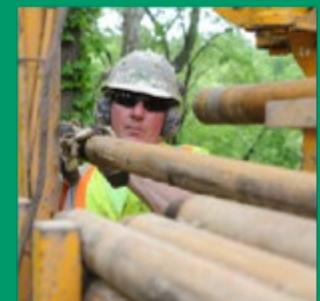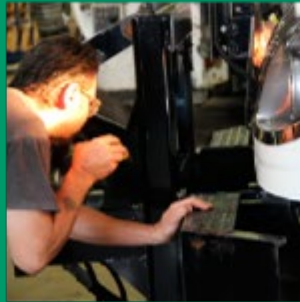# UNIVERSITY VISITS 2022
ODOT RESEARCH PROGRAM

RESEARCH

OHIO DEPARTMENT OF TRANSPORTATION

ODOT RESEARCH PROGRAM STAFF

Vicky Fout	Program Manager	614-466-3029
Michelle Lucas	Contract Manager	614-644-8135
Jill Martindale	Project Manager	614-644-8173
Jennifer Spriggs	Project Manager	614-644-5754
Zona Kahkonen Keppler	Technology Transfer Coordinator	614-466-2882

Email:
Research@dot.ohio.gov

Website:
www.transportation.ohio.gov/research

RESEARCH PROGRAM

o Provides decision-makers with the information and tools they require to ensure Ohio's transportation system meets the evolving needs of our residents and the traveling public

o Works to anticipate and address transportation concerns before they become critical problems

o Provides innovative solutions and technical resources to Ohio's transportation professionals through a competitive, contract-based research program
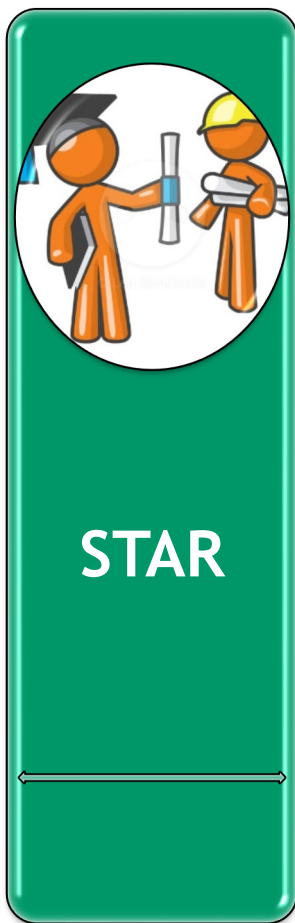
RESEARCH PROGRAM

