



October 9, 2015

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Board of Regents, State of Iowa
Request for Proposal for
Higher Education Needs Assessment for the
Des Moines Metro Area

As submitted to:
Mr. Robert Donley
Executive Director and Chief Executive Officer
Board of Regents, State of Iowa
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Urbandale, Iowa 50322
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October 7, 2015

Mr. Robert Donley
Executive Director and Chief Executive Officer
Board of Regents, State of Iowa
11260 Aurora Avenue
Urbandale, Iowa 50322

Dear Mr. Donley:

MGT is pleased to present this proposal to the State of Iowa Board of Regents (BOR) to provide a Higher Education Needs Assessment for the Des Moines metro area. We bring years of experience conducting similar studies to help colleges, universities and systems determine the feasibility of expanding to increase access to higher education programs and degrees for students in and beyond their current service/market areas.

In addition to our similar project work outlined in this proposal, MGT also has a long history working with the Iowa Board of Regents and public higher education entities within the State. Building from our first project in 1987 conducting a management audit of state universities and special schools to our current project working with the Northeast Iowa Community College to provide a non-faculty compensation and classification study, MGT understands the higher education environment in Iowa. In addition, our work throughout the country provides a rich framework for understanding issues related to both access needs and potential institutional options to respond to those needs.

In the past several years we have completed similar studies for two regional higher education centers in Maryland (MHEC), one in North Georgia (BOR/USG), and one in Everett Washington (WSU). MGT believes the breadth of our more than 30 years of similar experiences will allow us to offer exceptional guidance and assistance to the Board. We recognize the critical information and careful analysis needed to plan new and expanded opportunities for the citizens and employees of the Des Moines metro area that will provide better access to baccalaureate, graduate and certificate programs. Furthermore, given the transition of the AIB campus by the University of Iowa as a Regents Resource Center, we will deliver an objective and independent review of the most appropriate location(s) to best meet identified needs.

The following proposal has been prepared in accordance with the requirements of your RFP and the Assurances, Representations, and Authorization to Release Information form has been signed and placed immediately following this transmittal letter.

Please do not hesitate to contact our Project Director, **Dr. Ray Thompson**, at (239) 823-2137 or rthomps@mgtamer.com if you have questions or need additional information. We look forward to working with you and the State of Iowa Board of Regents on this important study.

Sincerely,



Steve Manders
Vice-President and Comptroller
MGT of America, Inc.

ASSURANCES, REPRESENTATIONS AND AUTHORIZATION TO RELEASE INFORMATION

The Bidder hereby assures and represents with respect to this proposal that:

1. It possesses legal authority to submit this proposal; that a resolution, motion or similar action has been duly adopted or passed as an official act of the Bidder's governing entity authorizing the submittal of this proposal, including all assurances, representations contained herein, and directing and authorizing the person signing below to act in connection with the application and to provide additional information as may be required.
2. It will comply with all applicable federal and state equal opportunity and affirmative action requirements.
3. All statements and information made or furnished to the Board are true and correct in all material respects. Bidder has not knowingly made any false statements in its proposal. Bidder acknowledges that supplying any information determined to be false, misleading or deceptive will be grounds for disqualification from consideration.
4. Bidder hereby authorizes the Board to obtain information regarding its performance on other contracts, agreements or other business arrangements, its business reputation, and any other matter pertinent to evaluation and the selection of a successful Bidder in response to this Request for Proposal. It authorizes the Board to research the company's history, make credit checks, contact the company's financial institution, contact former and current clients of the company, and perform other related activities necessary for reasonable evaluation of this proposal.
 - The Bidder acknowledges that it may not agree with the information and opinions given by such person or entity in response to a reference request. The Bidder acknowledges that the information and opinions given by such person or entity may hurt its chances to receive contract awards from the Board or may otherwise hurt its reputation or operations. The Bidder is willing to take that risk.
 - The Bidder hereby releases, acquits, and forever discharges the State of Iowa, Board of Regents, their officers, directors, employees and agents from any and all liability whatsoever, including all claims, demands and causes of action of every nature and kind affecting the undersigned that it may have or ever claim to have relating to information, data, opinions, and references obtained by the Board in the evaluation and selection of a successful Bidder in response to this Request for Proposal.
 - The Bidder authorizes representatives of the Board to contact any and all of the persons, entities, and references which are, directly or indirectly, listed, submitted, or referenced in the undersigned's proposal submitted in response to this Request for Proposal.

- The Bidder further authorizes any and all persons or entities to provide information, data, and opinions with regard to the undersigned's performance under any contract, agreement, or other business arrangement, the undersigned's ability to perform, the undersigned's business reputation, and any other matter pertinent to the evaluation of the undersigned. The undersigned hereby releases, acquits and forever discharges any such person or entity and their officers, directors, employees and agents from any and all liability whatsoever, including all claims, demands and causes of action of every nature and kind affecting the undersigned that it may have or ever claim to have relating to information, data, opinions, and references supplied to the Board in the evaluation and selection of a successful Bidder in response to this Request for Proposal.
- A photocopy or facsimile of this signed Authorization is as valid as an original.



 Signature

Steve Manders, Vice-President and Comptroller

 Type or Print Name, Title

October 1, 2015

 Date

This form must be signed by an authorized representative of the Bidder and submitted to the Board along with Bidder's proposal.

