



**WAYNE STATE  
UNIVERSITY**  
Division of Research  
& Innovation

**Board of Governors**  
**Strategic Plan Update: Research & Discovery**  
February 14, 2025

# Strategic Plan Focus Area:

## Research and Discovery

*We will expand and nurture initiatives that address local, regional and global societal challenges and real-world problems. We will do this by leveraging strengths and talent across disciplines, schools and colleges, and centers and institutes as a platform for university identity, community impact, educational access, research advancement and faculty development.*



# Research & Discovery:

## An Unrelenting Quest

- Goal 1: Expand research initiatives to address local, regional and global societal challenges.
- Goal 2: Further develop enabling technologies, infrastructure and workflow systems to support scholarly activity.
- Goal 3: Increase research awards and expenditures.
- Goal 4: Expand recognition of scholarly and creative activity.



# Research & Discovery Scorecard:

## Wayne State University vs. Peers

### Wayne State University

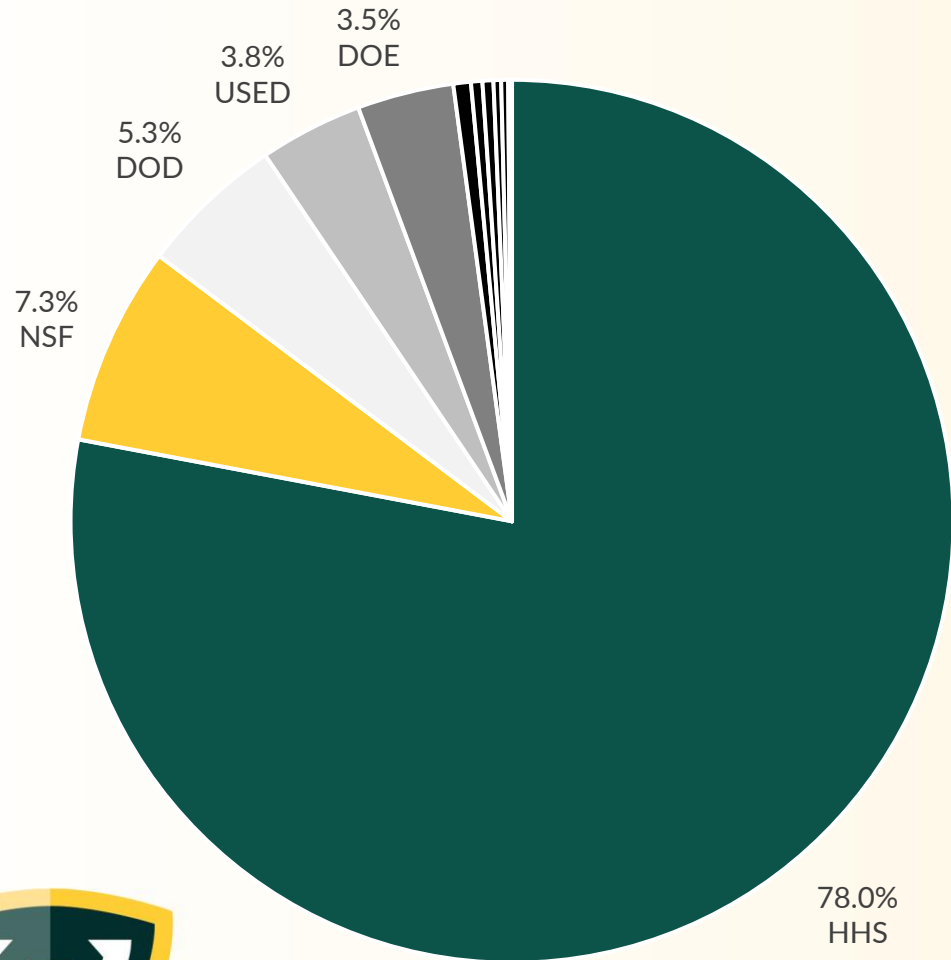
### Peer Institutions

|            | Metrics              | Prior 3 Yr Avg | 2023      | Diff     | % Change |  | Metrics              | Prior 3 Yr Avg | Fall 2023 | Diff     | % Change |
|------------|----------------------|----------------|-----------|----------|----------|--|----------------------|----------------|-----------|----------|----------|
| R&D        | R&D Expenditures     | \$240,342      | \$250,911 | \$10,569 | 4.4%     |  | R&D Expenditures     | \$349,477      | \$405,648 | \$56,170 | 16.1%    |
|            | R&D Ranking          | 108            | 118       | -10      | -9.3%    |  | R&D Ranking (all)    | 81             | 93        | -12      | -14.8%   |
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| Honorifics | Faculty Honorifics   | 3              | 14        | 11       | 320%     |  |                      |                |           |          |          |



