**2021 ALASKA DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
RESEARCH PEER EXCHANGE SUMMARY REPORT**

**FHWA'S EXPERIMENTAL FEATURES PROGRAM AND
DIVERSITY, EQUITY, AND INCLUSION
IN RESEARCH PRACTICES AND PROJECT SELECTION**

CONDUCTED VIRTUALLY

MAY 17-19, 2021

CONTENTS

LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
DOT&PF	Alaska Department of Transportation and Public Facilities
CFR	Code of Federal Regulations
DOT	Department of Transportation
FHWA	Federal Highway Administration

KYTC	Kentucky Transportation Cabinet
LRRB	Local Road Research Board
LTAP	Local Technical Assistance Program
MnDOT	Minnesota Department of Transportation
MUTCD	Manual of Uniform Traffic Control Devices
NCHRP	National Cooperative Research Program
RAC	Research Advisory Committee
RIO	Research and Innovation Office
SPR	State Planning and Research
STIC	State Transportation Innovation Council
TRB	Transportation Research Board
TTI	Texas A&M Transportation Institute
UK	University of Kentucky
USC	United States Code
WisDOT	Wisconsin Department of Transportation

INTRODUCTION

The Research, Development & Technology Transfer office at the Alaska Department of Transportation & Public Facilities (DOT&PF) hosted a virtual research peer exchange to discuss the fundamentals of FHWA's Experimental Features Program, implementing diversity, equity, and inclusion in research practices and project selection, and the best practices for research program websites. The peer exchange was conducted virtually May 17–19, 2021, using Zoom.

The host state contributed to the funding of the Support Services for Peer Exchange Pooled Fund (TPF-5[301]) to engage the Texas A&M Transportation Institute (TTI) to assist with peer exchange planning, facilitate meetings, take notes on the discussion at each session, and prepare the peer exchange final report.

This report documents the discussions, outcomes, and key takeaways from the peer exchange sessions. This peer exchange report is structured as follows:

- Peer exchange background.
- Peer exchange participants.
- Opening remarks and state research program overviews.
- Peer exchange session summaries.
- Peer exchange key takeaways.
- Peer exchange agenda (Appendix A. Peer Exchange Agenda).
- Peer exchange participant contact information (Appendix B. Peer Exchange Participant Contact Information).
- Peer exchange supplemental information & presentations (Appendix C. Peer Exchange Supplemental Information & Presentations).

PEER EXCHANGE BACKGROUND

The use of peer exchanges was established to provide DOT Research Divisions with the opportunity to examine and evaluate their own research, development, and technology programs through a collaborative team of peers, experts, and persons involved in the process. The belief was that the exchange of visions, ideas, and best practices could benefit both the DOTs' programs and the programs of the peer team participants. Peer exchanges could also be used to examine more focused areas of the state DOTs' research programs. 23 CFR, Section 420.207(b) requires State DOT Research Programs to host a peer exchange periodically (established as every 5 years) and also participate as attendees regularly (in practice, this is annually). FHWA participates financially and as an attendee.

Alaska sent a request for participants to the national AASHTO Research Advisory Committee list serve in March 2020. DOT&PF reviewed the responses and selected the states. The peer exchange participants included staff members from research programs in the DOTs of Alaska (DOT&PF), Kentucky (KYTC), Minnesota (MnDOT), and Wisconsin (WisDOT). Other guest participants included the DOT&PF Civil Rights Office, Alaska Division of the U.S. Department of Transportation Federal Highway Administration (FHWA), and FHWA's Office of Corporate Research, Technology, and Innovation Management/Turner-Fairbank Highway Research Center. Appendix B provides contact information for participants.

2021 DOT&PF Research Peer Exchange Participants.

From Top Left to Bottom Right: Anna Bosin (DOT&PF), Jarrod Stanley (KYTC), Katie Walker (MnDOT), Erin Anderson (DOT&PF), Andy Eiter (WisDOT), Shane Moller (DOT&PF), Dave Waldo (DOT&PF), and Peter Forsling (FHWA - Alaska).

Participants not pictured: Rashaud Joseph (DOT&PF), Carolyn Morehouse (DOT&PF), and Tricia Sergeson (FHWA).

OPENING REMARKS AND STATE RESEARCH PROGRAM OVERVIEWS

The DOT&PF Research Peer Exchange kicked off virtually on Monday, May 17. John Overman and Brittney Gick, facilitators from TTI, opened with an explanation of the purpose of the peer exchange and an overview of the agenda. Each DOT provided introductory information about their research programs.

The peer exchange was designed to have two sessions each day:
- Morning Session: Overview and general discussion on the daily topic.
- Afternoon Session: Discussion on the highlights and key takeaways from the morning session.
  - What did we hear?
  - What did we learn?
  - What can we do with this information?
  - How could this improve our practices?
  - What can we share with others?

Carolyn Morehouse, Chief Engineer of Design and Engineering Services for DOT&PF, welcomed everyone to the virtual peer exchange. Carolyn was the first female Chief Engineer at DOT&PF and has been with the agency for sixteen years. She commended FHWA for encouraging the agency to do things that they may not normally do and innovating their practices. She highlighted the importance of peer exchanges as excellent opportunities to learn from and engage with other states.

ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES OVERVIEW

The research program at DOT&PF is located within HQ Design and Engineering Services and has four staff positions. Research program staff are located in each of the three regions. The program also manages the Local Technical Assistance Program (LTAP) and recently added an innovation element to the program.

The research program has an annual budget of $2.4 million. There is a two-year research project plan with annual project solicitation based on the needs of the program. There are typically thirty active projects each year.

During the peer exchange, program staff hoped to learn new ways to take advantage of the experimental features program and to hear of other success stories/best practices with the program. They were also interested in discussing efforts to advance equity and inclusion within the agency and address website updates from outside the organization.

KENTUCKY TRANSPORTATION CABINET OVERVIEW

The research program at KYTC has one staff position and they work closely with the University of Kentucky (UK), which houses the LTAP and final research reports. KYTC is comprised of twelve districts. The program manages technical support, the annual research program, NCHRP efforts, and pooled fund studies. They complete research for the Department of Highways, as well as the Department of Vehicle Regulation.

The research program has an annual budget of $3.75 million. **There is $500,000 set aside each year for implementation projects**, which was a best practice learned at a previous peer exchange. The program begins around twenty projects each year and there are typically forty to fifty active projects at any given time.

MINNESOTA DEPARTMENT OF TRANSPORTATION OVERVIEW

The research program at MnDOT is located within the Research and Innovation Office (RIO) and has nine staff positions. RIO also houses the marketing and communication, library services, and contract and finance programs. They will soon be adding an innovation program.

The research program has an annual budget of $12.2 million. In 2019, the program administered 229 research contracts. **The program also supports the Local Road Research Board (LRRB), which is a ten-member board comprised of city and county engineers that work on transportation research at the local level.** The LRRB and DOT regularly complete jointly funded research.

WISCONSIN DEPARTMENT OF TRANSPORTATION OVERVIEW

The research program at WisDOT is located within the Division of Budget and Strategic Initiatives and has four staff positions. Library services is also included with the research program and has one and a half full-time staff positions. WisDOT recently added an Equity, Inclusion, and Workforce Management position designed to coordinate and emphasize equity within the department.

The research program has an annual budget of $4.69 million. The research program initiates about five to six projects each year and there are typically twenty active projects each year.

PEER EXCHANGE SESSION SUMMARIES

Ideas and best practices were exchanged among participants on how to incorporate FHWA's experimental features program within research activities, how to encourage and promote diversity, equity, and inclusion in research practices and project selection, and best practices for research program websites. The morning sessions were an overview of the assigned topic, followed by general questions that helped guide the conversation in the afternoon sessions. This section summarizes the discussions from the peer exchange by topic.

FHWA'S EXPERIMENTAL FEATURES PROGRAM – DAY 1

DOT&PF recently updated their experimental features program guidebook, which includes current examples of the ways they utilize the program. Eligible projects must have a workplan. They try to implement full-scale demonstrations of concepts, including projects that have been successfully implemented in other areas of the country. Experimental features are not implemented on high priority roadways to mitigate any risk of catastrophic failure. Below are two examples of experimental features that have recently been executed in the state:

- Microsurfacing to tackle rutting from studded tires, and
- Permafrost evaluation and data collection to tackle frost heaving.

Staff were interested in learning what other states do, especially in how they develop a workplan and complete evaluations. They were interested in learning how other states determine which projects are considered successes and failures. They were interested in hearing from FHWA about where the evaluations go when they are completed, how they are used, and how these can be used to help other states learn and implement results.

The peer exchange group discussed the use of website pages to highlight the experimental features projects. A quick internet search found that the Montana and Utah DOTs have website pages that highlight their experimental features projects. **FHWA does not currently publish the experimental features project information, but FHWA staff were interested to hear of the benefits and needs for a central source of the information. Websites or a federal database of experimental features projects could allow DOTs to learn best practices more easily and efficiently**.

The group also discussed the need to communicate across the agency about the experimental features projects to ensure success. Staff at the local area can be excellent sources for evaluation needs, as they may be more familiar and have more frequent access to the site of the project. Increased communication that keeps everyone in the loop on an experimental feature project can increase efficiency and mitigate challenges more quickly.

The group concluded the morning session by discussing the documents that were shared in advance of the peer exchange (see Appendix C. Peer Exchange Supplemental Information & Presentations). There was concern among the group on the inconsistent use of the term

experimental features, as even federal guidance has stopped using the term. Due to an update in the federal regulation, the experimental features terminology is no longer included, but the program still exists. It is likely that DOTs may be implementing experimental features projects but referring to them by a different terminology. **The group also discussed the beneficial AASHTO white paper on the experimental features program, which includes a link to NCHRP Report 727, *Effective Experimental Design and Data Analysis in Transportation Research.*** The white paper and NCHRP report both can be excellent resources for DOTs to learn more about the experimental features program and best practices.