RFP: Higher Education Needs Assessment for the Des Moines Area
 ENTITY: Board of Regents, State of Iowa
 RFP RELEASE DATE: September 11, 2015

BOARD OF REGENTS STATE OF IOWA

RFP – HIGHER EDUCATION NEEDS ASSESSMENT FOR THE DES MOINES METRO AREA

OCTOBER 9, 2015

SUBMITTED BY MGT OF AMERICA, INC.
RAY THOMPSON
RTHOMPSON@MGTAMER.COM
(239) 823-2137



IOWA STATE UNIVERSITY
IOWA STATE UNIVERSITY



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I. BASIC DATA ON BIDDER

a. Name, telephone number and address, including email of Bidder.

MGT of America, Inc.
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b. Name and title of individual authorized to bind the Bidder and submit the proposal.

Steve Manders
Vice-President and Controller
850/ 386-3191 (office)
850/219-4334 (direct)
smanders@mgtamer.com (e)

c. Name e-mail address and telephone number of person the Board may contact during the proposal evaluation process.

Ray Thompson, Ph.D.
Vice President, Higher Education Services
239-823-2137 (cell)
239-482-7095 (office)
rthomps@mgtamer.com

d. Form of business - e.g. sole proprietorship, partnership, corporation, Not-for Profit organization. If a non-Iowa corporation, indicate state of incorporation.

MGT is a Type C private corporation incorporated in the State of Florida in 1974.

e. Whether the business is owned or controlled by a parent corporation. If yes, provide the name and address of the parent corporation, nearest offices and managing office where the project staff assigned to this project will be located.

MGT is not owned by a parent company nor do we have any subsidiaries.

f. Whether the Bidder is a small business or certified targeted small business as defined in Iowa Code (2015) section 15.102.

MGT is not a certified small business.

2: EXECUTIVE SUMMARY

This part of the response to the RFP should be limited to a brief narrative highlighting the bidder's proposal. The summary should contain as little technical jargon as possible and should be oriented toward non-technical personnel. The summary should describe the following:

a. Bidder's understanding of Regents' needs.

Through the issued RFP, the Board of Regents seeks a sound comprehensive assessment study of the need for new or expanded access to baccalaureate, graduate, and certificate programs across the Des Moines metro market. Resulting higher education opportunities to meet identified needs/demand could come in the form of online, hybrid and in-classroom opportunities that reduce the barriers and obstacles faced by area citizens, whether they be time-bound, place-bound, or financially constrained to choose private alternatives or travel to existing public university campuses. The assessment study must help to refine and focus efforts and resources that will be most appropriate to meet local needs. The Board further requests an objective and independent analysis of potential locations (not specific sites) for a Regents Resource Center (RRC) that would most fully respond to critical unmet needs. This facet of the study is complicated by the recent acquisition of the AIB campus in Des Moines by the University of Iowa with intent to initially offer four degrees locally at this site as an RRC.

b. Scope of services being proposed.

The following services have been requested or implied as part of the Higher Education Needs Assessment:

- Identification of specific program needs, demand, preferences, obstacles, barriers and limitations for target audiences.
- Considerable input from various stakeholder groups including; current students, prospects, officials of the three BOR universities, local employers, business and industry organizations, economic development entities, state and local officials, and other Des Moines area higher education institutions.
- An understanding of local market factors influencing need, preferences, access issues and degree completion.
- An understanding of current program availability.
- An environmental scan from several comparable markets to identify possible options and approaches to address unmet needs.
- Identification of appropriate locations (not specific sites) within in the greater Des Moines metro area to meet identified needs via a Regents Resource Center.

c. Qualifications and Experience in higher education research and needs assessments.

MGT has been in the business of providing planning assistance to higher education entities for more than 40 years. We have an extensive depth and breadth of understanding and appreciation for the roles and responsibilities, academically, operationally, and financially of public colleges and universities. We have conducted numerous program needs assessments in varying markets across the country to identify

needs, assess demand, and seek appropriate options to increase access for all levels of postsecondary education. MGT is quite familiar with public higher education in Iowa from our long history of projects in the state. Finally, our proposed project team has worked together for a number of years on similar needs assessment studies using a tested approach matching that requested by the Regents.

d. Brief List and Description of Similar Projects Completed (client, scope and duration of assessment, outcome, and client contact name).

Although MGT has conducted dozens of similar program needs assessment studies for higher education entities over the years (see **Section 4 Qualifications and Experience** for a longer listing), the following provides a more detailed description of several recent projects that include in total all of the components currently requested by the Regent's RFP.

Higher Education Needs Assessment - Blue Ridge Area of North Georgia

University System of Georgia

June 2014 - September 2014

Houston D. Davis
Executive Vice Chancellor & Chief Academic Officer
(404) 962-3060
houston.davis@usg.edu

The University System of Georgia (USG) retained MGT to conduct a higher education needs assessment across a multi-county area of north Georgia centered around Fannin County and the City of Blue Ridge. The study documented current and future higher education needs of residents, workers and employers, identified the extent of demand for underserved or unmet program needs, and explored options available and the fiscal viability of those to meet those needs.

MGT's approach utilized a review of market demographic, economic, and educational data, and collection of stakeholder input at the state, USG, and community levels. In cooperation with the USG, we developed criteria for assessing options for improved access to higher education in the region. Following analysis and review of secondary data and comments from stakeholders, we evaluated the options based on the established criteria and provided a project report of findings and conclusions to the USG.

