

**Pathways to Careers:
Leveraging Data Analytics to Improve Efficiency and Increase
Student Success**

A PROPOSAL TO:

The Ohio Department of Higher Education
Ohio Higher Education Innovation Grant Program

March 9, 2016

**Submitted by:
Lakeland Community College, Lead Applicant**

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Lakeland

COMMUNITY COLLEGE

March 9, 2016

To Whom It May Concern,

Lakeland Community College is pleased to serve as lead applicant for the “Pathways to Careers: Leveraging Data Analytics to Improve Efficiency and Increase Student Success” project, a proposal to the Ohio Higher Education Innovation Grant Program. Lakeland is joined in this proposal by the following educational and other partners:

- Belmont College
- Central Ohio Technical College
- Clark State Community College
- Eastern Gateway Community College
- Edison Community College
- Hocking College
- Lorain County Community College
- Marion Technical College
- North Central State College
- Northwest State Community College
- Owens Community College
- Rio Grande Community College
- Southern State Community College
- Stark State College
- Terra State Community College
- Washington State Community College
- Zane State College
- Ohio Association of Community Colleges (OACC)
- Ad Astra Information Systems

This partnership will focus on the comprehensive use of data analytics to support redesigning pathways to careers with a focus on course scheduling, resource allocation and workforce alignment. We anticipate an increase in academic achievements as well as significant instructional cost savings.

We would like to thank the Ohio Department of Higher Education and the Ohio Higher Education Innovation Grant program reviewers for the opportunity to submit this proposal. We look forward to implementing this project to increase both efficiency and student success in Ohio’s community colleges across the state. Please do not hesitate to reach out with any questions or points of clarification related to the proposal. I can be reached by email to mbeverage@lakelandcc.edu or by phone at 440-525-7177.

Sincerely,



Dr. Morris Beverage
President

I. Executive Summary

The partnership of 18 community colleges with the Ohio Association of Community Colleges (OACC) and Ad Astra Information Systems proposes the “Pathways to Careers: Leveraging Data Analytics to Improve Efficiency and Increase Student Success” project to the Ohio Higher Education Innovation Grant Program. Funding granted would lead to a multi-faceted, multi-campus reform of course scheduling, resource allocation and alignment of programs with workforce demand and would support centralized project management and institutional research (IR) capacity.

The Pathways to Careers project is an example of the innovation and inter-institutional collaboration that was encouraged in the final recommendations of the Governor’s Ohio Task Force on Affordability and Efficiency in Higher Education. Specifically, this partnership addresses two recommendations in the task force’s final report: (1) Optimized Space Utilization and (2) Improved Time to Degree. Highlighting Stark State’s successful use of this platform as a best practice, the Task Force’s recommendations referenced Ad Astra’s Platinum Analytics tool as a way to improve scheduling and optimize space utilization.

National research indicates that most community colleges are not delivering courses efficiently. Few institutions manage to balance course offerings with student demand. Overall class section sizes at most institutions are either well below enrollment caps, overfilled, or closed to students who need them. Classrooms are used only forty percent of available hours, and, when classrooms are in use, only sixty percent of the seats are typically used (EAB, “Running the Academy by the Numbers”). The common practice of “rolling over” the previous year’s schedule means repeating inefficiencies from year to year.

Ad Astra’s Platinum Analytics tool extracts data from the student information and degree planner systems installed on each campus to give an institution the most accurate prediction of course demand well before the registration process begins. Campuses will no longer “roll over” last year’s schedule; they will now have the ability to rebuild the schedule anew based on the sequence of courses that enrolled students need to graduate. Platinum Analytics will provide campuses with critical data to help them move to a student-centered course schedule that considers student availability and the fastest sequence to degree.

The partnership also seeks to increase capacity for comprehension of labor market information (LMI) and linkages to program review and development, career counseling and alignment of pathways to Ohio’s workforce needs. This capacity will be achieved through the purchase of proprietary software tools to complement data available through Ohio Means Jobs and the centralized human resource expertise at the OACC for understanding and applying LMI. The services offered will be modeled on the work of Lorain County Community College to connect students and staff to the resources available through Ohiomeansjobs.com and other valuable LMI tools.

There will be a significant return on Ohio’s investment in this project. To support the collaboration, Ad Astra will provide a discount of 40% representing a total savings of \$764,000. Over the two-year project Ad Astra estimates \$6,799,000 in instructional cost savings across the partner colleges. This calculation is based on results achieved at Stark State and other campuses that have implemented this change. A portion of the cost savings generated should be allocated to institutionalizing the process in subsequent years to sustain reform. In addition to increasing efficiency, this initiative will positively impact retention, persistence, and completion. Ad Astra projects an increase of 5% - 7% in average student credit hour load. Over the course of a student’s academic pathway, the increase in credit hours taken each term will also serve to shorten time to completion.

Students and employers are the ultimate beneficiaries of the proposed initiative as the data analytics influence partner colleges to adopt policies and practices that will lead to improved student outcomes. The Ad Astra and LMI tools will support colleges in designing more efficient pathways to in-demand jobs.

II. Project Narrative

1. Project Design

a. *Narrative description*

The partnership of 18 community colleges, the Ohio Association of Community Colleges, and Ad Astra Information Systems proposes the “Pathways to Careers: Leveraging Data Analytics to Improve Efficiency and Increase Student Success” innovation to address both educational and economic efficiency opportunities. The partnership is seeking resources to support redesign of course scheduling processes as well as academic advising and mapping processes that are grounded in pathways leading to careers. The partners intend to achieve efficiencies and increase the number of students getting onto a pathway to a career and shortening the time to completion.

Pathways to Careers is designed on the premise that higher education can no longer treat the challenges of managing operational costs and improving student success as separate issues. Robert Zemsky, Director of the University of Pennsylvania’s Institute for Research on Higher Education, has argued that colleges and universities must link strategies for managing costs with strategies for improving student attainment rates. Because much of an institution’s resources are invested in support of the curriculum (i.e., instructional salaries tied to the course schedule), a college or university may significantly reduce costs by increasing curricular efficiency, removing scheduling bottlenecks, and eliminating unnecessary courses from the schedule. And because students’ progress to degree depends on their completing courses in the right sequence and on time, a college may significantly increase its student success rates by developing a more student-centered, data-informed course scheduling process.

Managing costs and improving student success are two sides of the same coin, and increasing the efficiency of course scheduling is critical to both sides. The course scheduling process either allows or prevents student access to the courses they need to complete their degrees. It is also the process that allocates the most expensive and valuable resources on campus: instructional salaries and facilities. This project includes a two-year commitment to Ad Astra to help institutions optimize their schedule; realize instructional cost savings; impact time to degree, retention, and completion rates; and develop sustainable policies and procedures for course scheduling beyond project completion. Through the completion of this project, each campus will better understand the metrics that should be monitored regularly for optimal course scheduling.

Like most community colleges, the partner institutions roll schedules from year to year instead of building the schedule anew based on analysis of student need and resource alignment. The 18 institutions in the partnership are committed to improving the course scheduling process to manage existing resources more effectively by creating student-centered course schedules that improve student outcomes. However, they are limited by a lack of data to make meaningful improvements. Important information about the courses that current students need to complete their degrees on time and the cost of specific academic resources is not readily accessible from the student information systems.

The staff team comprised of the Project Director and Research Analyst at the OACC will coordinate the course scheduling redesign process and support the colleges in review and implementation of recommendations from Ad Astra. Leads from each college will be part of a learning community to monitor progress and share best practices.

In addition to strategic course scheduling, the partnership seeks to increase capacity for comprehension of labor market information (LMI) and linkages to program review and development as well as career counseling and academic advising. This capacity will be achieved through purchase of proprietary

software tools to complement data available through Ohio Means Jobs and centralized human resource expertise at the OACC for understanding and applying LMI. This centralized capacity can service OACC colleges in the following ways:

- Answer direct requests, building on a pilot “ticketing” system for LMI in place since 2014
- Compile template reports by college service region to better customize information for OACC member colleges
- Provide trainings (in-person and webinar) for understanding of LMI and integration into guided pathways and the completion agenda
- Collaborate with ODFJS, ODHE and/or OERC to provide better data on graduate wage and placement outcomes
- Provide direct software access for researchers willing to travel to Columbus

Providing access to the Ad Astra and LMI tools will support colleges in designing more efficient pathways to in-demand jobs. The proposed goals include an increase in section fill rates, increase in the average credit hours per student, reduction in credit hours for certificate and associate degree graduates, and shortened time to completion.

While IR officers may be the main target for developing competency, they are not the only stakeholder group involved. This project should likewise disseminate data and information to help support faculty, career counselors, and advisors. As a model for the state, Lorain County Community College has deeply embedded LMI from OMJ and proprietary sources within its completion agenda strategies including:

- Orientation for staff, faculty and students
- Information about in-demand jobs during the “career conversation” for student intake
- Integrating information from all available sources to inform development of program and career pathways for undecided students

Lorain County Community College LMI Model

LCCC’s Completion Agenda has driven numerous changes to enhance student success and ensure early connections to careers. Some of these changes are designed to connect students and staff to the resources available through OhioMeansJobs.com and other valuable LMI information. To that end LCCC has initiated the following:

- (1) Orientation for staff, faculty, and students on the utilization of OhioMeansJobs.com
 - a. LCCC’s Career Services serves as an OMJ-LC Satellite site.
 - b. An orientation to OMJ.com was incorporated into the training for new Student Success Coaches, Career and Academic Advisors and Counselors and Career Services staff.
 - c. Embedded the use of OhioMeansJobs.com into LCCC’s first year experience courses. This three credit hour course is designed to introduce valuable resources and to teach strategies for creating success in college and in life and improving career and academic performance.
- (2) Information about in-demand jobs during the career conversation.
 - a. LCCC redesigned its front-end services for new students to give them a “Career Advantage”.
 - b. LCCC uses EMSI Career Coach to connect students and faculty to detailed Labor Market Information (LMI) information linked directly to LCCC’s Programs of Study and those offered through LCCC’s University Partnerships. Recently 25 Career and Academic Advisors and other LCCC Staff completed the Advanced Career Coach Certification training. This training provided in-depth explanation of how labor market information (LMI) works, workflows in Career Coach, and look into Career Coach data sources.

- c. LCCC uses OhioMeansJobs.com "In Demand Careers" occupation information combined with cutting edge analytics like Burning Glass, EMSI and CIVATAS to ensure that curricular changes and program development align with labor market and workforce trends.
- d. LCCC uses detailed labor market information pulled from Ohio Means Jobs, Burning Glass, and EMSI to inform the development of the 9 Program and Career Pathways for undecided students along with new program and course development.

Appendix A includes the logic model to illustrate the flow from inputs and outputs to both intermediate and long term outcomes for the project.

b. Focus on consolidating services

Lakeland Community College will sub-contract with the Ohio Association of Community College (OACC) to carry out the day to day management and operations of the project. The 18 institutions in the partnership are committed to improving the course scheduling process to manage existing resources more effectively by creating student-centered course schedules that improve student outcomes. However, they are limited by a lack of data to make meaningful improvements in the course schedule. Important information about the courses that current students need to complete their degrees on time, and the cost of specific academic resources, is not readily accessible from the student information system database. The institutions in this project do not have the staffing in their institutional research and registrar offices to conduct the kind of analysis necessary to overhaul the course scheduling process. It is very difficult to address these issues without extensive data analysis and comparative benchmarks. The Pathways to Careers Project Director and Research Analyst will work hand-in-hand with the educational consultants at Ad Astra to provide this capacity to the colleges.

