



# Moving forward

Ohio Department of Transportation

Research Program Newsletter

2021 Volume 1



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## ODOT & ORIL Issue FY2022 RFPs

ODOT and Ohio's Research Initiative for Locals (ORIL) are currently accepting proposals for their fiscal year 2022 programs.

- 2022-01 - Development of Simplified Factors for Lateral Load Distribution of Loads of Non-Standard Gauge (NSG) Axles
- 2022-02 - Combined Airborne Sensor Network for the State of Ohio to Detect Lower Altitude Aircraft
- 2022-03 - Benefit Analysis of Barrier Inlet Screens
- 2022-04 - Identification of Enhanced Moisture Susceptibility Testing for Asphalt Pavements
- 2022-05 - Establishing Minimum Specifications and Quality Products List (QPL) Parameters for Cold Mix
- 2022-06 - Injection System for Herbicide
- 2022-07 - Achieving Efficiencies Within ODOT with the Event Streaming Platform
- 2022-ORIL1 - Optimizing 404-Low Volume Traffic Mix Designed for Ohio's Local Roadways
- 2022-ORIL2 - Identification of Maintenance Practices to Impede Corrosion Impacts on Prestressed, Reinforced Concrete Box Beam Bridges

Submissions for the above RFPs must be received by **3:00PM (ET)** on **March 1, 2021**. RFPs and instructions are available on the [RFP website](#). Please read all instructions carefully and make sure you are following the guidelines. Allow adequate time to submit proposals via the online submission process to avoid delays and technical issues. All questions concerning RFPs should be submitted as described on the [RFP website](#). Clarifications will be posted as they become available, so be sure to check the site regularly for updates.



# Districts Collaborating on Research Receive TOP Honors

by Brandon Collett, P.E., District 8 Structures Planning Engineer

Removal of floating debris from bridges (mostly tree logs and branches) has always been a nuisance problem in District 8, especially on large bridges over the Great Miami River and the Little Miami River, a National Scenic River. Environmental constraints prohibit the placing of equipment in the water, severely hindering our ability to promptly and effectively remove debris from piers. The debris that builds up around piers needs to be removed on a regular basis to avoid damage to the piers or it can cause flooding, increase forces on our structures, scour and even bridge failures. In the past we've used our District track-hoe, clamshell buckets, winches and even sold construction projects to remove debris. However, each of these methods has limitations, environmental impacts and coordination timelines that impact our ability to effectively remove debris in a safe, timely and environmentally friendly manner.



*Debris build up in Great Miami River over US50*

The problem worsened in 2018, likely exacerbated by dying ash trees, when more than 2 spans of the SR 122 bridge over the Great Miami River became blocked by debris. The District Bridge Engineer (Brandon Collett) and the Highway Management Administrator (Doug Gruver) determined that a research project may help us better understand other methods and available equipment useful for this task. Working with ODOT's Research Section, a Request for Proposal (RFP) was developed to find a research team to investigate the most efficient methods and equipment.

The Ohio State University (Jon Witter, Dan Mecklenburg) was ultimately selected because of their understanding of stream modeling and their environmental impacts. The team researched what other agencies around the country do to remove debris and presented these to ODOT along with

some of their own ideas. They also asked to be present with ODOT's efforts to remove debris so that they could observe current methods, interview our maintenance staff, and work with them on improvements to methodologies and equipment.



