

Review of the Office of the Vice President for Research Wright State University

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On-site visit: February 12-14, 2017

A. Executive Summary

In this document, we provide our assessment of the Office of the Vice President for Research at Wright State University. In our reading and site visit, we saw much that was positive about the state of research at Wright State, and observe that the university can take pride in many accomplishments over its 50-year history. But we also noted a number of issues and problems that should be addressed, and make a number of specific recommendations in that regard. These issues are described in detail in the following sections, and are categorized by topic, including general programmatic concerns, unit-level comments and suggestions, financial issues, and the relationships among Wright State University (WSU), the Wright State Research Institute (WSRI), and the Wright State Applied Research Corporation (WSARC). We make 32 specific recommendations in this report. Some are addressable without additional budget impact, and implementing these will have a beneficial effect on the climate and culture of research at the institution. However, a number of recommendations will require financial investment. We realize that new investments are very difficult in the current budget environment, but prioritization and consideration of these recommendations will be very important if the university is to realize its potential for expanding and securing its research future. Overall, we see great potential for Wright State research, with many promising avenues and possibilities for additional achievements into the future for the Wright State research enterprise.

B. Overview of charge and process

- Our charge

The site visit team was charged with conducting a review and assessment of the research enterprise and operations at Wright State University. This charge arose from a recommendation contained in the report of the Senate Select Committee on Research Initiatives at Wright State (April 7, 2016): “Wright State University should have an external 360° review of the Office of the VP for Research (VPR), and relevant WSU affiliated organizations, such as WSARC, including their operations and roles with respect to best-practices.” The site visit team was provided with a set of documents and spreadsheets prior to their arrival at Wright State and during the site visit, and conducted an in-person site visit February 12-14, 2017.

- Materials provided prior to and during the site visit

The site visit team was provided with the following written materials:

- Faculty Senate Report: Select Committee on Research Initiatives at Wright State (April 7, 2016)
- Office of the Vice President for Research and Dean of the Graduate School Information for Faculty Senate 360 Review (January, 2017)
- Resolution for Vote of No Confidence in Dr. Robert Fyffe, together with responses from Dr. Fyffe and outcome of the no-confidence vote by the Bargaining Unit Faculty Members (November, 2016)
- OVPR Survey Results (identifying information redacted) (January 2017) by college and unit
- Distribution of faculty by rank, sorted by college
- Letter and report from Dr. Robert Fyffe to President David Hopkins describing efforts to seek a revised classification of Wright State University in the 2015 Carnegie Report on Higher Education
- Brochures describing Wright State Research Institute (WSRI), the Wright State Applied Research Corporation (WSARC) PowerPoint presentation, and Ohio Federal Research Network PowerPoint presentation
- Summaries of research expenditures for colleges and WSRI from FY 2012 to 2016

- Structure of visit

The site visit team arrived on February 12, 2017 and attended an initial dinner with Provost Tom Sudkamp and Vice Provost Steve Berberich. Over the next two days, the team met with the following groups and individuals:

- OVPRG unit leaders
 - Ellen Reinsch Friese, Associate Vice President for Research
 - Jackie Frederick, Sponsored Programs Pre-Award
 - Glen Jones, Sponsored Programs Post-Award
 - Jason Parker, Research Development
 - Matt Grushon, Research Compliance

- Meghan Sheehan, Technology Transfer
 - Hugh Bolton, Commercialization
 - Dennis Andersh, Director, WSRI
- Boonshoft School of Medicine (BSOM)
 - Margaret Dunn, Dean and Dieter Nevels, CFO
- College of Science and Mathematics (COSM)
 - Dean Douglas Leaman, and selected college chairs and faculty
- Faculty Senate
 - Carol Loranger, President, and members of the Faculty Senate
- College Deans
 - Joe Keferl (Education), Tom Traynor (Business)
- College of Engineering and Computer Sciences
 - Nate Klingbiel, Dean, and selected college chairs and faculty
- Graduate School
 - Bill Ayres, Associate Dean, and leadership team
- AAUP-WSU
 - Tom Rooney, AAUP-WSU Executive Committee member
- David Hopkins, President
- Tom Sudkamp, Provost
- Robert Fyffe, Vice President for Research and Dean of the Graduate School
- University Research Committee members
- Office of Legal Affairs staff
- Office of the Vice President for Research Review Committee members