In addition to the consulting time, Ad Astra will provide a discount of 40% off the list price for the consortium of participating colleges. This is a savings of \$764,000 to the 18 colleges (see Appendix B: Pricing Structure).

The labor market data strategy brings to scale a shared services pilot project underway since the spring of 2014. Through this project, the OACC worked with EMSI to purchase a centralized license to their economic modeling research software. It developed a ticketing system whereby colleges could submit LMI requests and receive back customized reports and analysis through a contracted EMSI expert who also serves in an OACC IR office. Burning Glass will be added to the suite of tools used by the Project Director and Research Analyst. Together the annual cost for EMSI and Burning Glass for up to 10 users in the state office is approximately \$60,000. Investing in these tools in a central office with capacity to run reports and provide actionable data to the colleges saves the individual campuses significant resources.

Another challenge the partnership seeks to address is the lack of uniformity in accessing and using wage and placement data from the Ohio Department of Job and Family Services (ODJFS). Data are available from ODJFS, but it takes a level of expertise to understand and manipulate the very complex files that are provided. The process is also complicated by privacy concerns. The project would develop a more centralized approach to at a minimum provide technical training to help individual colleges access and understand the data.

c. How will the innovation address academic achievement?

This project is designed to scale the achievements realized at Stark State College across the network of 18 partner colleges. The attachments to the proposal include the Stark case study developed by Ad

Astra “Growth and Enrollment Fluctuations Magnify the Need for Strategic Scheduling.” Of particular note are the academic achievements:

- Average student credit hours up 6% (from 7.7 to 8.2 per student)
- Average velocity to completion increased by 0.2 years

Appendix C includes a return on investment (ROI) model developed by Ad Astra to illustrate the expected impact on students at each partner college. As a result of Ad Astra’s previous work, an increase in average student credit hour load is a metric that typically increases. The model estimates the average student credit hour load at 9 and assumes a 5-7% percent increase based on campus size and data from existing clients. This is an important metric because it not only improves time to completion, but also yields more tuition revenue for the institution.

All 23 of the OACC’s member colleges are engaged in the Student Success Leadership Institute to help develop a “guided pathways” approach, which presents courses in the context of highly structured, educationally coherent program maps that align with students’ goals for careers and further education. This contrasts to the “cafeteria” approach of little upfront career and college planning, and paths that are unclear and poorly aligned with end goals. This requires OACC colleges to ask key questions:

- *Are our programs designed to guide and prepare students to enter further education and employment in fields of importance to our region?*
- *Are further education and employment targets clearly specified for every program?*
- *How clearly are our programs mapped out? Can a student attain a work-ready certificate as a first step?*

The proposed Pathways to Careers initiative will allow colleges to take the first steps in reviewing program offerings and then provide clear localized data to incoming students. Goals for academic achievement over the two-year project include:

- Colleges develop processes to help guide incoming students on local labor market
- Colleges combine programs of study into meta-majors

Over the next five years, it is expected that all colleges will conduct comprehensive program reviews with an increased focus on LMI.

Table 1: Summary of academic achievement goals

Academic achievement goals	Two-Year	Three-Year	Five-Year
	<ul style="list-style-type: none"> • Average student credit hours up 5-7% • Increase in first term credits attempted (baseline 18.8% of students attempt 15+ credits) • Increase in year one credit attainment (baseline 34.1% of full-time students earn 24+ credits in the first year and 34.5% of part-time student earn 12+ credits) • Average velocity to completion increased 	<ul style="list-style-type: none"> • Increase in on-time completion of certificates and degrees • Increase in number of students reaching 12, 24, and 36 credit hour benchmarks (success points in PBF model) • Increased adoption of LMI in program review and new program and course development 	<ul style="list-style-type: none"> • Decrease in average number of credit hours taken by certificate and associate degree graduates (baseline 47.2 credits for certificates and 80.8 credits for associate degrees) • Decrease in the average time to associate degree completion (baseline is 4.3 years)

	<ul style="list-style-type: none"> • Increase in number of students with an academic plan that includes strategic scheduling and integration of LMI • Colleges begin to combine programs of study into meta-majors • Colleges develop processes to help guide incoming students on local labor market 		<ul style="list-style-type: none"> • All colleges will conduct comprehensive program reviews with an increased focus on LMI • All students receive guidance on local labor market
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Data source: Ohio Department of Higher Education (ODHE) "State Overview Progress and Completion Report", January 2016 (Fall 2012 cohort)

d. How will the innovation address economic efficiency?

In addition to the academic achievements described above, Stark State has saved approximately \$2 million in instructional costs and the overall tuition yield improved by \$1.3 million. The model in Appendix C includes the potential annual return on investment (ROI) on this project for each of the schools individually and for the partnership as a whole. Ad Astra used Stark State as a reference point for their size tier and used other clients in the peer database Higher Education Scheduling Index™ as a reference point for schools in the other size tiers.

For the ROI model Ad Astra estimated the average number of sections taught based on campus size. The model assumes that each institution would identify 20% of the sections currently taught as Reduction Candidates. This has been consistent with client colleges in Ad Astra's HESI database. It was also assumed that campuses would only take action on half of the Reduction Candidates identified. That number multiplied by an average adjunct instructional cost determines the estimated instructional cost savings of \$6,799,000.

The LMI and analysis provided to partners will facilitate the development of pathways to in-demand jobs as well as more effective evaluation of opportunities for program sharing. The OACC has already conducted LMI reviews for Northwest State and Terra State regarding new combined areas and has provided data for the regional IT initiative between Cuyahoga, Lorain and Lakeland community colleges. Given the difficulty of launching brand new programs in allied health, Columbus State and North Central are reviewing data to determine viability of program sharing for certain disciplines such as physical therapy assistant.

In response to resource limitations as well as the statewide Affordability and Efficiency initiative, more and more colleges will be looking to program share. There needs to be customized local data to assist colleges as they consider these decisions. More in general, this centralized competency is going to reduce the need for colleges to individually invest in these expensive proprietary tools. They will have a central resource and expertise for both regular and ad hoc reporting. Finally, this could be a great service for helping the co-located campuses strategize partnerships, such as discussions between Ohio State Mansfield and North Central for a potential pathway for engineering.

Goals for economic efficiency over the two-year project period include:

- Increase in number of LMI data requests overall and specifically related to program sharing

- Standardized reports on LMI (e.g., by college service district) developed and sent to OACC colleges on a routine basis

Over the next five years, the goal is to see more program sharing arrangements across Ohio’s community colleges. In addition, the partners anticipate an increase in the number of certificate and associate degree graduates in high-demand fields as a results of program review based on LMI analysis.

Table 2: Summary of economic efficiency goals

Economic efficiency goals	Two-Year	Three-Year & Five-Year
	<ul style="list-style-type: none"> • Instructional cost savings achieved through reduction of course sections • Improved curricular efficiency • Removal of scheduling bottlenecks • Elimination of unnecessary courses from the schedule • Increase in number of LMI requests processed from partner colleges • Increase in number of LMI data requests specific to program sharing • Standardized reports on LMI (e.g., by college service district) developed and sent to OACC colleges on a routine basis • New program sharing arrangements across Ohio’s community colleges 	<ul style="list-style-type: none"> • Sustained instructional cost savings achieved through reduction of course sections • Continued growth in program sharing arrangements • Increase in the number of certificate and associate degree graduates in high-demand fields as a result of program review based on LMI analysis

e. How and why is collaboration critical to program success?

The attachments to this proposal include the commitment letter from the presidents of the partner institutions as well as support letters from the presidents of OACC, Ad Astra, and Achieving the Dream. The level of interest in the project and the number of partners speaks to the demand for collaborative initiatives that provide resources to the colleges and generate cost savings. Statewide collaborations to share best practices and scale innovations are critical to supporting change at the campus level. According to the national American Association of Community Colleges’ (AACC) Pathways Institute:

“Now there is a striking convergence of research and lessons of experience, as [community college leaders] and their organizations have come to the shared understanding that progress, while evident in some places, is too slow; that the favored solutions of the past decade, while often necessary components of change, do not adequately address the magnitude of the challenges community colleges and their students face; and that typically, the changes thus far achieved have not been fundamental enough—and certainly not scaled enough—to achieve the improvements in completion of college credentials with strong labor market value, especially among low-income students and students of color, that are necessary to reclaim the American Dream.”

To address this challenge of bringing improvements to scale, the OACC received grant support from the Bill and Melinda Gates Foundation and the Great Lakes Higher Education Guaranty Corporation to develop the Student Success Leadership Institute (SSLI). This program has been designed to provide intensive support for colleges ready to make transformational changes in their policies and practices. The

OACC's Student Success Center and team of national partners are taking the lessons learned from over a decade of student success research including Completion by Design and are localizing it for the Ohio context.

The SSLI is aligned with the timeline for the campus completion plans called for in Ohio House Bill 59. The first completion plans were due in June of 2014 and now must be updated and submitted by June 30, 2016. The SSLI focuses on structured pathways reform within the performance-based funding environment and will also highlight effective advising and career counseling strategies to align with the Governor's priorities for higher education reform in Ohio. Teams of campus leaders are receiving professional development around guided pathways, performance-based funding, developmental education reform, college advising and career counseling models, strategies for engaging adult learners, faculty engagement, and change management. All 23 of Ohio's community colleges are engaged in the SSLI. Having the student success teams mobilized and gathering on a regular basis will open opportunities for integrating the Pathways to Careers project into the institutional student success agenda and completion plans.

Ohio's community college IR offices are struggling to meet the demand for providing data to support the student success agenda and data-driven operations. The national Association for Institutional Research (AIR) studies these challenges across the country and has recently released a *Statement of Aspirational Practice for Institutional Research* which included the following:

"Senior leaders have been, and will continue to be, priority consumers of data and information provided by the institutional research function. They are not, however, the only decision makers who impact an institution's achievement of its mission. Other decision makers include students shaping their own experiences, faculty shaping their teaching and interactions with students, and staff shaping program designs and direct interactions with students. Top-down policies and structures alone do not ensure informed choices and commitments to successful pathways. Broadly engaging all stakeholders in data-informed decisions (tactical, operational, and strategic) is essential for institutional excellence."

<http://www.airweb.org/Resources/ImprovingAndTransformingPostsecondaryEducation/Documents/Statement%20of%20Aspirational%20Practice%20for%20IR%20Report.pdf>

Collaboration and shared service models to support institutional research are critical as campuses struggle with limited capacity. Knowledge of how to reform scheduling processes and maximize available labor market data is not a historical strength within the field of institutional research. This has become a more recent phenomenon and colleges simply don't have the luxury of employing LMI experts. Even the largest OACC colleges have requested help through the pilot. The centralized capacity can serve to both bridge this gap and develop the talent within the OACC's IR network. The OACC Research and Evaluation Committee has an update related to LMI at every meeting which has led to an increase in the use of LMI data on campus.