In the afternoon, the group discussed project funding for experimental features projects. Some experimental features projects may be eligible to use SPR part B funding, depending on the project scope and description. Another source of funding could be construction dollars if the experimental features project is implemented in new construction. One challenge with using construction dollars is that the experimental feature project needs to be included in the bidding and contract process. Change orders can increase costs and create other challenges, such as contractors charging extremely high rates for projects that may not want to deal with.

The group also discussed project signage and marketing. **Any signage would need to follow guidance and regulations in the Manual on Uniform Traffic Control Devices (MUTCD).** DOT&PF has used signs (see image) to highlight experimental features projects, to raise awareness to the community and roadway users and mitigate any complaints. If roadway users are made aware that a DOT is making a special effort to bring improvements, they may be more willing to cope with some challenges if they arise. DOT staff should also make sure that the MUTCD expert is aware of the project and can assist where they are needed.
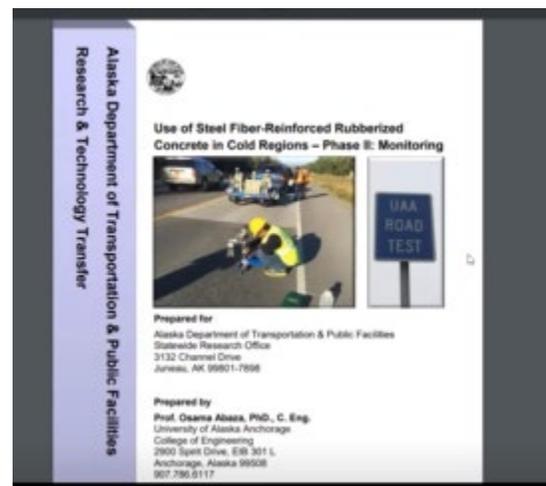
Key Takeaways

The group had an engaging first day of the peer exchange discussing FHWA's experimental features program. The following section highlights some of the key takeaways from day one.

The peer exchange participants were interested in and encouraged by other DOT websites, such as the Montana DOT, which highlight experimental features projects. There could be benefit in increased coordination among DOTs to provide FHWA with information, results, evaluations, and feedback on their completed experimental features projects. A website or database of projects would be a beneficial resource for DOTs.

Not all the peer exchange participants were familiar with the experimental features program, so it was an excellent learning opportunity for some. Another issue that was addressed was the concept

that some DOTs may be implementing experimental features but referring to it by different terminology. Inconsistent use of terminology can lead to confusion among DOTs and create voids in understanding best practices for the program. The experimental features program is a practical and applied approach that more DOTs should attempt in their practices.

Communication and relationship building are critical to the success of the experimental features project. Area engineers and subject matter experts within the department should be included in the process. Any project that deals with signing, striping, or construction needs MUTCD review and approval, which can add time to the process. Strong communication and relationships can lead to long-term benefits, both with the project and the agency itself.

DIVERSITY, EQUITY, AND INCLUSION IN RESEARCH PRACTICES AND PROJECT SELECTION - DAY 2

The topic covered on day two of the peer exchange was diversity, equity, and inclusion in research practices and project selection. The DOT&PF Civil Rights Office Director was also in attendance.

DOT&PF research program staff shared information on a previously attended Title VI training provided by FHWA HQ staff. The training was extremely beneficial and they were hoping to host the training again in the near future. The training consists of FHWA civil rights experts being on-site to provide expert guidance on the issues and real-world example scenarios/case studies. The training helped educate staff on the threats if the rules and guidance are not followed. DOT&PF staff found the training useful and eye-opening that crossed multiple department issues, including research.

Peer exchange participants were asked to complete an unconscious prejudice questionnaire prior to the start of the second day (see Appendix C. Peer Exchange Supplemental Information & Presentations). Participants were not asked to share their results but reflect on the activity itself. The questionnaire included questions to help users reflect on their answers. Participants found the questionnaire thought provoking and useful. One of the first steps when addressing diversity and inclusion is acknowledging that you may have biases and that they do influence actions. Creating an opportunity for dialogue could be advantageous for DOTs to advance equity, diversity, and inclusion within their research programs and across the agency. Progress would be impossible without dialogue, even if it is difficult and at times painful.

MnDOT research staff shared a *Diversity, Equity, and Inclusion in Research* document (see Appendix C. Peer Exchange Supplemental Information & Presentations), which was created to help staff understand and implement diversity, equity, and inclusion within the research program. Research program staff worked with the Diversity and Inclusion Office to develop the document. The document was designed to allow staff to think of ways to use research to improve and advance diversity, equity, and inclusion. The document contains information on outreach, improving research needs statements, and increasing diversity on technical advisory panels. MnDOT staff are working to educate committees and encouraging them to implement the guidelines in the

document. The peer exchange participants found the document very beneficial and look forward to applying applicable portions within their own programs.

One challenge for research program staff is improving diversity on research advisory committees and technical panels. Many times, committees are comprised of primarily engineers, which can lead to a lack in the diversity of ideas and topics. **One potential way to increase diversity on technical committees and panels is to include non-DOT staff, such as university and industry representation. Another potential way to increase diversity is to include younger professionals, so that they can learn the process early on and provide diverse opinions.** One major challenge is that sitting on research advisory committees and technical panels is a task that is outside of staff responsibility, so it is an extra requirement that may not be funded. One potential solution is to create an award for people who are going above and beyond and providing their time in these important roles. Another challenge is that some DOTs have compiled large amounts of data related to equity issues, but there is a lack of understanding in what to do with the data.

Peer exchange participants also discussed Policy Resolution PR-2-20 *AASHTO Resolution Addressing Race, Equity, Diversity, and Inclusion Resolution* (see Appendix C. Peer Exchange Supplemental Information & Presentations). The resolution was unanimously (although one member was absent for the vote) approved by the AASHTO Board of Directors on November 13, 2020. The resolution was designed to strengthen and reaffirm the commitment to the values of the Civil Rights Act. Peer exchange participants expressed concern over the fact that the resolution has not been shared more widely across the DOTs. **Peer exchange participants were committed to sharing the document within their respective DOTs after the peer exchange**.

Training staff to be more aware of equity, diversity, and inclusion issues can benefit DOTs by increasing knowledge, understanding, and acceptance. There needs to be strong outreach and buy-in for these training sessions to be successful and there needs to be a champion to promote the efforts. Training on diversity, equity, and inclusion must be handled delicately, as it can create difficult conversations and make people uncomfortable. It is not always possible to change people's views and the process can be time consuming and challenging. Some DOTs have also promoted "lunch and learn" and cultural events focused on diversity and increasing awareness.

Key Takeaways

The following section highlights some of the key takeaways from day one.

The peer exchange participants were grateful for all the documents and ideas that were shared. The documents can easily be redeveloped in other DOTs, reducing the need to recreate the wheel. The participants were also committed to sharing the AASHTO resolution more widely within their own DOTs. Efforts to spread awareness and understanding of equity issues should continue in each DOT. **Mentoring, training, and diversity events are easy ways to provide guidance and information to staff, which can lead to a more efficient, productive, and inclusive agency**.

Increasing diversity on panels and committees can be challenging, but DOTs can internally seek out young professionals and people with master's degrees and externally DOTs can seek out university

and industry representation to increase representation with a diversity of views. **DOT staff could also work on engaging with district staff to increase awareness about the research program and generate new ideas**.

On day three of the peer exchange, participants were taken on tours of each DOT research website. Each state shared what works best on their webpages and what additional tools could improve the webpage. Participants were able to share their feedback on each of the websites.

At the DOT&PF, the research program is responsible for the content on the webpages, but they do not have control over the design features. Staff would like to see the webpages become cleaner and more current but designing webpages can be challenging and time consuming. The current research program webpage is one page containing information and links to content for research and technology transfer. The webpage includes a searchable digital library, access to the necessary report forms, and highlights on completed research projects. In the future, staff might consider adding short, two- to three-minute videos highlighting and promoting research projects. The tech transfer section includes information training, including information on dates, how to sign up, tuition, and accessing free online training resources. The current training calendar is operated on a year-to-year basis. One challenge that staff face regarding training is lacking information on the long-term training needs.

In future website updates, DOT&PF research program staff would like to have individual tabs for research, innovation, tech transfer, digital library, and training center. They would also like to enhance the research idea solicitation process in hopes of getting more DOT&PF staff to submit ideas. **Staff would also be interested in having a map identifying where research projects are located and including thumbnail images on videos, so users can easily identify and locate the video content.**

At WisDOT, research program staff do not have a lot of control on the customization because the website is housed on SharePoint. The research and library webpage is housed under the "About" section, which can be confusing for users, but there is not a better place to house it. The webpage is text heavy with numerous hyperlinks and the main page includes basic information about the research program and library. One tool that has been very beneficial is the custom Google search. The custom Google search searches the research pages only – not the entire WisDOT website, which can make finding research in progress, research reports, and requests for proposals easier to find. Staff have access to Google Analytics for the webpage, which shows the number of page views. There is a great deal of data, but it is not necessarily used to inform decisions. WisDOT research program staff would be interested in learning if others use Google Analytics to improve processes. The biggest challenge for the webpage is that it is not fancy or modern and staff are limited on design features.

KYTC does not have an official research program webpage. UK houses the tech transfer information and most of the research final reports. KYTC Research staff have single-handedly worked on

creating an internal research program webpage. It is not currently public, but participants were given a tour of the draft version. Due to creating the website, there is complete control over design and content. The webpage is housed on SharePoint, which limits some of the design functionality and is not visual based. One successful and free tool that research program staff have used to design graphics for the webpage is Canva. Canva is a very useful tool for developing graphics, but it is time consuming and takes effort to learn. Designing and building webpages is time consuming, challenging, and very tedious, but the more a person works at it, the more proficient they become.

At MnDOT, the research program includes four communications staff, one of which is a graphic designer, but they are limited on the types of software that can be used. They are trying to engage the public and promote the research program with videos and social media and considering additional innovative methods to promote the research program. The research webpage includes numerous videos that are linked to YouTube, including a short video that explains what the research program is and what they do. The webpage also includes access to research reports, news, project administration information, and a webpage for the LRRB.