C. Program Strengths and Opportunities

The site visit team found many strengths in the research enterprise at Wright State. The team also noted that there were considerable opportunities to leverage assets of the university to increase collaborations with entities in the region, particularly the Air Force Research Laboratory (AFRL) and associated companies and contractor firms. Some of these are noted below:

- Very engaged faculty with breadth and depth of research expertise. The site visit team was impressed with the engagement of the faculty researchers with whom we met. They were dedicated not only to their own research programs but also to the success of the entire research enterprise of the university. These faculty were cognizant of the potential for improvement of the research portfolio of the university and were eager to participate.
- History of collaborations with AFRL. The site visit team was pleased to note the long history of collaborations between WSU faculty and several different directorates within AFRL. It was not clear whether these were primarily “one-off” collaborations, or reflected some more comprehensive partnership strategies (see below)

- Capabilities for pursuing complex contract research with significant reporting and tracking requirements. The capabilities, currently housed within WSARC, to support IDIQ-style contracts with specific deliverables and significant reporting requirements is a major asset for the university. This capability has begun to show results for the overall bottom line of research expenditures, but could be leveraged to provide greater opportunities for faculty involvement in these large-scale efforts where appropriate. Specific recommendations about WSRI and WSARC are described later in the document.
- Capability for performing classified research. The capability to perform classified research and work with stringent data security requirements (e.g., contracts subject to NIST-7012 data security provisions) is another university asset that could provide substantial opportunities for projects funded by the Department of Defense and/or Department of Homeland Security. Many universities of comparable size do not have these capabilities.
- Emerging strong network of collaboration with two major medical networks in the region. The established broad collaborations with two of the major medical networks in the Dayton region, Miami Valley Hospital and Premier Health, have already catalyzed work in clinical trials through the Clinical Trials Research Alliance. The joint efforts in the area of neuroscience and neurology offer additional opportunities for innovative and translational research, and numerous funding possibilities.
- Opportunities for greater partnership with AFRL. As mentioned above, WSU has a long traditional of collaboration with scientists at AFRL, particularly in Human Effectiveness and Sensors. These efforts should be expanded and capitalized on, possibly through deeper strategic partnerships in areas that offer benefits to the missions of both entities. The Ohio Federal Research Network (OFRN) has had a promising start, and has attracted significant follow-on funding from the State of Ohio. Opportunities through this funding mechanism should be aggressively pursued to seed new collaborations and relationships that can lead to additional federal investments.
- Opportunities for greater partnership with other area universities (e.g., U of Dayton, U of Cincinnati, UDR). The site visit team heard very little about collaborations between WSU and other area academic institutions in the region. Although these almost certainly exist, there are opportunities to expand and deepen these collaborations. Some areas of opportunity for collaborations explicitly called out during the site visit involve funding possibilities through OFRN, which is open to applications from Ohio research universities and funds projects in areas of focus for AFRL and NASA-Glenn. Other state and federal programs offer additional possibilities for WSU faculty to partner with counterparts at other universities both inside and outside Ohio.
- Opportunities for partnerships with other area industries. From the data supplied to the site visit team, it did not appear that there was a large amount of activity in industry-

sponsored research collaborations. In fact, research expenditures from this sector dropped from \$2.7 M in FY 2012 to \$1.6 in FY 2016. Going forward, this is a significant opportunity area for WSU. As mentioned, there are numerous contractors and other companies that have located close to AFRL, with which collaborations could be forged. In addition, the partnerships with regional healthcare systems could be expanded beyond clinical trials activity to spark private investment in medical research, particularly in the already-identified areas of strength, such as neuroscience. Further, the Dayton Area Development Commission works actively to bring all stakeholders in the Dayton region together to elevate the region and help to overcome the negative economic impacts of the recent recession and departure of several large industries. Strategic thinking about how to interface with groups such as these could lead to increased partnerships in the research realm.