2. Project Rationale

a. Research basis and/or prior experiences with relevant data that support this innovation.

The Center for Community College Student Engagement (CCCSE) identified 13 promising practices with emerging evidence of success from research involving multiple colleges with multiple semesters of data showing improvement on metrics such as retention and course completion. The practices are outlined in the Center's 2012 national report, *A Matter of Degrees: Promising Practices for Community College*

Student Success” and include Academic Goal Setting and Planning (https://www.ccsse.org/docs/Matter_of_Degrees.pdf).

We know there is opportunity for improvement in the practice of “Academic Goal Setting and Planning” based on finding from the OACC Student Policies and Procedures Survey conducted in the spring of 2015. Out of 21 responding colleges, only 6 require an academic plan for all students.

Table 3: Academic Plan Requirements

<i>Does your institution require students to develop an academic plan?</i>	<i>Count</i>
Yes, for all students	6
Yes, for first-time, degree seeking students	4
Yes, for certain academic divisions, students on scholarships, students on financial aid or academic probation/suspension	4
Yes, for all degree seeking students	1
No	6

The Pathways to Careers project was designed to support OACC member colleges in bringing best practices to scale and integrating existing data sources.

National research indicates that, regardless of the size of the institution, most community colleges are not delivering courses efficiently. Few institutions manage to balance course offerings with student demand: overall class section sizes at most institutions are either well below enrollment caps, overfilled, or closed to students who need them; classrooms are used only forty percent of available hours, and, when classrooms are in use, only sixty percent of the seats are typically used (EAB, “Running the Academy by the Numbers”, http://accesstocompletion.com/wpcontent/uploads/2014/05/Running_the_Academy_by_the-Numbers.pdf). The common practice of “rolling over” the previous year’s schedule means repeating inefficiencies from year to year. Like most community colleges, the Ohio partner institutions in this project roll schedules from year to year, instead of building the schedule anew based on an analysis of student need and resource alignment.

For almost twenty years, Ad Astra Information Systems has worked with hundreds of colleges and universities to help improve the course scheduling process. While several companies provide course scheduling software for higher education institutions, Ad Astra is the only company that has developed a sophisticated method of mining data from student information systems to help colleges improve student success and lower costs to the institution and the student.

As an example, the Kentucky Community College and Technical College System, a 16 college system, began their reform of course and resource scheduling with Ad Astra in 2010. This intervention has saved 1 of the 16 campuses \$3.4 million dollars in projected instructional cost (cost avoidance) and improvements in scheduling efficiency has saved almost \$2 million in direct instructional costs. Below are examples of improved metrics that drove these savings:

- Section fill rate increased from 58.5% to 64.81%
- A 48% increase in the average credit hours per student since 2011

According to a 2016 report published by the Bill & Melinda Gates Foundation:

“Currently, higher education’s data “infrastructure” is a set of disconnected systems, all of which were created for their own purposes at distinct points in time, but none of which are presently able to fully provide the answers we need to pressing questions about key student outcomes. Data collection and reporting is inconsistent, duplicative, or incomplete across these systems, which increases burden for institutions...The result: postsecondary education is data rich, but information poor. It’s time for a system reboot.”

(Engle, “Answering the Call: Institutions and States Lead the Way Toward Better Measures of Postsecondary Performance”, <http://postsecondary.gatesfoundation.org/wp-content/uploads/2016/02/AnsweringtheCall.pdf>)

The Pathways to Careers project will leverage data analytics to inform the development of academic plans incorporating both strategic scheduling and LMI. Seventeen of 23 OACC member colleges have submitted LMI requests during the last two years, many on a routine basis. Key highlights of the project include the following:

- Multiple colleges have requested reports on all their programs for extensive program analyses.
- One college requested data to help justify demand for opening a suburban outreach center.
- One college (Lakeland) has become such a super-user that it has developed a preferred reporting format to more efficiently summarize key points.
- Colleges have requested joint reports for collaboration and consolidation efforts.
- OACC has sponsored free trainings for college IR staff to better understand LMI, including a training sponsored by EMSI personnel.
- OACC collaborated with OERC to compile a pilot report on wage/placement outcomes of recent graduates.

The partnership recommends a blending of multiple data sources to help provide customized solutions for various community colleges, which sometimes need to adjust regions to match student populations. OMJ and other data from ODJFS’ LMI shop is crucial and forms the backbone of data. The state tools are really good at providing data in pre-packaged sets such as JobsOhio regions, as well as helping identify target “in-demand” jobs for state policy decisions. But Ohio’s LMI shop doesn’t have the capacity to meet the various needs of 23 community colleges with regions that sometimes shift according to situation.

Other challenges include:

- Suppressions: Smaller areas often have “data holes” due to industry privacy rules
- Missing jobs from self-employed and other proprietors
- Dated information

EMSI takes from 90 data sources, including Ohio LMI. But it applies technology allowing for queries down to the ZIP code level and applying any combination of geographies (ZIP codes, counties, MSAs). It can also bring in border counties of other states. Moreover, it applies algorithms to un-suppress jobs as well as calculate self-employment, which is huge for occupations like web developers and other IT jobs

In addition to EMSI, the project intends to look at job postings through Burning Glass. Job posting analytics provide key supplemental data to traditional LMI. While LMI is a good map for structure and overall shape (point A to B), job postings are good for fine details such as:

- Who is hiring?
- What positions are they looking for?

- What skills are being requested?
- How much effort is going into attracting talent? (If there are multiple postings for the same job, Burning Glass measures that as an intensity for effort and demand.)

The job postings data can draw attention to relevant certifications, skill-sets, etc. that colleges can use to inform program development.

Finally, the performance-based funding formula for Ohio’s community colleges provides additional incentives for change at the institutional level and is accelerating the adoption of best practices. The funding model consists of three overarching components: course completion, student success points and completion milestones. The course completion and completion milestone metrics are weighted by selected access categories intended to support the ongoing access mission of community colleges for certain populations that are underserved and whose increased success is essential to the attainment goals of the state. Additionally, the course completions and completion milestones maintain the long-established cost-based model (using state-wide averages) to recognize some courses and degree programs have higher associated costs.

b. Impact for students a) academically and b) financially.

Students will benefit academically as success rates increase with shorter and clearer paths to completion and also financially as they enter more quickly into high-demand jobs. According to the AIR statement:

“In this aspirational vision of institutional research, data and analytics are transparent and are intentionally focused on improving the student experience. Many of the past successes in institutional research have focused on students—enrollment management, retention, engagement, and graduation rates. Yet that focus can be further enhanced by intentionally grounding institutional research initiatives and reports in a student-focused perspective. A key question to be addressed in all institutional research is “how does this exploration serve students?”

Every student enrolled at a community college or university is engaged in the course scheduling process. This process either allows or prevents student access to the courses they need to complete their degrees in a timely fashion. The modeling is based on the 61,594 FTE students across the partner colleges in 2014. Students’ progress to degree depends on completing courses in the right sequence and on time. Employing a student-centered and data-informed course scheduling process will lead to significant increases in student success rates.

The project also aspires for all students entering a pathway to be exposed to LMI. When campuses embark on program review or development, stakeholders should be asking what is the local job demand according to various sources and what does the supply look like. For timely completion, research shows it is critical to require early declaration of interest area (meta-major) or major. Research from Georgia State University showed that students who changed majors earlier (first term) were more successful than those who waited. This has been partly addressed through new Title-IV rules, but the new rules still allow students to change majors. We need students to have access to reliable, local data to make earlier decisions. College Credit Plus students should also be exposed to these data as part of their high school pathways.

c. How does this program provide a new opportunity or model for the state?

This program is an example of the innovation and inter-institutional collaboration that was encouraged final recommendations Governor’s Ohio Task Force on Affordability and Efficiency in Higher Education.

Specifically, this partnership addresses two of the major recommendations made in the task force's final report:

- (1) Optimized Space Utilization: The report recommended that each institution study the utilization of campus to "employ a system that encourages optimization of physical spaces;" and,
- (2) Improved Time to Degree: The report recommended that our public colleges and universities work to improve time to degree for students through the use of "smart scheduling to ensure they are on track to meet their program requirements."

Ad Astra's Platinum Analytics tool was cited as an example in the recommendation related to space utilization on page 26 of the report: "Stark State College has employed a space utilization system since 2014 that has allowed the institution to improve course schedules and building utilization. This investment of less than \$50,000 a year resulted in an 11 percent improvement in lecture-room utilization from spring 2014 to spring 2015. The system also is used to evaluate course offerings each term to ensure that an optimal number of sections are offered to meet student demand." The collaboration of the 18 partner institutions and the OACC to implement this recommendation allows for discounted pricing, centralized capacity, and project support and implementation that is both accelerated and improved by the sharing of best practices.

As a result of Ohio's decentralized model of higher education, we lack many of the centralized resources that "system" states have. This partnership allows us to adopt some of the benefits of a "system" approach while maintaining the cultural heritage of trustee-governed campuses. While centralizing this expertise, we are also building capacity amongst the campuses who will better understand how to employ strategic scheduling and apply LMI and wage data outcomes. There are key issues and metrics (such as job concentration or shift share competitive against national trends) that could significantly inform campus decision-makers, but they need professional development to better understand how to interpret the data. As the colleges are embracing the concepts of guided pathways this is going to help provide uniform evidence for helping students make informed, early decisions on exploring careers and programs of study.

d. Commitment to project success

Ad Astra has generously provided a discount of 40% off the list price for the consortium of participating colleges. This represents a financial commitment of \$764,000 (see Appendix B: Pricing Structure). The OACC will provide in-kind support with staff time as described in section three.

In lieu of a monetary investment, the colleges are being asked to focus resources on the implementation and adoption of the technology and data components of the project. They will also focus on leadership and organizational structure to implement new processes, best practices and lead organizational change that will contribute to the sustainability of the project. Each campus will identify and assign the following campus stakeholders to a new working committee that will be responsible for the successful implementation of this project. Below is a list of stakeholders that are recommended to be represented on this committee:

- Chief Academic Officer
- Institutional Research
- Academic Department Representation
- Student Success/ Advising Officer
- Technology & Systems or Registrar
- Ad Astra Consultant

The working committee will meet on a regular basis over the two-year period and focus on the following elements:

- Analysis of baseline metrics, immediate and long term opportunity
- Goal setting
- Implementation of communication strategy
- Centralized vetting of analytics data and recommendations to be applied to the academic schedule
- Evaluation of program alignment with workforce demand
- Liaison to academic units and faculty
- Longitudinal evaluation of the project success
 - Higher Education Scheduling Index (HESI™) benchmark
 - Impact analysis
- Participation in a quarterly best practices sharing workshop organized by OACC and Ad Astra and conducted by webinar

The in-kind contribution of staff time is estimated at a collective total of 4 FTE over the 18 participating colleges.

There is synergy between this initiative and the completion agenda as well as institutional and state efforts to achieve efficiencies. As described previously the colleges are engaged in and committed to pathways redesign work through the OACC's SSLI project.

e. Sustainability

This project includes a two-year commitment to Ad Astra to help institutions optimize their schedule; realize instructional cost savings; impact time to degree, retention, and completion rates; and develop sustainable policies and procedures for course scheduling beyond project completion. Through the completion of this project, each campus will better understand the metrics that should be monitored regularly for optimal course scheduling.