Key Takeaways

The following suggestions were proposed to improve research program webpages:

- Identify program managers and other staff who have master's degrees. These individuals would be familiar with the research process and could be good research champions.
- Reduce the number of clicks to access research and tech transfer information. Having a fewer number of clicks is less confusing for users and can increase the use of the webpage.
- Utilize public relations officers throughout the state to increase research promotion efforts.
- Develop career track guidance that can highlight needed training and lead to a long-term, multi-year training plan.
- Ensure webpages are ADA compliant and include access to translation services. Translation services for webpage content need to be included to mitigate the risk of a discrimination complaint. Webpages should be able to be translated for the top languages in the state.

KEY TAKEAWAYS

The peer exchange participants expressed their enjoyment with the success of this peer exchange and learned many great things from the topics. The participants expressed that they will or have already started sharing the information they learned over the past three days with their respective DOTs. The equity topic specifically sparked a lot of energy and ideas in the participants, and they are excited to share what they have learned with others. The participants were also grateful for all the documents that were shared throughout the peer exchange. The following are the key takeaways from the research peer exchange participants:

FHWA Experimental Features Program

- A central website or database compiling information and results on the experimental features projects from across the country would be beneficial for DOTs and could increase knowledge, awareness, understanding, and lead to best practices and further idea generation. **This could be linked to the RPPM RAC website**.
- DOTs and FHWA need to increase their coordination for information sharing on the experimental features program.
- Research programs can create webpages to promote the experimental features projects. Montana DOT has a webpage that serves as a good example.
- Not all the participants were familiar with the experimental features program, but it was found that there are some inconsistencies on the terminology and name of the program, which can lead to confusion and lack of awareness.
- Strong communication and relationships can lead to long-term benefits, both with the project and the agency itself.

Diversity, Equity, and Inclusion in Research Practices and Project Selection

- The documents shared by DOT participants (see Appendix C. Peer Exchange Supplemental Information & Presentations) were very helpful and can easily be recreated.
- Participants were discouraged that more effort was not taken by DOT leadership to share the AASHTO resolution, but participants were committed to sharing the documents with other DOT staff.
- Efforts to spread awareness and understanding of equity issues should continue. Mentoring, training, and diversity events are easy ways to provide guidance and information to staff, which can lead to a more inclusive agency.
- Increasing diversity on panels and committees can be challenging, but DOTs can seek out young professionals and university and industry representation to increase the diversity of views, opinions, and experience.
- DOT research staff could identify program managers and other staff who have master's degrees. These individuals would be familiar with the research process and could be good research champions.
- DOT staff could also work on engaging with district staff throughout the state to increase awareness about the research program and to generate new ideas.
- Having a good relationship with the Civil Rights Office can give DOT staff a broader understanding of the issues and concerns and can help improve the process for everyone.

Research Program Website Best Practices

- The number of clicks needed to access research webpages and information should eb limited to reduce confusion and increase usage.
- Public relations staff throughout the state can help research program staff promote research efforts, newsletters, and project idea solicitation efforts.

- Career track guidance could be developed, which could lead to a better understanding of the long-term training needs within the department and help with planning efforts.
- Webpages should be ADA compliant and include access to translation services. Translation services for webpage content need to be included to mitigate the risk of a discrimination complaint. Webpages should be able to be translated for the top languages in the state.
- Canva is a free, online, graphic design tool that can be used to design unique graphics that can help webpages look and feel more modern.

Alaska Department of Transportation and Public Facilities RD&T2

Virtual Peer Exchange

May 17-19, 2021

Agenda

(All Times in Alaska Time)

Please Note: Each Session Will Be Recorded for Use in Writing the Final Report

Day 1: Monday, May 17th

Topic – Introductions and FHWA Experimental Features Program

Session 1 (8:30am - 10:00am)

8:00am	Site Opens for Networking – Session Begins at 8:30am
8:30am	Peer Exchange Purpose (10 minutes)
8:40am	Welcome from DOT&PF Chief Engineer, Carolyn Morehouse (5 minutes)
8:45am	Welcome from FHWA, Alaska Division, Structural Engineer/Alaska Marine Highways, Peter Forsling (5 minutes)
8:50am	Introductions and Overview of State Research Programs (15 minutes)

1 slide/state; approx. 3-4 minutes each

- Alaska
- Kentucky
- Minnesota
- Wisconsin

9:05am   Overview of FHWA Experimental Features Program (45 Minutes)

- How do you use the FHWA Experimental Features program?
- What have been the successes and challenges you have faced?
- What are the best practices?

9:50am   5-Minute Ice Breaker Activity and Photos

9:55am   Introduce Next Session & What to Be Thinking About During Break (5 minutes)

Session 2 (11:00am – 12:30pm)

11:00am   Lessons Learned (30 minutes)-Discussion

- What did we hear?
- What did we learn?
- What other questions do we have?

11:30am   Implementation & Moving Forward (55 minutes)-Discussion

- What can we do with this information?
- How could this improve our practices?
- What can we share with others?

12:25pm   Preview for Tomorrow (5 Minutes)

Day 2: Tuesday, May 18<u>th</u>

Topic – Diversity and Equity in Research Practices and Project Selection

Session 3 (8:30am – 10:00am)

8:00am   Site Opens for Networking – Session Begins at 8:30am

8:30am   Overview of Diversity and Equity in Research Practices and Project Selection
               (5 minutes)

- Review survey results
- How is equity and diversity applied in your research project selection
  process?
- How do you consider equity and diversity when developing a project
  selection panel?
- Do you have any projects that address equity and diversity in your
  organization?
- Has anything you've done worked really well? Do you utilize your DOT's
  Civil Rights Office data, reporting, compliance reviews?

9:50am   5-Minute Ice Breaker Activity and Photos

9:55am   Review Next Session & What to Be Thinking About During Break (5 minutes)

Session 4 (11:00am – 12:30pm)

11:00am   Lessons Learned (30 minutes)

- What did we hear?
- What did we learn?
- What other questions do we have?

| 11:30am | Implementation & Moving Forward (55 minutes) |

- What can we do with this information?
- How could this improve our practices?
- What can we share with others?

| 12:25pm | Preview for Tomorrow (5 Minutes) |

Day 3: Wednesday, May 19th

Topic – Research Program Website Showcase and Further Discussion on Previous Topics

Session 5 (8:30am – 10:00am)

| 8:00am | Site Opens for Networking – Session Begins at 8:30am |

| 8:30am | Overview of Program Websites (45 minutes, approx. 10 minutes each) |

- Take us for a drive around your website!
- What is your #1 best and #1 worst features on your website?

| 9:15am | Additional Discussion on Previous Topics (30 minutes) |

| 9:45am | Ice Breaker Activity and Photos (5 minutes) |

| 9:50am | Review Outcomes from Previous Ice Breaker Activities (5 minutes) |

| 9:55am | Review Next Session & What To Be Thinking About During Break (5 minutes) |

Session 6 (11:00am – 12:30pm)

| 11:00pm | Lessons Learned (30 minutes) |

- What did we hear?
- What did we learn?
- What other questions do we have?

| 11:30am | Implementation & Moving Forward (30 minutes) |

- What can we do with this information?
- How could this improve our practices?
- What can we share with others?

| 12:00pm | Wrap up / Final Thoughts (30 Minutes) |

This appendix contains the contact information for the participants of the research peer exchange.

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This appendix contains the information provided to participants to prepare for the discussion topics and the peer state slide presentations used during the Alaska Department of Transportation & Public Facilities Research Peer Exchange, in the following order:

- Information shared with participants to prepare for discussion topics (below).
- Slides to Facilitate the Peer Exchange/Opening Remarks (page 30).
- Alaska Department of Transportation & Public Facilities Overview (page 39).
- Kentucky Transportation Cabinet Overview (page 44).
- Minnesota Department of Transportation Overview (page 64).
- Wisconsin Department of Transportation Overview (page 69).

Experimental Features Program Supplemental Information:
1. Kalla, H. *Guidance for Implementing 23 CFR Part 420, Subpart B* [Memorandum] Federal Highway Administration. October 16, 2018. https://www.fhwa.dot.gov/publications/research/general/spr/subpartB/spr_subpartB.pdf
2. Federal Highway Administration. State Planning and Research. *Guidance on the Use of FHWA State Planning and Research Funds for Reimbursement of Education and Tuition Expenses.* April 2, 2015. https://highways.dot.gov/research/opportunities-partnerships/partnerships/state-planning-research
3. American Association of State Highway and Transportation Officials. *"How To" Test Deployment Through Experimental Features.* https://research.transportation.org/wp-content/uploads/sites/31/2019/01/EXPERIMENTAL_FEATURES_PAPER-1-25-19.pdf

Equity, Diversity, and Inclusion Supplemental Information:
1. AASHTO Resolution Addressing Race Equity Diversity and Inclusion Equity (page 22).
2. Unconscious Prejudice Questionnaire (page 24).
3. Byington, L. *Male, White Transportation Staff Complicate Biden Equity Pledge.* Bloomberg Government. April 27, 2021. https://about.bgov.com/news/male-white-transportation-staff-complicate-biden-equity-pledge/
4. Schmitt, A. *Documentary to Explore Racial Discrimination in Transportation Planning.* Streets Blog USA. October 29, 2014. https://usa.streetsblog.org/2014/10/29/documentary-to-explore-racial-discrimination-in-transportation-planning/
5. Transportation Research Board. *TRB Snap Search: Social Equity.* June 4, 2021. http://onlinepubs.trb.org/onlinepubs/snap/SocialEquity.pdf
6. MnDOT's *Diversity, Equity, and Inclusion in Research* document (page 27).