The new regional education center has been established and will begin offering a limited number of baccalaureate completion programs locally.

Northeast Maryland Regional Higher Education Needs Assessment

Maryland Higher Education Commission

June 2014 - September 2014

Geoffrey Newman
Director of Finance Policy
(410) 767-3301
gnewman@mhec.state.md.us

MGT was selected by the Maryland Higher Education Commission, on behalf of the Northeast Maryland Higher Education Advisory Board to conduct an updated higher education needs assessment for the Northeastern Maryland region (Harford and Cecil Counties). The study included a review and analysis of findings from recent related studies and reports, an update of market characteristics, conditions and data impacting educational attainment and workforce skills, and input from key stakeholders including community leaders, Department of Defense and Federal entities, private sector employers, and higher education institutions active in the region. Program needs and gaps, particularly at the graduate level, were identified, along with "best practice" elements provide by other Regional Higher Education Centers across the state. A final report was issued detailing the study findings and conclusions, and providing direction for future program development or expansion for the existing Regional University Center.

Frederick, MD Higher Education Needs Assessment

Maryland Higher Education Commission

January 2014 - May 2014

(see contact information above)

The Maryland Higher Education Commission (MHEC) in response to a legislative mandate, selected MGT to conduct a higher education needs assessment for the Frederick County Region of Maryland. The study is in response to the authorization and establishment of a new regional higher education center in this location. The ensuing research included market population, demographic, education and occupational data trends and projections, combined with ample input from local stakeholders including community leaders, officials and representatives of national, state and local employers with operations in the County. A gap analysis was completed to compare needs to current higher education program providers active in this region. Further a brief review of best practices and lessons learned at each of the seven existing regional higher education centers was undertaken. A final, comprehensive needs assessment report was delivered to MHEC and the local higher education center authority to conclude this engagement.

Currently the new regional education center is in the planning stages of developing specific program inventory for STEM and bio-science baccalaureate and graduate degree options.

North Metro Study

University System of Georgia

March 2012 - May 2012

(see contact information above)

The Board of Regents of the University System of Georgia (USG) contracted with MGT to conduct a comprehensive review of higher education needs in the north metropolitan Atlanta, Georgia area, the extent that the USG is addressing those needs, and areas where service gaps exist. MGT collected and analyzed data, Board planning policies, and detail of existing structures and enrollment of USG institutions in similar settings. Criteria were developed for assessing how different options may be able to meet predefined goals and objectives. Interviews with area higher education and community leaders were conducted, and proposed sites were visited. MGT prepared a report identifying potential locations appropriate for development of additional USG resources that better meet citizen higher education need.

Strategic Plan for the University Center of North Puget Sound

Washington State University
December 2011 - October 2012

Paul E. Pitre, Ph.D.
Dean, North Puget Sound Everett Campus
(425) 259-8491
pepitre@wsu.edu

MGT, with assistance from NBBJ, was selected by Washington State University, to assist in the development of a strategic plan for the University Center of North Puget Sound. Responsibility for operation of the University Center is being transferred to WSU effective in 2013 by action of the Washington Legislature. The strategic planning effort includes delineation of mission and vision, assessment of educational needs in the region, identification of university partners to provide programming, assessment of educational sites and facilities, and development of a multi-year budget plan. This planning study was driven by an economic development focus to meet local needs of employers, as well as provide local residents a more expansive array of baccalaureate and graduate level programs beyond the local community college options.

The Center management transition to WSU has been completed, and new programs from WSU and all other participating institutions are either active or in various stages of development.

Higher Education Needs and Capacity in Southwest Minnesota

Minnesota State Colleges and Universities, Office of the Chancellor
February 2011 - December 2011

Todd Harmening
System Director of Planning
(651) 201-1856
todd.harmening@so.mnscu.edu

MGT was retained by the Minnesota State Colleges and Universities (MNSCU) system office to conduct a program needs assessment and capacity study of the 19-county region of Southwest Minnesota. Currently served by Southwest Minnesota State University and Minnesota West Community and Technical College, the study was to collect information, data and stakeholder input from a variety of constituents to identify appropriate programs of need, and examine models to better align those needs, preferences, and delivery options with current MNSCU assets. The project incorporated secondary data along with original data collection through interviews, focus groups, and surveys of key business and community leaders, institutional representatives, students, employers, and local education officials.

e. High Level Project Execution Plan.

The following illustrates the nine major work tasks that MGT will carryout to meet the needs and expectations of the Board of Regents for this Higher Education Needs Assessment study as defined in the RFP. A more detailed depiction of these nine tasks and associated activities is presented in **Section 6 Methodology**.

MGT proposed major work task summary:

Task 1.0	Conduct Project Initiation Meeting
Task 2.0	Analyze Des Moines Metro Area Population and Market Data
Task 3.0	Conduct Interviews with BOR Officials, University Administrators, and Community Stakeholders
Task 4.0	Survey Current and Prospective College Students From the Des Moines Area
Task 5.0	Survey High School/Community College Career Advisors, and Local Employers
Task 6.0	Prepare Environmental Scan of Comparable Markets
Task 7.0	Identify Program/Service Needs, Barriers, Preferred Delivery Options and Gaps
Task 8.0	Assess Appropriate Location Options To Meet Identified Needs
Task 9.0	Report Study Findings, Implications and Options for BOR Consideration*

We are confident that in combination, the sequence of these nine major tasks will provide the detailed and reliable data and information needed to assist the Board of Regents in formulating strategies and actions to address higher education access and program needs in the Des Moines area. We have successfully employed similar research and analysis efforts in many needs assessment studies for our past higher education clients.

