

FY2013 Research Report

S. Jack Hu
Interim Vice President for Research



U-M Office of Research

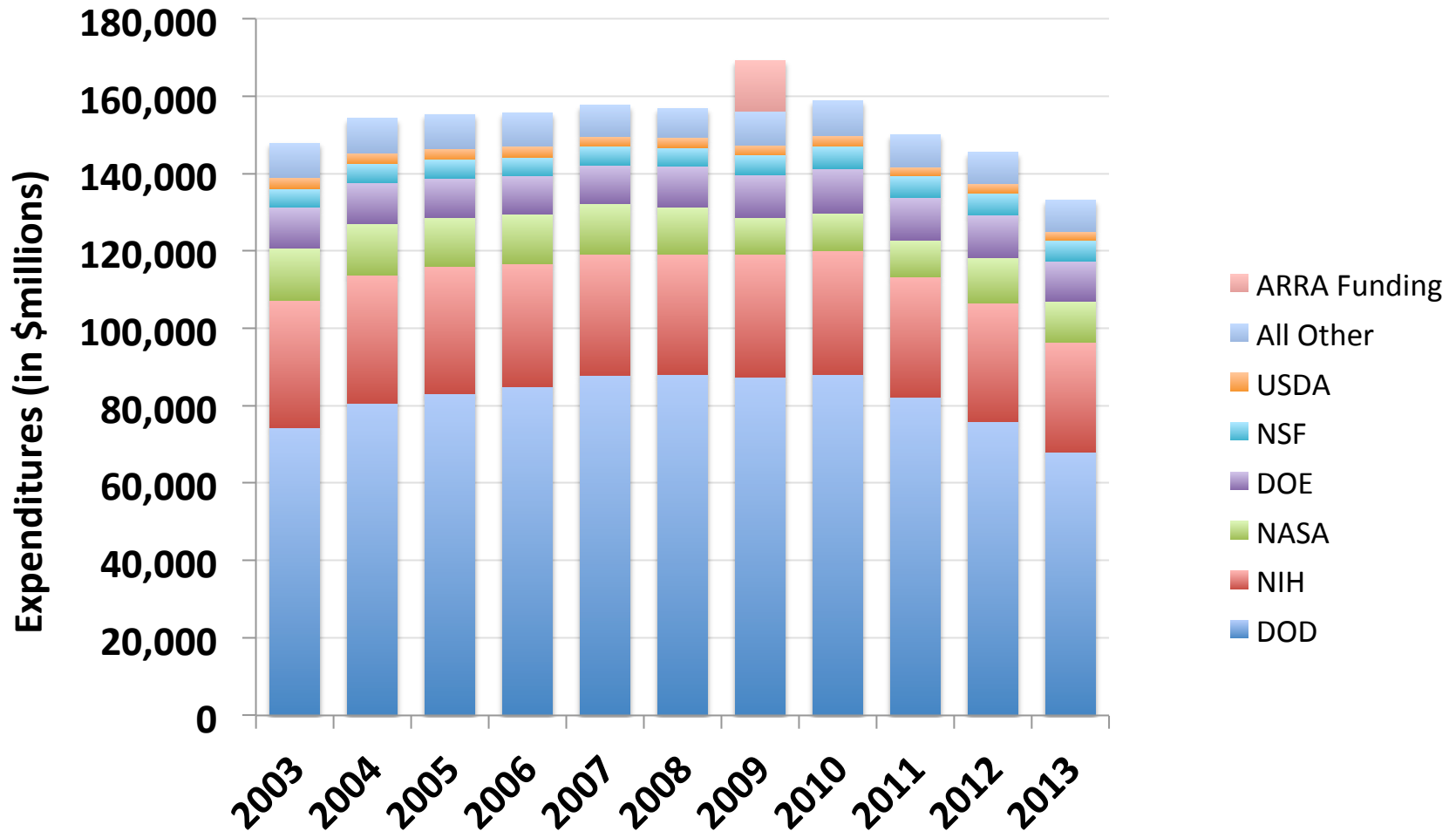
- Support **interdisciplinary research**
- Build **partnerships with all sectors**
- Provide central **research administration and service**
- Oversee **compliance and research policy**
- Manage **technology transfer**
- Coordinate **research communication**
- Anticipate **major trends in research**