Whereas, At the core of the American dream is the promise of freedom, equality, and opportunity for prosperity for all people;

Whereas, As the leaders of state departments of transportation that comprise the American Association of State Highway and Transportation Officials (AASHTO), we are responsible for ensuring compliance with the law and advancing equal opportunity, racial justice, equity, diversity, and inclusion for individuals within our respective departments and to the public regardless of their membership in any protected class;

Whereas, We acknowledge the actions of the past, in programming, planning, design, construction, operations, and maintenance of state transportation systems, which often disproportionally negatively affected low income communities, minority neighborhoods, and people of color, and the legacy of those actions persist in disparities today;

Whereas, It is our role as transportation leaders to serve as stewards of an integrated, multimodal transportation system that achieves economic, environmental, and social goals set by the representatives of the people we serve;

Whereas, In our role as policy makers, we are compelled to listen, learn, and take action to dismantle racism that may be present within ourselves, our transportation agencies, and our broader community; and

Whereas, In our role as employers and leaders of state departments of transportation, we are committed to advance equity, diversity and inclusion within our agencies such that our respective workforce is representative of the communities we serve; now, therefore, be it

Resolved, That we, the Board of Directors of AASHTO, hold ourselves accountable for engaging in the vital work of advancing racial justice, equity, diversity, and inclusion as individuals and as an institution;

Resolved, That we pledge to approach these efforts with humility, introspection, and respect, being mindful of the importance of listening to and learning from those most adversely affected by past decisions. We understand that these measures depend on collaboration with all relevant stakeholders, including government, transportation partners, and the communities we serve. We pledge to continue to collaborate closely with national, state, and regional organizations focused on these issues;

Resolved, That our efforts to address racial injustice will include, but are not limited to:

1) Strengthening our commitment to the values acclaimed in the Civil Rights Act of 1964 and associated statutes, seeking to protect all people from discrimination based on race, color, religion, sex, national origin, disability, or age, and seeking to advance those goals in the delivery of our programs and services, working with our business partners and community and faith based organizations.

2) Enhancing decision-making processes focused on advancing racial justice and incorporating equity, diversity, and inclusion in all aspects of transportation, including, but not limited to investment priorities, policy development, project and program delivery, environmental justice, or in other areas, through more effective public engagement processes, especially in historically underserved communities.

Approved by the AASHTO Board of Directors
November 13, 2020

3) Improving contracting and procurement practices to remove barriers and create opportunities for Disadvantaged Business Enterprises and people of color so that they may participate in the economic benefits derived from transportation investments.

4) Creating additional strategies to improve recruitment, hiring, promotion, training, leadership development, and retention of and support for a workforce at all levels that reflects the communities we serve, through efforts including more robust outreach to educational institutions and community and faith based organizations traditionally serving people of color.

5) Ensuring staff are provided workforce development and other training opportunities to develop competencies and create accountability for promoting equity, diversity, and inclusion to address racism and inequality.

6) Fostering inclusive workplaces where discrimination and bias are not tolerated, where staff have redress for bias-related harms they experience or witness, and where staff at all levels are empowered to speak up against discrimination on behalf of themselves, their colleagues, and the communities we serve; and

Resolved, That this resolution be preserved in the records and minutes of AASHTO and prominently displayed on the AASHTO website.

Worksheet — Unconscious Prejudice: A Self-Reflecting Questionnaire

Read the following statements and rate what you think your comfort level would be in each situation using the scale below. There are no right or wrong answers. Simply be honest with yourself and do not over-think the situations. After you have completed all sections, follow the instructions to create a total score for each section. If you think a situation is not personally applicable, mark "NA" in the space provided.

1	2	3	4	5
Extremely Uncomfortable	Uncomfortable	Neutral	Comfortable	Extremely Comfortable

Section A:

_____ Your best friend starts dating a black Latino-American.

_____ You go into a Japanese restaurant where all the patrons and employees are Asian.

_____ You realize you are the only person of your race when you visit a community.

_____ A Saudi Arabian sits down next to you on a crowded bus.

_____ Your new doctor is Indian American.

Total: _____

Section B:

_____ You find out a family friend is choosing to be a stay-at-home dad.

_____ You greet someone but can't determine her or his gender.

_____ You take your car to get fixed and the head mechanic is a woman.

_____ You see a little boy playing with a princess Barbie.

_____ You see a business man getting a manicure.

Total: _____

Section C:

_____ You see two men holding hands.

_____ A person of the same sex is flirting with you.

_____ You move in next door to a domestic partnership.

_____ You go on a date with someone who used to date the same sex.

_____ You see two females kiss lovingly in public.

Total: _____

Section D:

_____ You don't know whether to open a door or push the handicap button for someone in a wheelchair.

_____ You watch someone park in a handicap spot and he/she does not have a visible disability.

_____ You walk by a mentally disabled person who is talking loudly in the grocery store.

_____ Your friend is dating someone with Aspergers Syndrome (high functioning autism).

_____ You are standing in line behind a deaf person at a fast food restaurant.

Total: _____

Section E:

_____ A heavily obese person is working out in the gym next to you.

_____ You are sitting next to an obese woman on a plane.

_____ Your new roommate is at an extremely unhealthy low weight according to the doctor, but still talks about being fat.

_____ You notice a coworker who is obese is holding up the cafeteria line because he/she wants to fill the tray.

_____ You watch an obese man get stuck trying to sit in a desk in class.

Total: _____

Section F:

_____There is a 20 year age difference between you and your lab partner.

_____Your internship coordinator assigns you to an assisted care facility.

_____Your senior citizen landlord wears a hearing aid and often has difficulty understanding you.

_____Your grandmother often asks you for help with her computer.

_____Your 70 year-old next door neighbor can never remember your name.

Results: Compute your total for each section by adding up the numbers from your responses. For each section, look at the score category you fall within. If you marked an item "NA," score it as a "3" before computing your total score for that section.

_____ Section A: Race

_____ Section B: Gender

_____ Section C: Sexuality

_____ Section D: Disability

_____ Section E: Weight

_____ Section F: Age

Key:

21-25 = Minimal unconscious/conscious negative attitudes and feelings.

16-20 = Mild to moderate unconscious/conscious negative attitudes and feelings.

11-15 = Moderate to high unconscious/conscious negative attitudes and feelings.

 5-10 = Strong to overwhelming unconscious/conscious negative attitudes and feelings.

Reflection:

1. Are all of your scores the same? Why or why not?

2. Do you feel surprised, disappointed or satisfied by your results? Why?

3. What did you like most or least about this activity? Why?

4. Which specific items made you think the most? Why?

5. On which section did you score the lowest? Highest? Why do you think that happened?

6. What experiences have you had that may have contributed to your scores?

Diversity, Equity, and Inclusion in Research

To best serve Minnesotans, MnDOT's Research & Innovation has a unique opportunity and responsibility to ensure MnDOT funded research leverages diverse thought, includes diverse populations, and fosters equitable representation. Committed to a culture that values diversity and strives for equity and inclusion, MnDOT Research & Innovation and Asset Management Office, this living guidance document provides actionable strategies to include diversity, equity, and inclusion in our operations and processes.

Why is this important?

- Minnesota's transportation system must work for everyone
- Diversity & Inclusion is a MnDOT Core Value
- Advancing Equity is a MnDOT Research Strategic Priority
- Through a strong focus on Diversity, Equity, and Inclusion, transportation planning, civil engineering, and scientific research can ensure transportation systems, technology, and innovations improve the lives of all Minnesotans, including the disenfranchised
- Inclusion protects organizations from embarrassment, unnecessary expenses, reduces risk of litigation, and promotes better products and services to customers and stakeholders

How can Research & Innovation improve Diversity, Equity, and Inclusion?

Our Strategic Priorities guide our research project selection and impacts data available for decision-making throughout the agency. To best serve Minnesotans, MnDOT's Research & Innovation has a unique opportunity and responsibility to ensure MnDOT funded research leverages diverse thought, includes diverse populations, and fosters equitable representation. Some ways we can accomplish this, includes but is not limited to, project selection, guidance to and composition of Research Technical Advisory Panels (TAP), leveraging inclusive research methodologies, and comprehensive literature reviews that consider disenfranchised, disparate, and underrepresented populations.

Outreach

Promote the importance and commitment of diversity, equity, and inclusion in our practices both in outreach activities and public facing webpages and documents.

MnDOT Core Values

- Safety
- Excellence
- Service
- Integrity
- Accountability
- Diversity and inclusion

MnDOT Research Strategic Priorities

- Innovation and future needs
- Advancing equity
- Asset management
- Safety
- Climate change & the environment

- Advancing equity aims to recognize the role research plays in the assurance of equitable access to safe and efficient transportation systems. While research may not necessarily focus only on equity, MnDOT prioritizes research projects that advance equitable access to safe and efficient transportation systems.

- Recognize the importance of DEI in the research and contracting process in a formal statement of commitment on our office webpage, and public facing documents.

Research Needs Statements

Research needs statement are opportunities to encourage customers to consider different dimensions of diversity, equity, and inclusion as they submit research ideas. Information included in Research and Innovation's outreach work can promote DEI by including:

- Statement on Research & Innovation's commitment to DEI
- DEI's relationship with quality, unbiased data and decision-making
- Examples of projects reconsidered to include DEI
- Directly assisting with DEI-related projects

Comprehensive literature search

The literature search is the first step to develop a research needs statement. This is an important opportunity to consider DEI dimensions and what has currently been explored within the subject or gaps in the existing research to explore.

- Identified DEI deficiencies should be included in research needs statements
- DEI factors, when applicable, to consider, include, but are not limited to - persons with disabilities, young populations, older populations, vulnerable road users (pedestrians, bicyclists, motorcyclists, children), relationship between gender and sex and use of the transportation systems, relationship of ethnic groups/immigrant population/English language learners and the transportation system, relationship of socio-economic status and the transportation system, and impacts on disenfranchised communities.