Annual RFP | ROC | STAR | ORIL | National Activities
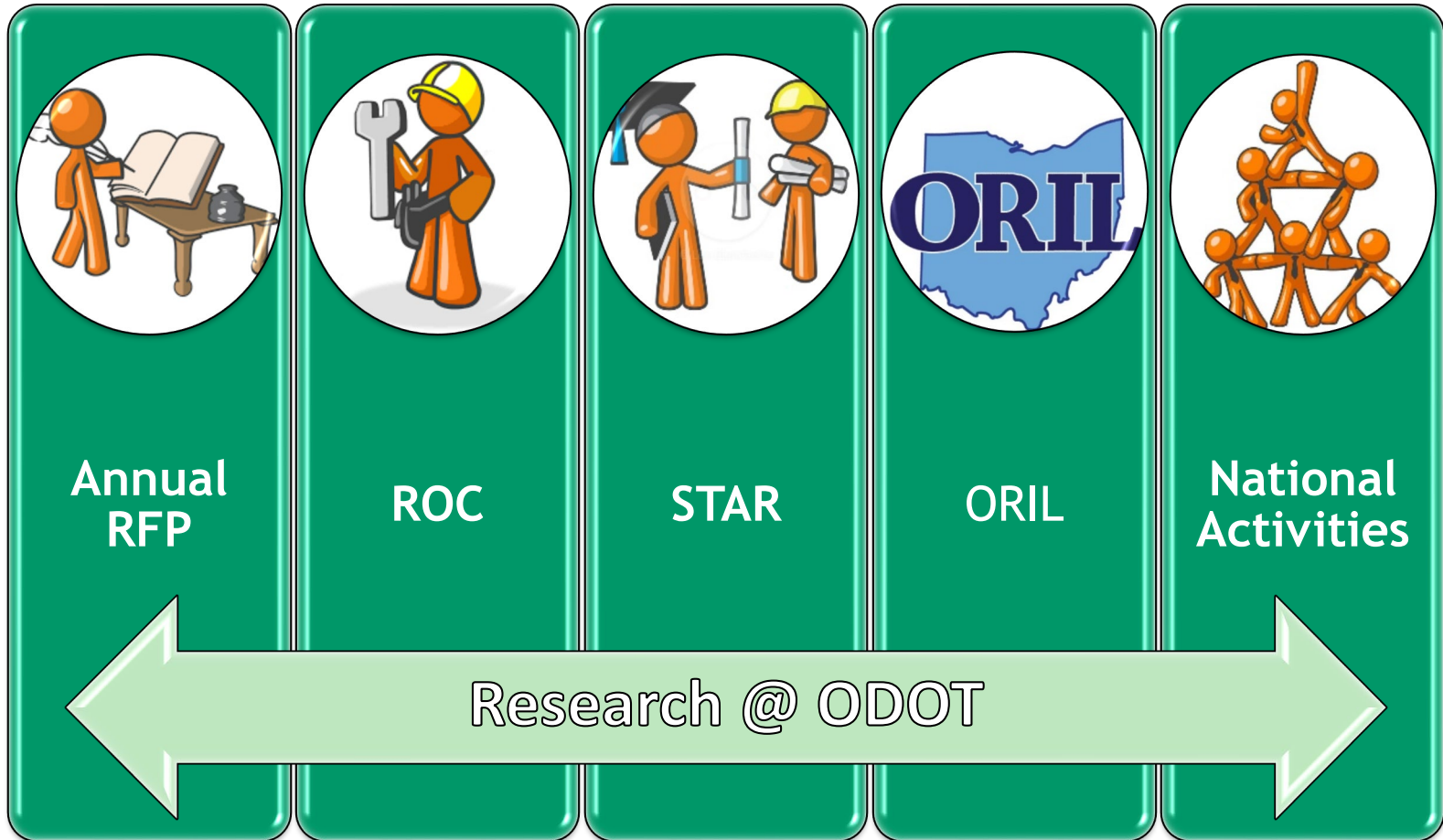
Research @ ODOT

Annual Request for Proposals (RFP)

Annual RFP

o ODOT employees submit research ideas to be considered for development into RFPs

o Ideas are reviewed, prioritized, developed into RFPs and posted as an annual solicitation to the transportation research community

o Proposals are accepted from both public and private academic institutions as well as private sector and non-Ohio based organizations

Ohio Department of Transportation

RESEARCH PROGRAM

ROC

Research-on-Call Program (ROC)

o Designed to provide direct, quick access to researchers in specific areas of expertise

o Consists of focused research tasks that don't warrant the level of a full-scale project

o Individual tasks are limited to $60K and 7 months (includes 1 month for report review)

o ROC contracts are issued for 3 years with a set funding amount per year

OHIO DEPARTMENT OF
TRANSPORTATION

RESEARCH PROGRAM

Student Transportation Advancement Research (STAR) Program

o   Brand new initiative being piloted this year

o   Lots of details coming later in this presentation

STAR

RESEARCH PROGRAM

Ohio's Research Initiative for Locals (ORIL)

o Designed to provide practice-ready solutions to real-world issues facing Ohio's *local* transportation system

o $500K per FY to fund research projects

o Open annual solicitation for research ideas

o Open RFP solicitation with ODOT

o www.transportation.ohio.gov\oril

National Activities

Support for National Research Activities

- Transportation Research Board (TRB)
  - Coordinate involvement on national TRB committees

- National Cooperative Highway Research Program (NCHRP)
  - Submit ideas for projects and participate on project panels for national level research

- Pooled Fund Studies
  - Collaborate with other state DOTs to conduct and fund research projects with regional/national interest or impact

- American Association of State Highway and Transportation Officials (AASHTO)