*Debris removal in Great Miami River over US 50*

ODOT's Butler County Maintenance Department was the primary ODOT maintenance team (Shane Jones, Shawn Sutton, Scott Hall, William Cencebaugh, Austin Brate, Dakota Hammond, Jeremy Hibbard, Todd Jackson) which provided traffic control, operated a long reach track-hoe borrowed from Ohio's Department of Natural Resources, and transported equipment. This initial method entailed situating a track hoe with a fixed thumb on the bridge and reaching down and out to remove the debris. Because much of the work was blind to the operator, the District Equipment Manager (Jonathan Wells) outfitted the track hoe with a video camera fixed to the boom to provide the operator (Scott Hall) with a live video feed using a modified back-up camera system. At bridges with hammerhead type piers where debris was out of reach from track hoes, District 5's Roadway Services Engineer coordinated to have heavy equipment operators Ralph Echelberry and Mike Moore come to District 8 to assist. These operators demonstrated their tremendous skill with their crane and Clamshell bucket. District 1 demonstrated their knuckleboom and grapple arm. And lastly, the District also used our dive inspection bridge consultant to use SCUBA divers with underwater hydraulic chainsaws to cut and remove debris that could not be seen above water and/or was snagged on the structure itself. Hamilton County Maintenance staff also provided traffic control when the research team brought in another knuckleboom and grapple arm that had additional capabilities for a demonstration.

*Article Continued on page 3 —>*



## Districts Collaborating on Research ... Continued

To mitigate future debris accumulation at other, select problem bridges, the research staff also worked with Bridge Engineers Christopher Howard and Garret Freeman; Hydraulic Engineers Tami Brehm and Max Bailey; Environmental Engineers Anthony Pankala and Keith Smith; and Clermont County Maintenance Managers Dan Noertker and Steve Riley. This work entailed designing vanes and weirs placed in the stream to redirect flow away from bridge substructures.

Because of everyone's efforts, the research team has specified and procured (with further help of Jonathan Wells) a custom built knuckleboom for removing debris from bridge substructures. It will have additional capabilities for tree cutting, auguring foundations, and even a man basket that can be used for various other tasks throughout the year so that neither the equipment, nor its operators, ever get rusty. Additionally, the research team is working with Training Coordinator Jennifer Henderson to train the operators and develop training videos that can be accessed by scanning a QR code on each piece/attachment of the knuckleboom for refresher training at any point in time or place.



*Research demonstration in Hamilton County*

Through a multi-disciplined team effort, ODOT will be better trained and better equipped to manage debris in the future. These efforts were recognized by ODOT in late 2020, when the teams collaborating on the project were awarded the Total ODOT Performance (TOP) Award for System Condition Innovation. This TOP Award recognizes individuals or groups whose efforts result in the improvement of system conditions as measured by ODOT's Critical Success Factors (e.g., bridge, pavement and maintenance condition ratings). The research project, *Develop Cost Effective Alternatives for Mitigating Debris and Environmental Impacts Around Bridge Piers*, is ongoing and is anticipated to conclude in March 2022. Complete findings and recommendations will be available then.

## Research Advisory Board Provides Guidance

While ODOT's Executive Leadership has the final say on whether or not a research idea progresses from an RFP to a research project, they receive assistance from a diverse group of experts, the Research Advisory Board (RAB). RAB members come from a variety of ODOT offices and districts who meet up to twice a year to provide guidance and recommendations to the Research Program.

The RAB primarily helps with the review, scoring and prioritization of all research ideas submitted by ODOT staff for the annual RFP. During this process, they also look for facets in proposed research ideas that potentially span multiple disciplines or program areas. This helps make sure the Technical Advisory Committees assigned to each project are comprehensive and include champions that can assist with implementation activities.

Current RAB members include ODOT staff from the following areas:

District 2	Highway Safety Program	Structural Engineering
District 4	Hydraulic Engineering	Traffic Management
District 7	Information Technology	Traffic Operations
District 10	Maintenance Administration	Technical Services
DriveOhio	Materials Management	UAS Center
Environmental Services	Pavement Engineering	
Geotechnical Engineering	Roadway Engineering	

## ORIL Welcomes New Board Members

At the end of 2020, multiple ORIL Board representatives' terms expired. The new Board Members include:



The County Engineers Association of Ohio reappointed Steve Luebbe (Fayette County) and Jeremiah Upp (Fairfield County).



The Ohio Municipal League reappointed Steven Bergstresser (City of Kettering) and selected Greg Butcher (City of Pickerington) to assume the position vacated by James Young (City of Columbus).



The Ohio Township Association selected Dan Corey (Deerfield Township) to assume the position vacated by Greg Butcher (former Violet Township Engineer).



