect it. • MDT has had one employee who tested positive for COVID-19, but with MDT's protocols, no one else tested positive.
Managing Traveler Information	• There were no changes to traveler information. • MDT has followed federal guidelines for messages and did put COVID messages on DMS when entering the state, especially when entering during a governor's order. This practice will continue, however, public feedback has been mostly negative although some within the state appreciate the DMS messages for things like testing.
Maintenance	• Maintenance activities have not stopped, but they have seen some impact by social distancing and modifying shifts to decrease the number of employees working in an area. Work was slowed and MDT shifted to their winter shift schedule in mid-summer to help distance employees. • Maintenance did experience some issues getting goods delivered.
Service Patrols/ Motorist Assist	• Montana does not have service patrols.
Funding Implications	• So far, MDT has not had any significant funding challenges. Overall, revenue did decrease slightly, and MDT is funded 100% on gas tax. However, gas tax revenue did not decrease substantially as Montana saw a lot of out of state traffic during the summer and into the fall. MDT did not have to reprioritize or bump any projects.
Debrief Documents	• Montana did document some changes on their internal COVID page and will share what they can.
Lessons Learned	• Prepare for the future. You can't predict what will affect operations or how things will change. Changes depend on needs. • MDT built collaboration efforts and utilized other pooled funds (e.g., Clear Roads) to avoid reinventing and utilize some things that were already in place to help. • Teleworking options may become more standard. Before the pandemic, MDT believed they had to be in the office to be productive and get the job done. Now, it seems teleworking does allow the job to be done. • In the future, illness may be dealt with in a different way. Being sick at work will no longer be acceptable. There may be an organizational change for sick employees to stay at home and work.
Other	• Even with teleworking options, state law prevents MDT employees from living and working outside Montana although contractors can live anywhere. • Some employees like teleworking, others feel it is isolating not being in the office. MDT is wondering about how to reach a balance in the future. • Montana contracts rest area upkeep to a caretaker. A plan was in place that if the caretaker got sick, the rest area would close. MDT has not had to implement this plan.

North Dakota DOT Interview Notes

The following table includes information gathered from an online search and during a phone interview with Brandon Beise, Mike Kisse, and Brad Darr from NDDOT on 1/20/21.

North Dakota DOT (NDDOT)	
Employees Working Off-site	- The majority of employees transitioned to working from home in March 2020. District offices decreased to 25% staff in the office. - Most of the Maintenance Division had laptops and brought those home. Those employees who had desktops took their desktop home. Keyboards and mice were also sent home with employees, but furniture such as chairs remained in the office. Headphones, cameras, and USB ports were purchased and sent with employees since prior to COVID NDDOT did not have extensive needs for these items. - NDDOT began transitioning back to the office but with the November 2020 surge they needed to drop back to 25% capacity. As of January 2021, NDDOT is allowed to return up to 50% capacity. - North Dakota has a centralized IT department for all state government. The IT infrastructure had to catch up for people without access. Additional VPN was needed to handle the load in other areas. - NDDOT put working teams together and changed or developed a lot of policies such as telecommuting. - NDDOT's work at home policy for teleworking includes performance metrics since whole divisions are working from home. The department was headed toward pay for performance prior to COVID, so including performance measure in the telecommuting policy was a natural choice.
Organizational Adjustments/ COVID-related Job Assignments	- The Maintenance Division worked with Emergency Response, embracing additional tasks to help during COVID including overseeing donation management centers, spending significant effort performing contact tracing, assisting the Department of Health with record keeping, and transporting PPE provided by the Department of Health. - Some divisions shifted priorities and tracked traffic movement changes. - NDDOT was fairly lean after a reduction of workforce at the last biennium, so no additional reduction of workforce was necessary and NDDOT maintained all its positions.
TMC Operations	NDDOT had no change in traffic operations.
Managing Traveler Information	- Management of traveler information systems did not change with COVID. - COVID safety messages followed the unified command and the governor's joint information system. This helped put messages like #MaskupND, ND Smart, or images provided by the governor on DMS. - NDDOT had a policy for message priority already in place. COVID messages were considered low priority and displayed only when other higher priority messages were not needed. Some citizens only want operational messages, however, and there is a resolution that has resurfaced to not allow safety messages on DMS.