OHIO DEPARTMENT OF **TRANSPORTATION**

ODOT's Research Program Statistics

33 Active Contracts (Total Value: $24M)

15 Proposed Projects / Activities (Total Value: $5.3M)

FY2023 Research Program

40 Pooled Fund Studies – Participating (Total Value: $76M)

ORIL Funding Commitment (Total Value: $500K)

NCHRP, TRB, LTAP Support (Total Value: $1M)

Active and Proposed Contracts Awarded
(*including ORIL*)

69% = University
27% = Consultant
4% = State/Federal Agency

Ohio Department of
TRANSPORTATION

ODOT's Research Program Projections - FY2024

o **Funding steady - $8.5M** (80% federal & 20% state)
  o $500K annual funding commitment to ORIL continues

o **Annual solicitation to include RFQs for NEW ROC contracts**
  o Potential Areas: Engineering, Planning, Construction, Operations, ORIL

o **Research Summit returning**

OHIO DEPARTMENT OF
TRANSPORTATION

RESEARCH PROGRAM

ODOT's Research Program Projections – Next 2-5 years

o **Idea generation**
  - o ODOT remains internal and aligned with ODOT's Mission, Vision and Critical Success Factors
  - o ORIL remains open and aligned with ORIL's Strategic Research Plan and Focus Areas

o **Emphasis to be on results that can be implemented and demonstrate a return on investment**

o **ORIL celebrating major milestones**

RESEARCH PROGRAM

Important Upcoming Dates

|	

August
• ORIL Idea Solicitation Open
• ORIL Call for Board Applications
  (2 Academic Board Positions Available)
	January
	• 9 – FY2024 RFP Posted
	  (Includes ODOT & ORIL)
	• STAR projects start as contracts executed

September • 1-2 - STAR RFP Issued • 7 - ORIL Idea Solicitation Closes • 7 – ORIL Call for Board Applications Closes	**March** • 1 - Annual RFP Closes
October • 14 - STAR RFP Closes • 25-26 – OTEC *(Visit us in the Exhibit Hall)*	**June** • Annual RFP selections announced
November • ODOT Research hosts Peer Exchange	**July** • FY2024 projects start as contracts executed

RESEARCH MANUAL

- o Provides all policies and procedures that govern the Research Program
  - o Chapter 1 – General
  - o Chapter 2 – Roles
  - o Chapter 3 – Program Development: National
  - o Chapter 4 – Program Development: Ohio
  - o Chapter 5 – Project Management
  - o Chapter 6 – Implementation
  - o Chapter 7 – Technology Transfer

- o Incorporated into all research contracts
  - o ORIL also has a Guidebook that includes information specific to the ORIL Program
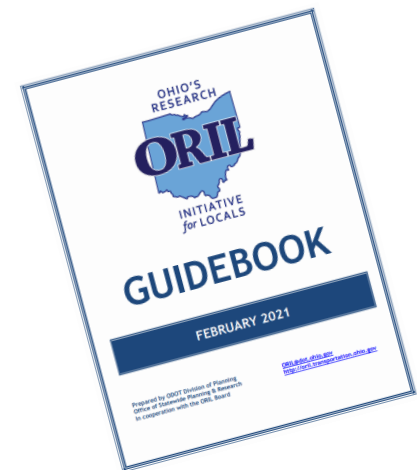
o **Chapter 4 – Program Development: Ohio**
  - o Explains the entire process how
    - o Research ideas are created and selected
    - o RFPs are developed
    - o Proposals are solicited and assessed
  - o Provides details on the ROC and ORIL Programs
    - o ORIL Guidebook available on ORIL website
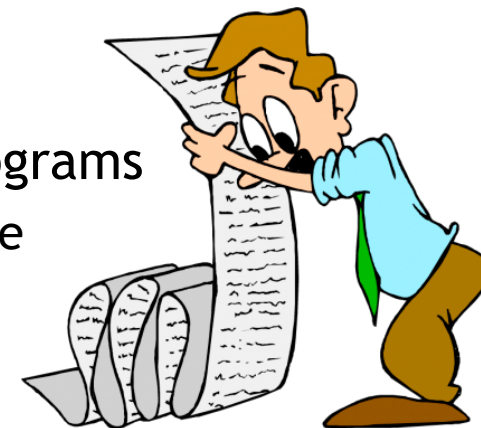
o **Chapter 5 – Project Management**
  - o Details everything from project initiation to execution and through close-out
  - o Includes requirements for reporting, **invoicing**, inventory and submitting project change requests