Project development

One of MnDOT's Research Strategic Priorities includes Advancing Equity. The Strategic Priorities can guide research development and selected projects should reflect the department's values. This may include projects that:

- Advance equity in research by including the following groups in the research process - persons with disabilities, young populations, older populations, vulnerable road users (pedestrians, bicyclists, motorcyclists, children), relationship between gender and sex and use of the transportation systems, relationship of ethnic groups/immigrant population/English language learners and the transportation system, relationship of socio-economic status and the transportation system, and impacts on disenfranchised communities.
- Sponsor projects that directly or indirectly focus on diversity, equity, and inclusion in transportation

Technical Advisory Panels (TAP)

Diversity and inclusion promotes effective problem solving. A diverse TAP with equity and diversity training can recognize when a project has an opportunity to address DEI and foster an inclusive and welcoming atmosphere among TAP members. We can enhance the capacity of our TAPs by encouraging:

- Recruitment of diverse TAPs by socio-economic and demographic characteristics and industry/academic disciplines and perspectives

- Encouraging TAP members to take advantage of optional Diversity, Equity, and Inclusion trainings when relevant to a project
- Encouraging TAP members to be mindful of diversity, equity, and inclusion in their projects
- In collaboration with the Office of Equity & Diversity, host training opportunities on DEI in transportation research for TAPs
- Inclusion of a diversity statement in the TAP Guidelines

Comprehensive literature reviews

Recognizing when a DEI dimension exists within a project is not without challenges; however, literature reviews can help by:

- Defining who the research affects
- Articulating how the research may affect different populations/areas differently, particularly historically disenfranchised populations
- Describing the average or study population/area
- Investigating the perspective of the populations/areas

Research design

Eliminating biased data leads to more accurate research findings, which can improve the live, health, and well being of Minnesotans. Inclusive data are critical to informed decision making. We may consider issues of diversity, equity, and inclusion in our research design relating to:

- Identifying and framing possible inclusion and equity issues within the research question
- Sampling methods and metrics used
- Selection of study sites/populations
- Approaching a community in a culturally sensitive manner
- Takeaways relevant to diverse communities and projected end users

Partners

The Office of Research and Innovation will require support and guidance from partners, which may include, but not limited to:

- MnDOT Research Steering Committee
- Local Road Research Board
- MnDOT Office of Equity and Diversity
- MnDOT Office of Public Engagement

Welcome

- Peer Exchange Purpose
  - FHWA requirement, guides, resources
  - Exchange ideas and best practices
  - Prepare report

Alaska Department of Transportation and Public Facilities Planners

- Anna Bosin, RD&T2 Program Manager and Tribal Relations Liaison
- David Waldo, Training Specialist II
- Erin Anderson, Engineering Associate

Facilitators

- John Overman, Research Scientist, TTI
- Brittney Gick, Associate Transportation Researcher, TTI

At the end of this peer exchange, you will be able to:

- **Describe a peer exchange**
- **Identify participants**
- **Describe best practices**
- **Apply to your agency**

Objectives
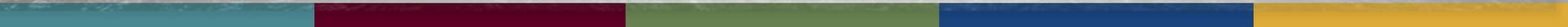
Participants

- Kentucky
- Minnesota
- Wisconsin
- FHWA – Alaska Division
- FHWA – Turner Fairbanks

- Next…Zoom Tips and Review Agenda

Feel free to use virtual backgrounds.

You can change how you view the screen by clicking on the View Button in the top right corner of the screen or if someone is sharing their screen, View Options Button in the top bar.

Remain **MUTED** if you are not speaking.

Use the **CHAT BOX** for discussion, questions, and key takeaways. This will be included in the final report.

Actively participate – provide ideas, lessons learned and challenges that you have faced and don't be afraid to ask questions.

Virtual Meeting Tips

- **Welcome from Alaska DOT&PF Chief Engineer, Carolyn Morehouse**

- **Welcome from FHWA, Alaska Division, Structural Engineer/Alaska Marine Highways, Peter Forsling**

- **Overview of State Research Programs**
    - Alaska
    - Kentucky
    - Minnesota
    - Wisconsin

- **Overview and Discussion on FHWA Experimental Features Program**

- **5-Minute Ice Breaker Activity and Photos**

- **BREAK (10:00AM – 11:00AM)**

- **Afternoon Discussion Session on FHWA Experimental Features Program**
    - Participants will return and share what they learned and what can be implemented in their own states.

- **Adjourn (12:30PM)**

**Day 1
Monday, May 17th**

- **Site Opens for Networking at 8:00AM– Session Begins at 8:30AM**

- **Overview and Discussion on Diversity and Equity in Research Practices and Project Selection**

- **5-Minute Ice Breaker Activity and Photos**

- **BREAK (10:00AM – 11:00AM)**

- **Afternoon Discussion Session on Diversity and Equity in Research Practices and Project Selection**
  - Participants will return and share what they learned and what can be implemented in their own states.

- **Adjourn (12:30PM)**

**Day 2
Tuesday, May 18th**
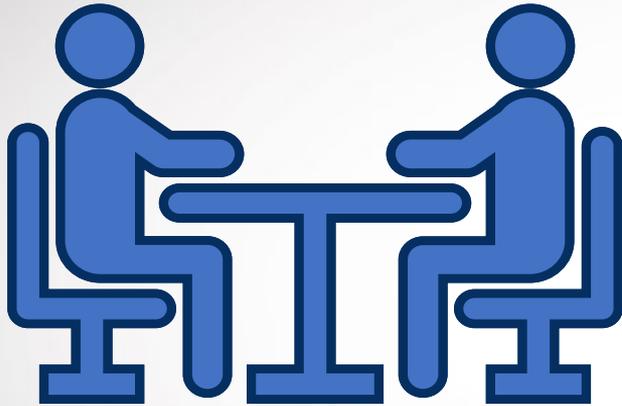
- **Site Opens for Networking at 8:00AM– Session Begins at 8:30AM**

- **Overview of Program Websites**
  - ▶ Take us for a drive around your website!
  - ▶ What is your #1 best and #1 worst features on your website?

- **Additional Discussion on Previous Topics**

- **5-Minute Ice Breaker Activity and Photos**

- **BREAK (10:00AM – 11:00AM)**

- **Afternoon Discussion Session on Diversity and Equity in Research Practices and Project Selection**
  - • Participants will return and share what they learned and what can be implemented in their own states.

- **Wrap up / Final Thoughts**

- **Adjourn (12:30PM)**

Day 3
Wednesday, May 19th

Questions?

Texas A&M
Transportation
Institute

John Overman
Research Scientist
J-Overman@tti.tamu.edu

Brittney Gick
Associate Transportation Researcher
B-Gick@tti.tamu.edu

Alaska DOT&PF Research Development & Technology Transfer

Anna Bosin, P.E.

Anna.bosin@Alaska.gov

May 17, 2021

Research Program Overview

Research Funding Distribution FFY19

- Research Program Budget: $2.4M/annually
  - 2-year research plan for project selection process
- # of Active Research Projects Each Year: ~30
- # of Research Program Staff: 4
- Research Program Org. Structure:
  - Housed within HQ, Design and Engineering
  - Staff located in each region (Anchorage, Fairbanks, Juneau)
  - LTAP program within RD&T2
  - Innovation within RD&T2 (STIC, CAV working group, EDC)

Peer Exchange Goals

- What do you hope to gain from the peer exchange?
  - Better or new ways to utilize experimental feature program!
  - Find Experimental Feature success stories from around the country!

  - How will RD&T2 best implement the AASHTO Equity Resolution?
  - Are there research opportunities to help advance DOT&PF to a more diverse staff engagement and research project selection?

  - Get inspired by others' research websites for ease of use for all things research☺

Experimental Features (AK)

- Our Recently updated guidebook:

http://dot.alaska.gov/stwddes/research/assets/documents/adot_exp_feat_guide.pdf

- From our RD&T2 Program Guidelines:

3.7. Experimental Features in Highway Construction

This program enables federal highway construction funds to be used for promising but unproven materials, methods, and techniques where such use of federal funds would not normally be allowed. To be eligible for the experimental features program, the work plan for the project must include an evaluation of the experimental feature upon completion of the work. The evaluation plan must be approved by the FHWA prior to or concurrent with approval of the construction project's Plans, Specifications, and Estimate. The project engineer will coordinate during the experimental feature's installation with the research project manager to ensure proper construction and installation of the research feature.

If the experimental feature fails, repair or replacement costs are also eligible for federal-aid funds. This approval occurs during the project's design phase.

The Department supports use of this program to encourage implementation of innovations in highway construction in general, and specifically for full-scale demonstrations of concepts developed in the research program. Construction funding pays the costs of experimental features and post construction evaluation. Long term monitoring is generally set up as an experimental feature research project using SP&R funds and State Match.

The Research and Development staff assists DOT&PF staff in developing evaluation/monitoring plans and coordinating program activities with the FHWA funding evaluation activities that extend beyond the construction phase of a project, and they compile and disseminate project results.