D. Programmatic/general issues and concerns

The site visit team identified a number of areas of concern in Wright State research programs, some of which were rather serious. These areas of concern, together with recommendations that might yield improvements, are detailed in the following sections. In this first section we discuss general issues and concerns that were apparent across the entire research enterprise, and in the subsequent section we address issues specific to individual program areas.

- Transparency and Communications. The most pervasive single problem identified by the site visit team, and one discussed in nearly every group with whom we met, is a general lack of transparency in decisions and operations, and a lack of effective communication. Numerous instances of this have resulted in misperceptions and misunderstandings. It is likely not the case that there is a deliberate effort to mislead or conceal; rather, much that we observed was more likely the result of long-established ways of doing business, or to communications that could have been more clear. This lack of transparency and lack of effective communication were apparent in the way in which some of the data were presented (e.g., the team found it very difficult to make numbers presented in different tables add up to the same totals), as well as in the way in which decisions were made about research priorities and operations. Groups such as the Research Committee, designed to provide input on research-related decisions and policies, felt they did not serve such a role, but rather were simply informed after the fact (see more specific item about this group below). Although efforts were made to communicate to faculty groups about some decisions, for example, changes in the structure of WSRI/WSARC, these efforts were clearly not effective. Virtually every faculty and leadership group expressed confusion and lack of knowledge about this and other aspects of the research programs and initiatives. Lack of understanding in faculty regarding programs and initiatives has helped to fuel a general sense of suspicion that practices would not bear close scrutiny.

- General lack of confidence in leadership. As a result of issues related to the previous provost that received huge exposure in local media, and exacerbated by the problems in transparency and communication described above, there appears to be deep mistrust and lack of confidence in university leadership. The most specific example of this was the no-confidence vote of the Bargaining Unit Faculty Members in Dr. Fyffe. The no-confidence resolution was strongly supported in the vote despite data provided by Dr. Fyffe that addressed faculty misperceptions. However right or wrong the faculty mistrust of leadership may be, its existence is very problematic. It will require a concerted effort on the part of all university leadership to overcome this now extremely adversarial atmosphere, and it should not be expected that it can be overcome overnight. Experience suggests that once such mistrust is established, it takes considerable time to reverse.
- Lack of understanding of the roles, missions, operations, and costs of the WSRI and WSARC in relation to WSU. Much of the faculty lack of understanding and clarity has focused on WSRI and WSARC, possibly because of early practices of the initial leadership of these entities. Questionable early fiscal management of these entities, possibly related to a too-rapid buildup of the entities, led to a recent (2015) restructuring of these units that entailed a substantial reduction in personnel and a movement of WSRI into the university. In addition, the practices of some individuals in WSRI, in which WSU faculty were named on grant proposals but then removed when awards were made, have been communicated widely among the faculty. Many faculty are still convinced that the university is substantially subsidizing the operations of WSRI and WSARC, despite recent communications that indicate that these units are now self-supporting. Until these faculty perceptions are effectively addressed, it will not be possible to realize the great potential that WSRI and WSARC offer to grow funded research at Wright State. Faculty confusion obscures recent changes in these units that have moved them in a very positive direction.
- Lack of knowledge about the research services available in the OVPR beyond pre-award and post-award. The Vice President for Research has established several new positions that can provide significant support to faculty seeking external funding, including Research Development and Research Compliance (see later sections for specific recommendations about these services). However, our interviews with faculty groups indicated that they were largely unaware of these services. Some faculty knew that individuals from WSRI had been moved into the OVPRG office, but did not seem to know what functions they were providing. This seemed to be a part of a general lack of knowledge about the OVPRG and how it provided support for research activities.
- General concern about the hiring and shifting of positions between units within the OVPRG. As mentioned, faculty and deans were aware of individuals being moved from WSRI into the OVPRG. However, rather than viewing this as a positive thing, they felt that the process of “lateral transfers” of staff, rather than openly competing positions as they were made available, contributed to the general lack of transparency of operations

in the OVPRG. In some cases, these lateral transfers did not show a match of background and expertise of the individuals with the job functions they were being asked to perform.