RESEARCH MANUAL

Click here to download the entire manual

Click here to download forms that are used by researchers

Click here to download forms that are referenced in the manual

Click here if you need to submit a project change request

Click here to download copies of the Standard Research Agreements

The Student Transportation Advancement Research (STAR) Program

- An open challenge, grant-style program administered by ODOT's Research Section

- Engages college students to address transportation topics in an innovative manner

- Challenges students (and ODOT) to think outside-the-box in order to identify *novel approaches to solve issues*, *create new value by applying new processes or techniques to established topics*, *or simply to test out new ideas*

STAR PROGRAM

- Research teams comprised of students (undergrad, graduate, or combination)

- Academic advisor serves as PI providing oversight, guidance and technical direction to student team

- Students expected to drive the project and actively participate in all aspects (including meetings and presentations)

STAR PROGRAM

- ODOT Research solicits topics from ODOT offices

AUGUST

- STAR RFP issued

SEPTEMBER

- STAR RFP closes
- Proposal reviews begin

OCTOBER

- Offices make selections
- ODOT Leadership approves & Research announces awards

NOVEMBER

- Proposal modifications and contract negotiations

DECEMBER

- STAR projects begin as contracts are issued

JANUARY

OHIO DEPARTMENT OF TRANSPORTATION

What do STAR RFPs look like?

STUDENT TRANSPORTATION ADVANCEMENT RESEACH PROGRAM (STAR)
Ohio Department of Transportation
Office of Statewide Planning & Research
Research Section
Fiscal Year 2023
STAR Request for Proposal

STAR RFP Solicitation Number: 2023-10STAR-D

Research Topic
Explore the Concept of Advanced Air Mobility (AAM) Aircraft for General Aviation and Recreational/Tourism Industries

Requirements of the Research Team
- Must be an academic institution based in the State of Ohio
- FAA Regulatory Knowledge
- AAM Vehicle Expertise
- Experience in Market Assessment and Projections
- Experience in Trend Analysis
- Knowledge in General Aviation and Recreational/Tourism

Duration
- 12 Months (10 months to conduct work and submit draft report with 2 months for ODOT to review the report and finalize deliverables)
- Project anticipated to begin during (or after) January 2023

Funding Amount
$100,000

Limitation on Indirect Costs (F&A Rates)
$5,000
(Indirect costs cannot exceed 5% of the funding amount. Indirect is taken from the total funding amount; it is not in addition to the total funding amount.)

Duration dictates award amount, payment schedule and due date for draft report submission

Total Duration (months)	Draft Report Due in month from start date	Funding Amount	Funding Disbursement
4	3	$50,000	$25K @ 50% point $25K @ receipt of deliverables
6	5	$50,000	
12	10	$100,000	$25K @ 25% point $25K @ 50% point $25K @ 75% point $25K @ receipt of deliverables
18	15	$100,000	

OHIO DEPARTMENT OF TRANSPORTATION

STAR PROGRAM

- Indirect costs limited to 5% of the funding amount

- Part of the award amount (not an addition)

Award Amount	Indirect Cost Maximum Amount	Direct Cost Minimum Amount
$50,000	$2,500	$47,500
$100,000	$5,000	$95,000

- Universities may opt to assess lower indirect amount or no indirect amount at all

- Tuition is not an eligible use of SPR-B funds in Ohio

- Proposal Format – Modified version of ODOT's standard proposal format

- Emphasis on student involvement and innovation

- Copy of the STAR proposal formatting guidelines are in your packet!