This project will add capacity and resources to work that has already been sustained through the OACC's Student Success Center and the Center's team of staff and consultants. The goals of the Center are to 1) support the colleges as they reform developmental education, 2) build institutional capacity for data-driven decision-making, and 3) scale evidence-based practices. The Pathways to Careers initiative is directly tied to building IR capacity and scaling effective practices. The Center has successfully sought funding for a variety of projects that are resource-intensive and require professional development and coordination up front in order to be sustained at the institutions over time. An example of this was the project in 2015 to provide data analysis and training on the initiative to reduce the credit hours in academic programs to 65 or less.

For this proposal it was decided to request funding to support a two-year project to ensure full implementation of the reform with adequate time to navigate and manage cultural change and curriculum refinement. The timeline will also allow for the development of capacity and expertise on the campuses and at OACC to ensure sustainability.

The Ad Astra software is being funding one-third in kind by the vendor and it is being requested that the other two-thirds of the cost, \$1,146,000, be funded by this grant. This leaves the 18 campuses included in the project free of monetary commitment for the first two years. The campuses are committed to investing human capital to build capacity to consume and respond to the data presented, change business process and to provide organizational leadership to hold the campus accountable to change.

At the end of two years the campuses will be responsible for renewing any software subscriptions. Moving forward the costs should be funded by the savings generated in the previous years. The ongoing

use of the technology implemented should be self-sustaining as it generates efficiencies that lead to costs savings and additional tuition revenue for the campuses and it advances persistence and completion rates which align with the performance funding model.

The OACC will explore options for sustaining the IR capacity and LMI tools with the OACC Presidents and other stakeholders. Using data for decision making and getting more students onto pathways to careers is a key focus of the Student Success Center and a priority of the Student Success Council. The long-term sustainability of this work could include models with fee for service and/or shared, centralized capacity in value added areas such as LMI analysis. It is important to note that the OACC's Governing Board voted on a member dues increase in June 2015. Sustainability of the Student Success Center and funding for the Executive Director position were included as part of the increase in dues. Beyond the two-year grant period, the Center is committed to securing funding for the Director level position.

3. Project Plan

a. Roles and responsibilities of key staff members

Lakeland Community College is the fiscal agent for the Ohio Association of Community College (OACC) and will sub-contract with the OACC to carry out the management and operations of the project. The OACC, founded in 1993, serves as an advocacy organization on behalf of Ohio's community colleges. Our membership includes the presidents and trustees of all 23 community colleges in Ohio. The trustees, presidents and staff of the OACC are dedicated to the advancement and implementation of sound policy and initiatives that work to ensure the success of the more than 300,000 community college students in Ohio. The OACC supports the mission of the state's 23 community colleges to provide programming in technical education, lower-division baccalaureate education, developmental education, and continuing education in our local communities. Many of the OACC's initiatives have focused on increasing college completion rates as a method of ensuring the future success of our community college students.

The OACC has experience managing grants, convening the colleges, and supporting innovation. In 2012, the OACC applied for and received a three-year grant from the Kresge Foundation to create one of the first Student Success Centers in the country. The OACC has received three grants from the Bill & Melinda Gates Foundation to support the Completion by Design (CbD) state policy work and the Driving Success Initiative (DSI). The OACC also leads the statewide AmeriCorps College Completion Coaches program with 36 coaches providing hands-on support to students at 16 member colleges. Over the last year the OACC has worked to coordinate the activities and outcomes of each of these initiatives under the Student Success Center umbrella with a cohesive student success agenda designed to inform and benefit all of the OACC's members.

The OACC will hire a Project Director as well as a Research Analyst to manage the project. Overarching leadership will be provided by Jack Hershey, OACC President & CEO. Hershey will update the college presidents about project activities during their monthly meetings at the OACC. Oversight of the project implementation and supervision of the staff will be provided by Laura Rittner, Executive Director of the Student Success Center. Dr. Mike Snider, Chief Academic Officer, will provide leadership to the project and serve as a liaison to the chief academic officers' group. Tom Prendergast, consultant, is the state's most proficient user of EMSI and has supported the OACC with LMI analysis for over two years. Tom will be a key advisor to the project staff.

b. Brief biography of key staff members

State finance expert and veteran public higher education advocate Jack Hershey joined the OACC as President and CEO in 2014. Jack came to the OACC after 10 years managing state government affairs at The Ohio State University. He recognizes the critical role community colleges play in training Ohio's workforce for the jobs of tomorrow and is known for his leadership on a series of major innovations affecting the funding, management and performance of state colleges and universities. Jack previously served as staff leader on successful collaborations to produce a unified approach to funding for both the capital and operating budgets for campuses statewide.

Laura Rittner was appointed Executive Director of the OACC Student Success Center in 2015. She began working at the OACC in January 2013 as the Director of Research and Data Analysis. Laura previously worked for Lakeland Community College as the Director of Institutional Research. Laura has been the OACC lead on performance-based funding, the AmeriCorps College Completion Coaches Program, and grants awarded to the OACC by the Bill & Melinda Gates' Foundation.

Dr. Mike Snider, retired Vice President/Provost from Columbus State Community College, has provided leadership to a number of OACC projects and serves as the OACC's Chief Academic Officer. Mike is well-versed in ever-changing academic policies and initiatives as well as barriers to completion for our community college students. Dr. Snider represents the OACC in key stakeholder groups including the community college chief academic officers. He has also represented the OACC on state committees for prior learning assessment, apprenticeship programs, the One-Year Option and competency-based education.

c. Proposed activities and timeline

The project will begin on July 1, 2016 and continue through June 30, 2018. First each college will work with Ad Astra to conduct a Strategic Schedule CheckUp to establish a baseline for operational efficiency, resource utilization and the supply and demand of courses. Astra's specialists will analyze data from each institution's systems based on campus course schedules of the previous five years. They will use a proprietary system of metrics to benchmark current scheduling efficiencies against other Ohio institutions and nationally, document inefficiencies wherever they are found, identify cost savings opportunities, as well as potential areas for right-sizing course offerings by department and program. Once the initial baseline and benchmark analysis is completed, Ad Astra specialists will help institutions quantify the best opportunities to take immediate action. They will help assemble a small working team to develop a framework that will allow the institution to incorporate data into the schedule development process, inform new scheduling policy, and achieve the goals it has set for efficiency and student outcomes.

All institutions will be given interactive, data visualization dashboards that display actionable data for academic operations. This data will also roll up into a comparative dashboard managed by OACC to track these metrics longitudinally and gain insights on the impact of this intervention across all participating campuses. These metrics support a framework for the development and implementation of policy, measurement of improvement, accountability, and transparency. One limitation of the current practice of course scheduling is that faculty, department chairs, and academic leaders do not have shared, consistent data for making critical decisions of courses to offer.

In addition to the establishing a metrics framework for tracking and a baseline each participating campus will implement Ad Astra's Platinum Analytics software platform. This tool extracts data from the student information system and student degree planner systems installed on each campus to give an institution the most accurate prediction of course demand well before the registration process begins. Not only will

the campus leadership align the course schedule and academic resources with predicted student demand but will also help align shape and align curriculum with workforce demand. Campuses will no longer “roll over” last year’s schedule; they will now have the ability to rebuild the schedule anew based on the sequence of courses that enrolled students need to graduate. Platinum Analytics will provide campuses with critical data to help them move to a student-centered course schedule that considers student availability and the fastest sequence to degree.

To support implementation, the OACC will host an annual Strategic Scheduling Summit first in the spring of 2017 and again in the spring of 2018. Teams of five, largely consisting of the campus working committee members, will be invited to attend. In addition, webinars will be offered quarterly for the college leads and working committees.

The EMSI and Burning Glass tools will be available for the two-year length of the project. The OACC will build on the success of the ticketing process and expand the services available. In addition, training will be provided to the OACC Research and Evaluation Committee and other groups throughout the duration of the project. Webinars will be offered on a quarterly basis and reports will be shared as developed.

The project milestones and timeline are summarized in Table 4.

Table 4: Project Milestones

Project Milestones	Fall 2016	Spring 2017	Fall 2017	Spring 2018	2018-2020
Establish Metrics Framework and Baseline					
Optimization of Course Schedule & Resources					
Alignment of Programs with Workforce Demand					
Build IR Capacity at OACC					
Establish Best Practices Based on Outcomes					

4. Project Evaluation

a. Evaluation design

The OACC will develop a formative evaluation to be conducted throughout the program implementation to monitor project success. The goal will be to determine implementation issues, capture early successes, and identify and share best practices across the partner colleges. The project will be adapted to scale what is working well and accommodate unanticipated challenges. The formative evaluation will be carried out by the OACC and project staff and the leads from each partner college will be engaged in the process as well as the review of results.

The OACC will retain an external evaluator to assess the impact of the project in the final summative evaluation at the end of the project. The RFP will be developed and the evaluator will be identified at the outset of the project. This will allow for the evaluation plan to be communicated to partners and for data collection processes to be put into place from the beginning. Both academic achievement and reductions in expenditures will be defined and measured. A summary of the key metrics is presented in Table 5.

The OACC will also monitor college outcomes in the performance-based funding model particularly related to success points and completion milestones. The access categories in the funding model represent certain student populations that are under-served (traditionally-underrepresented and with low success rates) yet whose success is critical to the state meeting its postsecondary attainment needs. The categories support the access mission of community colleges for these students while still maintaining a

focus on success. An added weight will be applied for students within these access categories who successfully achieve the course completion and completion milestone metrics. Identified access categories for FY 2016 and 2017 are as follows:

- Adult: age 25 and older at time of enrollment
- Low-income: Pell-eligible ever in college-career
- Minority: American Indian, Hispanic and African American
- Academically underprepared

Table 5: Key Metrics for Evaluation

Academic Achievement Metrics	Economic Efficiency Metrics
<ul style="list-style-type: none"> • Average student credit hours • First term credits attempted (baseline 18.8% of students attempt 15+ credits) • Year one credit attainment (baseline 34.1% of full-time students earn 24+ credits in the first year and 34.5% of part-time student earn 12+ credits) • Average velocity to completion • Number of students reaching 12, 24, and 36 credit hour benchmarks (success points in PBF model) • Average number of credit hours taken by certificate and associate degree graduates (baseline 47.2 credits for certificates and 80.8 credits for associate degrees) • Average time to associate degree completion (baseline 4.3 years) • Number of students with an academic plan that includes strategic scheduling and integration of LMI • Colleges begin to combine programs of study into meta-majors • Colleges develop processes to help guide incoming students on local labor market • Adoption of LMI in program review and new program and course development • Colleges conduct comprehensive program reviews with an increased focus on LMI • Students receive guidance on local labor market • On-time completion of certificates and degrees 	<ul style="list-style-type: none"> • Instructional cost savings achieved through reduction of course sections • Improved curricular efficiency • Removal of scheduling bottlenecks • Elimination of unnecessary courses from the schedule • Number of LMI requests processed from partner colleges • LMI data requests specific to program sharing • Standardized reports on LMI (e.g., by college service district) developed and sent to OACC colleges on a routine basis • New program sharing arrangements across Ohio's community colleges • Instructional cost savings achieved through reduction of course sections • Growth in program sharing arrangements • Number of certificate and associate degree graduates in high-demand fields as a result of program review based on LMI analysis

b. Ongoing evaluation process

(a) Collecting data:

Ad Astra Information Systems has benchmarked over 140 colleges and universities using the Higher Education Scheduling Index (HESI) metrics framework. The HESI database holds performance metrics from over 140 community colleges and universities. The performance metrics track allocation of faculty and space on these campuses. These metrics allow institutions to gain clarity concerning their resource

allocation and opportunities for improvement. Significantly, the HESI metrics also provide the context for comparing institutional performance to the industry and a sub-set of like institutions.

