Fiscal Year 2026 Research Program

(July 1, 2025 – June 30, 2026)

Ohio's Research Initiative for Locals
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https://www.transportation.ohio.gov/programs/oril/

In cooperation with the
Ohio Department of Transportation, Office of Statewide Planning and Research
Ohio Department of Transportation, Ohio Local Technical Assistance Program and the
U.S. Department of Transportation, Ohio Division of the Federal Highway Administration

Ohio's Research Initiative for Locals (ORIL) is a program designed to provide practice-ready solutions to real-world issues faced on Ohio's local transportation system through research. A collaborative effort between the Ohio Department of Transportation, the Ohio Township Association, the County Engineers Association of Ohio, the Ohio Municipal League, and Ohio's institutions of higher education, ORIL is overseen by a Board consisting of 15 voting members and 4 support members

ORIL Mission:

ORIL develops, funds, and oversees transportation research projects to meet the needs of local agencies for the safety and economic well-being of the traveling public.

ORIL Vision:

ORIL with self-sustaining funding, identifies, manages, and facilitates strategic research that solves local transportation challenges with implementable and cost-effective solutions.

ORIL Board:

Organization Represented	Members
Voting Board Members	
County Engineers Association of Ohio	Warren Schlatter, Defiance County Eric Beck, Hamilton County Darren Lebrun, Scioto County John Telesz, Morgan County
Ohio Municipal League	Greg Butcher, City of Pickerington Steven Bergstresser, City of Kettering Bob Taylor, City of Dublin Brian Thomas, City of Perrysburg
Ohio Township Association	Mark Antonetz, Genoa Township
Ohio Department of Transportation	Brian Davison, District 6 Local Programs Manager Craig Landefeld, CO Pavement Engineering Mike Loeffler, ODOT CO Structural Engineering
Academia/Researchers	John DeSantis, Youngstown State University Fan Ye, Ohio Northern University
Support Board Members	
FHWA Ohio Division Office Ohio LTAP Center ODOT Statewide Planning & Research ODOT Statewide Planning & Research	Sam Wallace Mike Fitch Vicky Fout Michelle Lucas

2026 Strategic Research Focus Areas:

Safety

Ensuring the safety of those utilizing and maintaining our transportation system is a priority for all transportation agencies. The traveling public expects the system to meet their individual needs in a manner that is safe, convenient, economic, and efficient with minimal disruption to their daily routines. In addition, protection for roadway crews working on-location is a prominent concern. Identifying, developing, and implementing corrective strategies before hazardous events occur is key to advancing a safe and reliable transportation system. For local agencies the identification of cost appropriate, yet effective, safety measures can often be a challenge.

Infrastructure Preservation

Without meeting basic maintenance needs, pavements, bridges, signs, guardrail, pavement markings and other roadway features would degrade to the point of being hazardous. The major challenge is to sustain these conditions in a time of declining resources. As our infrastructure ages, it is important to find ways to preserve existing facilities, especially pavements and bridges, while improving design and construction methods which produce reliable, long-lasting facilities.

Operations & Business Practices

Local transportation agencies face a variety of challenges based on their geography, traffic, population density, funding, equipment, staffing, local expectations, governmental structure and history. The identification and evaluation of best practices can be difficult, given the uniqueness of individual organizations. The ability to be aware of existing research and its local applicability can be a challenge for local agencies.

Program Funding:

Funding for ORIL research projects is provided through the Ohio Department of Transportation's (ODOT's) State Planning and Research Part B (SP&RB) program. A total of $500,000 has been allocated to support ORIL projects during fiscal year (FY) 2026. All FY2026 ORIL funding is at a ratio of 80% federal SP&RB funds with the mandatory 20% matching funds provided by ODOT utilizing state funds. ODOT's Research Section provides oversight of all federal and state funds utilized by ORIL. In addition, ODOT's Research Section acts as the contracting agent for ORIL and provides administrative support.

In support of research projects that incorporate aspects of both the state and local transportation systems, ODOT's Research Section has collaborated with ORIL to initiate more comprehensive studies. In these instances, ODOT's Research Section has provided financial contributions to the projects through its traditional SP&RB program at a funding ratio of 80% federal funds and 20% state funds. The program overview (page 4) denotes the difference between the ORIL (i.e.: local focused) and ODOT (i.e.: state focused) budgets/programs. A total budget is provided to highlight the overall value of ORIL, the local research program.