North Dakota DOT (NDDOT)	
Maintenance	• Maintenance added fleet vehicles to assist with social distancing. When social distancing was not an option, masks were required. • NDDOT already had a standard contract for equipment but contracted for drivers to operate NDDOT plows. • Maintenance held weekly operations calls to discuss the COVID and quarantine numbers to facilitate shifting staff, if necessary. So far, however, they have not had to do this.
Service Patrols/ Motorist Assist	• ND does not have service patrols.
Funding Implications	• NDDOT submitted their needs to Emergency Communications and FEMA. The CARES Act paid for some of the increases in operations.
Debrief Documents	• Many policies changed. A District Guideline document was provided and a spreadsheet detailing out COVID work options.
Lessons Learned	• Prior to COVID very few employees telecommuted and NDDOT was not considering remote work as a viable option. COVID showed that telework is a possibility and that the work gets done without a decrease in service. North Dakota's governor is now pushing work at home as a permanent solution for the state, so a lot of employees are not going into the office. This saves the state money since many offices were leasing space. • NDDOT found high value in using Microsoft Teams. • The pandemic revealed the need for a more robust Contingency of Operations Plan (COOP). They met the risk management requirement, but the plan consisted mainly of a calling tree and backup procedures. NDDOT is looking at other states for help updating their COOP for the future. • NDDOT needs to ensure that the programs being used can be run virtually so that if employees can't be in the office, they can do the work remotely.
Other	• NDDOT provided only online or mail-in driver's license and motor vehicle services with employees working remotely to continue business operations. • A major shift for Motor Vehicle to work online created a permanent process for appointment only service and expanded apps and kiosks. • Additional costs were incurred from increased cleaning at rest areas. • CDL testing continued during shutdowns. • Since COVID occurred ahead of summer construction, NDDOT could meet to work through potential issues to get ready for the construction season. • NDDOT observed a lag in procuring equipment and supplies due to a slowdown in the supply chain.

South Dakota DOT Interview Notes

The following table includes information gathered from an online search and during a phone interview with Dave Huft, Kellie Beck, Todd Seaman, and Michael Behm held on 2/10/21.

South Dakota (SDDOT)	
Employees Working Off-site	• SDDOT employees started working from home mid-March 2020 to mid-June 2020. During the first week they secured access to computer systems and were able to operate at nearly 100% after the first week. • Currently there is a combination of at home and in office. Other employees have chosen to be in the building 100% of the time. Employees with health issues continue to work remotely. • The majority of field workers continued to work in the field. • Designers had some issue (e.g., most staff had desktops). SDDOT found some older surplus laptops within the state to distribute to employees who needed them. As a result of COVID, SDDOT has purchased many laptops for future use and could transition to remote operations seamlessly now. • SDDOT had some hot spots that employees could check out if they did not have home internet available. Most staff who could not work remotely reported to work.
Organizational Adjustments/ COVID-related Job Assignments	• SDDOT is following state and CDC guidelines for social distances, barrier installation, cleaning protocol, screening stations, etc. Changes to the office environment included: o Employees are required to wear masks. o Plexiglass has been installed around common areas. o Check in stations to take employee temperatures on their way into the building were installed. o A protocol for increased cleaning of common equipment was established. o The break area was shut down. • SDDOT is using Microsoft Teams meetings more frequently to reduce the number of employees physically present at meetings even if they are in the same building. • Foot traffic in buildings has been substantially reduced. • For outbreaks and quarantining, SDDOT is following CDC guidance and doing their own contact tracing. Employees who have been exposed are following CDC quarantining guidance. SDDOT has seen no spread within the workplace, although approximately 10% have tested positive. • Some employees have helped the Department of Health answer phone lines. Other employees have helped at the lab if they had the skills. • SDDOT did not reduce staff although some divisions did not actively recruit. Other divisions continued to advertise and hire as usual with modified start dates. • Remote work has provided management with some added comfort that employees can work remotely and get things done.