3. COMPANY BACKGROUND

The following information is requested to evaluate the Bidder's financial stability and ability to support the commitments set forth in response to the RFP. Please include at a minimum the following:

a. How long the company has been in business:

b. A brief description of the company size and organizational structure. Type C privately-owned corporation governed by a board of directors.

c. How long the company has been working with 1) higher education clients; 2) government clients; 3) commercial clients performing similar services.

MGT is a national research and consulting firm that was founded and incorporated in **1974** in Tallahassee, Florida. Since then we have grown to include offices in California, Michigan, Texas, and Washington. In the **more than 40 years** since, MGT has successfully managed more than 6,800 client engagements in every state and several foreign countries. MGT is a **private Type C corporation** governed by a board of directors. Our **staff of over 75 qualified professionals** brings a wealth of knowledge and depth of understanding to all our client engagements, delivering the quality services our clients expect and deserve.

Our solutions help the public and private organizations and institutions with which we work to more effectively and efficiently meet goals and serve constituents. We are committed to providing customized models, objective research, creative recommendations, and quality products that respond to each client's unique needs and time requirements. Our mission goes far beyond the ordinary by affirming our organization's commitment to improving the quality of life for the people served by our clients.

MGT is recognized as one of the nation's premier higher education planning and management research consulting firms. As a result of our extensive experience in higher education, we have a keen understanding of college, university and state system operations that far exceeds that of our competition. Over half of MGT's client engagements have involved educational institutions or governing agencies. Higher education clients served by MGT include:

- ▶ State universities.
- ▶ Community colleges.
- ▶ Private colleges and universities.
- ▶ State higher education boards.
- ▶ Governors' offices.
- ▶ Legislatures.
- ▶ Special study commissions.
- ▶ Nonprofit organizations.

d. Recent annual financial report or bank references for evaluation of financial capability to satisfactorily complete the requirements of this RFP.

MGT has included a copy of our most recent audited financial statement in the Appendix of this proposal to demonstrate our financial capability to satisfactorily complete the scope of services outlined in this RFP.

4. QUALIFICATIONS AND EXPERIENCE

a. Additional information deemed pertinent to 2c above.

Since our inception, MGT has successfully managed more than 7,300 client engagements in every state and several foreign countries. Our staff brings a wealth of knowledge and depth of understanding to all our client engagements, delivering the quality services our clients expect and deserve. Our organizational mission is supported by our capacity to deliver an extensive range of services to a variety of public sector institutions, nonprofit organizations, private businesses, and other entities and institutions. A significant portion of our work is repeat business, reflecting the high level of customer satisfaction we have achieved. MGT's services and client markets are shown in the table below.

SERVICES		MARKETS
» Program needs assessments	» Performance audits/reviews	» Higher Education » PK-12 Education » State/Local Government » Public Safety/Criminal Justice » Federal Government » Financial/Costing Services
» Market and opinion research	» Funding studies and models	
» Focus groups and surveys	» Program evaluation	
» Workforce demand studies	» Public safety	
» Strategic planning	» Disparity studies	
» Feasibility Studies	» Facilities planning and analysis	
» Compensation and classification studies	» Human resource studies	
» Management and organizational reviews	» Business process reengineering	
	» Information Technology	

Below, MGT provides a list of higher education client types.

HIGHER EDUCATION CLIENTS	
» Community colleges	» Economic Development Agencies
» State universities	» Governors' offices
» Private colleges and universities	» Legislatures
» State higher education boards	» Special study commissions
» Workforce Boards	» Nonprofit organizations

As a result of our many years of experience in consulting work across all levels of higher education, we have a keen understanding of higher education which far exceeds that of our competition. University officials quickly recognize our staff has a detailed understanding of their operations and procedures, mission and strategic objectives, and are confident in our abilities to provide a comprehensive, objective analysis and evaluation in order to inform their decisions to implement appropriate solutions.

MGT has helped college and university clients across the country maximize their ability to target and deliver instructional and academic programming in a constantly changing environment. We offer the Board not only the stability of a firm and team with extensive experience with this type of needs assessment study, but also a proven methodology that specifically focuses on answering the questions you have described regarding program needs, demand, delivery options and appropriate locations.

From its long and extensive background in higher education and other types of consulting, MGT and its proposed team bring qualifications and approaches that are especially well suited for this needs assessment study effort. As a result of our work with higher education clients all over the nation and the extensive “hands-on” experience of our staff, we have the knowledge to meet the Board’s goals and objectives for this project. What follows is a listing of some of our comparable project work related to the requested services. Many of the projects listed below (identified by an asterisk), explored needs and opportunities for programs at branch campuses, higher education centers, or other off-campus sites.