# FY24 Federal Research Expenditures:

## Health Research is our Primary Source of Federal Funding



| Agency  | Total                |
|---|----------------------|
| HHS (NIH, DCD, FDA, HRSA, SAMHA, ACF, DHHS)     | \$109,071,914        |
| NSF   | \$10,201,870         |
| DOD   | \$7,408,470          |
| DOE   | \$5,280,875          |
| USED  | \$4,943,676          |
| Other   | \$898,792            |
| DOI   | \$581,384            |
| DOS   | \$557,730            |
| DOC   | \$391,119            |
| DVA   | \$354,755            |
| DOJ   | \$194,478            |
| DOT   | \$161,806            |
| <b>TOTAL FY24 Federal Research Expenditures</b> | <b>\$139,148,077</b> |



# R&D Expenditures:

## Expenditures Increased the Past Two Years

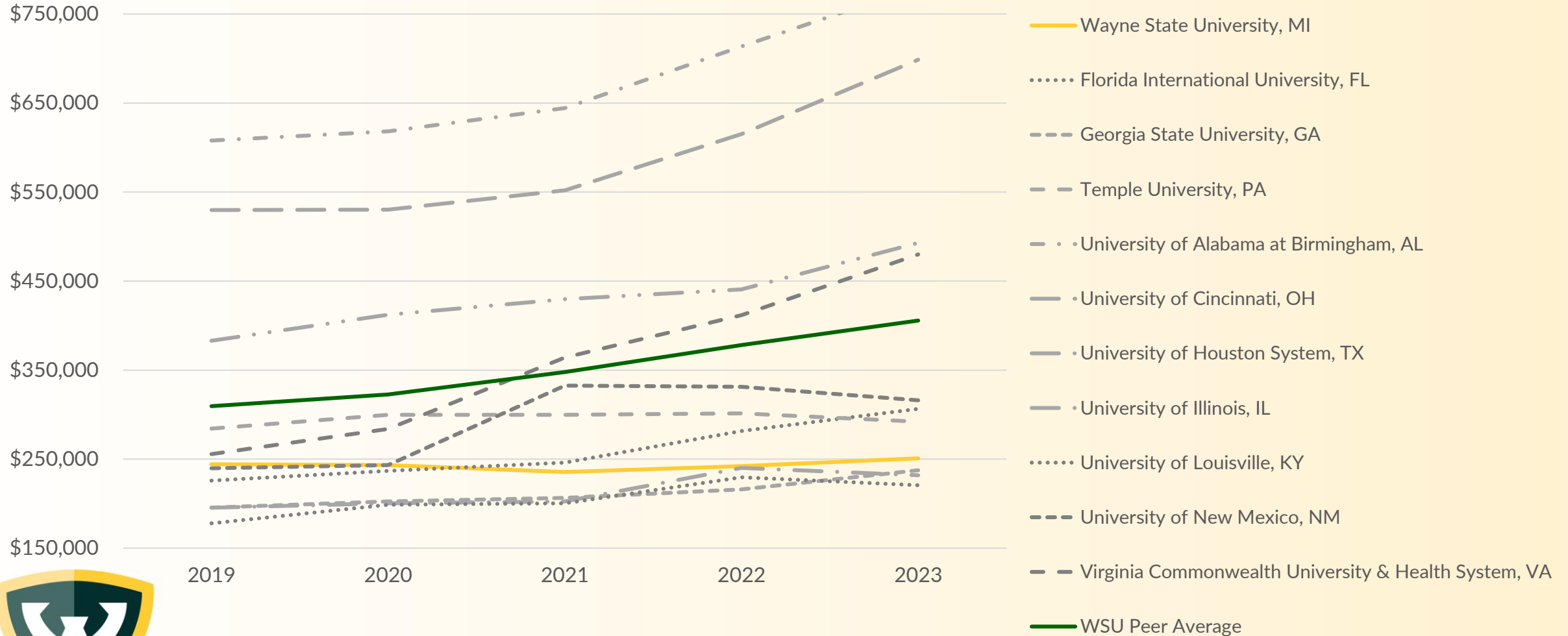
| Institution                    | 2019      | 2020      | 2021      | 2022      | 2023      |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|
| Univ. of Alabama at Birmingham | \$607,863 | \$618,226 | \$644,330 | \$713,480 | \$780,479 |
| Univ. of Cincinnati - Main     | \$529,796 | \$530,138 | \$551,826 | \$615,070 | \$698,642 |
| Univ. of Illinois Chicago      | \$382,949 | \$412,147 | \$429,585 | \$440,573 | \$492,936 |
| Virginia Commonwealth Univ.    | \$255,648 | \$283,874 | \$364,096 | \$411,729 | \$479,930 |
| Univ. of New Mexico - Main     | \$239,696 | \$243,375 | \$332,566 | \$331,164 | \$316,026 |
| Florida International Univ.    | \$225,864 | \$236,842 | \$246,075 | \$281,665 | \$306,434 |
| Temple University              | \$284,301 | \$299,707 | \$299,778 | \$301,395 | \$292,029 |
| Wayne State University         | \$244,217 | \$243,259 | \$235,519 | \$242,247 | \$250,911 |
| Georgia State Univ.            | \$195,572 | \$202,451 | \$206,472 | \$215,908 | \$237,493 |
| Univ. of Houston               | \$195,398 | \$200,428 | \$202,536 | \$240,126 | \$231,942 |
| Univ. of Louisville            | \$177,862 | \$198,818 | \$200,362 | \$229,582 | \$220,568 |