South Dakota (SDDOT)	
TMC Operations	• SDDOT does not have a TMC. They do have a TOC for Sturgis but did not make any changes to the TOC during the pandemic.
Managing Traveler Information	• SDDOT placed portable message boards to advise motorists of 2 tribal checkpoints at reservation boundaries where tribes were trying to reduce the risk of COVID-19 spreading on their reservations. • SDDOT posted some public service messages (handwashing, etc.) requested by the Department of Health on the interstate from mid-March to late April.
Maintenance	• In the beginning, maintenance could not do a lot remotely. Staff worked the first week from home but then were brought back and followed CDC protocols. • In March 2020, maintenance performed only essential, safety work. However, by April 2020 it was business as usual. • SDDOT split crew start times to reduce close contact and modified work activities to ensure social distancing. When possible, there was only one employee per vehicle. In addition, extra vehicles were secured from fleet management.
Service Patrols/ Motorist Assist	• SDDOT does not have service patrols.
Funding Implications	• SDDOT has not seen a significant change in funding. Fuel tax dollars were down slightly for 2020, but South Dakota's governor was resistant to limiting economic activity. • SDDOT has 36 traffic counters. There was a drop in traffic in April 2020, but it was only about 5% less than normal by June 2020.
Debrief Documents	• SDDOT has not created any documentation. A building protocol was developed by leveraging other states.
Lessons Learned	• SDDOT increased their preparedness in terms of hardware and permissions to allow remote work by doing things such as replacing computer towers with laptops. • SDDOT learned to utilize technology better including using Microsoft Teams to become more flexible with different platforms. In addition, SDDOT recently equipped 2 meeting rooms to be smart compatible. • SDDOT learned what works and what doesn't for remote work and developed a greater comfort level with what, by whom, and where work takes place. • COVID has forced SDDOT to show a willingness to try new things. For example, hiring remote workers. Prior to COVID this may not have been allowed. It has also expanded their pool of applicants between geographic locations. • SDDOT was pleasantly surprised by state government's ability to transition and get the necessary technology very quickly to provide access within 1 week. • Though there is some benefit to large gatherings, a lot can be accomplished virtually, decreasing the cost and time involved with travel. In the future SDDOT anticipates there will be more reliance on virtual meetings, but in-person meetings will also have their place as remote

South Dakota (SDDOT)	
	meetings diminish the quality of individual dialogue and secondary conversations.
Other	• Throughout this experience, South Dakota rest areas have remained open with additional cleaning contracts. • South Dakota construction projects continued. Contractors had some labor and supply issues but those were limited. • SDDOT increased the allowable weight of divisible load by 10% if trucks were hauling emergency supplies.

Wyoming DOT Interview Notes

The following table includes information gathered from an online search and during a phone interview with Vince Garcia from WYDOT on 1/11/21.