All projects listed in this program book are also included in ODOT's FY2026 Research, Development and Technology Transfer program book, which was approved by the Ohio Division of the Federal Highway Administration on June 25, 2025.

FY2026 Proposed Projects (Projects anticipated to being after July 1, 2025)

RFP#	Project Title	Project Duration	ORIL Funding	ODOT Funding	Total Budget (estimated)
2026-ORIL1	Pavement Condition Rating Method and Use for Local Agencies Agency: INFRAME PI: Arudi Rajagopal	14 months	$175,040.99		$175,040.99
2026-ORIL2	Methodology for Assigning Load Factors for AASHTO Rating Vehicle Agency: Ohio University PI: Min Soo Sung	12 months	$130,738.69		$130,738.69
	Total Estimated Budget for FY2026		**$305,779.68**		**$305,779.68**

FY2026 Active Projects (Projects began prior to June 30, 2025. All funds encumbered during previous fiscal years.)

SJN	Project Title	ORIL Funding	ODOT Funding	Total Funding
136344	Identification of Maintenance Practices to Impede Corrosion Impacts on Prestressed Concrete Box Beam Bridges Agency: University of Cincinnati PI: Rachel Chicchi Start Date: September 15, 2021 End Date: September 15, 2025	$176,452.98		$176,452.98
136681	Pavement Marking Selection for Local Public Roads in Ohio Agency: University of Akron PI: Ala Abbas Start Date: August 15, 2023 End Date: June 15, 2026	$300,149.47		$300,149.47
136682	Ohio's Research Initiative for Locals (ORIL) Research on Call (ROC) FY2024-2026 Agency: University of Akron PI: Ala Abbas Start Date: August 7, 2023 End Date: August 7, 2026	$840,000.00		$840,000.00
136822	Optimizing Fiberglass Reinforced Concrete Mix for use on Local Roadways in Ohio Agency: The Ohio State University PI: Lisa Burris Start Date: September 1, 2024 End Date: March 1, 2026	$278,557.21		$278,557.21
	Total Budget for FY2026 Active Projects	$1,595,159.66		$1,595,159.66

Total Value of FY2026 ORIL Program: $ 1,900,939.34

Project Title:	Identification of Maintenance Practices to Impede Corrosion Impacts on Prestressed Concrete Box Beam Bridges		
ORIL RFP#:	2022-ORIL2	**State Job #:**	136344
PID:	114249	**Agreement #:**	36574
FY 2022 Funding: **FY 2023 Funding:**	$154,342.98 $22,110.00	**Funding Source:**	ORIL – SP&R-B
Start Date:	September 15, 2021	**End Date:**	September 15, 2025
Research Agency:	University of Cincinnati	**Researchers**	Rachel Cross
ORIL TAC:	Alan Exley, Lake County Dan Lebrun, Scioto County Engineer Jeff Maiden, Athen County Engineer Dan Miller, ODOT Materials Management Jeremiah Upp, Fairfield County Andrea Salyer, ODOT Mike Loeffler, ODOT Structural Engineering Warren Schlatter, Defiance County Vicky Fout, ODOT Research		

Project Summary: The prestressed concrete box beam bridge is one of the most utilized structures on Ohio's local transportation system. It has shown to be one of the more economical structures for spans of 40' to 100'. Over the years, bridge inspections have documented premature rust staining along the bottom, at joint lines, and outside fascia of beams. The rust staining is generated from the onset of prestressing strand corrosion. Many inspections document the staining and corrosion early within the life cycle of the bridge. Corrosion on these structures is expected due to a combination of water and winter salting, however the amount of corrosion and its subsequent impact to box beams is occurring at high rates. Some county engineers have reported bridges with significant corrosion 15-20 years after construction that, at times, has resulted in the bridge needing substantial repairs and in some cases replacement by age 35-40. There is little information available on how to manage or mitigate the crack and rust staining when it is first observed.