ODOT selected Perry Ricciardi (District 3) to assume the position vacated by Matt Chaney (District 4) and Brian Davidson (District 6) to assume the position vacated by Chase Wells (Construction Management).



An open solicitation for applications for the academic representatives was issued by ODOT's Research Section. The Board selected Dr. Benjamin Sperry (Ohio University) and Dr. Jon Witter (The Ohio State University) to fill the positions vacated by Dr. Deogratias Eustace (University of Dayton) and Dr. Natassia Brenkus (The Ohio State University).



Greg Butcher (City of Pickerington) was unanimously reelected by the Board to serve another term as Board Chair.

The ORIL Program extends its sincerest appreciation to the retiring Board Members as well as those who have agreed to serve for an additional term. The donation of their time and expertise has helped develop a research program that is designed and positioned to provide solutions to issues on Ohio's local roadway system which improves Ohio's entire system. The ORIL Program welcomes the new Board Members. Additional information on Board Members is available on the [ORIL website](http://www.transportation.ohio.gov/oril).

## ORIL Website Gets a New Look

The ORIL website has been migrated onto the state's new web platform. It has a completely new look and functionality.

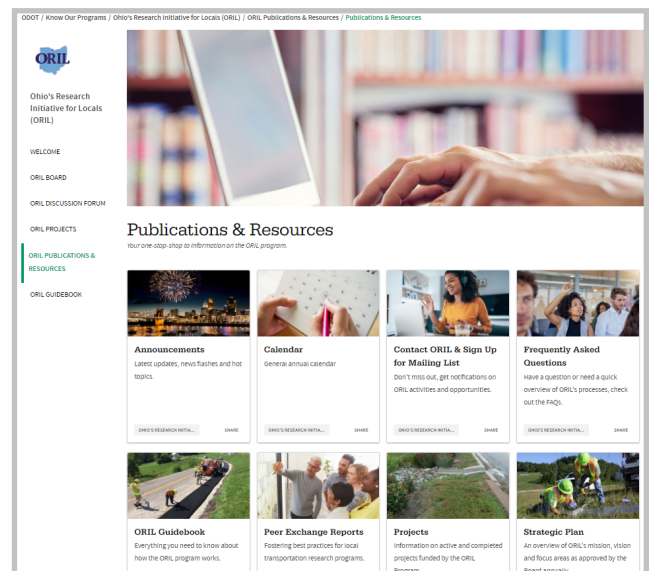
Check out the website to get:

- Announcements on the latest program news.
- Information on projects and Board activities.
- Publications such as the work program, strategic plan and the guidebook.
- Submit ideas.

With this transition, ORIL's website has a new URL address:

[www.transportation.ohio.gov/oril](http://www.transportation.ohio.gov/oril)

Be sure to update this link in your favorites and sign up to receive email notifications of ORIL activities while you are there.





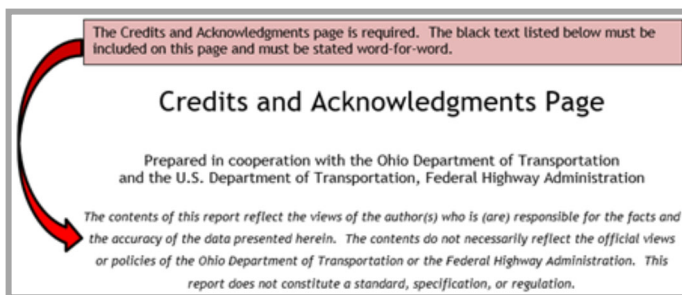
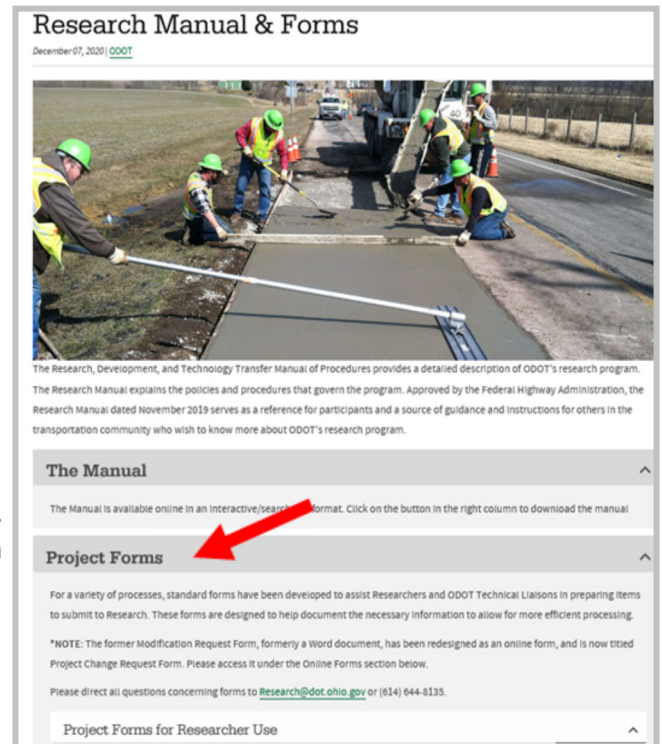
# Are You Using the New Research Report Format?