Race Group	Total (Members of the population)
White	481,269 (65.34%)
Alaska Native or American Indian	113,459 (15.41%)
Black or African American	27,595 (3.75%)
Asian	48,836 (6.63%)
Native Hawaiian or other Pacific Islander	10,278 (1.40%)
Two or More Races	54, 802 (7.44%)

(Alaska Department of Labor and Workforce Development, Research and Analysis 2018)

- Alaska Demographics vs. DOT&PF Employee Makeup

HR Report on Internal Staff Diversity: http://dot.alaska.gov/job-opportunities/ADOTPF-FY2019-EEO-Plan.pdf

MALE FULL-TIME WORKFORCE ANALYSIS BY EEO-4 CATEGORY
ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

Employment Data: July 1, 2019

EEO-4 Category		White Male	Black Male	Asian Male	Hispanic Male	Pacific Is. Hawaiian Male	American Indian/Ak. Native Male	Two or More Races Male	Total Male
Officials/Administrators		31			1		3		35
	%	88.6			2.9		8.5		100.0
Professionals		493	15	30	15		19	2	574
	%	85.9	2.6	5.2	2.6		3.3	.4	100.0
Technicians		88	3	1	7		9	1	109
	%	80.7	2.8	0.9	6.4		8.3	0.9	100.0
Protective Services		64	5	2	3		2	1	77
	%	83.1	6.5	2.6	3.9		2.6	1.3	100.0
Paraprofessional		1		3	1				5
	%	20.0		60.0	20.0				100.0
Administrative Support		42	2	7	4		3		58
	%	72.4	3.4	12.1	6.9		5.2		100.0
Skilled Craft		829	13	34	22	4	115	4	1021
	%	81.1	1.3	3.3	2.2	0.4	11.3	0.4	100.0
Service/Maintenance		187	20	51	14	5	42	9	328
	%	57.1	6.1	15.5	4.3	1.5	12.8	2.7	100.0
Total		1735	58	128	67	9	193	17	2207
	%	78.6	2.6	5.8	3.0	0.5	8.7	0.8	100.0

FEMALE FULL-TIME WORKFORCE ANALYSIS BY EEO-4 CATEGORY
ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

Employment Data: July 1, 2019

EEO-4 Category		White Female	Black Female	Asian Female	Hispanic Female	Pacific Is. Hawaiian Female	American Indian/Ak. Native Female	Two or More Races Female	Total Female
Officials/Administrators		9					1		10
	%	90.0					10.0		100.0
Professionals		264	2	18	11		20	2	317
	%	83.3	0.6	5.7	3.5		6.3	0.6	100.0
Technicians		29		1	1	1	3		35
	%	82.8		2.9	2.9	2.9	8.5		100.0
Protective Services		9							9
	%	100.0							100.0
Paraprofessional		8		5			2		15
	%	53.3		33.3			13.4		100.0
Administrative Support		112	4	13	7	2	17	2	157
	%	71.3	2.5	8.3	4.5	1.3	10.8	1.3	100.0
Skilled Craft		34		5	2		4	2	47
	%	72.3		10.6	4.3		8.5	4.3	100.0
Service/Maintenance		114	4	27	7		16	4	172
	%	66.3	2.3	15.7	4.1		9.3	2.3	100.0
Total		579	10	69	28	3	63	10	762
	%	75.9	1.3	9.1	3.7	0.4	8.3	1.3	100.0

For FY19, the Department's total full time workforce was 2,969 employees. Approximately 25% were females and 75% males. The department's workforce has historically been composed of more males than females.

Alaska Peer Exchange

VISION

KYTC's Research Program consists of basic research, applied research and special studies that aid the Cabinet in:

- Solving Complex Technical Issues
- Improving Customer Service
- Improving Safety, Mobility, Infrastructure Integrity and Quality
- Enhancing Cabinet Performance
- Aid in Preparing for the Future

PURPOSE

KYTC's Research Program strives to generate new solutions, build more effective partnerships, and provide more effective tools and for decision making, which will enable the Cabinet to enhance and guide the best investments in the Kentucky's transportation system.

TRANSPORTATION RESEARCH PROGRAM

KENTUCKY TRANSPORTATION CABINET
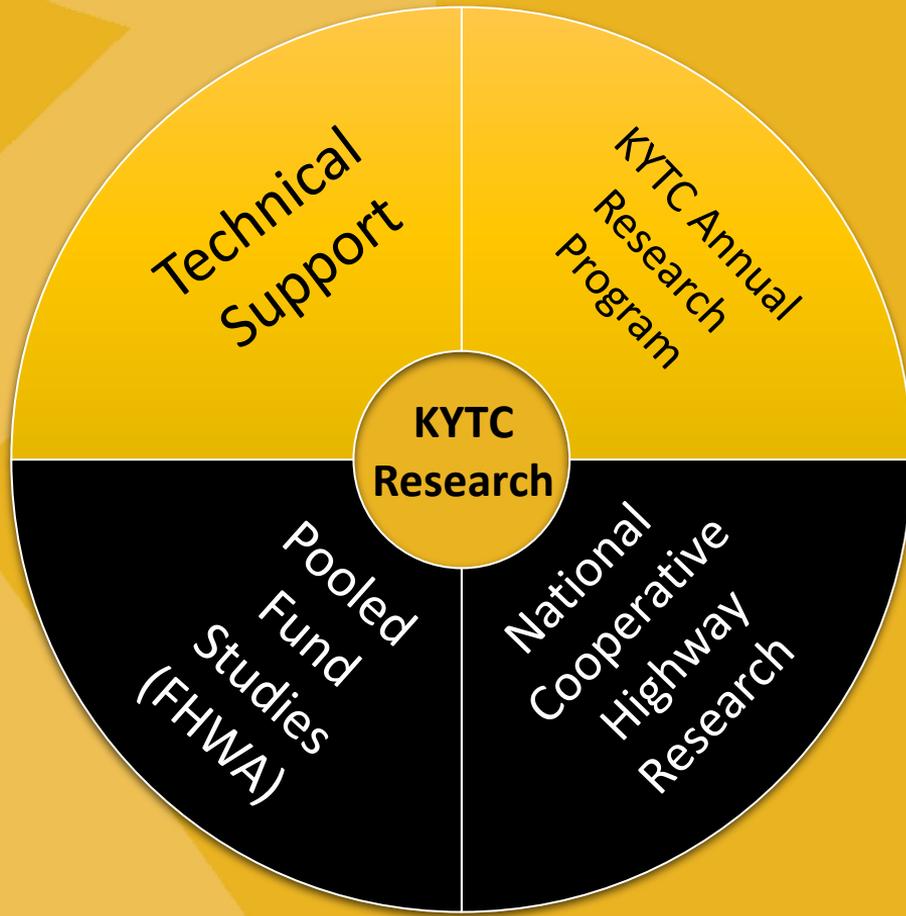
Kentucky's SPR Program

- 3.75 Million Annually
- About 21 Projects Annually
- Set aside Money for Implementation (500k)
- Research for DOT and DVR
- Primary Partner – University of Kentucky
- LTAP located at UK

SPR 20-577 Evaluation and Update of Guardrail Rating Program

Training Video:

Proposed Guardrail Rating Form

Length: 0.3 mi

Roadside Characteristics

Figure A: Diagram of Roadside Characteristics

Through Traveled Lane
Edge of Through Traveled Lane
Fixed Object (if present)
Slope Break
Horizontal Dist.
Graded Shoulder (Paved + Unpaved)
Critical Slope (Steeper than 3:1 (H:V))
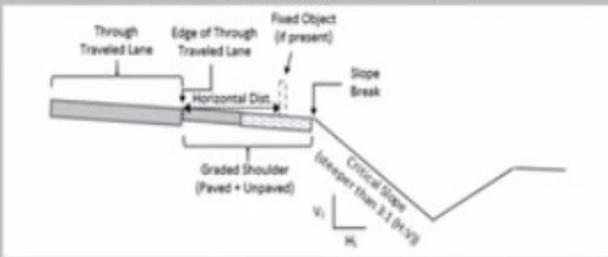
Shoulder Width (ft.) *

Maximum Embankment Slope (H1V1) *

Maximum Embankment Height (ft.) *

Survey123 for ArcGIS

SPR 20-584 Traffic Incident Management Dashboard
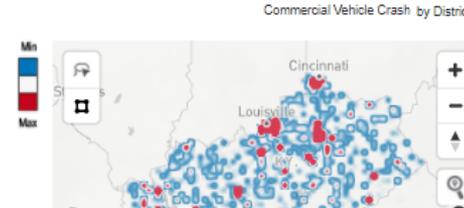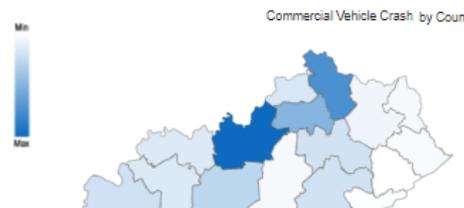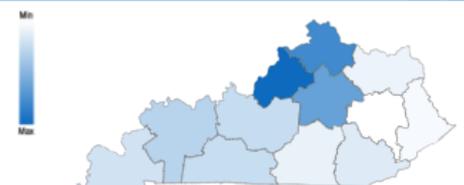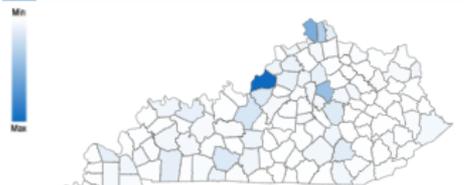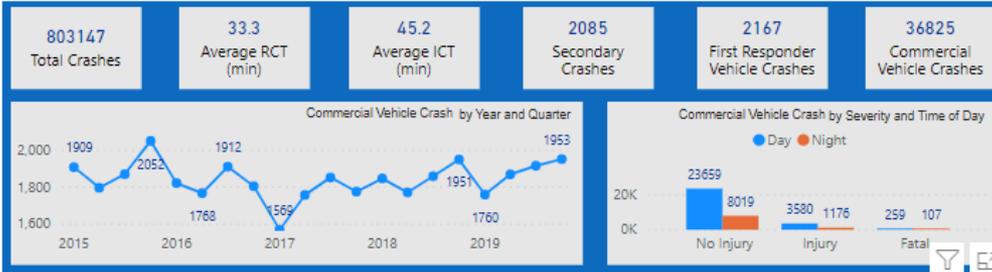
# EVALUATION OF ROADWAY LIGHTING PRACTICES 17-534