OHIO DEPARTMENT OF TRANSPORTATION
STAR RESEARCH PROPOSAL FORMATTING & SUBMISSION REQUIREMENTS

All submissions must contain the following sections:

Section Title	Submission Requirements
Cover Page	The first page of the proposal must include the items listed below. A new cover page must be furnished with each revision to the proposal and shall include the date of the current revision and the dates of all previous revisions. o STAR RFP Number o Project Title o Name and business address of the proposing organization o Name, title, address, phone number, email address and ORCiD of the faculty member who will serve as the Principle Investigator (PI) o Names and email address of the student(s) who will be conducting the research o Name and address for the payment location (address where payments will be sent) o Name, title, address and phone number of the person(s) authorized to bind the agency contractually o Office of Sponsored Programs Contact/Contract Negotiator name, phone number and email address o Date of submission o Funding amount for the STAR Project (provided in the STAR RFP) o Proposed project duration (provided in the STAR RFP)
Table of Contents	The Table of Contents should include a list of figures, tables, and appendices as appropriate.
Describe the Innovation	• Explain the topic that this research will address. • Explain (at a high level) how the topic will be addressed. • Explain how this approach is innovative.
Goal and Objectives	• State the technical goals of this research. Goals are the main items the research should achieve. • State the technical objectives of this research. Objectives are specific actionable targets that need to be meet in order to achieve the goals. • The goals and objectives should be supportive of ODOT's mission, vision or Critical Success Factors. This should be demonstrated in the proposal.
Current State of Practice	• Give a summary on the current state of practice on the topic that will be addressed. o The summary should clearly explain what has been done in the specific field. Be sure to properly site work that is being referenced. A bibliography of references may be included as an appendix to the proposal. • Explain how the research your team is proposing is innovative compared to what has already been done.
Work Plan	• Provide a detailed work plan. The work plan must be written in a task-based format. At a minimum, each task must identify the following: o Describe the work being conducted in detail. The research methodology described in the task should be clearly relatable to the goals and objectives of the study. Be sure to point out any specific tasks that are considered innovative. o Indicate which project personnel will be working on that specific task and who is leading that task. Keep in mind, the STAR program is expected to be conducted by teams of students under the direction of an Academic Advisory/faculty member who will serve as the official

DRAFT (April 2022)   Page 2 of 5

OHIO DEPARTMENT OF TRANSPORTATION

STAR PROGRAM

STAR Proposal Scoring

⭐ Must address topic included in posting

⭐ Must be an Ohio-based university/college

⭐ Must include student information

⭐ Must score minimum of 3 in Concept & Innovation

⭐ Must score minimum of 3 in Work Plan

			Points: 0 = not covered; 1 = very poor; 2 = poor; 3 = average; 4 = good; 5 = excellent		
	Concept and Innovation * Does the proposal include a clear concept (e.g., topic to be addressed)? * Are the goals and objectives of the project in line with ODOT's mission, vision and CSFs?	**Work Plan** * Does the work plan make sense? * Is the work plan consistent with the goals and objectives of the project? * Is the work plan well thought out? * Does the work plan include sufficient details? * Is the work plan realistic? * Are there any tasks in the work plan that would be considered innovative or novel?	**Current State of Practice** * Does the proposal provide a clear understanding of the topic that needs to be addressed? * Does the proposal demonstrate knowledge of what is currently occurring in the specific field?	**Benefits** * Does the proposal clearly outline the benefits this research could provide to ODOT? * Does the proposal explain how ODOT could use/implement the results? * Are the expected benefits something that could actually be used by ODOT? * Does this research have the potential for a larger application beyond ODOT (e.g., locals, other state agencies, other state DOTs)?	**Research Team and Resources** * Does the PI have the experience and knowledge in the field to lead the team? * Does the PI and the students have the time and availability to manage and conduct this project? * Does the research team have access to the equipment and facilities necessary to complete the project?
Weight	**25**	**30**	**10**	**20**	**15**

OHIO DEPARTMENT OF **TRANSPORTATION**

STAR Proposal Scoring

⭐ Office may select more than one STAR proposal

⭐ Based on availability of TAC and funds
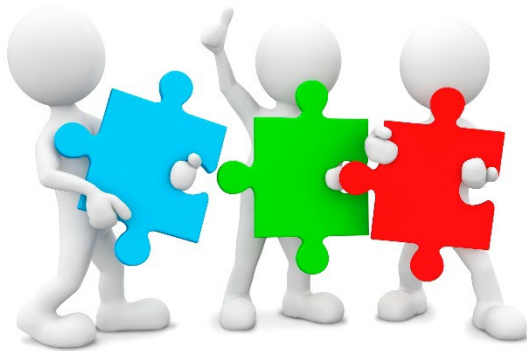
⭐ Office may opt not to select any of the STAR proposals