U-M FY 2013 Research Expenditure

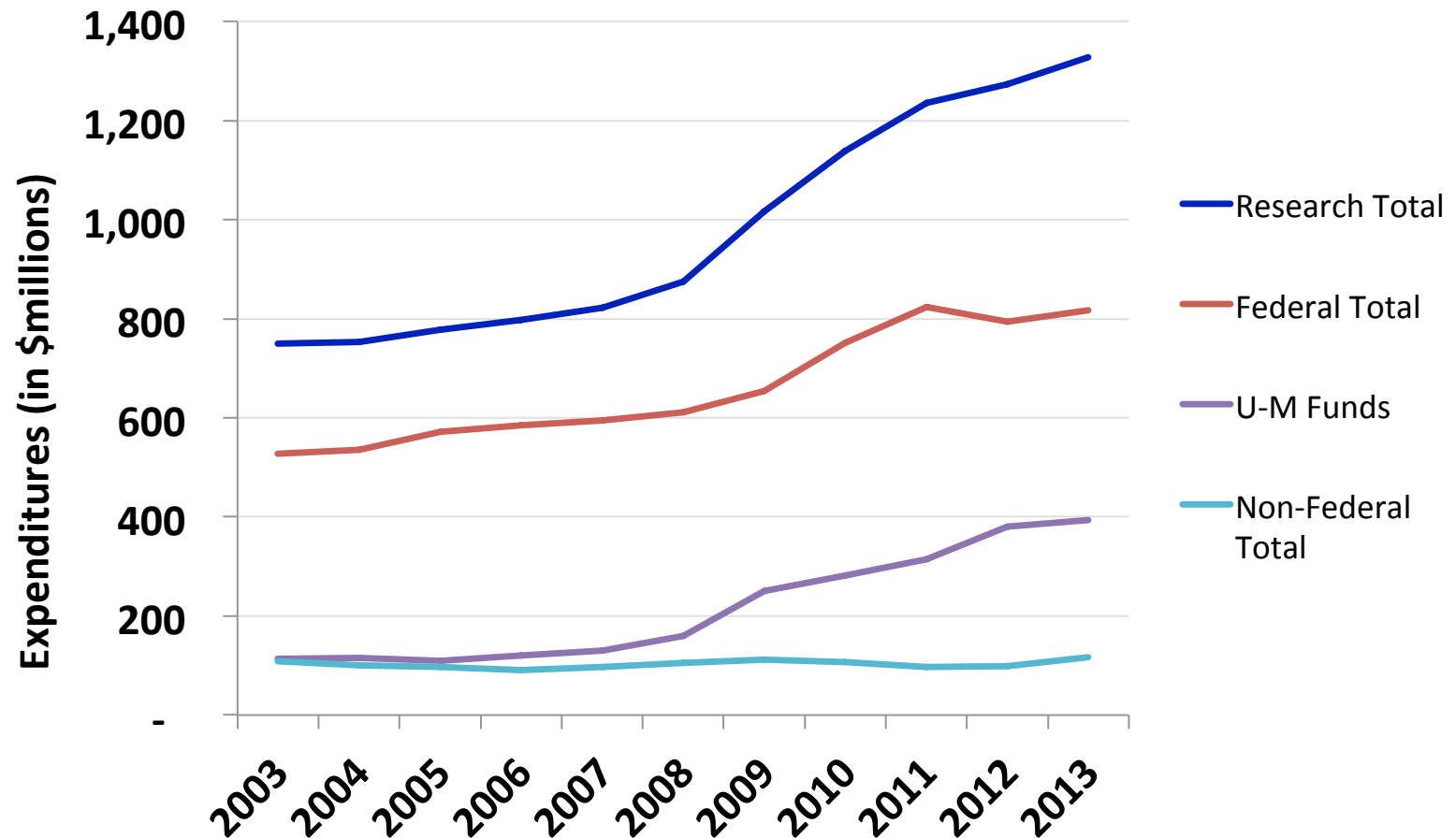


- 1st among public universities, 2nd among all universities
- Funds faculty research and scholarship
- Supports 2,326 graduate students (tuition, stipend and benefits), 1,237 postdocs, and many undergraduate students in research and research training