by Michelle Lucas, Research Contract Manager

We've all done it... read something and at the end thought, what just happened? So, we read it again and come to the same conclusion, and this is why the Research Section revised the research report formatting requirements. Our hope is that with these revisions, research reports become more reader-friendly. The new report formatting requirements are a part of a renewed effort to streamline the process to make Final Reports more readable, and in turn, encourage implementation.

The new report formatting requirements and fact sheet templates can be found on the Research website under Research Manual and Forms. Each are downloadable Word documents, and can be used as a template. There are some items that are required in every research report: the official project title, project ID, authors, and current logos for ODOT, FHWA and the research agency. Always check for updated requirements as these do change.

Worth mentioning is the fact that all reports are required to be **Section 508 compliant**. A brief explanation of Section 508 is located on Page 6 of this newsletter. Additionally, every research report must include a completed Form 1700 (Technical Report Documentation Page) and standard language for credits within the first three or four pages of the report. All reports should include acknowledgment of all people who provided significant input on the project: at a minimum, this should include all Technical Advisory Committee (TAC) members. Additional information is included on the requirements form.



There are seven main sections required in reports: Problem Statement, Research Background, Research Approach, Research Findings and Conclusions, Recommendations for Implementation, Bibliography and Appendix. Each section has a suggested page limit. Reports should be reader-friendly and adhering to the number of page can help. Provide information that gets to the point, is clear and easy to understand. Additional backup information into some of the details should be relegated to the appendix. Ideally, reports should be between twenty and twenty-five pages in length, plus the bibliography and appendix.

These sections follow the order of the fact sheet. Upon reading the fact sheet, it should be possible to go to the corresponding section of the report for more detail. As one document is created, the other should be kept in mind so that they compliment each other.

The report and fact sheet should include photos, graphs or other visual representation of the project in order to help understand and clarify the project. At times, a report may be too large to email to the Research Section. If this happens, please email [research@dot.ohio.gov](mailto:research@dot.ohio.gov) and we will send you a link to upload the file. Despite all the requirements, we also encourage creativity with these documents. The opening pages are standard, but once the requirements are met, have fun! Show your hard work and be proud of what you have done! Most importantly please remember to write with all audiences in mind, not just subject matter experts.

If you have any questions on the report requirements or the Fact Sheet template, please reach out to the Research Section at [research@dot.ohio.gov](mailto:research@dot.ohio.gov).

# What is Section 508 and How Does it Affect Researchers?

by Zona Kahkonen Keppler, Technology Transfer Coordinator

All federal public-facing electronic documents created in PDF format are required to be fully accessible as of March 23, 2018. An accessible document is a document that is as easily readable by a sighted reader as a low vision or non-sighted reader. According to the final federal rule for the Information and Communication Technology (ICT) Refresh, Section 508 is part of a 1998 Amendment to the Rehabilitation Act of 1973. Section 508 applies to all federal agencies full range of public-facing content, including websites, documents and media, blog posts and social media sites.