STAR Invoice Sample Page 1

University Located in Ohio

111 Main Street

Columbus, OH 43207

Project Name: Innovations in Transportation Assets

Invoice Date: October 7, 2023

Invoice Number: 1234567

ODOT Agreement: 9876

ODOT PID: 1111

ODOT SJN: 135111

	Funding 7/1/2023-7/1/2024	Current Period 7/1/2023 – 9/30/2023	Cumulative Invoice to Date 7/1/2023-7/1/2024
Services	$100,000.00	$25,000.00	$25,000.00
Total Direct Costs	$95,000.00	$23,750.00	$23,750.00
Indirect Costs	$5,000.00	$1,250.00	$1,250.00
Total	$100,000.00	$25,000.00	$25,000.00

Total % Expended: 25%

AMOUNT NOW DUE: $25,000.00

Remit Payment To: <Mailing Address>

<EFT Payment Instructions>

Invoice Preparer Information/Signature

Ohio Department of TRANSPORTATION

STAR Invoice Sample Page 2

Schedule of Progress for STAR Project – Agreement # 9876

Line indicates percent of work completed.

# Month (i.e.-1 represents first full month completed)	1	2	3	4	5	6	7	8	9	10	11	12	Notes
Month:	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
Task 1: Project Management		▨	▨	▨	▨	▨	▨	▨	▨	▨				
Task 1 Deliverable: Start up & monthly progress meetings		x	x	x	x	x	x	x	x	x				Agenda & summary for start-up and monthly meetings
Task 2: Literature Review		▨	▨											
Task 2 Deliverable: Memo summarizing literature review			x											Memo summarizing results of review & parameters for study
Task 3: Parametric Study			▨	▨										
Task 3 Deliverable: Midas Civil models, output data				x										
Task 4: Compile Correction Factor Matrix					▨	▨								
Task 4 Deliverable: Correction Factor Matrix						x								ODOT will be consulted on the form and content of the matrix
Task 5: Final Report						▨	▨	▨	▨	▨	▨			
Task 5 Deliverable: Report, Fact Sheet, Article, Presentation							x				x			

For additional details, please refer to presentations provided at monthly status meetings.

⭐ The STAR program is an award

⭐ Special recognition

Top Two Topics….

Developing Winning Proposals

Submitting Ideas to ORIL

The Most *Important* Thing....

READ THE RFP AND RESPOND TO THE RFP

OHIO DEPARTMENT OF
TRANSPORTATION

WINNING PROPOSALS

If the RFP says this:

➢ Research team must demonstrate experience in developing training classes

➢ Detail in the proposal which factors are intended to be included in the analysis

➢ Research team will be responsible for gathering data.

➢ Analysis is expected to include structures on both the state and local system

Do NOT do this:

👎 Fail to demonstrate the team has experience in developing training classes

👎 State in your work plan that the analysis factors will be determined by the TAC

👎 State in your work plan that data will be gathered by the TAC

👎 Discuss structures that are only located on the state system

OHIO DEPARTMENT OF **TRANSPORTATION**

WINNING PROPOSALS

- o Things that make TACs go … *hmmmm?*

    - o Information in proposals that is NOT for that project

    - o Proposals with grammatical and spelling errors

    - o Copying text directly from the RFP

    - o Not following the proposal formatting guidelines posted with the RFP

Why is this just a big deal?

To a TAC, this demonstrates ....