The goal of this research is to extend the service life of prestressed concrete box beam bridges utilized on Ohio's local (e.g., counties) transportation system. This research will identify cost-effective and pro-active maintenance practices that can alleviate or significantly slow the corrosion process in these bridges. A matrix of possible repairs or maintenance practices for use by county engineers will be developed. The findings of this research will provide local transportation professionals with valuable tools for the management and care of these structures. By extending the service life of these structures through cost-effective maintenance practices, more substantial and expensive repairs could be delayed without impacting the safety of the traveling public. This would allow local officials more time to plan and budget for costly bridge rehabilitations or replacements.

Project Title:	Pavement Marking Selection for Local Public Roads in Ohio		
ORIL RFP#:	2024-ORIL1	**State Job #:**	136681
PID:	118094	**Agreement #:**	39173
FY 2024 Funding:	$300,149.47	**Funding Source:**	ORIL – SP&R-B
Start Date:	August 15, 2023	**End Date:**	June 15, 2026
Research Agency:	University of Akron	**Researchers**	Ala Abbas
ORIL TAC:	Bob Taylor, City of Dublin Duane Soisson, ODOT Roadway Engineering Steven Bergstresser, City of Kettering Trace Eberhardt, ODOT Roadway Engineering Warren Schlatter, Defiance County Vicky Fout, ODOT Research		

Project Summary: Pavement markings play a vital role in providing guidance to road users. There is a wide range of pavement marking materials that are readily available for use. These materials vary in cost, visibility during the daytime and nighttime, and durability on different pavement surfaces under various traffic and environmental conditions. ODOT's Traffic Engineering Manual (TEM) provides guidance on selecting pavement marking materials, however the recommendations are based on pavements built to ODOT specifications and traffic volumes as defined by ODOT. These recommendations may not be directly applicable to roads maintained by counties, municipalities, and townships. There is a fair amount of research currently available on pavement markings, however, the information is not readily accessible to Local Public Agencies (LPAs) and, like ODOT's TEM, may not be directly applicable. Most LPAs rely on previous experience of current staff to determine which materials to utilize on their roads. Research is needed to assist LPAs in identifying the most cost-effective pavement marking materials for new and restriping applications that are suitable for the prevalent traffic, environmental conditions, and snow removal practices in the various regions of the state. Guidance regarding the proper application procedures for the various types of pavement markings to obtain the optimum performance would further enhance the safety of Ohio's local public roads.

The goal of this research is to identify the most effective pavement marking strategies for local public roads in Ohio. The objective of this research is to develop a user-friendly matrix to assist LPAs with selecting the most effective pavement marking for various local roadways in Ohio. Having a more scientific based approach could lead to the placement of better products resulting in longer service life and ultimately safer roads. A matrix depicting which pavement markings perform best under which conditions can aid LPAs in their decision-making process which could result in cost savings.

Project Title:	Ohio's Research Initiative for Locals (ORIL) Research on Call (ROC) FY2024-2026		
ORIL RFP#:	2024-ORIL2	**State Job #:**	136682
PID:	118095	**Agreement #:**	39174
FY 2024 Funding: **FY 2025 Funding:** **FY 2026 Funding:**	$280,000.00 $280,000.00 $280,000.00	**Funding Source:**	ORIL – SP&R-B
Start Date:	8/7/2023	**End Date:**	8/7/2026
Research Agency:	University of Akron	**Researcher:**	Ala Abbas
ORIL TAC:	Greg Butcher, City of Pickerington Steven Bergstresser, City of Kettering Warren Schlatter, Defiance County Michelle Lucas, ODOT Research		

Project Summary: Ohio's Research Initiative for Locals (ORIL) is a program designed to provide practice-ready solutions to real-world issues facing Ohio's local transportation system through research. It's a multi-organizational collaborative effort to improve the transportation network of Ohio's counties, townships, cities and villages. Additional information on the ORIL program is available on their website: http://oril.transportation.ohio.gov.