EDUCATIONAL PROGRAM NEEDS ASSESSMENTS/MARKET STUDIES

CLIENT	PROJECT
COLLEGE OF CHARLESTON, THE CITADEL, AND THE MEDICAL UNIVERSITY OF SOUTH CAROLINA*	Tri-County Graduate Program Needs Assessment
COLLEGE OF DUPAGE (IL)	District Program and Services Needs Assessment Study
EAST STROUDSBURG UNIVERSITY (PA)*	Academic Program Market Analyses
EVERETT CHAMBER OF COMMERCE (WA)*	Analysis of Postsecondary Needs
FLORIDA GULF COAST UNIVERSITY	Program Needs Assessment Study
FLORIDA INTERNATIONAL UNIVERSITY*	Academic Program Needs Assessment
FRANKLIN UNIVERSITY (OH)	New Program Needs Assessment and Program Feasibility Studies
HENNEPIN TECHNICAL COLLEGE (MN)	Research and Planning for New Program Development
IOWA BOARD OF REGENTS*	Program Needs and Feasibility Study of a Higher Education Center in Council Bluffs
JAMESTOWN COMMUNITY COLLEGE (NY)*	Needs Assessment/Program Analysis
LAKE WASHINGTON TECHNICAL COLLEGE	Strategic Plan
MARYLAND HIGHER EDUCATION COMMISSION*	Frederick Regional Higher Education Needs Study
MARYLAND HIGHER EDUCATION COMMISSION*	Northeast Maryland Needs Assessment
MINNESOTA STATE COLLEGES AND UNIVERSITIES*	Regional and Statewide Assessments of Higher Education Program Needs
MISSION COLLEGE (CA)	Program Needs of Area Adult Learners and Employers
MISSISSIPPI INSTITUTIONS OF HIGHER LEARNING*	Assessment of Alternative Gulf Coast Campus Locations and Programs
NOVA SOUTHEASTERN UNIVERSITY	Baccalaureate and Graduate Program Expansion Study
OLD DOMINION UNIVERSITY (VA)*	Branch Campus Program Needs Assessments
REGIONAL ECONOMIC DEVELOPMENT, INC. (MO)*	Workforce Development Study for Boone County, Missouri
RENSSELAER POLYTECHNIC UNIVERSITY (NY)*	Hartford (CT) Campus Market Study
ROANOKE HIGHER EDUCATION CENTER (VA)*	Postsecondary Educational Needs Assessment
ROCKFORD AREA CHAMBER OF COMMERCE (IL)*	Assessment of Higher Education Needs
SEATTLE UNIVERSITY (WA)	Environmental Scan

4. QUALIFICATIONS AND EXPERIENCE

CLIENT	PROJECT
SHENANDOAH UNIVERSITY (VA)*	Northern Virginia Needs Assessment
SPOKANE COMMUNITY COLLEGE DISTRICT	Program and Services Needs Survey in the Spokane Market
SOUTH PUGET SOUND COMMUNITY COLLEGE*	New Lacey Campus Expansion Planning
SUL ROSS STATE UNIVERSITY (TX)*	Educational Needs Assessment
TEXAS A&M UNIVERSITY-CENTRAL TEXAS CENTER*	Higher Education Needs Assessment
TEXAS A&M UNIVERSITY-CORPUS CHRISTI	Service Area Academic Program Needs Assessment
TIDEWATER COMMUNITY COLLEGE (VA)*	Market Needs Surveys for Three TCC Campuses
THE MC CONNELL FOUNDATION (CA)*	Comprehensive Regional Higher Education Needs Assessment Redding/Northern California
UNIVERSITY CENTER OF LAKE COUNTY (IL)*	Assessment of Higher Education Needs
UNIVERSITY OF MISSOURI-ST. LOUIS*	Higher Education Needs Assessment
UNIVERSITY OF NORTH FLORIDA*	Regional Graduate/Doctoral Program Needs
UNIVERSITY OF TEXAS - PAN AMERICAN	Enrollment Management and Program Needs Assessment
UNIVERSITY OF WEST FLORIDA*	Study and Analysis of Emerald Coast Campus Operations and Programs
UNIVERSITY SYSTEM OF GEORGIA*	Blue Ridge Needs Assessment
UNIVERSITY SYSTEM OF NEW HAMPSHIRE*	Statewide Program Needs Assessment
WASHINGTON HIGHER EDUCATION COORDINATING BOARD*	Postsecondary Education Needs Assessment King and Snohomish Counties
WASHINGTON STATE UNIVERSITY*	Medical School Feasibility Study
WASHINGTON STATE UNIVERSITY*	University Center of North Puget Sound
WAUKESHA COUNTY ACTION NETWORK (WI)*	County Postsecondary Education Needs Assessment
WEST TEXAS A&M UNIVERSITY*	Amarillo Center Program Needs Assessment
WEST VIRGINIA STATE COLLEGE AND UNIVERSITY SYSTEM*	Off-Campus Engineering Program and Continuing Education Needs

The table below shows a listing of all of MGT's higher education project work in the state of Iowa, chronologically descending since our first project in 1987.

TITLE	CLIENT NAME	DATE	PROJECT DESCRIPTION
Non-Faculty Classification and Compensation Study	Northeast Iowa Community College	Nov-15	MGT conducted a comprehensive classification and compensation study for all non-faculty employees.