- Top-down decisions without input of deans, chairs, and faculty. There was a pervasive sense among nearly every group with whom the site visit team met that decision-making at WSU, even beyond the research realm, was a very top-down process that did not engage or seek input from faculty, and sometimes not from chairs or deans. This can be a sore spot with faculty who believe in some degree of faculty governance of academic activities at the university, and can be a particular issue at universities whose faculty are unionized. This feeling of exclusion from decision-making has contributed to the adversarial nature of the relationship between faculty and leadership.
- General recommendations. As mentioned, changing the overall climate at the university is not an overnight activity. Concentrated effort will be needed to overcome the sense that transparency is lacking and that communications are absent, or worse, deliberating obfuscating. Our general recommendations regarding this overall climate issue follow:
 - **Recommendation 1:** Make data available electronically regarding sponsored program activity, including awards and expenditures, for the university overall but also for the colleges (and where appropriate, for individual units). A website with a searchable database or dashboard that contains several years' worth of data would help to provide some clarity on funding concerns. When available, robust communications to faculty should point to its existence.
 - **Recommendation 2:** Create a comprehensive communications strategy in the OVPRG to reach out to faculty groups. Initially, this should focus on providing faculty with information that can address their general mistrust of leadership. It should be expected that these initial communications with faculty groups will not be easy. Faculty are angry, and will likely use these venues to express their anger. Central administration must avoid taking a defensive posture, but instead maintain an open, listening stance. Over time, the focus can shift to new initiatives and services that are provided by the OVPRG. The form of this communications strategy should include multiple platforms and should involve both in-person meetings with stakeholder groups and online information. Most importantly, in-person communications should be interactive and allow for dialogue, rather than being purely aimed at pushing information out.
 - **Recommendation 3:** Create a focused communications strategy around WSRI and WSARC. To assure transparency, this strategy should include both the value and services provided by these units, but also a complete financial picture of all investments in and payments out. It should also include complete information about WSARC's activities in the Ohio Federal Research Network (OFRN), about which there appears to be considerable suspicion and misinformation on the part of WSU faculty. (See detailed recommendations regarding WSRI and WSARC below.)

- **Recommendation 4:** End the use of the lateral transfer process when new positions are created or existing ones become vacant. An open and competitive posting of positions ensures that individuals can apply and be hired on their merits, enhances transparency, and helps to alleviate suspicion and distrust among faculty.
- **Recommendation 5:** Create venues for soliciting input from faculty, chairs, and deans regarding OVRPG operations. These can be advisory groups that can truly provide input and review, or can be composed in other ways. This will help to address the sense that decisions are entirely top-down.

E. Unit-level comments and suggestions

- Research and Sponsored Programs: This unit received almost unanimous praise from faculty and staff. Several individuals reported instances when they received outstanding support for their work, and staff were viewed as hardworking and responsive. Both Pre-Award and Post-Award units were mentioned in a very positive light. A few specific instances where there had been issues were identified, but these seemed to be clear exceptions rather than the rule.
- Research Development: This office is a relatively new function within the Office of the Vice President for Research. The initiation of this service is a positive step, but its role and services are not apparent to most of the faculty. Among those who are aware, the perception seems to be that it serves a narrow selection of the research community because the current director focuses on one research domain. Moreover, that individual's background was as a researcher, not a research development professional. Universities are increasingly offering proposal development services and there is a vibrant national network of research development professionals (National Organization of Research Development Professionals, NORDP). Research development is a very important aspect of research support and can be very instrumental in growing the research portfolio of an institution.
 - **Recommendation 6:** Hire a full-time professional staff member with experience in research development with the expectation of serving the full breadth of the research community. (Please note that, over time, this effort may require additional staff support as the demand for this service evolves across campus.)
 - **Recommendation 7:** Provide services to the research community such as weekly notices of grant opportunities, support for writing large collaborative grants, and development workshops. We did not see evidence of such efforts, although they may exist. If so, they should be better publicized.
- Research Compliance: The recent addition of a research compliance position was a wise move given the increasing federal-level attention given to this area. Increasingly, issues related to conflict of interest management and export control are becoming significant risk areas for universities. At present, some research compliance functions are within the scope of this office, while others are not. Three areas stood out in our visit.

