

Midwest Transportation Workforce Center Highway Maintenance Engineering Pathway

Discipline Working Group Meeting Summary

- Meeting Date:* October 11, 2017 (in-person & via video-conference)
- Location:* Room 1205 Engineering Hall, University of Wisconsin-Madison
- Host/Facilitation:* Teresa Adams, Maria Hart, Kerri Phillips, Scott Jakovich
- Members Attending:* Brandon Anderson (for Becky Almeroth), Chrystal Seeley-Schreck, Rita Cassida, Thomas Lyden
- Members Absent:* Steve Lewis, Jerry Mandli, Steven Lund, Dawn Pratt, Dennis Rudolph, Xinge Wang
- Guests:* Clark Martin
- Meeting Objectives:*
1. Update on the Competency Model
 2. Introduce the WI Highway Maintenance Survey
 3. Discuss the Survey on Game Changing Technologies
 4. Discuss Innovative Experiential Activities
 5. Discuss Critical Occupations

WELCOME & INTRODUCTIONS

Director Adams opened the meeting at 1pm (CDT) with introductions and a review of the agenda. She then updated the group on the competency model, which is still in progress with some minor updates.

Hart went over progress on the development of a survey for Wisconsin to get an understanding of what is happening in Wisconsin and to determine the demand for highway maintenance workers in the state. This will set up a knowledge base for the activities to be done in Year Two of the project. The survey is being sent out to 72 county commissioners in Wisconsin. The Department of Transportation does not hire highway maintenance workers; this is contracted out to the county commissioner and to the counties. The survey is also including all the municipalities (cities, villages and towns) as well as the Department of Transportation and the private contractors. There are 128 questions, but it's dynamic, so depending on certain answers, the survey can be a lot shorter. The survey is being reviewed by the Wisconsin DOT. All the contacts for the highway commissioners have been obtained as well as all the ones for the municipalities. Currently working on the contractor list. By doing this this way, MTWC has

been able to engage with the partners for support in terms of marketing the survey or sending it out. The big question right now is the timing of the survey. Immediately after the email is sent out, the recipients will get a postcard. It's a large postcard so they won't miss it.

Director Adams introduced a chart on experiential learning opportunities for Highway Maintenance that MTWC developed based on a chart from the Inspire Madison Region initiative. The goal of this piece would be to outline the types of activities that the DWG could recommend to employers or that could be identified as particularly beneficial for attracting people and getting them involved in this discipline.

Director Adams led a discussion on Career Pathways. She began with pointing out that initially, this project was thought to be a very linear process, which would start with gathering the workforce occupation data and employment growth patterns followed by identifying critical occupations followed by building a competency model. But, what the group found out is what is really needed is to build out specific pathways and critical occupations in the competency models for use in education and training.

Director Adams explained how another way to look at competencies and occupations might be to follow the money. In other words, by following the investment in some new technologies or new infrastructure. For example, some of the new implementation that's happening now and how those new things that are being done might change the way some of the traditional jobs will be done. That would help identify some of the newer competencies. MTWC is looking at how some of the investments in operational efficiency and state of good repair. What are those investments and what are going to be some of the workforce skills needed to be able to realize those benefits of that investment?

Director Adams gave some examples of three trends that are influencing how maintenance will be done: (1) automated and connected vehicle technology, (2) automation of equipment, data acquisition and data tools, and (3) asset management.

Director Adams then walked the group through an exercise to review several positions and discuss the steps required for an incumbent worker to move up to that position. Would they have to leave the job to go and get the additional training? Or, can people branch into those career pathways?

Top Positions Discussed:

- Highway Asset Manager
- Asset Management Engineer – Transportation Technical Engineer
- Roadway Operations Manager
- Regional Facility Manager (Facility Operations Manager)
- Technical Services Director

Anderson clarified that for some positions at MoDOT, advancement would be based on the job they came in at, what the requirements were. If the original education requirement was an associates degree and the person was awarded the initial job, they are not always required to

go back for a bachelors in order to qualify for advancement. It's at the discretion of the hiring manager.

Lyden confirmed that there is a lot of training to move workers from a Level I to Level II and Level III. Professional development may be a combination of training and coursework, but possibly not all the coursework for a bachelor's degree.

Cassida gave an example from Asset Management. Through APWA's relationship with Australian group, IPWEA, there is a certificate course that can be completed online.

Anderson shared an anecdote of a current district maintenance engineer in St. Louis, named Mark. Mark came into MoDOT many years ago at the entry level with some schooling. Over time, he has moved from department to department. He spent a lot of time in construction, went to the bridge department and maintenance, and also at the same time, went to school. MoDOT has a lot of engineers and some leadership team members that come in at the entry level and, over time, they end up getting a degree through night classes. And, the on-the-job experience.

Seeley-Schreck clarified that it will be important to identify what the actual degrees are, that are required, for the positions that require bachelor's degrees. In that way, once you know the actual degree that's required, you can identify the courses. This is also true for associate's degrees. In the technical colleges, there are very clear pathways from two-year associates to four-years degrees, and you know what the requirements are for the eventual four-year that can help determine which associate degree you might go for, to help build that pathway. For a lot of the occupations discussed, a Civil Engineering bachelor's degree was required. This should be clearly identified.

Seeley-Schreck pointed out that the technical colleges have career pathway diagrams. Every college is a little bit different, but basically, these note what the courses are in an associate's degree, and then the schools work hard to get articulation agreements with colleges, where there's specific engineering programs, so they know what additional courses they need.

NEXT STEPS

MTWC will look at more technical degrees and see how they can fit into some of the identified gaps. They will also try to look at what each agency has as a pathway in their maintenance programs.

For the next meeting, survey results will be discussed.

The January meeting is being rescheduled to accommodate other initiative activities. That date is yet to be determined.