4. QUALIFICATIONS AND EXPERIENCE

TITLE	CLIENT NAME	DATE	PROJECT DESCRIPTION
Non-Faculty Classification and Compensation Study	Iowa Valley Community College District	Nov-15	MGT conducted a comprehensive classification and compensation study for all non-faculty positions within the District. MGT also assisted in the development of a compensation philosophy for adoption by the Board.
Hotel Staffing Needs Assessment	Kirkwood Community College	Oct-08	MGT conducted a classification and salary survey of positions to staff an on-campus hotel. MGT created over 30 job descriptions and identified appropriate market rates for these positions.
Compensation and Wage Grade Analysis	Kirkwood Community College	Jun-08	MGT conducted a comprehensive classification and compensation study involving 650 non-faculty employees.
Organizational Review - Phase II	Iowa Board of Regents	Dec-02	The Iowa Board of Regents retained MGT for the second phase of an in-depth study. After successfully completing the diagnostic analysis phase of a comprehensive organizational review of the Iowa Board of Regents system, MGT conducted a more in-depth analysis of selected functions of the Regents' office, the three universities, and the two special schools. In particular, MGT was tasked with efforts to: - streamline instructional program delivery; - improve the internal reallocation process; - seek modifications to state regulatory statutes; - review governance reports; and - determine deferred maintenance needs. Additionally, MGT was asked to assist Regent personnel in other tasks related to revenue enhancement, employee health insurance, purchasing, intercollegiate athletics, and reengineering.

4. QUALIFICATIONS AND EXPERIENCE

TITLE	CLIENT NAME	DATE	PROJECT DESCRIPTION
Diagnostic Phase of Organizational Review	Iowa Board of Regents	Oct-01	The Iowa Board of Regents retained MGT to conduct the diagnostic phase of a comprehensive organizational review of the University of Iowa, Iowa State University, University of Northern Iowa, the Iowa School for the Deaf, and the Iowa Braille and Sight Saving School. The diagnostic analysis included benchmarking analyses with peer institutions in other states, extensive interviews with senior administrators and line managers on campus, and customer satisfaction surveys. MGT identified areas for potential improvement, as well as areas for commendation, for each institution and for the Board central office. For each area of improvement, MGT prepared a detailed implementation plan.
Performance Indicators	Iowa Board of Regents	Dec-97	MGT developed a performance indicator system to help monitor the overall effectiveness and efficiency of the Board and five institutions. The project involved the development and implementation of performance indicators, benchmarking, and software development for performance indicators system.
Operational Review	Iowa Board of Regents	Dec-96	MGT conducted an operational review of the central office of the Iowa Board of Regents and assisted the Board in developing a vision of the future for Iowa's public universities. Experience gained through the project included: governance of a state higher education system; operations of a state higher education office; and operational relations between a Board of Regents and individual universities.

4. QUALIFICATIONS AND EXPERIENCE

TITLE	CLIENT NAME	DATE	PROJECT DESCRIPTION
Review of Purchasing Operations and Policies	Iowa Board of Regents	Jul-92	MGT analyzed and evaluated the purchasing operations and policies of the three universities and two special education schools under the Iowa State Board's jurisdiction. MGT sought to validate efficient current practices and make constructive, practical recommendations to improve the effectiveness and efficiency of the purchasing departments at each institution. Relevant experience gained in this project included: working with university purchasing systems; developing method improvement recommendations; reviewing purchasing records to determine efficiency of operations during entire purchase order cycle; developing workload measures for purchasing activities; and flowcharting various purchasing processes across the five institutions to assess the similarities in purchasing practices.
Feasibility and Needs Assessment of a Graduate Study Center	Iowa Board of Regents	Nov-90	MGT was contracted to perform a feasibility study for a graduate study center in Council Bluffs, Iowa. The study was conducted to determine the need for a graduate study center or other viable alternatives for providing courses and programs of study leading to degrees or certificates. MGT used surveys of area residents, educators and employers to help determine: the need for a graduate study center, the types of courses that should be offered, approximate demand for courses when established. A facilities assessment catalogued existing space and compared it to the possible space needed for various alternative types of course delivery.

TITLE	CLIENT NAME	DATE	PROJECT DESCRIPTION
Management Audit of State Universities and Special Schools	Iowa Board of Regents	Dec-87	MGT joined with Peat Marwick in conducting a preliminary management audit of Iowa's three state universities, the School for the Deaf, and the Braille and Sight-Saving School. The management audits were an outgrowth of the governor's efforts to achieve greater efficiency and effectiveness in all state programs. The purpose of the preliminary audits is to identify both strengths and weaknesses in how the institutions were managed. Recommendations were developed for more detailed audits of individual operating units. Relevant experience gained from the project included: extensive analyses of institutional operations; identification of management strengths and weaknesses; detailed comparison among peer institutions; development of recommendations and implementation plans for audits of specific areas.

b. A list of personnel to be assigned to this RFP, their functions in the project, length of tenure, and a detailed resume of each.