- IRB/Human Subjects/LACUC: We heard relatively few concerns about the LACUC or Institutional Biosafety Committee operations. However, IRB timelines are viewed by faculty as excessively long. This perception was brought up in nearly every meeting with the site visitors. Complaints about IRB timelines are typical at nearly all universities, but it appeared that timelines are indeed long at Wright State. WSU could benchmark their timelines against other institutions with similar numbers of active protocols, by referencing the database of the Association for the Accreditation of Human Research Protection Programs (AAHRPP), which provides metrics for institutions of different sizes.

In addition, several faculty expressed concern that staff training is an issue, and/or that staff were being excessively strict in enforcing regulations in situations where they are not applicable. The office has only two staff, only one of whom is CIP (Certified IRB Professional) credentialed.

The university is moving to an electronic submission system, which should help to improve timelines to some degree. However, there are several other things the university might consider that would more substantially improve timelines and user experience with the IRB process. Exactly what steps should be taken is best determined by an analysis of the protocol types that comprise the institution's IRB load. For example, at most universities, protocols falling under the social/behavioral sciences make up a significant part of the IRB review load. A vast majority of these are not federally funded, and a similarly large majority are minimal risk and qualify for expedited review. Increasingly, protocols submitted in the biomedical sciences can also qualify for expedited review. Given the pending changes in the Common Rule, which have been foreshadowed by oversight agencies for the past few years, there are actions and policies that universities can employ that can streamline the processing and review of minimal risk, expedited protocols.

- **Recommendation 8:** Discuss with IRB staff professionals at other universities ways in which they have improved timelines by policy changes. Ones to consider:
 - ❖ “Unchecking the Box” on the university's FWA (Federal-Wide Assurance) document. This action permits the university to establish some policies that apply to non-federally-funded research that could substantially streamline operations.
 - ❖ If the box is unchecked, consider new policies for review and continuing review of non-federally-funded, minimal risk projects. These constitute a huge portion of the load of most IRBs, and pose very little risk to either participants or the university. As the federal government moves toward implementation of new Common Rule changes, new opportunities for universities to speed up the process are emerging. Specific possibilities include

the technology transfer area and the apparently temporary nature of funding for the commercialization position.

- **Recommendation 13:** Examine models for sharing IP with industrial collaborators, develop a set of options, and figure out when each may be appropriate in terms of the nature and maturity of the collaboration. Focus on preserving “high value” IP.
 - **Recommendation 14:** Combine these two offices into one unit that can provide service to faculty across the spectrum of patenting, licensing, commercialization, and spin-off companies. Present them to faculty and other researchers as a suite of services to support them across these activities.
 - **Recommendation 15:** If not in place, establish a procedure for supporting the development of spin-off companies from WSU. (This was not clear during the review.)
 - **Recommendation 16:** Plan for how to support commercialization efforts once the current external support ends. This may involve attracting additional support or reallocating internal resources. This function is too important to lose.
- **Research Council:** The Research Council seems like a body that is underutilized, and lacks a clear role in helping develop research at WSU. The members indicate that very little consultation takes place, that they do not get an opportunity to develop the group’s agenda, and that they have not played an active role in formulating research policies. Previously, they had advised on the distribution of a small amount of research seed funding (\$75K) but that program is no longer active.

The review group recommends that this group evolve to be more effective and useful. In our experience, similar committees act as good sources of advice for research administration and improve communication with the faculty.

- **Recommendation 17:** Change the function of the Research Council to be an active advisory group on research policies and infrastructure. If there are research policies that require the approval of the Faculty Senate, this group should be the conduit to the senate.
- **Recommendation 18:** Consider revising the structure of the Research Council to be a standing committee of the Faculty Senate. Shift the membership to be more reflective of the faculty.

F. Financial Issues

In this section, we outline a number of fiscal and financial issues that were puzzling to the site visit team. Some practices appeared to offer incentives to faculty to increase grant proposal activity (e.g., a return of a small percentage of indirect costs to a faculty account), whereas others appeared to unnecessarily increase the financial distress of the research support operation (internally funding tuition waivers for graduate research assistants on grant proposals). For the issues identified, the university should reexamine past practices to

determine whether they truly make sense in the current environment, and whether they are compliant with federal regulations.