The attachments include a sample of the efficiency and student friendly metrics provided to colleges. Metrics from the HESI framework include:

- **Enrollment Ratio** - Overall average fill rate for course offerings - calculated as census enrollment divided by enrollment caps (last like term)
- **Balanced Course Ratio** - The percentage of unique courses offered that are balanced with student need - defined as having an Enrollment Ratio between 70% and 95%
- **Overloaded Course Ratio** - The percentage of unique courses offered that are difficult for students to get because they are over-filled relative to student need - defined as having an Enrollment Ratio greater than 95%
- **Underutilized Course Ratio** – The percentage of unique courses offered that are an inefficient use of faculty resources because they are under-filled relative to student need - defined as having an Enrollment Ratio less than 70%
- **Classroom Utilization Standard Week** - The percentage of hours in a standard scheduling week (as defined by each institution's usage patterns) that a typical classroom is in use
- **Classroom Utilization Prime Week** - The percentage of hours in the prime time subset of a scheduling week (as defined by each institution's usage patterns) that a typical classroom is in use
- **Prime Time Compression** - The Prime Time Compression metric represents how compressed a schedule is into prime time, measured as the percentage that prime time utilization is higher than it would be in a schedule evenly spread across the entire standard week
- **Seat Fill Utilization** - The percentage of seats in use (based on section enrollment caps) in a classroom when it is scheduled (Enrollment cap divided by room capacity)
- **Off-Grid Utilization** - The percentage of scheduling using non-standard meeting patterns (i.e. not on-grid meeting patterns) during prime time hours
- **Off-Grid Waste** - The percentage of capacity wasted by scheduling using non-standard meeting patterns (i.e. not on-grid meeting patterns) during prime time hours

Ad Astra also tracks action taken compared to a previous like term schedule and the positive or negative impact that action had on instructional cost, resource utilization, student progress, student time to degree, and tuition revenue yield.

The OACC will track the following data points across all participating colleges using the Higher Education Information (HEI) data system and the ODHE student progress and completion reports:

- Average credit hours per student
- First term credits attempted
- Year one credit attainment
- Time to degree
- Average credit hours upon completion of certificates and associate degrees

The success points and completion milestones in the performance-based funding model include the following and will also be monitored:

- Certificate and degree completions
- Transfer with 12 or more credit hours
- Developmental Education Math Success: Number of students who successfully complete a developmental Math course in the prior year, who subsequently enroll in a college level Math course either in that year or in the current year

- Developmental Education English Success: Number of students who successfully complete a developmental English course in the prior year, who subsequently enroll in a college level English course either in that year or in the current year)
- 12, 24, and 36 Credit Hours: Number of students who achieve the threshold of earning their first 12, 24, and 36 semester credit hours of college level course work at that institution

The OACC will also track the requests and services provided through the LMI analysis including the following data points:

- Number of tickets processed from client colleges
- Number of data requests related to program sharing
- Standardized reports on LMI (e.g., by college service district) sent on routine basis

The colleges will be surveyed annually to collect additional data including how the LMI tools are being used, the number of new program sharing arrangements, and integration of LMI into academic pathways.

(b) Analyzing data:

As described above, the evaluation team will include the OACC and project staff as well as an external evaluator. In addition, the leads from each college will participate in regular review of data on what is working well.

In addition to the project evaluation, the services provided by Ad Astra will include reports from the Higher Education Scheduling Index (HESI) that will suggest a number of opportunities for addressing campus challenges. The HESI will also provide a framework to measure and more effectively manage the highly decentralized model of scheduling employed on campuses today. Reports provided to colleges will highlight many of the best practices in higher education that can lead to improvements in balancing resource utilization, student success, and academic freedom.

(c) Responding to data:

The Project Director will compile data and share with the participating colleges on a quarterly basis. Data will be combined with lessons learned for successful implementation and best practices for communicating and acting on results.

(d) Reporting data to ODHE:

The partners and the OACC will report data to ODHE as requested.

c. Evaluation timeline

The formative evaluation will occur throughout the project. The final summative evaluation will be designed in year one and carried out after the end of year two. The OACC will also monitor success and sustainability at the three and five-year mark.

d. Evaluators

The Project Director will bear primary responsibility for the formative evaluation with leadership provided by Laura Rittner, Executive Director of the OACC Student Success Center. The project plans to retain an external evaluator for the summative evaluation. At the time of submitting the proposal, the evaluator has not yet been identified. The OACC has a cadre of researchers and evaluators that have been engaged

with various grant-funded initiatives. An RFP to evaluate this project will be shared with this group and others.

e. ODHE data collection

The partners and the OACC understand that ODHE will collect data related to the project for three years after the end of the agreement.

IV. Budget & Budget Narrative

a. *Project budget*

<u>Activity</u>	<u>Description/Purpose</u>	<u>Total Cost</u>
<u>Equipment</u>	Computers and office equipment (e.g. phone) for staff	\$6,000
<u>Personnel – Positions</u> <i>Project Director, OACC</i> <i>Research Analyst, OACC</i>	Key staff for project implementation: Project Director @ \$80,000 salary Research Analyst @ \$55,000 salary Benefits rate: 38% Anticipated performance increase in year two: 3%	\$378,189
<u>Facilities</u>	N/A	N/A
<u>Supplies</u>	N/A	N/A
<u>Purchased Services</u>	Ad Astra Platinum Analytics Tool EMSI Analyst and Burning Glass Labor Insight licenses for project staff and consultants (total of up to 10 users)	\$1,146,000 \$32,500 (EMSI) \$88,000 (Burning Glass)
<u>Travel</u>	Project Director and Research Analyst travel to meetings and campus visits	\$10,000
<u>Building Improvements</u>	N/A	N/A
<u>Other (Describe):</u>		
Consultants	IT/programmer support for system integration	\$50,000
Facility Rental	Meeting space for convenings	\$6,000
Meeting Expenses	Food and beverage	\$12,000
Printing	Materials for meetings and campus visits	\$2,000
Conference Call/Webinar	Charges for conference calls, webinar meetings, and access to recordings	\$10,000
Evaluation	External evaluation for project budgeted at approximately 5% of total project budget	\$80,000
Overhead – Administrative	Established overhead fee of 8%	\$145,175
TOTAL	Total cost for all budget items	\$1,965,864

b. *Budget narrative*

Requested grant funds:

Equipment (list by item): Computers and office equipment (e.g. phone) for two project staff @ \$3,000 per staff member = \$6,000

Personnel – Positions:

Individual A- Project Director, OACC: \$80,000 base salary with benefits rate of 38% and anticipated performance increase of 3% in year two = total of \$224,112 over the project

Individual B – Research Analyst, OACC: \$55,000 base salary with benefits rate of 38% and anticipated performance increase of 3% in year two = \$154,077 over the project

Facilities: N/A

Supplies: N/A

Purchased Services:

Ad Astra Platinum Analytics Tool with discount of 40% off the list price (see Appendix B for price sheet for participating colleges); total cost = \$1,146,000

Two-year licenses for LMI tools for project staff and consultants (total of up to 10 users):

EMSI Analyst = \$32,500

Burning Glass Labor Insight = \$88,000

Travel: Mileage reimbursement and hotel stays for Project Director and Research Analyst travel to meetings and campus visits = \$10,000

Building Improvements: N/A

Other (Describe):

Consultants: Ad Astra owns and supports plug and play integration with most all commercial student information and degree audit systems to extract schedule, resource, student and academic program data for analysis. In some instances these interfaces will have to be modified due to campus customization of these systems. For campuses running more obscure or homegrown system data integration will need to be developed. The budget includes a line for IT programming support to handle these challenges. The total budget for IT consultants = \$50,000.

Facility Rental: Rental fees for in-person convenings at \$1,500 per meeting two times per year = \$6,000

Meeting Expenses: Food and beverage to accommodate college teams (up to 5 per college) during in-person meetings two times per year = \$12,000 (100 attendees @ \$30 per person)

Printing: Printing materials for meetings and campus visits = \$2,000

Conference call & Webinar: Charges for conference calls, webinar meetings, and access to recordings = \$10,000

Travel: Reimbursements for travel to campuses conducted by Project Director and Research Analyst = \$10,000

Evaluation: External evaluation for project budgeted at approximately 5% of total project budget = \$80,000

Overhead - Administrative: 8% to cover fiscal management, office space, etc. with 6.75% to OACC and 1.25% to Lakeland Community College = total of \$145,175

The total request for grant funds is \$1,965,864.

In-kind support from the partners:

The total in-kind contribution of staff time is estimated at a collective total of 4 FTE over the 18 participating colleges. This is based on an average salary of \$80,000 with benefits (rate 38%) for four positions = \$441,600

Ad Astra will provide a discount of 40% off the list price for the consortium of participating colleges. The total of this contribution = \$764,000

OACC leadership staff support for the project = \$50,000

V. Appendices

Appendix A: Logic Model

Appendix B: Ad Astra Platinum Analytics Pricing Structure

Appendix C: Ad Astra Return on Investment (ROI) Model

VI. Attachments

Letters of Support:

OACC Presidents Commitment to the Partnership

Jack Hershey, OACC President & CEO

Para Jones, President, Stark State College

Tom Shaver, Founder & CEO, Ad Astra Information Systems

Karen Stout, President & CEO of Achieving the Dream

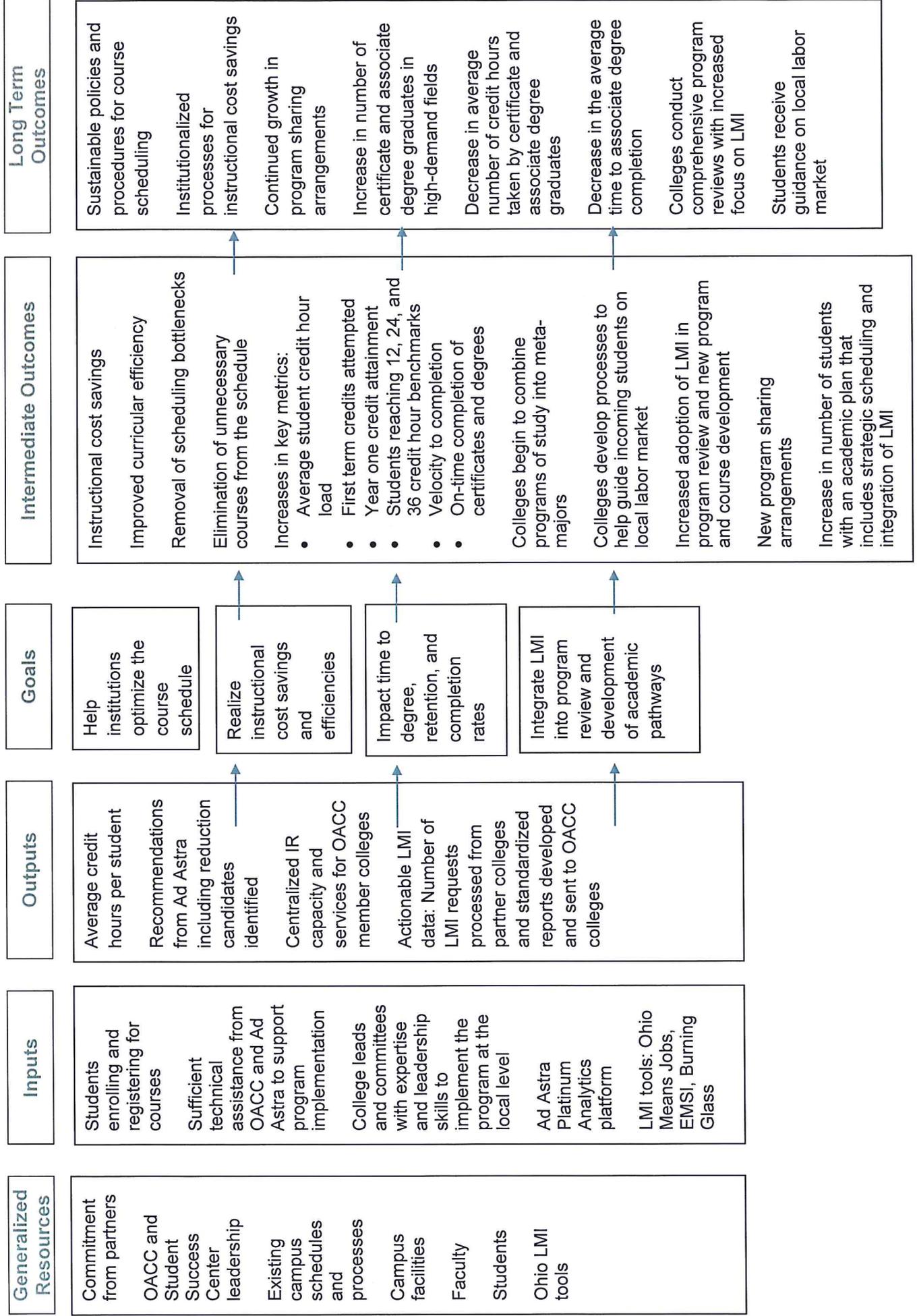
Other:

ODHE Template Cover Page, Budget & Implementation Schedule

Stark State Case Study "Growth and Enrollment Fluctuations Magnify the Need for Strategic Scheduling"

Sample HESI Metrics

Appendix A: Logic Model



Appendix B: Ad Astra Platinum Analytics Pricing Structure

Institution	2014 FTE	Pricing Tier	List Price 2 Year Subscription	Ad Astra Contribution	Grant Contribution 2 Year Total
Belmont Technical College	1,086	Tier 1	\$100,000	\$40,000	\$60,000
Central Ohio Technical College	2,894	Tier 2	\$110,000	\$44,000	\$66,000
Clark State Community College	3,642	Tier 2	\$110,000	\$44,000	\$66,000
Eastern Gateway Community College	2,162	Tier 1	\$100,000	\$40,000	\$60,000
Edison State Community College	1,865	Tier 1	\$100,000	\$40,000	\$60,000
Hocking Technical College	4,113	Tier 2	\$110,000	\$44,000	\$66,000
Lakeland Community College	5,731	Tier 3	\$120,000	\$48,000	\$72,000
Lorain County Community College	7,179	Tier 3	\$120,000	\$48,000	\$72,000
Marion Technical College	1,658	Tier 1	\$100,000	\$40,000	\$60,000
North Central State College	1,825	Tier 1	\$100,000	\$40,000	\$60,000
Northwest State Community College	2,324	Tier 1	\$100,000	\$40,000	\$60,000
Owens State Community College	9,064	Tier 3	\$120,000	\$48,000	\$72,000
Rio Grande Community College	1,569	Tier 1	\$100,000	\$40,000	\$60,000
Southern State Community College	1,894	Tier 1	\$100,000	\$40,000	\$60,000
Stark State College of Technology	8,890	Tier 3	\$120,000	\$48,000	\$72,000
Terra State Community College	2,020	Tier 1	\$100,000	\$40,000	\$60,000
Washington State Community College	1,391	Tier 1	\$100,000	\$40,000	\$60,000
Zane State College	2,287	Tier 1	\$100,000	\$40,000	\$60,000
Community Colleges Total	61,594		\$1,910,000	\$764,000	\$1,146,000

Appendix C: Ad Astra Return on Investment (ROI) Model

Institution	2014 FTE	Pricing Tier	Grant Contribution 2 Year Total	Sections Taught	Reduction Candidates Identified	Action Taken	Instructional Cost Savings	Improvement in Average Student Credit Hour load	ESTIMATED OUTCOMES BASED ON FTE TIER				
Belmont Technical College	1,086	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Central Ohio Technical College	2,894	Tier 2	\$66,000	1550	310	155	\$403,000	7%					
Clark State Community College	3,642	Tier 2	\$66,000	1550	310	155	\$403,000	7%					
Eastern Gateway Community College	2,162	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Edison State Community College	1,865	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Hocking Technical College	4,113	Tier 2	\$66,000	1550	310	155	\$403,000	7%					
Lakeland Community College	5,731	Tier 3	\$72,000	1800	360	180	\$468,000	5%					
Lorain County Community College	7,179	Tier 3	\$72,000	1800	360	180	\$468,000	5%					
Marion Technical College	1,658	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
North Central State College	1,825	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Northwest State Community College	2,324	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Owens State Community College	9,064	Tier 3	\$72,000	1800	360	180	\$468,000	5%					
Rio Grande Community College	1,569	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Southern State Community College	1,894	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Stark State College of Technology	8,890	Tier 3	\$72,000	1800	360	180	\$468,000	5%					
Terra State Community College	2,020	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Washington State Community College	1,391	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Zane State College	2,287	Tier 1	\$60,000	1300	260	130	\$338,000	7%					
Community Colleges Total	61,594		\$1,146,000				\$6,799,000						

Estimated Adjunct Rate Per Class: \$2,600



Ohio Association of Community Colleges

To Whom It May Concern,

As leaders of Ohio's community colleges, we are excited about the opportunity to implement one of the most promising recommendations presented by the Governor's Task Force on Affordability and Efficiency in Higher Education. Together, we hope to use the course scheduling software developed by Ad Astra, which utilizes a comprehensive set of data analytics to support redesigning course scheduling systems in an effort to both reduce operating costs and better align course offerings so that our students can complete their certificates or degrees faster.

Specifically, this partnership addresses two of the major recommendations made in the task force's final report:

- (1) Optimized Space Utilization: The report recommends that each institution study the utilization of campus facilities to "employ a system that encourages optimization of physical spaces;" and,
- (2) Improved Time to Degree: The report recommends that our public colleges and universities work to improve time to degree for students through the use of "smart scheduling to ensure they are on track to meet their program requirements."

Ad Astra's Platinum Analytics tool was wisely cited in the recommendation related to space utilization. While we are all working to provide our students with a clear roadmap to graduation and a job, we want to make sure that we are offering the right courses, in line with a students' preferred timelines towards graduation. Other colleges and states that have taken advantage of the data analytics capacities of Ad Astra's tool have seen dramatic results that we hope to replicate in Ohio. Finally, the proposal will also increase access to labor market data to support better career counseling and alignment of course offerings to local workforce needs.

We would appreciate your positive consideration of this application to the Ohio Department of Higher Education's Innovation Grant.

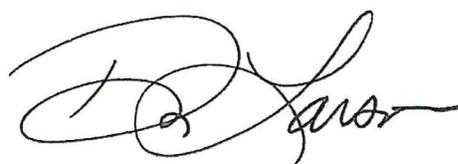
Sincerely,

OACC Presidents

 Myriah Davis

Dyrial Fye M. C. Fy C. Church

Paul F. Gasparro Bradley G. Borsale

 Mike Bower, Ph.D.

Jeanne E. White Tom Steady

Sara M. Jones Michelle R. Johnston Fintz

Bonnie L. Coe Jimmie Bruce





To Whom It May Concern,

On behalf of the Ohio Association of Community Colleges, I am pleased to provide OACC's strong support of a unique and innovative collaboration between the leaders of Ohio's community colleges, our association and Ad Astra. The primary focus of this project is to provide the comprehensive use of data analytics to support redesigning pathways to careers with a focus on course scheduling, resource allocation and workforce alignment.

This grant proposal is consistent with the primary goals of the Innovation Grant program, contained in the FY 2016-17 budget bill (Am. Sub. HB 64), to help colleges and universities implement administrative redesign strategies that will help reduce the cost while improving the outcomes for our students.

Furthermore, and perhaps just as importantly, this collaborative process would help Ohio's community colleges meet the innovation and inter-institutional collaboration challenges that were included in the Governor's Ohio Task Force on Affordability and Efficiency in Higher Education. As OACC and our partners developed this proposal, we identified two of the major recommendations that were included in the task force's final report:

- (1) Optimized Space Utilization: The report recommended that each institution study the utilization of campus to "employ a system that encourages optimization of physical spaces."
- (2) Improved Time to Degree: The report recommended that our public colleges and universities work to improve time to degree for students through the use of "smart scheduling to ensure they are on track to meet their program requirements."

Ad Astra's Platinum Analytics tool was cited as an example in the recommendation related to space utilization. Current course scheduling processes may rely more on history than effective use of analytics. This results in practices that are expensive to institutions and add unnecessary time for students. An institution may provide students with a clear roadmap to graduation, but many students still cannot get the courses they need in their preferred timeline. In addition to increasing efficiency, this initiative will positively impact retention, persistence, and completion. Finally, the partnership will also increase access to labor market data to support career counseling and alignment of pathways to Ohio's workforce needs.

When he signed the Executive Order establishing the task force, Governor Kasich called on everyone involved – task force members, legislators and our public colleges and universities – to identify new and innovative solutions that will improve efficiency while offering a high quality education in order to reduce the cost of a high education for Ohio students and their families. Ohio's community colleges are responding to the governor and legislature's challenge to identify new and collaborative approaches that will meet the ever-growing need for a highly educated, highly skilled workforce while recognizing the need to control costs and provide flexible pathways for student success.

I strongly believe that this innovation grant will help Ohio's community colleges to meet these important challenges by increasing efficiency, enhancing space and other asset utilization and, most importantly, improving student success. I appreciate your consideration and strongly urge your support.

Sincerely,

A handwritten signature in black ink that reads "Jack Hershey". The signature is written in a cursive, flowing style.