Here is how this affects you as an ODOT Researcher: Once your research project has been completed and the final report and fact sheet are accepted by the Research Section, the Research staff submits them to the National Transportation Library (NTL) for inclusion in their catalog [ROSA P: NTL Repository & Open Science Access Portal](#).

Since the NTL is under the federal government umbrella, Section 508 Compliance governs all PDF-submitted materials in the library catalog. Your final reports and fact sheets must be created and verified for accessibility so that when you turn them in to us there is no delay in having them posted to the NTL catalog. It is the author's responsibility to make sure their documents are compliant.

NTL adheres with 508 Compliance by:

- Reviewing the accessibility of all NTL digital submissions published on or after March 23, 2018.
- Contacting document submitters if the PDF fails the accessibility tool check in Adobe Acrobat Pro DC and requests re-submissions.
- Helps remediate any remaining accessibility errors to be as fully compliant as possible.
- Sends a confirmation email to the document submitter upon acceptance and cataloging.
- Provides a courtesy copy of the revised PDF to the submitter attached to the confirmation email.
- Ensures that all new catalog submissions are compliant prior to ingesting into the NTL catalog and ROSA P.
- Reviews accessibility of revised NTL Digital Submissions PDFs, including document corrections for documents existing in ROSA P.



For additional information on Section 508 Compliance:

- Visit the *National Transportation Library Accessibility Guide* to gain an understanding of 508 Compliance <https://transportation.libguides.com/accessibility>.
- For a detailed explanation of the accessibility guidelines, the NTL Digital Submissions Accessibility Checklist, tools and training resources, see [NTL Accessibility Guide: NTL Recommended Accessibility Training Resources](#).
- Check with your university or local library compliance office if you have questions and for further assistance.

## Results Presentations Coming Back... with virtual CPDs

The Research Section is once again partnering with the Ohio LTAP Center to offer research results presentations. These are free webinars offered nationwide. They are a platform where researchers provide an overview of the project with an emphasis on results, conclusions and recommendations.

The Ohio LTAP Center has a new platform (Go To Webinar) that will allow for online participants to receive Continuing Professional Development (CPDs) certificates for their participation. The Research Section is anticipating that new results presentations will begin in March 2021. Check the Research website for announcements and registration information. While on the website, sign up to be included on our mailing list to get email notifications of new events.

# New Final Reports Available Online

Project Information	Links
Division of Engineering Research On-Call, Kevin White, E.L. Robinson Engineering Task 6: Enhance ODOT's Highway Friction Management Program (November 2020), Issam Khoury, Ohio University	<a href="#">Task 6 Final Report</a>
Effects of Tree Canopy on Pavement Condition, Safety and Maintenance - Phase 2 (September 2020), Bhaven Naik, Ohio University	<a href="#">Fact Sheet</a> <a href="#">Final Report</a>
Evaluate the Uses and Technology for Truck Mounted Attenuators (December 2020), Melisa Finley, Texas A&M Transportation Institute	<a href="#">Fact Sheet</a> <a href="#">Final Report</a>

Have you tried to access a Final Report online but only see the first page? While this can seem frustrating, don't worry, the rest of the report is there: simply click on the double arrow located in the upper right-hand corner of the page. This will open the entire document.

Determining Bond Strength of Micro-surfacing Mixes

Additional information on active and completed research projects is available on the [Research website](#).

## Upcoming Events

January 2021	11 - ORIL & ODOT Issue FY 2022 RFP 18 - ODOT Closed Various - 2021 TRB Virtual Annual Meeting
February 2021	15 - ODOT Closed 17 - ORIL Board Meeting NCHRP FY 2022 Ballot Distribution
March 2021	1 - ORIL & ODOT RFP Closes @ 3PM(ET) ORIL & ODOT Review Proposals for FY 2022

April 2021	ORIL & ODOT Review Proposals for FY 2022
May 2021	12 - ORIL Board Meeting ODOT Governance Finalizes Researcher Selections for FY 2022 Projects SP&R-B Work Program Book Submission to FHWA Ohio Division Office 31 - ODOT Closed

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