Created in 2011, ORIL develops, funds and oversees transportation research projects to meet the needs of local agencies for the safety and economic well-being of the traveling public and Ohio. As of March 2023, ORIL has funded a total of 32 projects addressing issues specific to county, township and city roads. At times, situations arise where low-cost, short-term, focused research tasks are needed to address an urgent issue, identify best practices or synthesis existing research. While important and potentially impactful, these research tasks do not warrant the level of a full-scale research project. Due to the time-sensitive nature of these tasks, it is possible that some of these tasks go unmet because the standard contracting process requires more time than available. To address this issue, the ORIL Board has determined participation in ODOT's Research-On-Call (ROC) program is warranted. The ROC is designed to provide direct, quick access to researchers in specific areas of expertise to conduct short-term, focused, urgent research tasks.

Project Title:	Optimizing Fiberglass Reinforced Concrete Mix for use on Local Roadways in Ohio		
ORIL RFP#:	2025-ORIL1	**State Job #:**	136822
PID:	120530	**Agreement #:**	41222
FY 2025 Funding:	$259,206.15	**Funding Source:**	ORIL – SP&R-B
Start Date:	9/1/2024	**End Date:**	3/1/2026
Research Agency:	The Ohio State University	**Researcher:**	Lisa Burris
ORIL TAC:	Greg Butcher, City of Pickerington Warren Schlatter, Defiance County Craig Landefeld, ODOT Mike Lenhart, Putnam County Engineer Tanner Inkrott, ODOT Clark Schlatter, Paulding County Andrea Salyer, ODOT Vicky Fout, ODOT Research		

Project Summary: Since 2006, Defiance County has been experimenting with an in-house developed flexible concrete mix that mimics the behavior of asphalt at a reduced cost. This mix has been used primarily to widen roadways, patch for trenches and utilities, and for small surface paving. Various adaptations of the mix have been placed by Defiance County in an effort to refine the mix and improve its performance. Having positive experiences, the surrounding Counties of Paulding, Putman, and Henry started utilizing the Defiance mix at various locations for similar purposes. Over time, additional efforts to improve the mix have been made. Some of these efforts were done in-house by one of the Counties while other more laboratory focused efforts were conducted through the ORIL program. In September 2023, ORIL conducted a Research-On-Call task that evaluated various recycled materials as potential improvements for incorporation into the Defiance mix. This task focused on incorporating suitable locally available waste materials (e.g., tire shreds, scrap fiberglass insulation, and shredded recycled plastics). The results indicated that adding recycled fiberglass fibers could provide improved performance at a lower cost. While the findings from this research are promising, several questions remain that need to be addressed to optimize the mix, assess performance, and determine its potential use beyond northwestern Ohio. The northwestern counties utilizing this mix have experienced some cost savings, however, this may not replicate to other counties across Ohio due to material availability or lack of access to contractors. For example, Defiance County has easy and inexpensive access to recycled fiberglass fibers because the County Engineering's Office also manages the County landfill. In addition, there are two contractors located in Defiance County with the ability to fabricate the mix.

The goal of this research is to optimize the flexible concrete mix designed and used by northwestern counties in Ohio and determine its potential for statewide application. Identifying the effective range of recycled fiberglass material to incorporate into the mix has the potential to increase that savings even further. Determining the potential for other Local Public Agencies to utilize this mix will provide more opportunities for its use which could eventually lower costs associated with its production and placement resulting in more savings.
The goal of this research is to optimize the flexible concrete mix designed and used by northwestern counties in Ohio and determine its potential for statewide application. Identifying the effective range of recycled fiberglass material to incorporate into the mix has the potential to increase that savings even further. Determining the potential for other Local Public Agencies to utilize this mix will provide more opportunities for its use which could eventually lower costs associated with its production and placement resulting in more savings.

Project Title:	Pavement Condition Rating Method and Use for Local Agencies		
ORIL RFP#:	2026-ORIL1	**State Job #:**	137002
PID:	123395	**Agreement #:**	
FY 2026 Funding:	$175,040.99 (est.)	**Funding Source:**	ORIL – SP&R-B
Start Date:	TBD	**End Date:**	TBD
Research Agency:	TBD	**Researcher:**	TBD
ORIL TAC:	Bob Taylor, City of Dublin John DeSantis, Youngstown State University John Telesz, Morgan County Patrick Bierl, ODOT Steven Bergstresser, City of Kettering William Feehan, ODOT Vicky Fout, ODOT Research		

Project Summary: ODOT collects pavement condition ratings (PCR) on the state network annually and a subset of the local network that is federal aid eligible on a biennial basis. This data is made available to local public agencies (LPAs) through the TIMS system. Many LPAs also collect their own set of pavement condition ratings on all pavements within their jurisdiction to identify roads for resurfacing, repair, and other planning purposes. The data sets collected by LPAs may differ significantly from ODOT's PCR and in most cases the detailed level of distress information collected in ODOT PCR may not be necessary for their purposes. In addition, the collection methods, schedules, and data types differ from locality to locality statewide.