Source: [NSF HERD Rankings](#). Expenditures reported in the thousands

# R&D Expenditures:

## Expenditures Have Increased, but Growth is Relatively Flat



Source: [NSF HERD Rankings](#). Expenditures reported in the thousands

# R&D Rankings for Peer Institutions:

## Our Revitalized Strategy will Reverse this Trend

| Institution                    | 2019   |     | 2020   |     | 2021   |     | 2022   |     | 2023   |     |
|--------------------------------|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|
|                                | Public | All | Public | All | Public | All | Public | All | Public | All |
| Univ. of Alabama at Birmingham | 28     | 45  | 28     | 45  | 26     | 44  | 27     | 45  | 28     | 45  |
| Univ. of Cincinnati - Main     | 33     | 51  | 35     | 53  | 33     | 51  | 31     | 49  | 31     | 49  |
| Univ. of Illinois Chicago      | 45     | 69  | 42     | 64  | 42     | 63  | 42     | 67  | 44     | 67  |
| Virginia Commonwealth Univ.    | 65     | 96  | 58     | 87  | 50     | 76  | 47     | 73  | 45     | 71  |
| Univ. of New Mexico - Main     | 69     | 103 | 69     | 103 | 54     | 81  | 60     | 88  | 67     | 101 |
| Florida International Univ.    | 71     | 107 | 72     | 106 | 70     | 105 | 68     | 101 | 69     | 104 |
| Temple University              | 56     | 85  | 56     | 84  | 61     | 90  | 65     | 98  | 71     | 106 |
| Wayne State University         | 67     | 99  | 70     | 104 | 72     | 108 | 75     | 112 | 78     | 118 |
| Georgia State Univ.            | 78     | 116 | 80     | 118 | 79     | 118 | 84     | 125 | 82     | 123 |
| Univ. of Houston               | 79     | 117 | 82     | 120 | 81     | 121 | 76     | 113 | 85     | 126 |
| Univ. of Louisville            | 90     | 130 | 84     | 123 | 83     | 124 | 79     | 118 | 91     | 133 |



Source: [NSF HERD Rankings](#)