Federal Funding Trend by Agency

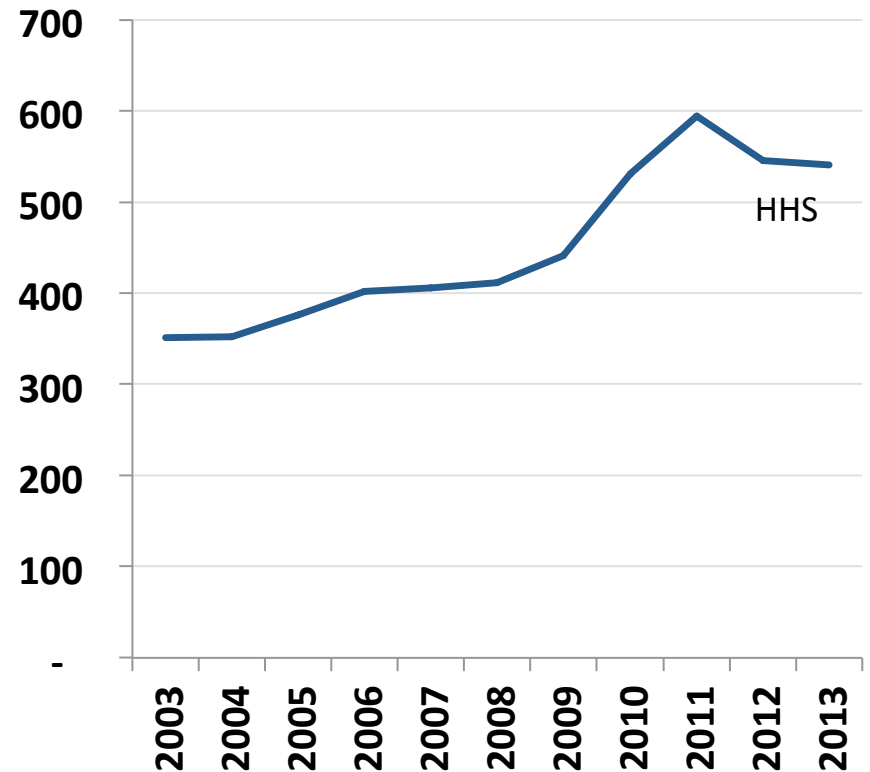
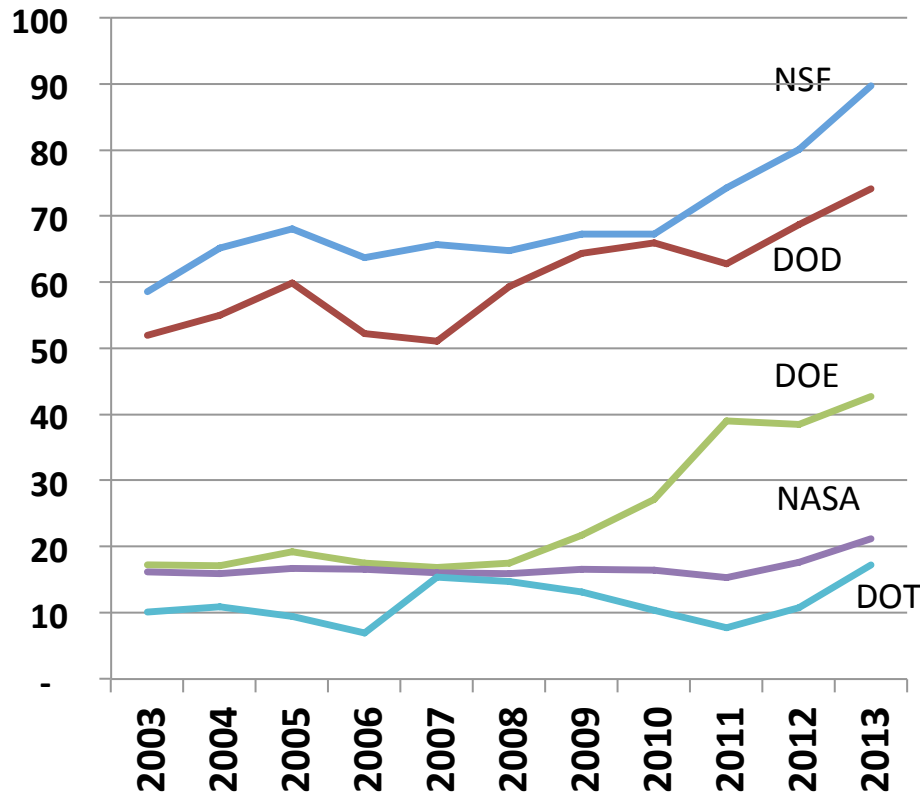