- External research support: Data on research funding can be reported in various ways – awards versus expenditures; externally sourced, with or without internal funds; or the NSF HERD Survey reports (which have corrections for unpaid indirect costs). Based on the various reports and meetings, there is some lack of clarity about funding trends through time. While the NSF research expenditure numbers show an increase through time (\$46.2 to \$55.5 over FY 2012 to FY2016), a closer examination reveals some patterns that are somewhat troubling.

Based on the data provided to us, the research expenditures attributed to WSU colleges declined by \$5.5 M (FY2012 to FY 2016), with substantial reductions in BSOM (\$3.4 M), CECS (\$1.6 M) and the COSM (\$0.9 M). Offsetting these declines, WSRI added \$2.2 M to the colleges. However, the WSRI research expenditures outside the colleges declined by \$2.1 M. In total, WSU's colleges + WSRI research expenditures declined by \$5.4 M (18%) from FY 2012 to FY 2016. At the same time, the research expenditures reported for WSARC increased from \$2.4 M (FY 2012) to \$25.0 M (2016).

To summarize our understanding, in the five-year time window of FY 2012-16, (1) research expenditures in the colleges declined by \$3.3 M (including funding through WSRI); (2) WSRI research expenditures not passed to colleges declined by \$2.1 M; and (3) WSARC research expenditures increased by \$22.6 M. It is not clear why these trends occurred.

The 18% decline in research funding for WSU + WSRI calls out for attention. In absolute terms, external funding should be considerably higher given the number of faculty in medicine, engineering, biological and physical sciences. Data for comparable universities that have on-site medical schools offer support for this statement. To assist the development of proposals by faculty, the OVPRG has offered an incentive program to researchers who submit proposals, but it is a small dollar amount and does not appear to have had an impact thus far. Some recent indicators (especially from BSOM) suggest that this trend is reversing. We examined faculty demographic data to see if faculty distribution could account for these declines. In general, the ability to attract external support is higher in late assistant to early full professor ranks. It is expected to be lower in early-term assistant professors and very late career faculty at the associate or full professor ranks. Data on faculty composition by rank across colleges were mixed; however, in at least one college (COSM) the percentage of younger assistant professors was much lower than might be desired.

Faculty members expressed concern about the large increase in research funding for WSARC as the colleges' research funding declined. Their inference is that current university proposal development processes favor WSARC research over what they perceive as research that better fits their expertise. We could not determine whether

the shift of research expenditures was the result of available funding opportunities, infrastructure support, or other factors.

- **Recommendation 19:** The university should examine why research funding for faculty has declined in recent years, and consider what intervention might be appropriate in light of the composition of the faculty (career pathways, disciplinary distribution) as well as opportunities for funding and collaborations. For example, in a college where a large majority of the faculty are very late in their careers, expecting a sudden turnaround in grant submissions might not be realistic. In that vein, the programs that might be developed to incentive faculty might be different from ones directed at more junior faculty. Another area for consideration may be to invest in seeding projects with strong opportunities for funding.
 - **Recommendation 20:** Consider how faculty may become more involved in the types of research that are currently administered through WSARC. In our visit, few, if any, faculty had much knowledge of the function of WSARC and how they might use it to build their research. This relationship needs to be developed – otherwise faculty will just see WSARC as a competitor, not an opportunity.
 - **Recommendation 21:** The OVPR should develop a process and reporting system to communicate campus and unit-level proposal, award and expenditure data in a more transparent and timely manner to campus stakeholders.
- **Indirect cost (F&A) policies:** It is worth noting that F&A charges cover some of the real costs of conducting research (facilities, grant support, etc.) – although in fact, they usually do not cover all institutional indirect costs. In our discussions with faculty and staff, there was considerable confusion about how these are distributed. There is also some variation in the indirect rates that seem inappropriate given federal guidelines. Finally, it was not clear to us how central research support for BSOM activity is funded if no BSOM indirects come back to the OVPRG.
 - **Recommendation 22:** Distribute indirects in a consistent manner regardless of the funding mechanism. We would suggest sharing them with PIs (10%) and academic units (10-12%) with the remainder going to administration. The Medical School would not fall under this model since it is funded differently.
 - **Recommendation 23:** Use the indirect rates negotiated with the federal oversight agency for all contracts, excepting only private or charitable foundations with a published indirect rate. If there is a need to provide a “discounted” overall charge, we recommend using the mechanism of providing direct campus support for a project (essentially a cost share) because this reflects what is actually being done.
 - **Core facilities:** The responsibility for maintaining critical research equipment was unclear – presumably this is distributed among the academic unit that “houses” the equipment. There was no apparent financial mechanism for long-term maintenance

and replacement of critical research equipment. The appropriate administrative structure may help clarify this, leading to two recommendations.