# Top 100 Public Universities:

## WSU is Ranked 78<sup>th</sup> in R&D Amongst Public Universities

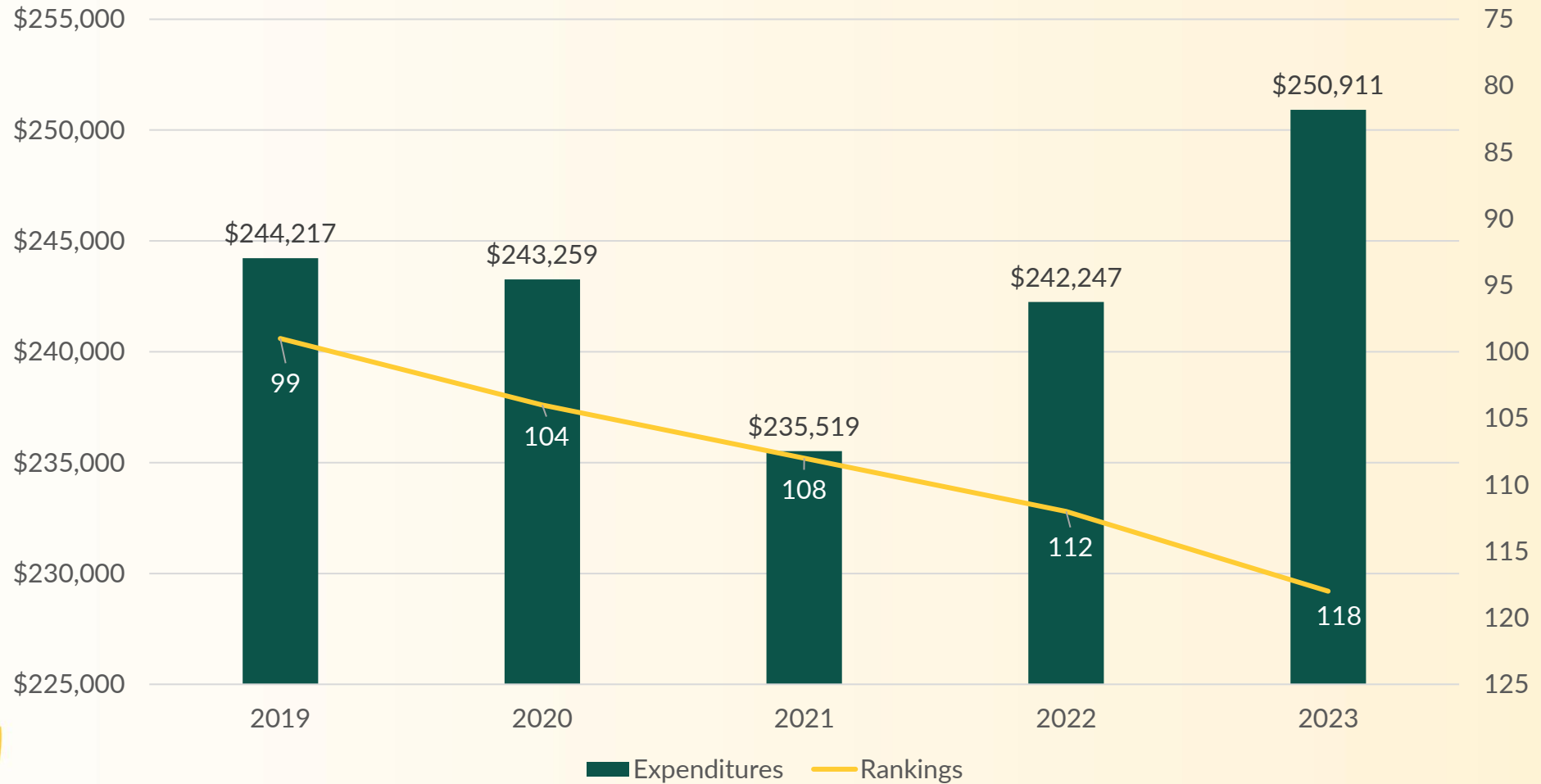
NSF HERD Rankings 2023  
Top 100 Public Institutions



Source: [NSF HERD Rankings](#).

# WSU R&D Expenditures vs Overall Rankings:

Moving in the Right Direction, but Accelerated Growth is Needed to Increase Rankings



Source: [NSF HERD Rankings](#). Expenditures reported in the thousands

# Recognizing our Scholarship:

## We will be more Intentional about Recognizing Faculty Excellence

### National Research Council: Sample List of Awards

American Council of Learned Societies (ACLS) Fellows

Beckman Young Investigators

Burroughs Welcome Fund Career Awards

Cottrell Scholars

Fulbright American Scholars

Getty Scholars in Residence

Guggenheim Fellows

Howard Hughes Medical Institute Investigators

Lasker Medical Research Awards

MacArthur Foundation Fellows

Andrew K. Mellon Foundation Distinguished Achievement Awards

National Endowment for the Humanities (NEH) Fellows

National Humanities Center Fellows

National Institutes of Health (NIH) MERIT (R37)

National Medal of Science and National Medal of Technology

NSF CAREER award (excluding those who are also PECASE winners)

Newberry Library Long-Term Fellows

Pew Scholars in Biomedicine

Presidential Early Career Awards for Scientists and Engineers (PECASE)

Robert Wood Johnson Policy Fellows

Searle Scholars

Sloan Research Fellows

US Secretary of Agriculture Honor Awards

Woodrow Wilson Fellows



# Faculty Honorifics:

## Celebrating Faculty Excellence

### 2024 NSF CAREER Award

Grant: Photoacoustics-Brillouin microscopy for multimodal mechanical imaging of tumor growth



Jitou Zhang, Ph.D.  
Assistant Professor,  
Biomedical Engineering  
College of Engineering

### Organization of American Historians

2024 Civil War and Reconstruction Book Award

Book: I Saw Death Coming



Kidada E. Williams, Ph.D.  
Professor  
History  
College of Liberal Arts & Sciences