SPR Projects for: Digital Terrain Models, As-Builts and E-Ticketing
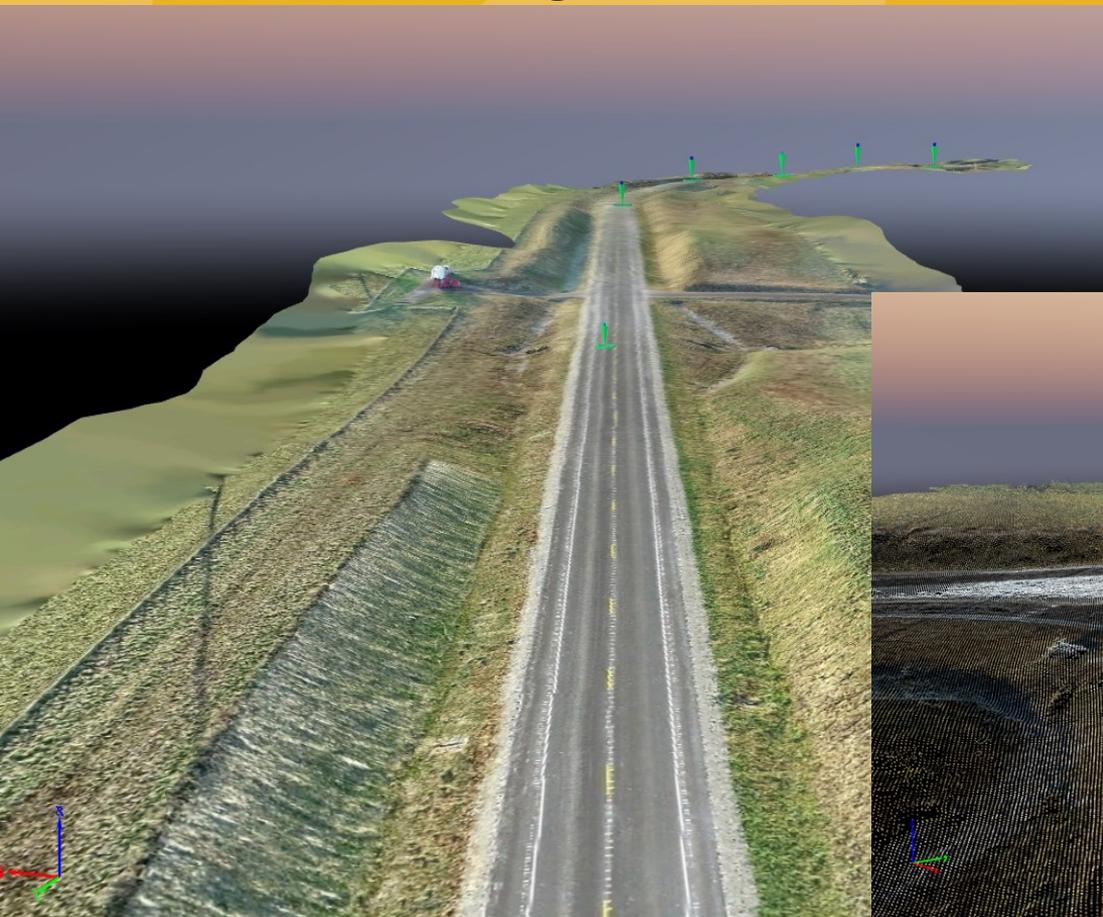
16-518 – Aided in decision making to move toward "flat plates" for vehicle tags.

- Cheaper
- Digitally Printed
- No Storage/Transportation
- Easier to read
- Read by Toll Booths

SPR

Research Tasks
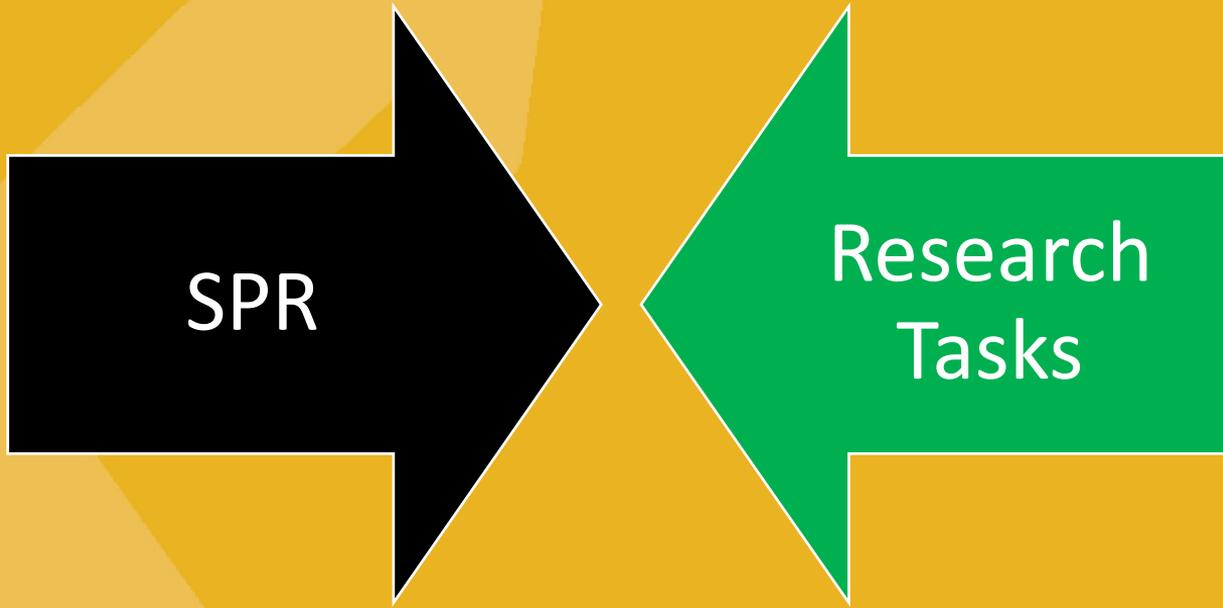
Technical Assistance – ITS/Motor Carrier

High Priority Grant - $1,200,000

Commercial Drivers License –$145,000

Technical Assistance - Water Drop Analysis
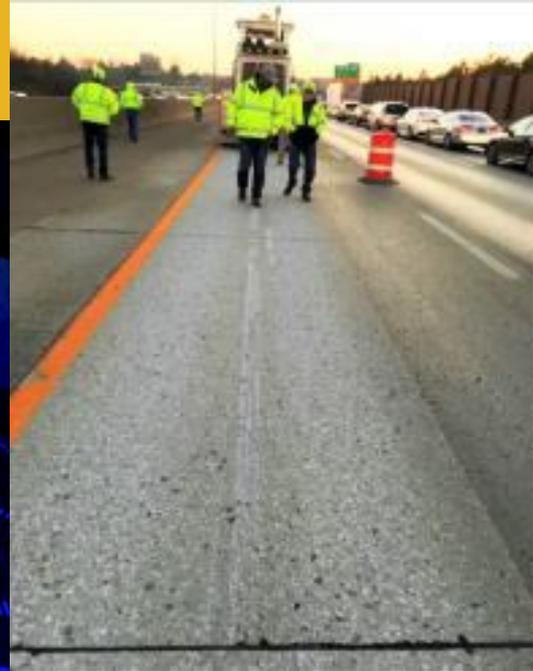
Pier 3: Damage to Timber Pile

Retrofit Complete October 04, 2019

National Pooled Fund Efforts
<u>Pavements</u>

- Improving the quality of pavement surface distress and transverse profile data collection and analysis
- Improving the Quality of Highway Profile Measurement
- MnROAD/NCAT Joint Study – Phase II
- Pavement Structural Evaluation with Traffic Speed Deflection Devices (TSDDs)
- Implementation of the Asphalt Mixture Performance Tester (AMPT) for Superpave Validation
- Pavement Surface Properties Consortium: Phase III - Managing the Pavement Properties for Improved Safety (SCRIM Truck)
- Consortium for Asphalt Pavement Research and Implementation (CAPRI)
- Accelerated Performance Testing on the 2021 NCAT Pavement Test Track with MnROAD Research Partnership
- Technology Transfer Concrete Consortium (TTCC)
- Regional and National Implementation and Coordination of ME Design

U.S. Department of Transportation
Federal Highway Administration

National Center for Asphalt Technology
NCAT
at AUBURN UNIVERSITY

National Pooled Fund Efforts

Traffic

- **Traffic Control Device (TCD) Consortium (3)**

Planning

- **Support for Urban Mobility Analyses**
- **Institute for Trade and Transportation Studies (ITTS)**
- **Mid-America Freight Coalition (MAFC) - Phase III**
- **Develop and Support Transportation Performance Management Capacity Development Needs for State DOTs**

Bridges

- **Bridge Element Deterioration for Midwest States**

Highway Safety

- **Midwest Roadside Safety Pooled Fund Program**
- **Evaluation of Low Cost Safety Improvements**
- **Traffic Safety Culture**

Research & Innovation

Katie Walker | Research & Innovation Director

Informing, Improving and Innovating Transportation in Minnesota
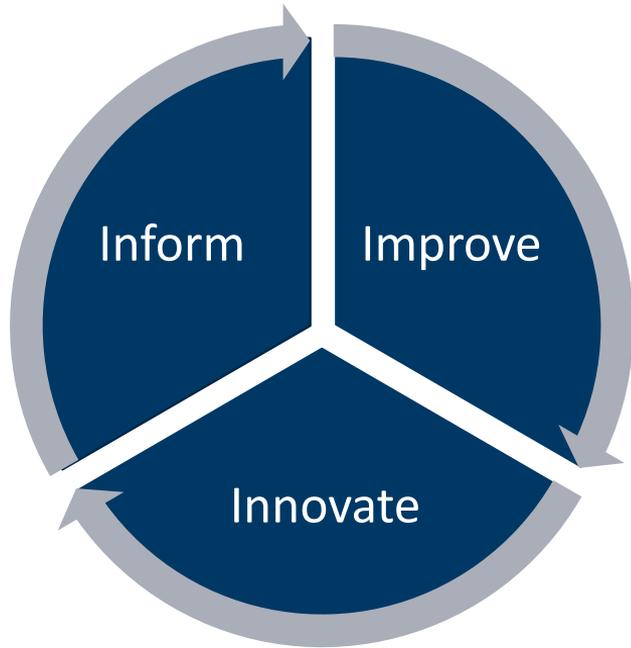
Inform to make better decisions

Improve our process, services & products to better serve our end users

Innovate to solve complex problems creating value for our organization and customers