Wyoming DOT (WYDOT)	
Employees Working Off-site	- Most WYDOT employees are still working from home. - WYDOT established a new policy that required employees to sign a contract to work from home. - State of Wyoming Employees used Portal2 to access work systems. - A few staff prefer to work in the office, and one has no internet available at home.
Organizational Adjustments/ COVID-related Job Assignments	- Created 5 coronavirus task forces to provide a coordinated, focused response to the coronavirus (COVID-19) pandemic. - The Department of Health was not set up to test quickly. Third party tests were available but there was no way to get them. WYDOT took on the responsibility for coordinating transport of these tests. Maintenance and Construction employees drove the tests to testing facilities and the TMC facilitated getting them where they needed to go. Maintenance and Construction employees continued to do their regular jobs. - During COVID, one of WYDOT's leases came up. Since many employees would continue to work from home, WYDOT was using less space and decided to consolidate and reduce the space they lease by approximately 2,000 sf. - WYDOT's lab did an amazing job. They got ingredients and mixed up a high quality hand sanitizer to help with COVID efforts. - WYDOT did not reduce staff but did implement a hiring freeze.
TMC Operations	- WYDOT GIS/ITS monitored the State of Washington to determine their impending timeframe and sent people home before COVID really hit Wyoming. - In early March 2020, the TMC virtualized operations and sent home all employees they could. WYDOT used a couple of call takers in the TMC to receive calls by radio or phone and log the information into the TRAC system. Other operators would then retrieve the information and follow up on it. - In the TMC, WYDOT practices social distancing. WYDOT uses a statewide radio network with consoles that drag traffic from towers all over the state. - GIS/ITS used VPN and GoGlobal Network and installed CrowdStrike to handle security which uses AI to check for unusual computer activity. - Remote work with multiple internet connections will be a long term solution for WYDOT to allow for continuity of operation. One site can handle all traffic from the network. WYDOT will focus on a distributed concept. A presentation about this is available.

Wyoming DOT (WYDOT)	
	• WYDOT is asking employees to use the camera on their computer at home in lieu of a face-to-face meeting. If an employee does not want to work with their camera on, then they must work in the office. • WYDOT is transitioning away from using phones and using Google Meet instead. • Employees were able to take surplus equipment from the TMC home to work remotely. • In the future, WYDOT will still have a TMC but employees will operate from home year round.
Managing Traveler Information	• WYDOT follows MUTCD guidelines for traveler information. There was some concern about posting COVID messages, however through discussion with the local FHWA office they were told that as long as there continued to be a transportation message it was fine to include COVID information. An example of a possible DMS message might be "Arrive Alive, Wear a Mask When You Arrive." • WYDOT received some negative feedback on COVID messages but some appreciated them.
Maintenance	• Maintenance has taken on the responsibility for driving COVID tests where they need to be. • Initially, WYDOT changed their procedures to only one maintenance employee per vehicle. • Generally, maintenance has over delivered for snow removal. This year they need to cut back to only delivering services that were promised since revenue is down for snow routes. There have been some complaints that not all routes are cleaned to the same level. WYDOT is working to scale back expectations to meet committed services.
Service Patrols/ Motorist Assist	• In Wyoming, patrol does service when called.
Funding Implications	• WYDOT is experiencing decreased revenue since vehicle miles were down resulting in the gas tax is also being down. Vehicle miles travel has rebounded, but Wyoming's economy is still down.
Debrief Documents	• WYDOT will check with the Public Affairs office to see if Wyoming has anything they can share.
Lessons Learned	• WYDOT's approach is a virtual, distributed TMC. They have created a couple of clean rooms with radio consoles. If there is a COVID case in the TMC, WYDOT will move all employees to a clean room. The TMC can be thoroughly cleaned and operational again in about 3 hours. Patrol Dispatch has also used WYDOT's clean rooms.
Other	• For WYDOT and all of Wyoming's state government, masks are required if employees are within 6 ft. and in all common areas. • Messages were posted on DMS to freight drivers to assist them in finding food and facilities. HAR then provides the details for services. • WYDOT issued an emergency exemption from permissible operating time regulations and waiver of allowable size and weight permit fees for drivers transporting emergency relief supplies within Wyoming.

Wyoming DOT (WYDOT)
- WYDOT also suspended non-commercial driving tests for 90 days and allowed a 90-day grace period for expiring drivers licenses.   - WYDOT created online meetings very early on to establish strategies. Notes for each program and each district were compiled and distributed to employees. This information communicated what was being done and how products would be distributed. Employees seemed to appreciate being kept in the loop.