- **Recommendation 24:** Compile a list of major shared equipment, indicating what unit is responsible for maintaining the facility.
 - **Recommendation 25:** Assure that a reasonable “user fee” structure is in place to recapture the costs of using, maintaining, and (ultimately) replacing the equipment. If the user fees do not cover all these costs, assure that the administrating unit understands and plans for the potential costs for sustaining the equipment array. Typically, user fees vary by types of users (business, university, teaching). When engaging in rate-setting, it is important to be cognizant of requirements for federally-funded research.
- Graduate RA tuition waivers: The tuition for graduate research assistants funded by grants is paid from the VPR budget, but there are not sufficient funds allocated for this. As a result, there is a \$2-3 M deduct line in this budget. This is unnecessary because these charges can generally be billed to awards, and are so-charged at most other universities. The funds could be used to support recommendations 27 and 28.
 - **Recommendation 26:** Put tuition charges into grant budgets. It is best to have a constant tuition charge across grants so that tuition costs associated with different graduate student status do not drive appointment decisions. There are several options here: (1) include the in-state tuition (and just cover the out-of-state costs centrally); (2) include the in-state and average out-of-state tuition; or (3) include the average tuition cost. (We favor the latter due to its simplicity.)
- Charges for graduate TA tuition: Various individuals we talked to indicated that the current practice bills academic units for the tuition of all graduate teaching assistants. Assuming that their salaries and tuition costs are at normal levels, this approach makes the appointment of GTAs a money-losing proposition. If this is the case, this practice should be stopped for at least two reasons. First, it dis-incentivizes using TA appointments to support graduate students, a critical mechanism for supporting them in their initial year. Without these appointments, attracting high-quality graduate students is much more difficult, yet this is exactly what is needed for your research programs. Second, this funding model puts a tremendous financial strain on units like COSM, which rely upon TAs to teach labs in introductory classes, and erodes their ability to make research investment for things like startups, equipment upgrades, bridge support, etc.
 - **Recommendation 27:** Fund the graduate TA tuition centrally.
- Seed funding for new research initiatives. The information we received indicated that the VPR has approximately \$75K to use as seed money for research projects. This budget is far too small for an institution the size of WSU. Given the size of the faculty potentially involved in research (~750 tenure-track faculty) and their distribution, the

level of research funding appears low. Seed funding is one way to boost the success of proposals, and thus this activity is of great importance.

- **Recommendation 28:** Establish a fund for seed funding of new research. Ideally, this would be at the level of \$500K to \$1 M annually.

G. Relationship between WSU and WSRI, WSARC

The biggest source of concern and the reason for distrust of the central leadership was tied to the relationships among WSU, WSRI and WSARC, as expressed by all groups that met with the external review team. The need to have a unit nimble enough to be flexible in dealing with contracts as opposed to grants, which are typically the domain of RSP, is understandable as reporting of effort, leave and finances are very different from that for federal grants. Often, the contracts may be of IDIQ (indefinite delivery, indefinite quantity) type and may involve classified work. Most academic RSP units are typically ill-equipped and trained to handle such business. WSU needs to have a unit to take full advantage of being in the vicinity of Wright-Patterson Air Force Base (WPAFB), and the Air Force Research Lab (AFRL), as well as the federal contractors located in the region, by capturing some contractual work in externally sponsored projects. The advantages of capturing contractual work for an academic institution such as WSU are self-evident but the list below enumerates some advantages.