U-M Research Expenditures (all sources)



UM Federal Funding by Agency

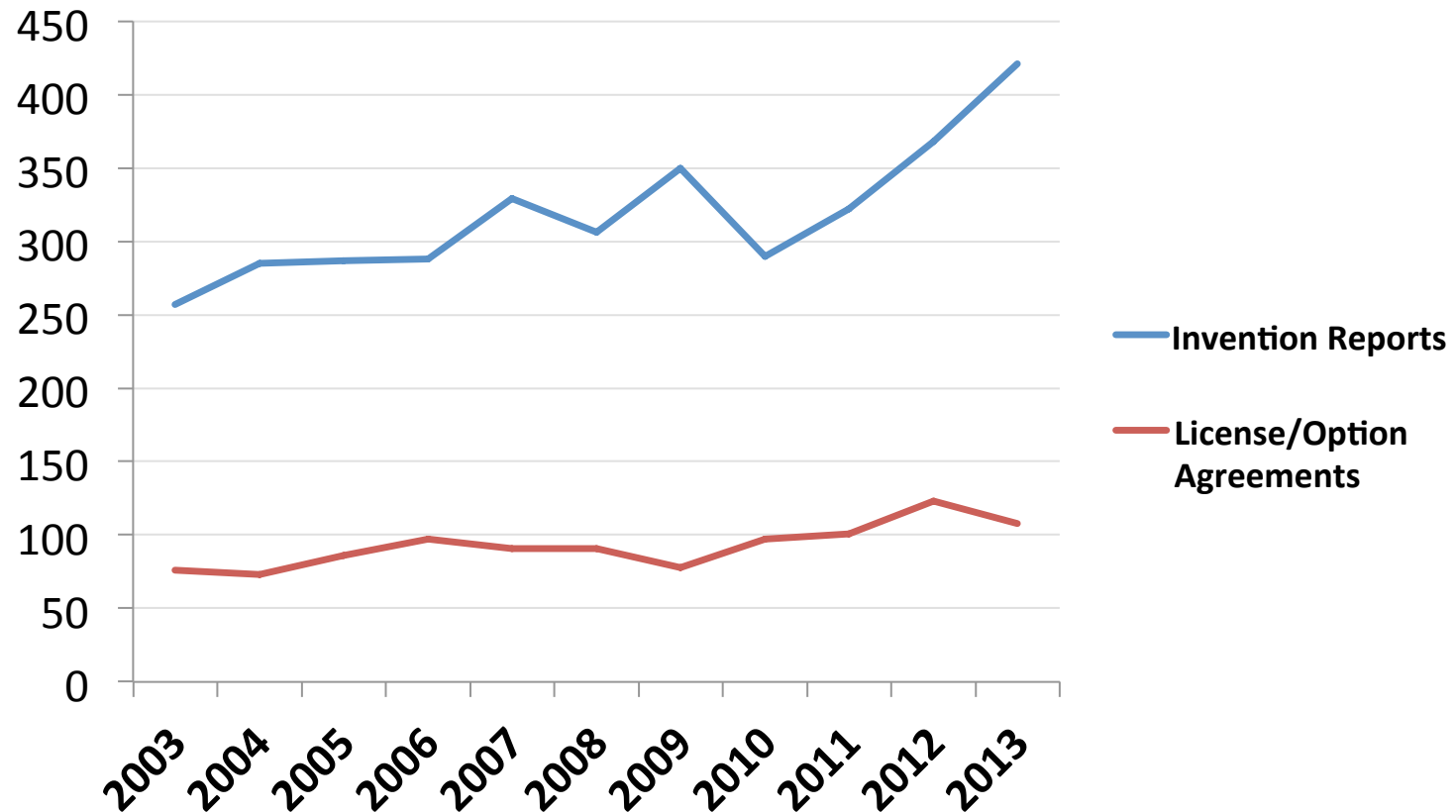
(in \$millions)