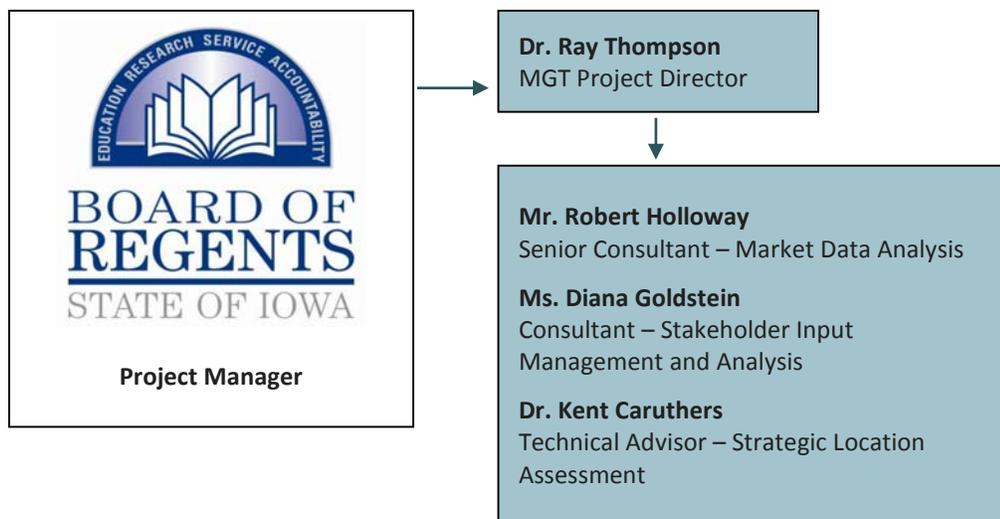
Prior to working with higher education clients as consultants, many of our staff worked in education or government agencies as executives and managers. This insider's knowledge of public higher education structures and processes gives MGT a competitive advantage and an ability to hit the ground running from the very start of a project. Over the years, we have amassed an extensive library of best practices related to administration, operations and program development. We have applied this wealth of knowledge repeatedly when working with higher education institutions and have earned a stellar reputation for effecting positive change.

MGT's team of seasoned professionals offers key skill sets, knowledge and experience that we believe will significantly contribute to the successful outcome of this higher education needs assessment for the State of Iowa Board of Regents. Our team:

- ◆ Appreciates the diversified mission and purpose of a college/university off-campus center, and the multitude of audiences and "customers" that one is expected to serve.
- ◆ Clearly understands the roles and responsibilities of operating a college/university at both the main campus and off-campus sites, having worked closely with many over the years.
- ◆ Has a long and successful history of conducting academic and instructional program needs assessments for all levels of the higher education spectrum, and across a wide range of disciplines.

- ◆ Has assisted a number of higher education clients and workforce agencies to examine the future supply (program completers) and demand (job openings) among a wide range of occupations.
- ◆ Recognizes the unique professional criteria that impact a number of technical degree programs (i.e., educational prerequisites, expected credentials, accreditation requirements, special space and equipment needs, experiential placement needs, etc.).
- ◆ Utilizes a proven model for deploying web-based surveys to gather valuable information from college representatives, as well as service/market area stakeholders, (i.e., current students, college administrators, program directors, high school guidance counselors, local employers, employees and community leaders) that will help identify education and training needs, program opportunities, access issues, and real or perceived barriers by level, discipline specialty, and location.
- ◆ Routinely includes a qualitative stakeholder input component for needs assessments in the form of individual interviews and focus groups to clarify and expound upon survey findings along with market information gleaned from secondary sources.
- ◆ Aligns five and ten-year projected occupational openings with employer input and current program capacities to identify demand estimates and resulting gaps (surpluses or deficits) by discipline for university planning consideration.
- ◆ Can provide for the clients’ considerations, strategies and approaches to address identified program and service needs and appropriate models for program delivery.

Below we present the organizational structure for our team. The **Project Director, Dr. Ray Thompson**, will be the primary contact for Board. Dr. Thompson is MGT’s Vice-President for Higher Education Services and he will be responsible for ensuring all of our team’s contractual obligations are met on time and within budget. He will participate in on-site visits and qualitative stakeholder input opportunities, and well as direct the development of the final assessment report.



Mr. Robert Holloway will coordinate market data analysis for our team. He will collect and analyze market data for the Des Moines metro area including population demographic, educational, and economic trends, higher education attainment and participation rates by level, and programs offered by current postsecondary education providers serving this market.

Ms. Diana Goldstein will coordinate and analyze the quantitative stakeholder input options (web-based surveys) to identify program and service needs, preferences, barriers, obstacles, and demand, as well as location factors. Her focus will include coordination with Board's Project Manager and technology representative to secure the necessary databases for survey distribution, development of both online survey instruments, distribution and monitoring of the active surveys, and analysis and reporting of responses.

Dr. Kent Caruthers will serve as Technical Advisor on our team specifically related to program delivery options and appropriate locations to meet identified needs He will participate in on-site visits to get a full understanding of the area needs and issues to inform the project and work with the team to develop strategic options for the Board to consider.

DR. R. RAYMOND THOMPSON, PROJECT DIRECTOR

EDUCATION

PH.D., COMMUNICATION,
FLORIDA STATE UNIVERSITY,
1983

M.S., COMMUNICATION,
FLORIDA STATE UNIVERSITY,
1978

B.S., SOCIAL PSYCHOLOGY,
FLORIDA STATE UNIVERSITY,
1975

PROFESSIONAL AFFILIATIONS

SOCIETY FOR COLLEGE AND
UNIVERSITY PLANNING

ASSOCIATION OF COLLEGE
AND UNIVERSITY HOUSING
OFFICERS- INTERNATIONAL

ASSOCIATION FOR
INSTITUTIONAL RESEARCH

SOUTHEASTERN ASSOCIATION
FOR COMMUNITY COLLEGE
RESEARCH

Dr. Thompson, Vice President of MGT's higher education practice area, has been serving the firm's higher education clients for over 30 years. Dr. Thompson specializes in studies utilizing both qualitative and quantitative research methods for planning college and university academic programs and support services. His work at MGT has encompassed a wide range of program planning aligned with space projections to help inform campus development, facilities programming and master planning efforts. Through collection and analysis of both quantitative data, and qualitative information (stakeholder input) he works to identify and validate an institution's programs and services with current space and future needs.