- Revenues, particularly externally sponsored projects (reflected by sponsored R&D expenditures) have direct impact on the prestige and recognition of the university.
- Contractual work provides support in resolving critical national challenges dealing with national security, such as threat evaluation, preparedness and development of advanced technologies.
- Contractual work creates opportunities for university faculty and researchers to collaborate with personnel involved in DOD RDTE (research development, testing, and evaluation).
- Contractual work offers the ability to meet challenging deadlines because of the availability of dedicated staff well-attuned to the requirements of DOD protocols and timelines.
- Contractual work encourages students to get involved in applied research in real-world environments, thereby also addressing the pipeline issues of the future DOD workforce, while creating jobs and enhancing economic development in the region.

However, it was clear that this value proposition has not been clearly communicated nor utilized fully in a transparent way for a faculty buy-in. The result has been suspicion, aversion and in many cases outright opposition. Beyond communication, other factors (some not in the control of VPR Office) have contributed to these concerns. These are listed below.

- The relationships among WSU, WSRI and WSARC are not clearly defined.

- The finances of WSRI and WSARC are not transparent. There is a strong perception that the University is heavily investing in WSRI and WSARC at the cost of regular academic units. As one example, faculty seemed to be aware that the university had loaned WSARC the funds to purchase their building. But they were not aware that WSARC has begun to repay these funds.
- There is a history of transferring individuals between WSRI, WSARC and WSU without appropriate search and recognition of needs and talent. One recent example of this is the transfer of Jason Parker to a newly created Office of Research Development of which he was the only member. This is one example of the “lateral transfer” mechanism discussed above.
- WSRI hires “experts” who may then compete against WSU faculty for a contract.
- As a unit, WSRI keeps the entire F&A (indirect costs) from a contract, unlike academic units, which receive only a portion while the central offices retain most of it.

We offer four recommendations to improve the ability of the WSRI and WSARC to contribute more effectively to the research mission of WSU. Please note that there are many possible ways to structure these functions, and that a model that might work for one university might not be the best for another. WSU should determine a structure that best suits the university’s mission, and ensure alignment of these entities to support that mission.

- **Recommendation 29:** The role of WSRI and WSARC should be distinct and clear. Administration should think carefully about the appropriate roles of each entity to create this clarity. WSARC was described as an affiliated entity that provides secure facilities and administrative support for complex contract research with detailed reporting requirements that WSU could not easily handle internally. It is possible that this should be the role of WSRI; in fact, this was the rationale behind WSRI’s creation. On the other hand, WSARC, a 501 C-3 entity, could focus on all aspects related to economic development such as external funding, IP protection, tech transfer, private and government partnerships for spin-offs, etc.
- **Recommendation 30:** WSRI researchers and staff should never compete with the WSU faculty for a given funding opportunity. WSRI should seek participation from faculty researchers as appropriate and not indulge in “Project Director” or other such hires that exclude possible roles for WSU faculty. It is anticipated that in response to a given contractual opportunity, WSU faculty may not have expertise to offer. In such cases, WSRI will need to participate in a contract competition on its own, after careful evaluation of WSU faculty strength. Regardless of who does such an evaluation, it will need to be open and transparent.
- **Recommendation 31:** In cases where WSRI researchers and WSU faculty are partnering for a contractual opportunity, appropriate overhead, calculated either by pre-determined percentage effort or percentage of total budget, should flow back to WSU units and researchers in accordance with existing overhead distribution policy. It is important for WSRI to be self-sufficient in its business. If the WSRI portion of the

overhead is not shared with WSU at all, WSRI should be responsible for all its staff and facility support without WSU investment in it.

- **Recommendation 32:** The co-mingling of personnel and funds between WSU and WSARC should be carefully scrutinized. WSARC has a clear and important role to play and WSU leadership will need to guide WSARC functions (for example, by participating in the WSARC governing board, etc.) but there cannot exist a conflict of interest with the WSU mission while promoting the WSARC mission.

H. Conclusion

The review team found much to celebrate in the research enterprise at Wright State University. As described above, the passion and dedication of faculty, leadership, and staff were evident in our interactions. University assets and its strategic location are impressive. At the current time, a number of issues and problems have limited the ability of this research enterprise to realize its potential. A careful and systematic approach to addressing these issues and problems will surely result in reducing the barriers to realizing this potential. We hope that our recommendations will provide a framework for addressing these issues, with the result that the university's research enterprise will flourish.