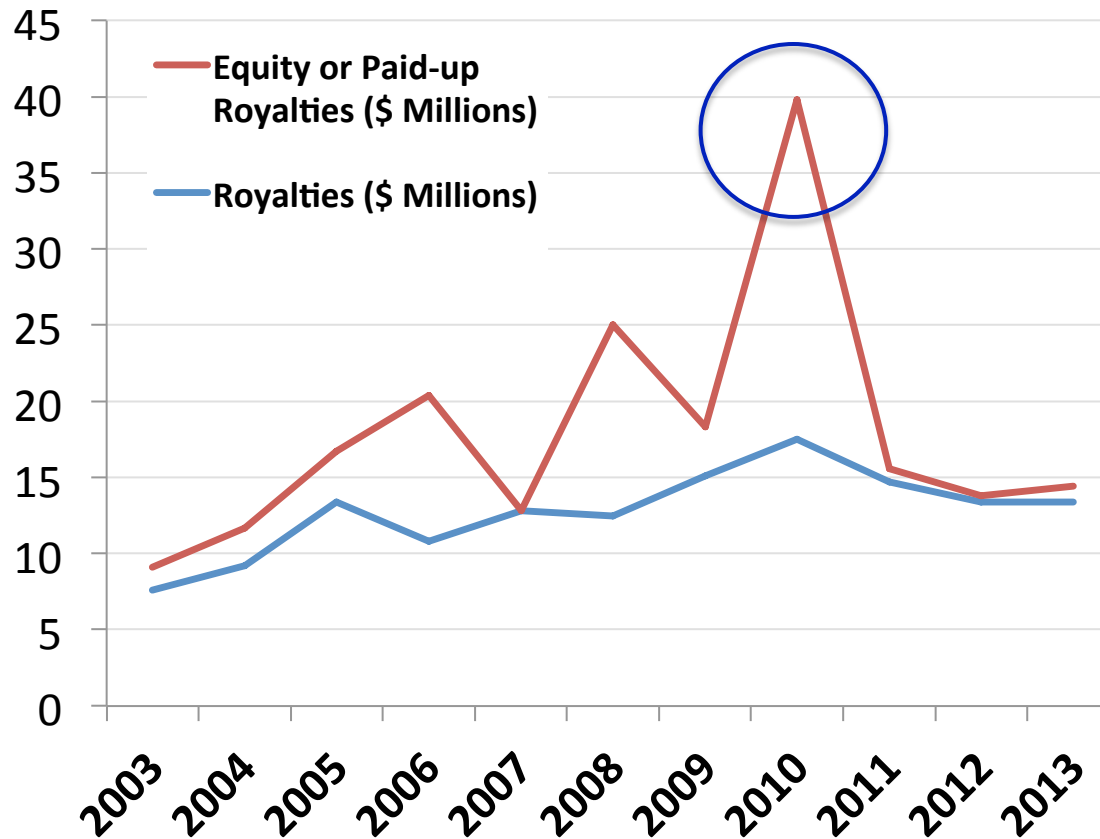
U-M Research Expenditures by Industrial Sources

Industry Research (total)	FY12	FY13	% Change
Direct Contract	\$ 42, 823,532	\$ 48,909,842	14%
Subcontract (on Federal Prime)	\$ 16,188,129	\$ 19,478,729	20%
Corporate Foundations (est.)	\$ 2,847,708	\$ 3,393,391	19%
Other Industry Research	\$ 2,167,515	\$ 1,445,025	-33%
Total Research Expenditures	\$ 60,026,884	\$ 73,226,987	14%

Tech Transfer Results



Tech Transfer Revenues



Prof. Hunein Maassab
Inventor of FluMist

2014 Distinguished University Innovator

- Research on drug discovery for cancer treatment
- 67 invention disclosures
- 30 issued patents
- 3 license agreements
- Co-founder of 3 companies



