

Materials and Research Division

NDOT 2021 Strategic Communications Plan



Mission: Our mission is to provide the best transportation system to Nebraskans by ensuring the quality of all our project materials, delivering effective and efficient pavement projects, practical management of our transportation assets, and implementing innovative research for all our transportation needs.

2020 HIGHLIGHTS

The Materials and Research (M&R) Division endeavored in 2020 to complete several key goals.

One notable accomplishment was to implement a direct data integration of our material testing results. With most of our material testing, the technician documents the test result in various formats depending on the test, then the technician has to re-enter the test result into the materials record management system for the project. This effort is obviously repetitive because of the dual entry activities. Utilizing a direct data integration provides a means for the actual testing device to automatically transfer the test result into the management system. This eliminates the dual entry and also any potential entry errors. To accomplish this, each type of testing device has to be connected to the network and capable of transmitting the test data. We focused on newer equipment, since it was already capable of such activities with minimal coding and hardware connections. Based on the success of that endeavor, we began systematically evaluating the other existing equipment. Currently, all five of our laboratories, Central and Branch labs, have equipment conducting direct data integration. We continue to develop coding for other existing testing devices and are incorporating the technology on all new testing devices being purchased. This effort has already resulted in efficiencies for our lab technicians, as well as faster results being provided for our contracted projects.

We began utilizing this direct data integration using our in-house resources in BTSD. They were able to develop the coding solution, but over the year they were unable to successfully maintain connects with all the equipment. The Department discussed this with the AASHTO (American Association of State Highway Transportation Officials) and vendors of the equipment. They both are very interested in this concept, and they developed a national committee to develop this concept on a larger scale. NDOT was asked to be one of the Lead States on this committee, which we agreed to work with them on this development.

Other accomplishments include:

- **Established performance measures for the laboratories in M&R** to utilize existing data or slightly enhance the data to establish how long it takes to receive materials and the testing turn-around time. This will result in efficiency for M&R because once a standard testing time and other information is established, we can more easily track material testing to provide customers a reference on workloads, number of fail/passing results and performance expectations.
- **Utilized available process improvement tools** to engage our Lean Leader, two lab managers, with the other labs. Our Lean Leader has several unique workflow and tracking tools that she uses for her lab which have demonstrated their benefits. We met with all our laboratory personnel and the Lean Leaders presented these tools and how beneficial they can be and how easy they are to use. We now have others who are being trained and labs that are beginning to try the new tools.
- **Keeping all the M&R employees engaged**, especially those who work in our branch labs, which we don't get to interact often with. We do interact with the labs throughout the year, but in most cases it is for specific project related activities, such as construction issues that we need their assistance in providing a quality review of the field personnel. This year I meet with all of the different units within each section individually (about 100 people) including these branch labs. All of the meetings were incredibly positive and I received great interaction from everyone. Having continued one-on-one meetings with each of these units will hopefully provide similar outcomes.

2021 GOALS

Establish Performance Goals for each section

Tactics:

- Last year we developed a tracking tool for all activities for each section, so this year we will establish a goal based on past activities. RAM section.
- Last year we developed a tracking tool for all activities for each section, so this year we will establish a goal based on past activities. HMA section.
- Last year we developed a tracking tool for all activities for each section, so this year we will establish a goal based on past activities. PCC section.

Engage with AGC and NCAA partners

Tactics:

- Attend all AGC-HMA Committee Meetings
- Attend all AGC-PCC Committee Meetings
- Attend all NCAA Committee Meetings

Engage Lean Leaders in labs

Tactics:

- M&R now has two lean leaders in which we will use to engage and offer ideas to all other labs through exchange meetings.

Chat groups with M&R employees

Tactics:

- Last year I established Chat meetings with each unit or lab separately. These meetings turned out to be amazing for morale, getting feedback, and building teams; so I will conduct similar meetings again this year.

2021 PRIORITIES

This section identifies priorities that need additional emphasis in order to complete the division's goals.

A strategy for **establishing performance goals in M&R** is work with the Strategic Planning Division to develop a solution to visually share our performances. We believe this will help to establish a goal for our performance measure in a quick easy format, since we have been collecting the data over the past year. I have already had one introductory meeting with them to begin this process and they are very supportive of this effort.

A strategy for **engaging with AGC and NCAA** to continue to attend all our quarterly meetings and I have also volunteered to be on focus groups to help implement new technologies with our partners. One example is a task force for implementing electronic tickets instead of paper tickets. I have joined that group and we will be working through some pilot projects and processes over this next year.

A strategy for **keeping all the M&R employees engaged**, to have one-one meetings with individuals and small groups to gain more insight on the good things and areas to improve. We have started this by developing an engagement plan for the entire division and for each specific section. The sections will meet and have discussions on a regular basis according to their specific plans. The sections are then providing feedback to the over-arching division plan based on those discussion. I will meet randomly with small groups as means of pulling different perspectives in as well.

KEY PROJECTS

The M&R Division is unique in which we have activities on the project delivery side of a highway project doing things such as design, material quantities, specifications, and special provisions for all projects. We also have activities for the construction side, such as material sampling and testing, quality assurance, technical support, and project closeout.

Below are some key projects the M&R Division will be focusing on over the next year:

- Lincoln South Beltway, under construction
- Fremont South Beltway, under construction
- I-80 replacement sections in Districts 5 & 6, delivery and construction
- I-80 six-lane corridor from Lincoln to Seward, delivery
- US-275 Scribner to West Point, delivery and construction

OPPORTUNITIES FOR INTERNAL COLLABORATION

This section includes internal opportunities for divisions and districts to collaborate and work together to accomplish their goals.

Strategic Planning – Creating dashboards as we develop our performance measures.

Construction – Coordinating necessary sampling and testing as it pertains to contract language.

BTSD – Pulling data from our AASHTOWare software for material record management analysis and for continued development of GIS and GPS tools for asset management.

Communications – Helping to communicate complicated data and information in a more exciting and understandable manner. Assistance yearly with the Needs Assessment and Annual Report.