# Enhancing Infrastructure to Facilitate Interdisciplinary Collaborations



Hosted School/College Town Halls



Launched Regular Meetings w/ WSU Stakeholders (Deans, ADRs, AVPs, Directors, Staff)



Engaging Academic Senate & Research Committee



Faculty Engagement through Announcements, Newsletters & Surveys



# New members of DORI's Leadership Team



Taunya Phillips named  
Assistant Vice President  
for Technology  
Commercialization



WAYNE STATE  
UNIVERSITY

Division of Research & Innovation



Aleta Savage named  
Assistant Vice President  
for Sponsored Program  
Administration



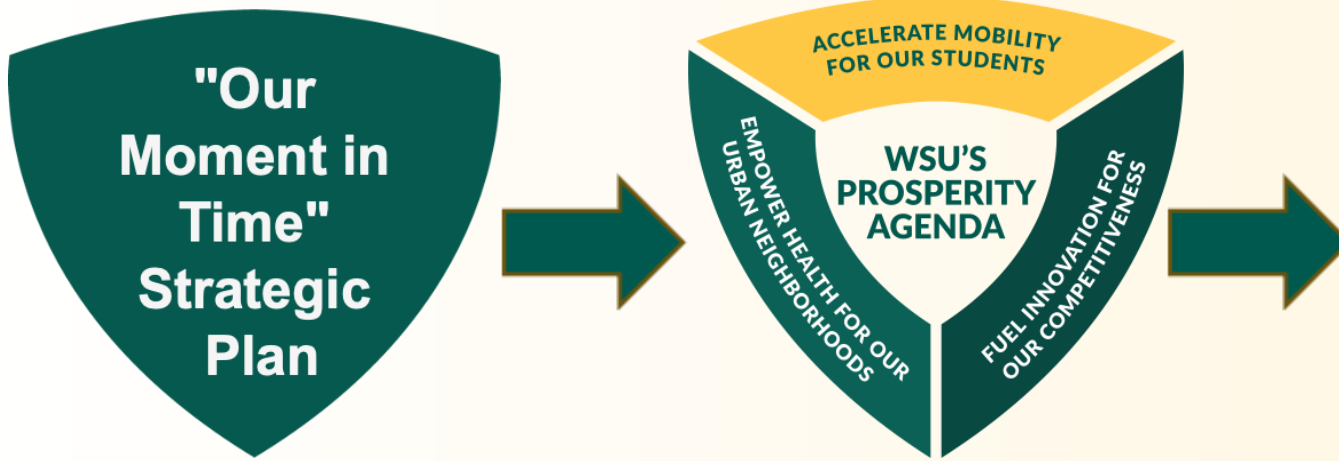
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# Research & Discovery:

Setting Research Priorities to Address Challenges Experienced in our Communities



## WSU's Research Grand Challenges

- Process of Engagement:
  - Faculty and staff
  - Stakeholders
  - Analysis of challenges in our communities
  - City, county and state priorities
  - Lewis-Burke Associates
  - Federal funding landscape
- Planning campus rollout for spring 2025





# Research & Discovery:

Lewis-Burke Associates is Advocating & Facilitating New Federal Opportunities

## Planning for a new School of Public Health



- \$1M Congressionally Directed Funds sponsored by U.S. Senator Debbie Stabenow
- Support for IT infrastructure for population health research