Prof. Shaomeng Wang

FY 2014 Awards Processed

(July 2013 - January 2014)

	Number of Awards	Value of Awards
FY 2012	1759	\$719,692,649
FY 2013	1762	\$803,769,222*
FY 2014	1924	\$652,481,072
% Change from 2012	9.4%	-9.3%
% Change from 2013	9.2%	-18.8%

** Includes a \$97.5M NASA project on "Cyclone Global Navigation Satellite System"*

The Challenge

With declining
federal funding for research,
how can we sustain and grow
U-M's research enterprise?

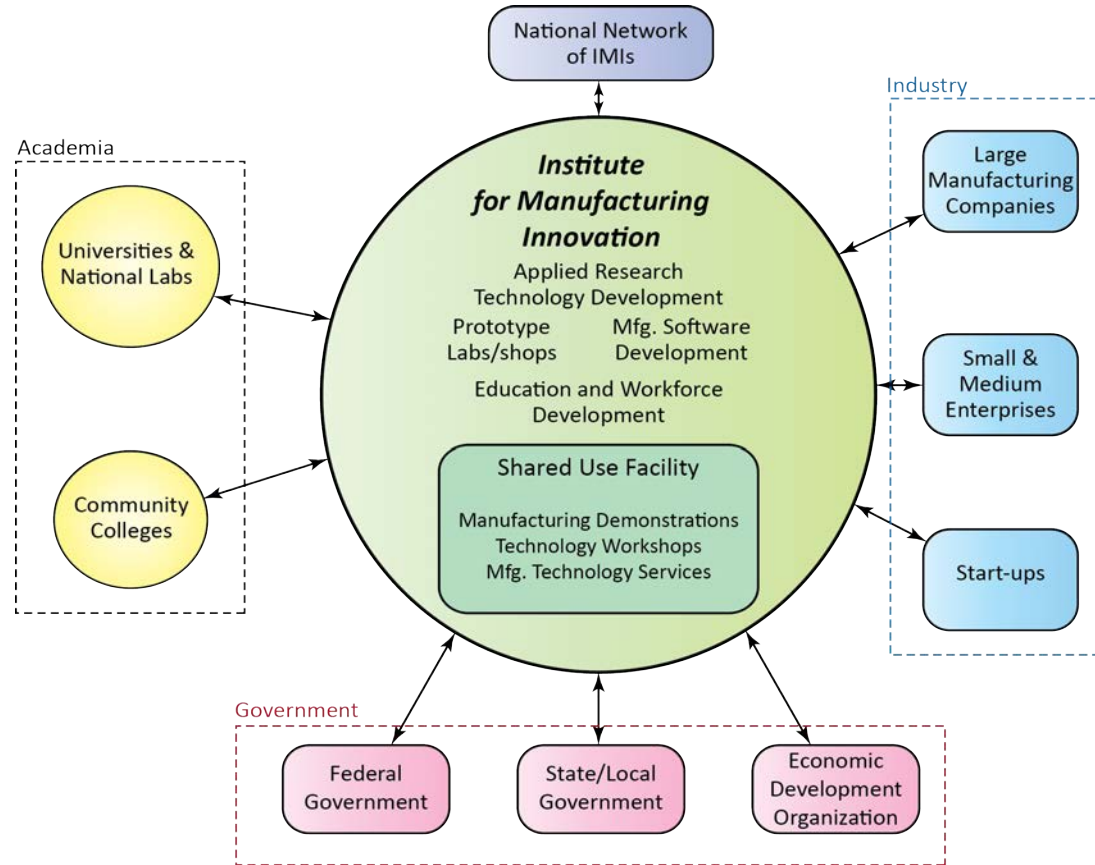
Opportunities

- ✓ Develop larger scale projects that build on innovative partnerships and our interdisciplinary strengths
- ✓ Strengthen industry outreach
- ✓ Expand clinical trials
- ✓ Seek more funding from foundations
- ✓ Pursue philanthropic gifts for research
- ✓ Develop more international partnerships
- ✓ Streamline the proposal submission process and improve faculty productivity

Example 1.