Jack Hershey
President & CEO
Ohio Association of Community Colleges



March 9, 2016

Dear Sir or Madam:

Stark State College was an “early adopter” of Ad Astra’s Platinum Analytics software, and our students have benefitted greatly, as a result of:

- Availability of annual class schedules for student planning— Platinum Analytics enabled Stark State to develop annual class schedules, so students can plan what courses they will take a year in advance. This is helpful to all students, especially working adult students with busy lives.
- Demand-driven course scheduling helps ensure that students can effectively and efficiently complete programs, certificates and degrees – Platinum Analytics works with our Banner DegreeWorks software system to enable Stark State to analyze what courses our students need and schedule those courses in a more efficient and effective way for our students.
- Higher levels of effectiveness and efficiency, which enable Stark State to maintain the lowest tuition for students. Platinum Analytics provides information about how many students need what courses, which our deans, faculty and staff use to develop semester and annual class schedules that meet student needs, thus maximizing available seats and minimizing class cancellations, which negatively impact our students.
- Better resource management, which means lower cost for the College and lower tuition for our students. Platinum Analytics working in tandem with our Banner ERP system has helped Stark State maintain efficiency and control costs, which translates into low tuition for our students -- without sacrificing quality and value.

About 18 months ago, I was honored to provide testimony to the *Governor’s Taskforce on Affordability and Efficiency* about the student-centered efficiencies our College has delivered, thanks to Platinum Analytics and other software solutions. Again, I am proud to share the student benefits Platinum Analytics provides through better, more accurate and timely information.

Stark State’s mission is clear: We are committed to providing affordable, quality education that leads to rewarding employment. Platinum Analytics provides the information we need to continue doing that today and into the future.

I encourage your positive consideration of this application to the Ohio Department of Higher Education’s Innovation Grant, which will enable other community colleges to utilize Ad Astra’s Platinum Analytics software to benefit students across our state.

Sincerely,

Para M. Jones, Ph.D.
President

Ohio Department of Higher Education
RE: The Ohio Higher Education Innovation Grant Program

To Whom It May Concern:

I am thrilled to offer my support for the partnership between Ad Astra, Ohio Community College leadership and the Ohio Association of Community Colleges.

Our research and collaboration with hundreds of colleges and universities has illustrated that, as an industry, we can get much better at efficiently allocating our finite faculty and space resources to meet students' course needs. In fact, again as an industry, we have only achieved reasonable balance (70-95% fill) on 32% of the courses offered in a typical schedule. Over 2/3 are, therefore under-filled or overloaded. The former problem leads to inefficiency relative to faculty spending, and the latter creates bottlenecks at students at registration. In fact, according to Noel-Levitz' annual student satisfaction survey, students' inability to get seats in required courses is their #1 challenge (academic and non-academic).

Leveraging business intelligence in the course scheduling process can yield reductions in adjunct faculty spending and student increased credit hour loads. The latter generates more tuition revenue per FTE student while improving time-to-completion.

I am happy to talk in more detail about this opportunity, our research and our experiences with other community colleges that have used business intelligence in this way. Please feel free to contact me with questions.

Thanks,

A handwritten signature in blue ink, appearing to read 'Tom Shaver', is written over the typed name.

Tom Shaver
Founder & CEO
Ad Astra Information Systems, L.L.C.



Achieving the Dream™

Community Colleges Count

To Whom it May Concern:

As President and CEO of Achieving the Dream, and a former community college President, I am passionate about the use of data to advance student success and organizational effectiveness.

I write in support of the innovative partnership between Ad Astra, Ohio Community College leadership and the Ohio Association of Community Colleges. This partnership will focus on the comprehensive reform of fundamental higher education processes including course scheduling, resource allocation and workforce alignment. This reform has the potential to positively impact student retention, persistence, completion and job placement as well as yield institutional efficiencies.

This partnership exemplifies the reform mindedness that Achieving the Dream is working to scale across our network of over 200 community colleges located throughout 35 states and the District of Columbia that helps more than 4 million community college students.

Kind regards,

Karen Stout

President and CEO

About Achieving the Dream:

Achieving the Dream is a comprehensive non-governmental reform movement for student success. Together with our network of higher ed institutions, coaches and advisors, state policy teams, investors and partners, we are helping more than 4 million community college students have a better economic opportunity and achieve their dreams.

Ohio Higher Education Innovation Grant Program

Name of Lead Institution (only one)	Lakeland Community College
Project Start Date	1-Jul-16
Primary Contact - Individual must be authorized to sign grant contract and legally responsible as representative.	Dr. Morris Beverage
President	Dr. Morris Beverage
Project Director/s	Jack Hershey, OACC President & CEO; Email: jhershey@ohiocc.org; Phone: (614) 221-6222
	Laura Rittner, Executive Director, OACC Student Success Center; Email: lrittner@ohiocc.org; Phone: (614) 221-6222
1) Certification by Authorized Official:	
To the best of my knowledge and belief, the information contained in this application is true and correct. The document has been duly authorized to comply with the required assurances.	
Signature of Authorized Official	
Michael E. Mayher, CPA, Senior Vice President for Administrative Services and Treasurer, Lakeland Community College	
9-Mar-16	
2) Administering Institution: Lakeland Community College	
Contact Person	Dr. Morris Beverage
Title	President
Address	7700 Clocktower Drive Kirtland, Ohio 44094
Email	mbeverage@lakelandcc.edu
3) Educational Partners (please submit separate information for each partner)	
Company Name	Belmont College
Contact Person	Dr. Paul Gasparro
Title	President
Address	68094 Hammond Road St. Clairsville Ohio 43950
Email	pgasparro@belmontcollege.edu
4) Educational Partners (please submit separate information for each partner)	
Institution Name	Central Ohio Technical College
Contact Person	Dr. Bonnie Coe
Title	President
Address	1179 University Drive Newark, Ohio 43055
Email	bcoe@cotc.edu
5) Educational Partners (please submit separate information for each partner)	
Institution Name	Clark State Community College
Contact Person	Dr. Jo Alice Blondin
Title	President
Address	PO Box 570 Springfield, Ohio 45501
Email	blondinj@clarkstate.edu
6) Educational Partners (please submit separate information for each partner)	
Institution Name	Eastern Gateway Community College
Contact Person	Dr. Jimmie Bruce
Title	President
Address	4000 Sunset Boulevard Steubenville, Ohio 43952
Email	jbruce@egcc.edu
7) Educational Partners (please submit separate information for each partner)	
Institution Name	Edison Community College
Contact Person	Dr. Doreen Larson
Title	President
Address	1973 Edison Drive Piqua Ohio 45345
Email	dlarson@edisonohio.edu

8) Educational Partners (please submit separate information for each partner)
Institution Name Hocking College
Contact Person Dr. Betty Young
Title President
Address 3301 Hocking Parkway Nelsonville, Ohio 45764
Email youngb@hocking.edu
9) Educational Partners (please submit separate information for each partner)
Institution Name Lorain County Community College
Contact Person Dr. Roy Church
Title President
Address 1005 North Abbe Road Elyria, Ohio 44035
Email rchurch@lorainccc.edu
10) Educational Partners (please submit separate information for each partner)
Institution Name Marion Technical College
Contact Person Dr. Ryan McCall
Title President
Address 1467 Mt. Vernon Avenue Marion, Ohio 43302
Email mcallr@mtc.edu
11) Educational Partners (please submit separate information for each partner)
Institution Name North Central State College
Contact Person Dr. Dorey Diab
Title President
Address 2441 Kenwood Circle Mansfield, Ohio 44906
Email ddiab@ncstatecollege.edu
12) Educational Partners (please submit separate information for each partner)
Institution Name Northwest State Community College
Contact Person Dr. Tom Stuckey
Title President
Address 22600 State Route 34 Archbold, Ohio 43502
Email tstuckey@northweststate.edu
13) Educational Partners (please submit separate information for each partner)
Institution Name Owens Community College
Contact Person Dr. Mike Bower
Title President
Address PO Box 10,000 Toledo, Ohio 43699
Email mike_bower@owens.edu
14) Educational Partners (please submit separate information for each partner)
Institution Name Rhodes State College
Contact Person Dr. Debra McCurdy
Title President
Address 4240 Campus Drive Lima, Ohio 45804
Email McCurdy.D@rhodesstate.edu
15) Educational Partners (please submit separate information for each partner)
Institution Name Rio Grande Community College
Contact Person Dr. Michelle Johnston
Title President
Address PO Box 500 Rio Grande, Ohio 45674
Email mjohnston@rio.edu
16) Educational Partners (please submit separate information for each partner)
Institution Name Southern State Community College
Contact Person Dr. Kevin Boys
Title President
Address 100 Hobart Drive Hillsboro, Ohio 45133
Email kboys@sscc.edu

17) Educational Partners (please submit separate information for each partner)
Institution Name Stark State College
Contact Person Dr. Para Jones
Title President
Address 6200 Frank Avenue, NW North Canton, Ohio 44720
Email pjones@starkstate.edu
18) Educational Partners (please submit separate information for each partner)
Institution Name Terra Community College
Contact Person Dr. Jerome Webster
Title President
Address 2830 Napoleon Road Fremont, Ohio 43420
Email jwebster01@terra.edu
19) Educational Partners (please submit separate information for each partner)
Institution Name Washington State Community College
Contact Person Dr. Bradley Ebersole
Title President
Address 710 Colegate Drive Marietta, Ohio 45750
Email bebersole@wscc.edu
20) Educational Partners (please submit separate information for each partner)
Institution Name Zane State College
Contact Person Dr. Chad Brown
Title President
Address 1555 Newark Road Zanesville, Ohio 43701
Email cbrown@zanestate.edu
21) Other Partners (please submit separate information for each partner)
Institution Name Ohio Association of Community Colleges
Contact Person Laura Rittner
Title Executive Director: Student Success Center
Address 175 South 3rd Street Suite 560 Columbus, Ohio 43207
Email lrittner@ohiocc.org
22) Other Partners (please submit separate information for each partner)
Institution Name Oad Astra Information Systems, LLC
Contact Person Sarah Collins
Title Executive Director Chief Client Experience Officer
Address 6900 W. 80th St, Suite 300 Overland Park, Kansas 66204
Email scollins@aais.com

Activity	Total	Dept. of Higher Education	Education (OTC, Community College, University) Funds	Name of Education Institution	Other Partner Funds	Name of Other Partners	Activity Description Summary
Equipment (list by item)	\$6,000	\$6,000	\$441,600	18 community college partners	\$50,000	OACC	Computers and office equipment (e.g. phone) for staff Key staff for project implementation; in-kind contribution of staff time is estimated at a collective total of 4 FTE over the 18 participating colleges. This is based on an average salary of \$80,000 with benefits (rate 38%) for four positions. \$50,000 of OACC staff time will also be provided in-kind to the project.
Personnel - Positions							
Individual A- Title/Institution: Project Director, OACC	\$224,112	\$224,112					Project Director @ \$80,000 salary; Benefits rate: 38%; Anticipated performance increase in year two: 3%
Individual B - Title/Institution: Research Analyst, OACC	\$154,077	\$154,077					Research Analyst @ \$55,000 salary; Benefits rate: 38%; Anticipated performance increase in year two: 3%
Facilities							N/A
Supplies							N/A
Purchased Services	\$1,266,500	\$1,266,500			\$764,000	Ad Astra Information Systems	Ad Astra Platinum Analytics Tool (\$1,146,000 grant funds and \$764,000 partner funds); EMSI Analyst (\$32,500) and Burning Glass Labor Insight (\$88,000) licenses for project staff and consultants (total of up to 10 users)
Travel	\$10,000						Project Director and Research Analyst travel to meetings and campus visits
Building Improvements							N/A
Other (Describe)							
Consultants	\$50,000						IT/programmer support for system integration
Facility Rental	\$6,000						Meeting space for convenings
Meeting Expenses	\$12,000						Food and beverage
Printing	\$2,000						Materials for meetings and campus visits
Conference Call/Webinar	\$10,000						Charges for conference calls, webinar meetings, and access to recordings
Evaluation	\$80,000						External evaluation for project budgeted at approximately 5% of total project budget
Overhead – Administrative	\$145,175						Established overhead fee of 8%
TOTAL	\$1,965,864		\$441,600		\$814,000		

Each Activity must be described in-depth the budget narrative

Implementation Schedule

Please provide a brief bulleted list of major components of grant activity taking place each term.