## U.S. Army Ground Vehicles Systems Center Education partnership agreement





# Research & Discovery Initiatives:

Stimulating Scholarship Through Internal Funding Programs

## Internal Grant Investments using Indirect Cost Return (F&A)

Arts & Humanities Research Support Program

Social Sciences Research Support Program

Grant Advance

Postdoctoral Fellows Program

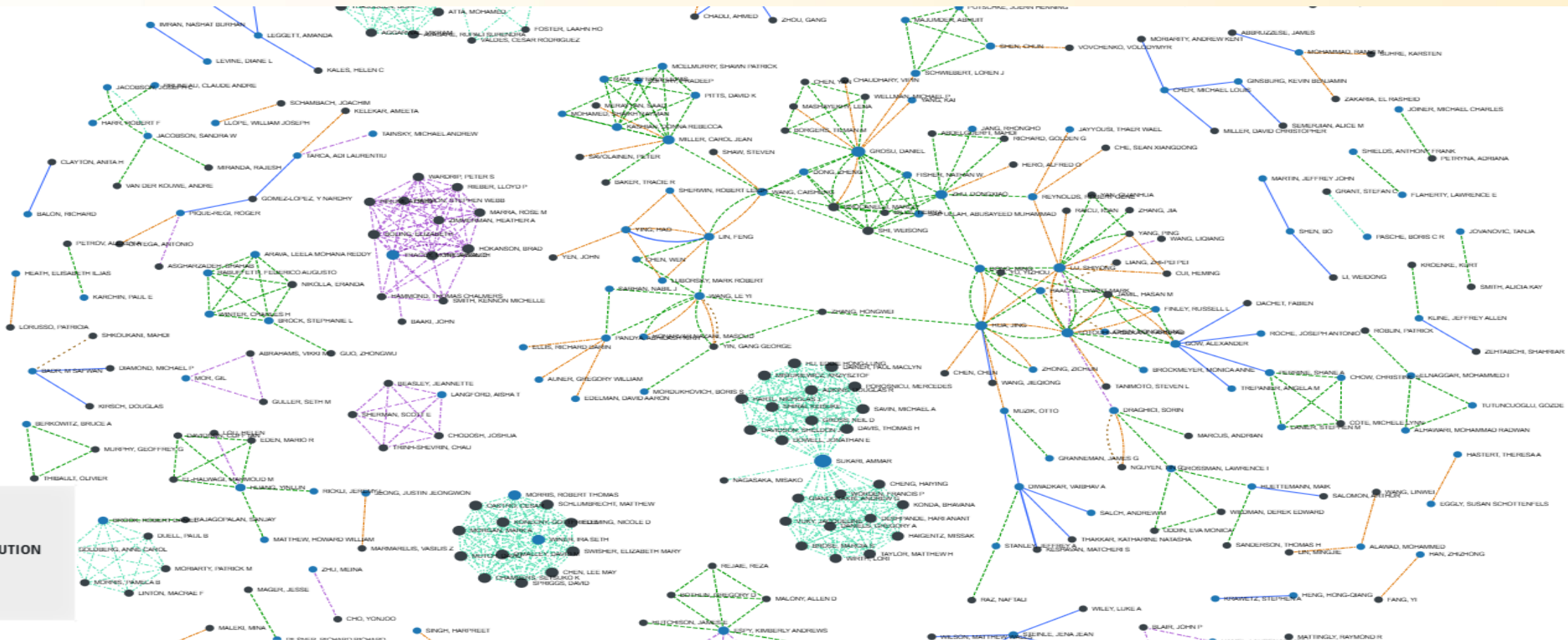
Proposal Preparation Support

Pre-submission Grant Reviews



# Fostering Team Science:

## Academic Analytics: Leveraging Data to Identify Who I Can Collaborate With?



Showing:

- MY INSTITUTION
- NATION



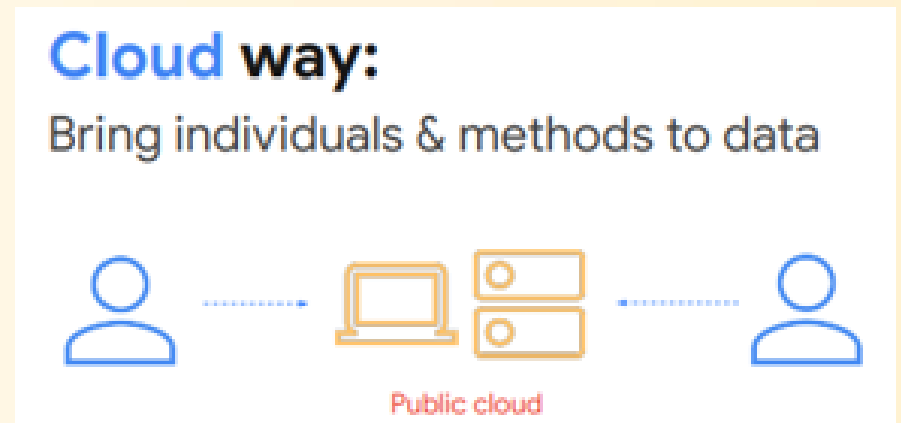
# Supporting Research in the Cloud:

## What is the Google Cloud Platform?

Google Cloud Platform (GCP) is a suite of cloud computing services that enables WSU scientists to build, deploy and scale applications on Google's secure and reliable infrastructure.