Metropolitan Planning Organizations (MPO's) use ODOT's PCR ratings to help compare the condition of various areas and for grant applications. While ODOT PCR may be helpful to MPOs, the feedback ODOT has received from LPAs who are responsible for maintaining the local roads is that ODOT's PCR data may not be helpful in many cases. In addition, LPAs would prefer to have data on the whole local network as opposed to a subset. Since ODOT collects and reports pavement data on federal aid eligible roads, identifying a pavement rating methodology that would be useful for all parties (LPAs and MPOs) is desired.

The goal of this research is to recommend pavement rating methods that would be useful to cities, counties, townships, and MPOs. Findings from this research will help ODOT to focus current efforts to collect local pavement condition ratings to be useful to the agencies responsible for the routes the data represents. Identifying and implementing a pavement rating methodology that would be useful for all parties (LPAs and MPOs) would help reduce duplication of effort and enhance data integrity and utilization. A more unified approach to pavement data collection can ultimately improve pavement management for local agencies.

Project Title:	Methodology for Assigning Load Factors for AASHTO Rating Vehicle		
ORIL RFP#:	2026-ORIL2	**State Job #:**	137003
PID:	123396	**Agreement #:**	
FY 2026 Funding:	$130,738.69 (est.)	**Funding Source:**	ORIL – SP&R-B
Start Date:	TBD	**End Date:**	TBD
Research Agency:	TBD	**Researcher:**	TBD
ORIL TAC:	Alexis Bogen, FHWA Amjad Waheed, ODOT Brad Noll, ODOT Mark Zimmerman, Seneca County Mike Loeffler, ODOT Warren Schlatter, Defiance County Vicky Fout, ODOT Research		

Project Summary: The Federal Highway Administration (FHWA) is requiring the addition of three new bridge load rating vehicles (TYPE 3, TYPE 3S2, TYPE 3-3,) listed in the Bridge Design Manual (BDM) SECTION 908.3 as part of the new federal Specifications for the National Bridge Inventory (SNBI) to be completed by 2027. SNBI will require all Ohio bridges having an opening measured along the center of the roadway of more than 20 feet to be reanalyzed. The consensus among many structural engineers is that the impact these new vehicles would have on load ratings will be significantly less than the 10 vehicles (HL93/HS20, 2F1, 3F1, 5C1, SU4, SU5, SU6, SU7, PL60T, PL65T) listed in the BDM SECTION 908.2 and 908.3, already required to be analyzed resulting in an overall negligible impact. The impact on counties and municipalities to incorporate the new vehicles would be extremely costly as consultants would have to be hired to perform calculations of the three new vehicle types for all bridges within that jurisdiction. To comply with the updated SNBI federal requirements, research is needed to provide scientific evidence of the impact of the new load rating vehicles. The research would develop protocol(s) to assign new load rating factors based upon the existing 10 vehicles for bridge types, span configurations, number of lanes and other governing factors for the three new vehicles. A primary factor in the development of this research is to limit or eliminate the need to laboriously, systematically, and costly reload ratings all bridges. Findings from this research will be presented to FHWA for consideration. Acceptance of the protocol will assist Local Public Agencies (LPAs) in meeting the deadline for updating the load ratings in a reliable, accurate, expeditious and fiscally responsible manner while ensuring the integrity and safety of Ohio's local transportation system.

The goal of this research is to assist counties and municipalities in meeting the new load rating vehicle federal requirements. Scientific evidence of the impact of the new load rating vehicles on specific bridge types accompanied with a simplified, statistically valid, reliable and repeatable methodology, if accepted by FHWA, could save locals substantial time and costs.