American Light-Weight Materials Manufacturing Innovation Institute

- Part of White House's National Network of Manufacturing Innovation
- Public-private partnership, founded by UM, Ohio State and the Edison Welding Institute.
- Focus on advanced lightweight metal manufacturing technology for transition to industry
- \$70 million federal investment, \$80 million cost share from industry, states and universities



Design of National Network for Manufacturing Innovation
Source: M Molnar, Advanced Manufacturing National Program Office

Example 2:

Mobility Transformation Center

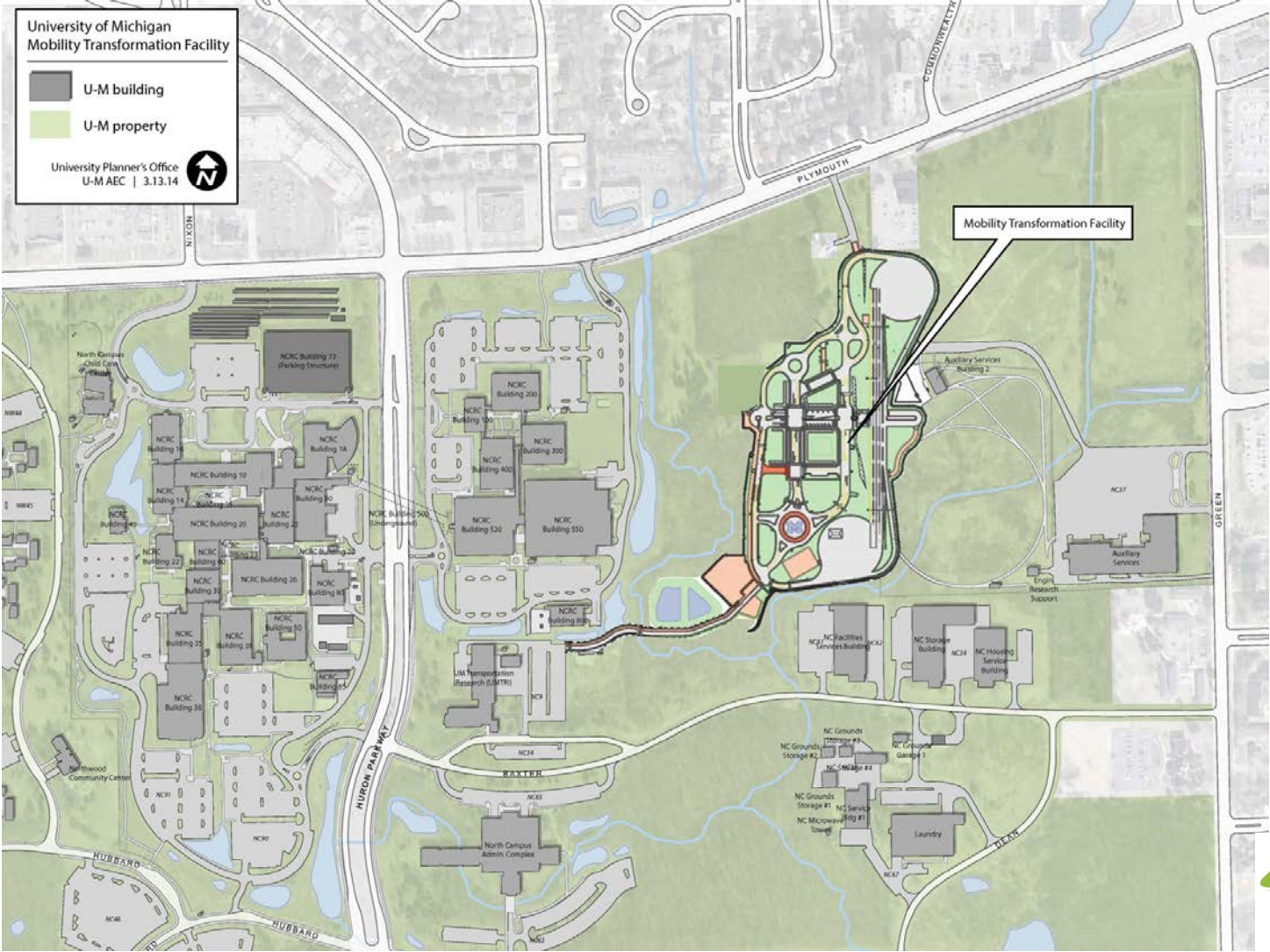
- Partnership with governments and industry
- \$100 million project through 2021
- Unique off-road and on-road test capabilities
- Engineering, Urban Planning, Policy, Economics, Medicine, Law, Social Sciences, Business