### Key Features

- Computer Services (i.e. virtual machines, serverless computing)
- Storage & Databases
- Networking
- Big Data & Analytics
- Machine Learning & AI
- Security & Compliance



# Supporting Research in the Cloud:

Benefits of using this Innovative Google Cloud Platform in our Research

## Google Cloud Platform Benefits

|   |  |
|---|--|
| <b>High-Performance Computing:</b>        | Process large datasets quickly and efficient.                                |
| <b>Data Storage &amp; Management:</b>     | Securely store and access vast research datasets.                            |
| <b>AI &amp; Machine Learning:</b>         | Utilize advanced AI tools for research and innovation.                       |
| <b>Collaboration &amp; Accessibility:</b> | Cloud-based tools enable seamless collaboration among researchers worldwide. |
| <b>Cost Efficiency:</b>                   | Flexible pricing models help optimize research budgets.                      |
| <b>Compliance &amp; Security:</b>         | Meets regulatory standards for handling sensitive research data.             |



# Building a Cutting-Edge Research Infrastructure





# NIH awards \$5.2M Core Center Grant: Institute of Environmental Health Sciences

## Grant: *P30 Center Core Grant*

- The Center for Urban Responses to Environmental Stressors (CURES) addresses urban environmental health
- The team will investigate environmental health disparities in Detroit

## Community Impact

- Investigates environmental health disparities in Detroit
- Collaborative approach between researchers, educators, and community partners

## Goal

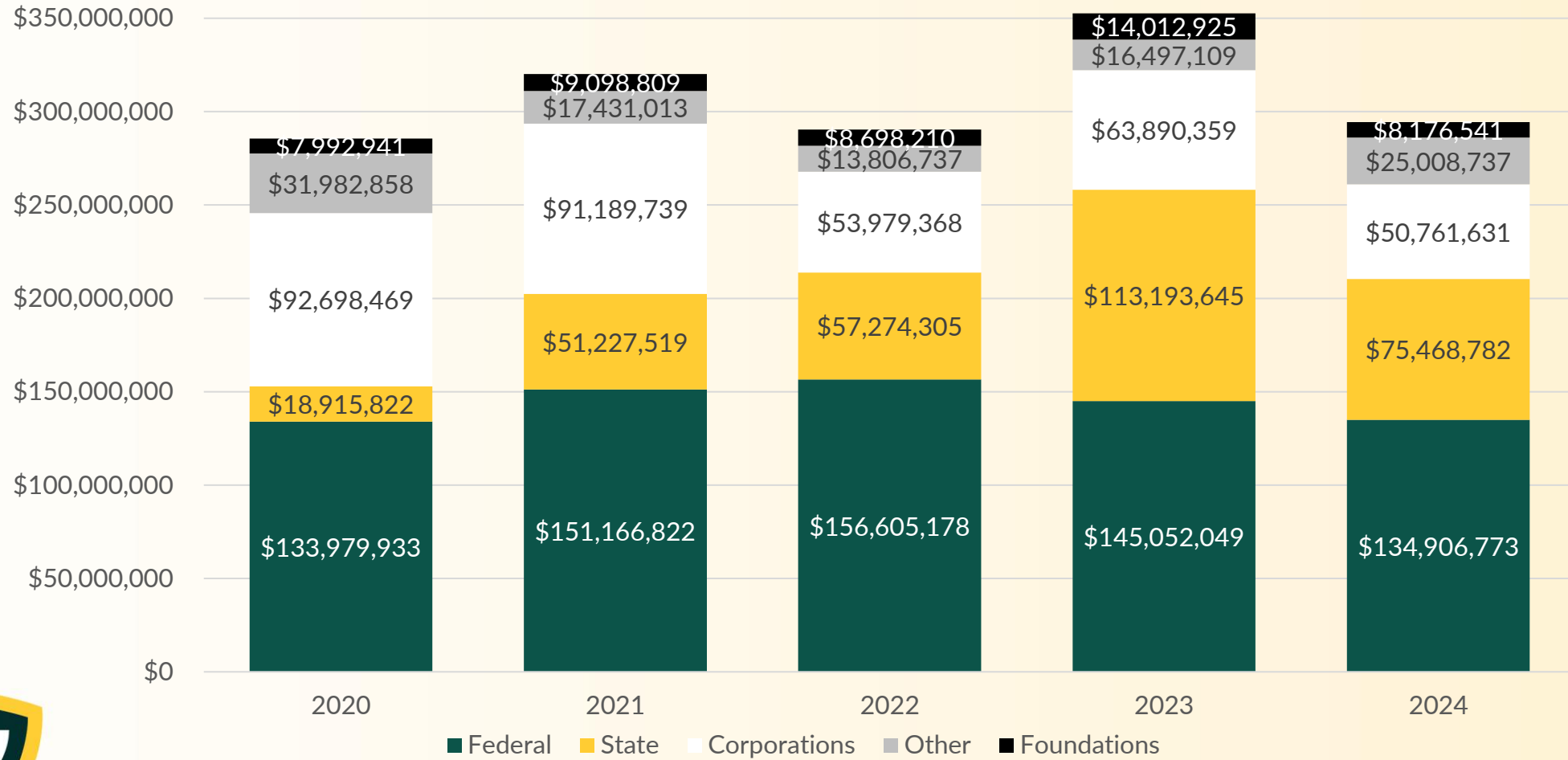
- Advance understanding and solutions for urban environmental challenges.