Term	Grant Activities
Summer 2016	Recruit and hire Project Director and Research Analyst.
	Set up license agreements for the partner colleges and OACC to access Ad Astra's Platinum Analytics (colleges) and the EMSI and Burning Glass LMI tools (OACC).
	Partner colleges assemble a small working team to develop a framework that will allow the institution to incorporate data into the schedule development process, inform new scheduling policy, and achieve the goals it has set for efficiency and student outcomes.
	OACC staff design processes for LMI requests and set of standard reports.
	Partners establish metrics framework and baseline; Develop and release RFP for summative evaluation
Fall 2016	Partner colleges work with Ad Astra to conduct a Strategic Schedule CheckUp to establish a baseline for operational efficiency, resource utilization and the supply and demand of courses.
	Ad Astra specialists help institutions quantify the best opportunities to take immediate action.
	Astra's specialists analyze data from each institution's systems based on campus course schedules of the previous five years. Specialists use a proprietary system of metrics to benchmark current scheduling efficiencies against other Ohio institutions and nationally, document inefficiencies wherever they are found, and identify cost savings opportunities as well as potential areas for right-sizing course offerings by department and program.
	All institutions given interactive, data visualization dashboards that display actionable data for academic operations.
	Campus working committees review recommendations from Ad Astra specialists for the Spring 2017 course schedule.
	Training provided to the OACC Research and Evaluation Committee and SSLI data teams on labor market information (LMI).
	Colleges receive actionable LMI data through the ticket request process and standard reports.
	Quarterly webinar on strategic scheduling.
	Quarterly webinar on LMI use and integration into completion agenda.
	Project staff track metrics and gain insights on the impact of this intervention across all participating campuses.
Winter 2017	Quarterly webinar on strategic scheduling.
	Quarterly webinar on LMI use and integration into completion agenda.
Spring 2017	Optimization of Course Schedule & Resources: Ad Astra process repeated for Summer 2017 and Fall 2017 schedules.
	OACC hosts strategic scheduling summit to share best practices for implementation
	Colleges receive actionable LMI data through the ticket request process and standard reports.
	Project staff track metrics and gain insights on the impact of this intervention across all participating campuses.
Summer 2017	Quarterly webinar on strategic scheduling.
	Quarterly webinar on LMI use and integration into completion agenda.
Fall 2017	Optimization of Course Schedule & Resources: Ad Astra process repeated for Spring 2018 schedule.
	Colleges receive actionable LMI data through the ticket request process and standard reports.
	Project staff track metrics and gain insights on the impact of this intervention across all participating campuses.
Winter 2018	Quarterly webinar on strategic scheduling.
	Quarterly webinar on LMI use and integration into completion agenda.
Spring 2018	OACC hosts strategic scheduling summit to share best practices for implementation with and focus on sustainability.
	Optimization of Course Schedule & Resources: Ad Astra process repeated for Summer 2018 and Fall 2018 schedules.
	Colleges receive actionable LMI data through the ticket request process and standard reports.
	Project staff track metrics and gain insights on the impact of this intervention across all participating campuses.
	Plans finalized and data collected for summative evaluation.



Stark State College in North Canton, Ohio, doubled its enrollment from 2006 to 2012 before leveling out, then slightly declining over the last several years. Ad Astra Information Systems' solutions and consulting partnership helped Stark State College maintain a balanced schedule – by avoiding unnecessary course offerings and adding sections to meet enrollment demand for other courses. These changes helped the college improve student access to needed courses and ultimately progression towards degree and certificate completion.

Growth and Enrollment Fluctuations Magnify the Need for Strategic Scheduling

“Using Platinum Analytics has saved us pure processing and planning time and has helped us more effectively meet enrollment demand. Our students have more productive schedules and we now have a solid plan for continuous schedule improvement.”

Peter Trumpower
Director of Institutional
Research, Planning and
Assessment



introducing online courses, expanding the main campus, and adding satellite learning centers.

Aligning campus resources at a growing school is a challenging process, especially when done manually. Scheduling hundreds of rooms and thousands of sections while weighing faculty preferences can feel like trying to solve dozens of Rubik's Cubes – at the same time.

Peter Trumpower, Stark State College's Director of Institutional Research, Planning and Assessment, knows all too well what it's like to have thousands of anxious and eager students vying for the critical classes required to complete their degrees.

Stark State's rapid growth over the past 10 years has created growing pains and the college has risen to the challenge by

“Managing the scheduling process by hand in IBM SPSS or Microsoft Excel became unsustainable,” Trumpower said. “There were just too many locations and sections and it became very labor intensive for us. Plus, we wanted to make sure our students were getting what they needed and we didn't have good visibility into whether or not that was happening.”

Getting a Handle on Gaps, Bottlenecks and Benchmarks

Stark State is the fourth largest of Ohio's 23 public two-year colleges, and offers more than 230 associate degrees and certificates in nursing, business, education, and liberal arts. Approximately 70 percent of Stark State students work while attending school, making accessibility and flexible scheduling paramount.

Ad Astra's multiple solutions and consulting services use the schedule as a strategy to address space and resource allocation and student success at institutions and state systems globally. Stark State decided to automate planning and scheduling and selected Ad Astra's Strategic Scheduling

CheckUp™ and Ad Astra's Platinum Analytics™ to reveal necessary data to inform scheduling decisions.

The initial phase began with the Strategic Scheduling CheckUp, a customized study which baselined Stark State's instructional capacity and course offering trends to identify areas for improvement. They then turned to Platinum Analytics, a patented SaaS solution, to better predict and align courses, sections, and rooms with student enrollment patterns.

The Strategic Scheduling CheckUp analyzed individual sections, their respective enrollment and fill ratios, and space utilization and revealed that Stark State lacked sections for required courses, based on enrollment ratios and primetime patterns.

“In the Biology Department we have seen enrollment trends changing over the past several semesters. Some courses are seeing a decline in enrollment, while others are experiencing unexpected growth. Through the use of Platinum Analytics we have been able to have a better gauge on how many sections to offer, reduce the number of cancellations, and add needed sections for other courses to meet student demand in real-time.”

Sarah Hill, PhD
Department Chair, Biology



“The initial benchmarking and recommended adjustments in the CheckUp allowed us to move ahead and take action immediately with Platinum Analytics. We could set automatic filters and target levels to keep a closer eye on our most critical scheduling variables,” Trumpower said.

Stark State increased scheduling flexibility and capacity by reallocating faculty and matching room sizes more closely with section enrollment levels, especially during primetime hours.

“Ad Astra's upfront analysis of our situation helped us identify gaps and bottlenecks, and benchmark our scheduling practices,” Trumpower said. “It also helped us stay grounded in the college's mission of delivering on our promise of student success, fiscal stability, and stewardship.”

The Ad Astra and Stark State teams evaluated 15 overloaded courses and decided to add 14 more sections to the schedule to accommodate students' needs. At the same time, 42 under-filled sections in 31 courses were also evaluated and 27 were subsequently removed from the schedule.

Solving Scheduling Problems

1. Stark State College in North Canton, Ohio, doubled its enrollment from approximately 7,600 students in 2006 to over 15,000 students in 2012.
2. Working with Ad Astra, Stark State removed under-filled sections, added more critical ones, and re-designed its schedule to include more primetime course options for students.
3. The partnership with Ad Astra has resulted in increased student credit hour load and tuition yield.

“Platinum Analytics showed us our scheduling of off-grid meeting patterns was much higher than it should have been which can be a problem for students looking for primetime schedules. It's like using only half the hours in a week,” Trumpower said. “Spreading course offerings out across off-grid and primetime made more classes available to more students. Now they have more options and a better chance of getting their preferred courses and times.”

Primetime Progress Is Paying Off

Today, Stark State has implemented data-informed scheduling policies to ensure each semester's schedule is aligned with student needs and institutional goals. For example, departments may not offer more than 20 percent of their sections off-grid, and course enrollment caps must be consistent across all sections.

The proof of progress is in the numbers:

- Average student credit hours are up 6 percent (from 7.71 to 8.18 per student)
- Average velocity to completion increased by 0.2 years
- Tuition yield improved by \$72.19 per student

“Using Platinum Analytics has saved us pure processing and planning time and has helped us more effectively meet enrollment demand,” Trumpower said. “Our students have more productive schedules and we now have a solid plan for continuous schedule improvement.”

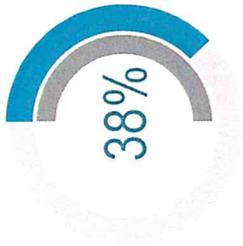
Sample HESI Efficiency Metrics



Enrollment Ratio
85% Goal

The Enrollment Ratio metric represents the overall, average fill rate for course offerings (census enrollment divided by enrollment caps)

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.



Classroom Utilization Standard Week
50% Goal

The Classroom Utilization Standard Week metric represents the percentage of hours in a standard scheduling week that a typical classroom is in use.

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.

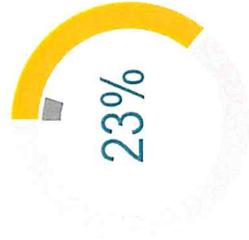


Seat Fill Utilization Enrollment
75% Goal

The Seat Fill Utilization Enrollment metric represents the percentage of seats in use based on actual registrations when a room is scheduled – calculated as enrollment divided by room capacity.

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.

Sample HESI Student Friendly Metrics



Off-Grid Waste
5% Goal

The Off-Grid Waste metric represents the percentage of capacity wasted by scheduling using non-dominant meeting patterns (those that are not an on-grid, standard meeting pattern) during prime time.

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.



Overloaded Course Ratio
10% Goal

The Overload Course Ratio metric represents the percentage of unique courses offered that are difficult for students to get because they are over-filled relative to student need (having an Enrollment Ratio greater than 95%).

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.



Addition Candidates Offered
5% Goal

The percentage of total Addition Candidate sections in a schedule, limited to those courses offered in the Analysis

*based on campus(es) and room type(s) specific during Strategic Scheduling CheckUp.