Lack of attention to detail

A proposal is your application to be hired for a job. If you don't pay attention during the proposal phase, why would a TAC think you will pay attention during the project?

o **Other things that aggravate TACs**

   o   Assuming ODOT/ORIL will provide assistance that is not listed in the RFP

   o   Relying on name recognition of the PI

   o   The RFP includes this logo and the proposal references ODOT, ODOT districts and ODOT county garages throughout the document

   o   Excessively large research teams with no clear reason why they are all needed

Keep the proposal scoring criteria in mind

o Be sure your proposal clearly addresses the categories

	Concept	Work Plan	Current State of Practice	Benefits	Research Team & Resources	Budget
Points: 0 = not covered; 1 = very poor; 2 = poor; 3 = average; 4 = good; 5 = excellent						
	* Does the proposal include a clear understanding of the topic to be addressed? * Is the concept described in the proposal in-line with the RFP?	* Does the work plan make sense? * Is the work plan consistent with the goals and objectives of the project? * Is the work plan well thought out? * Does the work plan include sufficient details? * Is the work plan realistic? * Does the work plan address the problem stated in the RFP?	* Does the proposal provide a clear understanding of the topic that needs to be addressed? * Does the proposal demonstrate knowledge of what is currently occurring in the specific field?	* Does the proposal clearly outline the benefits this research could provide to ODOT? * Does the proposal explain how ODOT could use/implement the results? * Are the expected benefits something that could actually be used by ODOT? * Does this research have the potential for a larger application beyond ODOT (e.g., locals, other state agencies, other state DOTs)?	* Does the PI have the experience and knowledge in the technical field to lead the team? * Is the team qualified to conduct the work described? * Does the team include all of the required qualifications listed in the RFP? * Do the key members of the team have sufficient time dedicated to this project to successfully conduct the project? * Does the team have access to the facilities and equipment necessary to conduct this research?	* Is the budget reasonable for the work proposed? * Does the budget seem to be excessively high or low?
Weight	*20*	*30*	*5*	*10*	*20*	*15*

UPDATED

Ohio Department of Transportation

WINNING PROPOSALS

Task Description

- Task-based proposals
- Clearly indicate phasing or milestones
- Reliance on software or IT applications must be stated and justified

Work Plan

- ✓ Be Clear
- ✓ Be Concise
- ✓ Be Specific

Describe the work
- Relate to goals and objectives

Identify who is working on this task

Estimate the duration
- Needs to coordinate with the project schedule

Deliverables

Assistance needed from ODOT/Locals

Ohio Department of TRANSPORTATION

o Tips for making the Research Section happy

   o Contact us with questions, not technical staff

   o Prime agency must have majority of work

   o Include budgets for your subcontractor(s)

   o Include required supporting documentation

   o Don't put a specific start date in your proposal

   o Submit by the deadline

Any questions on developing winning proposals?
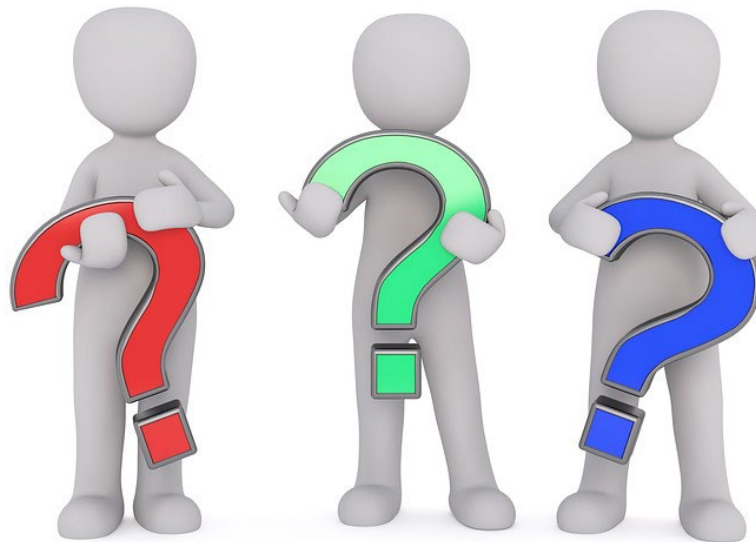
The BIGGEST mistake made in submitting ideas to ORIL:

- Submitting an idea for ODOT

- The idea **MUST** relate to the **LOCAL** transportation system
  - County, City, Township, Village, MPO, RTPO
  - If your idea includes a lot of references to ODOT… that's a bad thing

- ORIL is not a backdoor to ODOT for submitting an unsolicited idea

SUBMITTING IDEAS TO ORIL

- Idea MUST relate to an ORIL strategic focus area
  - Safety
  - Infrastructure Preservation
  - Operations & Business Practices

- You do NOT retain any ownership to any idea you submit to ORIL
  - No intellectual property rights to ideas
  - You are not guaranteed to be awarded the project if "your" idea is selected
  - ORIL may modify/refine all ideas received

- Tips for completing the ORIL idea form
  - Be clear. Be concise. Be descriptive.
  - Board members are not mind readers
    - Put everything on the form that is needed
    - Don't assume something is intuitive
    - Find balance – this is an idea not a proposal
  - Proofread! Proofread! Proofread!