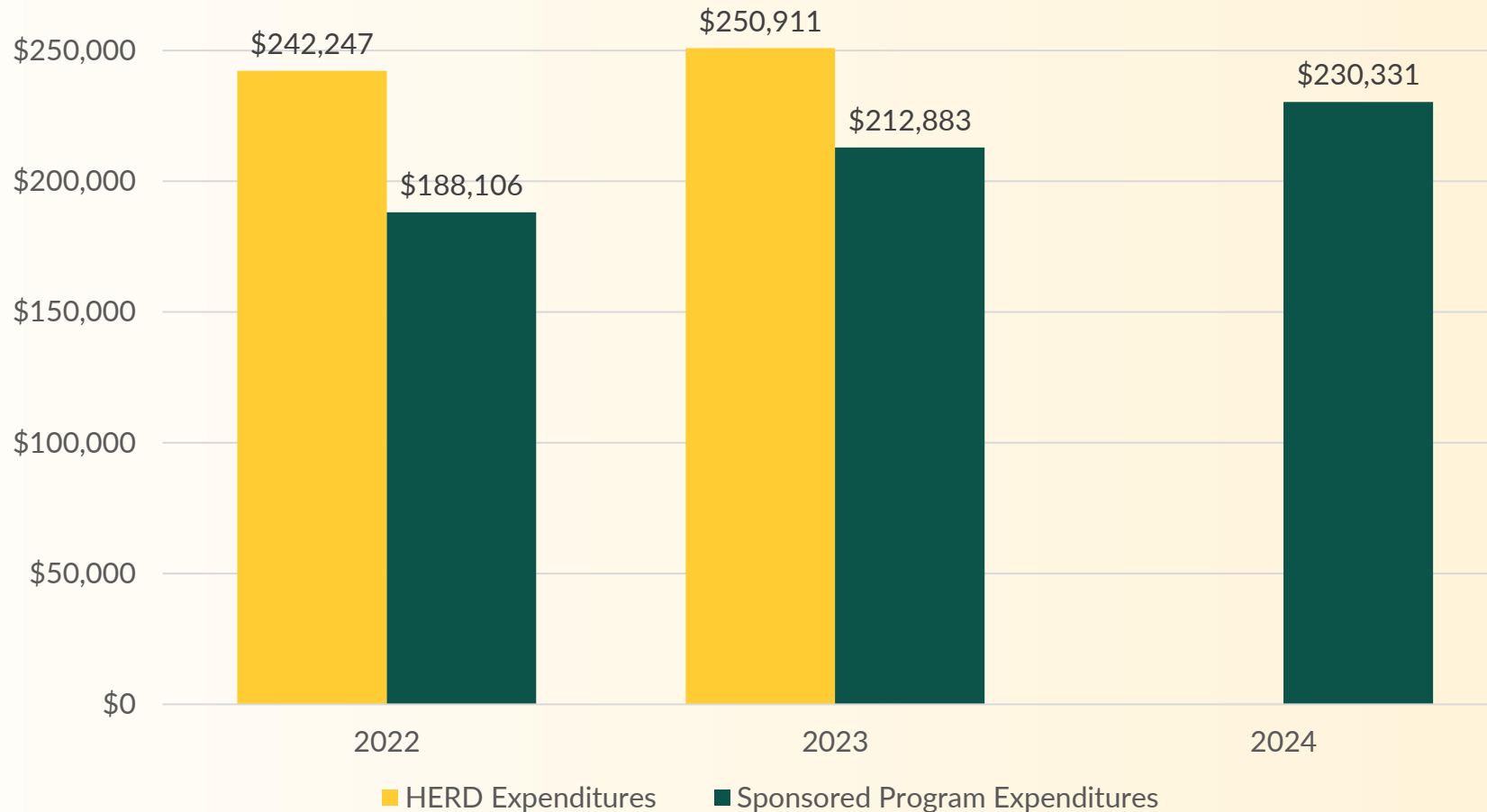
**Melissa Runge-Morris, MD,  
Director of IEHS and  
Professor of Oncology**



# FY24 Federal Research Awards: Opportunities to Diversify Funding Using the Regional Competitiveness Team



# WSU's Future is Bright: Projected to Have a R&D Increase in FY24



Source: [NSF HERD Rankings](#). Expenditures reported in the thousands



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### Wayne State University

### Peer Institutions

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# Telling Our Story: Impacting Lives in Detroit, Michigan, and Beyond!