Research Funds

State Research Program Funds	$2.6m
FHWA State Planning & Research	$3.6m
LRRB (City/County Research)	$4.1m
CTS (Center for Transportation Studies)	$1.9m
Total	$12.2m

$12.2 million
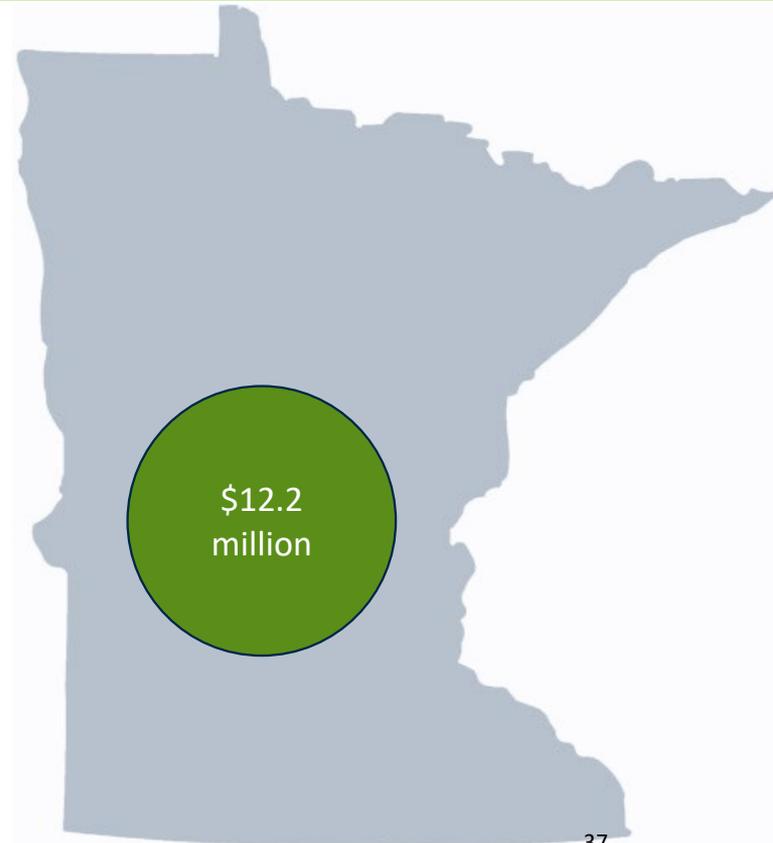
By the Numbers

229
RESEARCH CONTRACTS ADMINSTERED (FY19)

12,796
DIGITAL & PRINT ITEMS DELIVERED TO LIBRARY CUSTOMERS (2019)
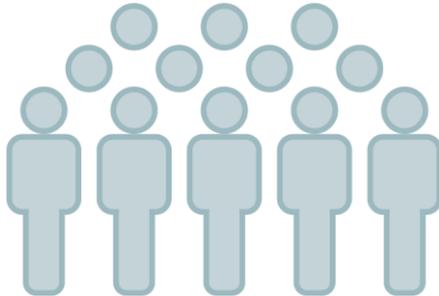
856 RESEARCH PANEL MEMBERS

1,459
REFERENCE QUESTIONS ANSWERED (2019)

5,374
RESEARCH E-NEWSLETTER SUBSCRIBERS
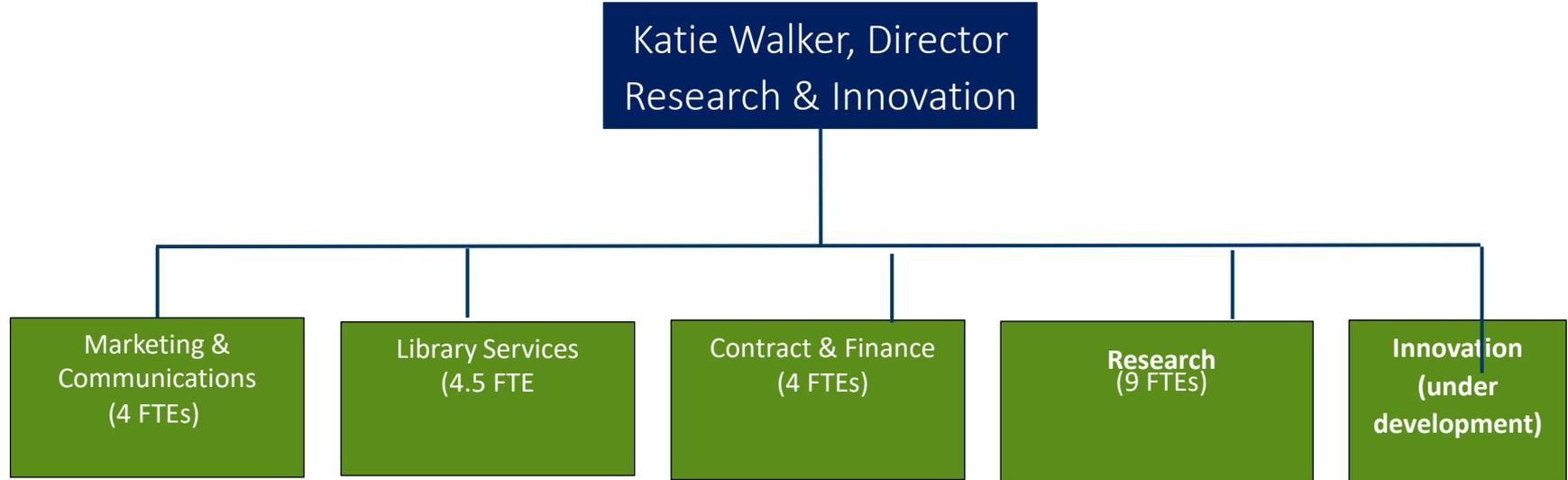
Wisconsin Department of Transportation

Andy Eiter
Research and Library Services Unit

Alaska Department of Transportation and Public Facilities
RD&T2 - Virtual Peer Exchange

May 17-19, 2021

Contact: research@dot.wi.gov

Research Program Overview

- Active Research Projects Each Year: ~20

- Research Program Staff: 4 research | 1.5 FTE library

- Research Program Org. Structure: (Next Slide)

- FFY 2020 budget -- $4.69 million

Supplemental programs $775,000

Management $155,000

Technology transfer $165,000

MMS projects $15,000

Pooled fund research $922,000

State research $1,249,460

National research $1,398,949

State research: 27%

National research: 30%

Pooled fund research: 20%

Staff functions: 7%

Supplemental programs: 17%
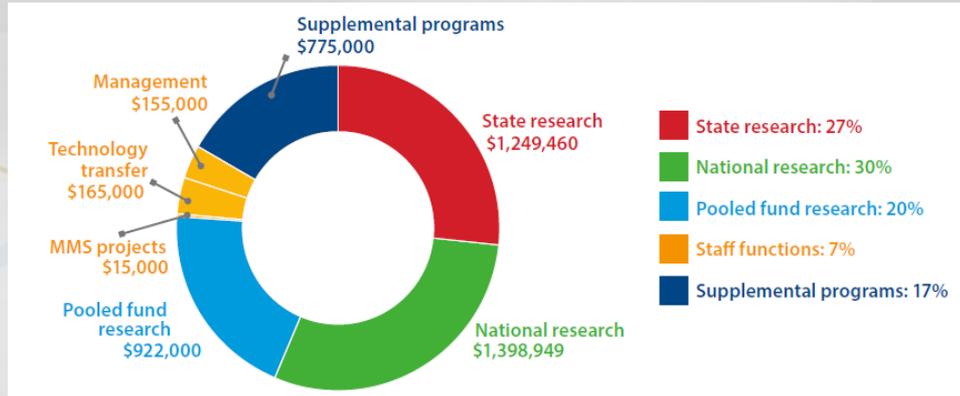
DIVISION OF BUDGET & STRATEGIC INITIATIVES

Aileen Switzer
Division Administrator
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VACANT
Executive Staff Assistant
Pos. # 002754

Kaleb Vander Wiele
DOT Officer
Pos. # 016576

Brian Mitchell
Policy Initiatives Advisor-Exec
Pos. # 016636

Rodney Saunders Jr.,
DOT Officer
Pos. # 030518

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Budget & Policy Manager
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Josh Reed
DOT Officer
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Pos. # 004608

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Budget & Policy Supervisor-Adv.
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Peter Pavich
Budget & Policy Analyst-Adv
Pos. # 011596

Sarah Osborn
Budget & Policy Analyst.
Pos. # 042370

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Budget & Policy Analyst-Adv.
Pos. # 040600

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Budget & Policy Analyst-Adv.
Pos. # 335844

Ricardo Buckley
IS Business Auto-Sen.
Pos # 010990

Tricia Etzler
Budget Capital Officer
Pos. # 032732

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Program & Policy Supervisor
Pos. # 005525

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DOT Officer
Pos. #033239

Matthew Umhoefer
DOT Program Officer
Pos. # 017903

Ryan Spaight
DOT Program
Officer Pos. # 018787

Hannah Brown
DOT Program Officer
Pos. # 043359

VACANT
Contracts Specialist- Sen.
Pos. # 337733

Jacqueline Kamin
Program & Policy Analyst- Adv.
Pos. # 020610

Ethan Severson
Program & Policy Analyst
Pos. # 022021

Andrew Eiter
Program & Policy Analyst
Pos. # 519244

Wendy Brand
Librarian
Pos. # 012201 (FTE .50)

John Cherney
Librarian
Pos. # 312801

Kaitlyn Daul
Program & Policy Analyst Adv.
Conf.
Pos. # 033142

VACANT
Program & Policy Analyst Adv.
Conf.
Pos. # 022441

Peer Exchange Goals

- How to improve recruitment, retention and promotion of a diverse workforce
  - What role does research play?

- Learn more about Experimental Features Program

- Share examples of website best practices and features
  - WisDOT Research homepage:
    https://wisconsindot.gov/Pages/about-wisdot/research/default.aspx