Connected and automated vehicles that improve safety, reduce congestion, and enable sustainable transportation

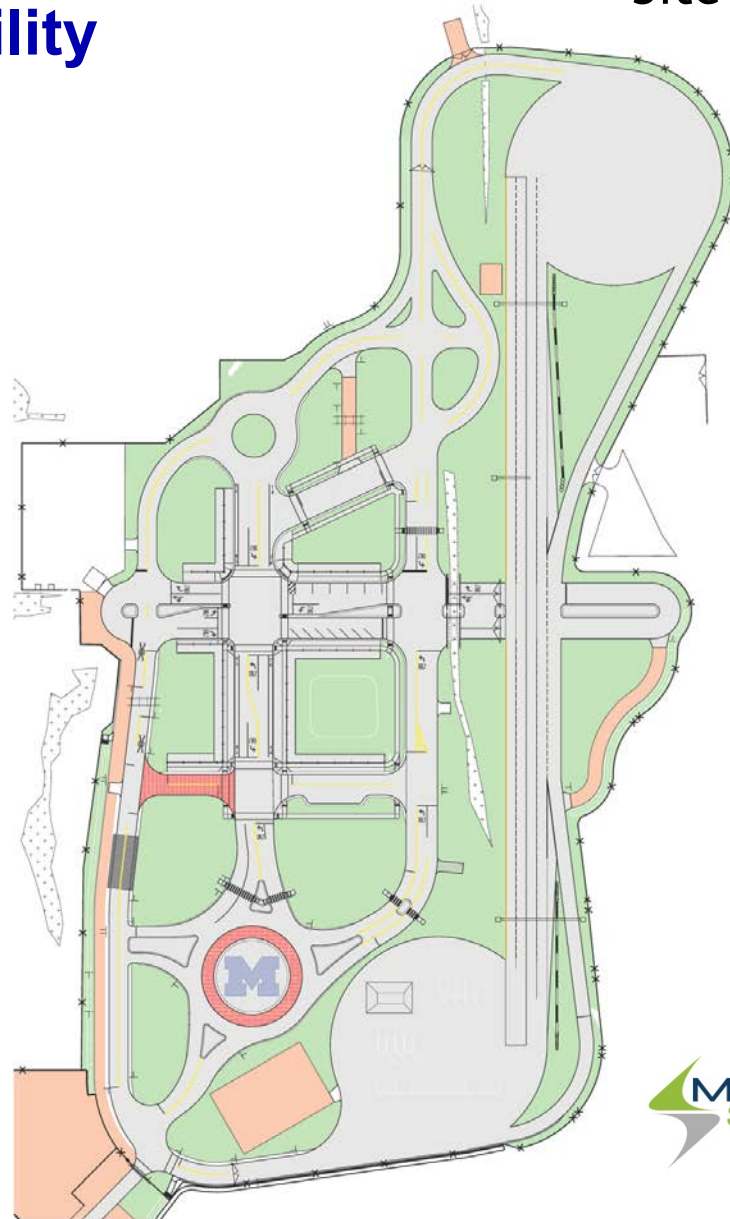
Mobility Transformation Facility

Area Map



Mobility Transformation Facility

- A unique simulated urban environment for testing connected and automated vehicles before they are tried out in real traffic.
- Include a variety of roadways, intersections, traffic signs and signals, sidewalks, benches, simulated buildings, street lights, etc.
- Support provided by MDOT, Office of the Provost, Office of Research, Engineering, and Transportation Research Institute.



Summary

- U-M remains one of the world's premier research universities.
- Federally sponsored research to universities has been declining since 2009. We need to develop innovative approaches and investments to mitigate and adapt to this challenge.
- We must work to sustain and enhance the federal investment in university research.