- What is your research problem/idea?
  - Explain the actual problem/topic to address
  - What is the magnitude
  - Not asking for a scope of work
  - Trying to establish understanding
  - How does this relate to the LOCAL transportation system

- What is the benefit?
  - Potential gain
  - Potential impact
  - How does this relate to locals?

- TAC Recommendations
  - **TALK TO PEOPLE – reach out to LOCALS**
  - Demonstrates support and need for the idea
  - Minimum of 2 people MUST be provided
    - Should be REAL/ACTUAL/LIVING people who KNOW about this submission
  - Researchers can choose to either be on TAC or submit proposal

- Estimated Duration & Funding
  - Not set in stone
  - Shows how involved/extensive

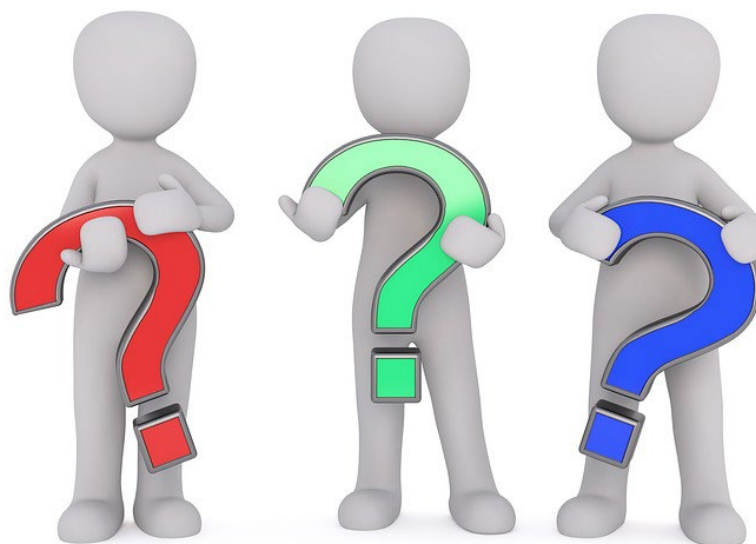- Keep the Idea Scoring Criteria in Mind

			Points: 0 = not covered; 1 = very poor; 2 = poor; 3 = average; 4 = good; 5 = excellent		
	Alignment / Relevance to ORIL * Is this research idea responsive to ORIL's strategic research plan? * Is this research idea in the best interests to Ohio's locals?	**Potential Benefit of Research** * How beneficial will this research be to Ohio's Locals if it is funded? * What kind of benefit is this research likely to produce (tangible or intangible)?	**Potential Application / Implementability of Results** * What are the opportunities for success of this research? * What is the likelihood for this research to produce results that can actually be used by locals? * Is there a champion for implementation? * Realistically how long will it take to see the benefits? * Who would find this research relevant and ultimately be impacted by or an end user of the findings?	**Project Champion / TAC** * Has a clear champion for this project been identified? * Can an adequate TAC be assembled to actively participate in this project for the entire duration? * Does the proposed TAC include the appropriate expertise to provide technical oversight to the research team and review technical findings? If not, can that be acquired? * Are there any Board members willing to join this TAC?	**General Consideration Items** * Is the problem to be researched clearly identified? * Is the goal of the research clearly identified? * Are specific deliverables clearly identified? * Is the research likely to require assistance in order to be completed (data, test sites, MOT, etc.) and if so, can it be obtained? * Realistically, how much funding may this research require and is it available?
Weight	20	30	25	15	10

Any questions on submitting ideas to ORIL?

Your turn to ask us questions …