As a member of MGT's higher education research staff, Dr. Thompson has directed or participated in more than 300 project engagements. He has planned and coordinated the market analysis and stakeholder research activities for many of those projects. These studies have included program needs assessments, market analyses, marketing and enrollment management reviews, space planning, auxiliary services and student services needs. Of particular interest to this study, Dr. Thompson has worked with a number of community interests and higher education institutions across the country to explore indicators and options for making higher education (both undergraduate and graduate level programs, credit and non-credit components) available in locations where a branch campus, off-campus center, or a multi-provider operation is most appropriate and feasible. In addition, Dr. Thompson has led hundreds of focus groups, small group discussions and input sessions for college and university strategic planning activities as well as customer and stakeholder research.

PROJECT WORK

Mr. Thompson has worked with the following clients on projects of similar scope:

- South Puget Sound Community College, Lacey Property Campus Development, Lacey, WA
- Washington State University, University Center of North Puget Sound Strategic Plan, Seattle, WA
- Eastern Wyoming College, Master Plan Update, Torrington, WY

- University of North Florida, Needs Assessment Study
- Our Lady of the Lake College, Campus Expansion and Relocation Study, San Antonio, TX
- Mississippi Institutions of Higher Learning, Assessment of Alternative Campus Locations and Delivery Strategies

- Florida Gulf Coast University, Program Needs Assessment
- College of DuPage, Needs Assessment Study, Glen Ellyn, IL
- Texas A&M University – Corpus Christi, Market Area Needs Assessment
- West Virginia State College and University System, Needs Assessment of Graduate Engineering Programs

4. QUALIFICATIONS AND EXPERIENCE

- Broward College, Facilities Master Plan, Ft. Lauderdale, FL
- SUNY-Oneonta, Facilities Master Plan for the State University Construction Fund, Oneonta, NY
- SUNY-IT, Facilities Master Plan, Utica, NY
- SUNY-IT, Facilities Master Plan, Marcy, NY
- Grossmont-Cuyamaca Community College District, Develop District-wide Facilities Master Plan,
- SUNY-Oneonta, Facilities Master Plan for the State University Construction Fund, Oneonta, NY
- SUNY-IT, Facilities Master Plan, Utica, NY
- Laramie County Community College, Long-Range Facilities Master Planning Services, Cheyenne, WY
- University of Missouri, Higher Education Feasibility Study
- Hennepin Technical College, Research and Planning for New Program Development, Brooklyn Park, MN
- University Center of Lake County, Community Needs Assessment of Higher Education, Grayslake, IL
- Shenandoah University, Program Needs Assessment of the Northern Virginia Campus, Winchester, VA
- College of Charleston, Needs Assessment of Graduate-Level Programs, Charleston, SC
- Rensselaer Polytechnic Institute, Comprehensive Market Study, Troy, NY
- Florida International University, Programmatic Needs Assessment Study

- University of North Florida, Facilities Program Plan and Feasibility Analysis for a New Student Life Center
- Old Dominion University, Program Needs Assessment for the Proposed Newport News Center, Norfolk, VA
- Jamestown Community College, Comprehensive Program Needs Assessment, Jamestown, NY
- New Jersey System of Higher Education, Capacity Analysis Study
- Tidewater Community College, Campus Relocation Study, Norfolk, VA
- The Richard Stockton College of New Jersey, Campus Center Consultant
- Louisiana State University at Alexandria, Feasibility Study
- The University of Texas-Pan American, Enrollment Management Services, Edinburg, TX
- Maryland Higher Education Commission, Impact Analysis Study
- Midlands Technical College, Comprehensive Technology Study, Columbia, SC
- Finger Lakes Community College, Enrollment Management Study, Canandaigua, NY
- Community College and University System of Nevada, Overall Enrollment Estimation Model
- Franklin University, Program Needs Assessment, Columbus, OH
- Tarleton State University, Central Texas Center, Market Analysis and Academic Needs Assessment, Stephenville, TX
- West Texas A&M University, Market Analysis and Needs Assessment
- Minnesota State Colleges and Universities, Comprehensive Program Needs Assessment
- Old Dominion University, Program Needs Assessments of Three Regional Campuses, Norfolk, VA
- The University System of New Hampshire’s College of Lifelong Learning, Needs Assessment and Market Study

- Spokane Community College District, Postsecondary Needs Study, Spokane, WA
- University of Central Florida, Medical School Needs Analysis
- Roanoke Higher Education Authority, Postsecondary Educational Needs Assessment, Roanoke, VA
- Florida State University, Comprehensive Study of the Medical Education System in Florida
- Southern Connecticut State University, Market Research Study
- Washington Higher Education Coordinating Board, Postsecondary Education Needs Assessment
- Georgia Board of Regents, Engineering Program Needs Assessment Study
- Kentucky Council on Postsecondary Education, Statewide Engineering Needs Assessment
- Sul Ross State University, Comprehensive Needs, Alpine, TX Assessment and Educational Market Analysis
- University of Missouri System, Educational Needs Assessment
- Maryland Higher Education Commission, Higher Education Needs Assessment
- University of Virginia and Virginia Tech, Educational Market Study in Northern Virginia
- Wyoming Community College Commission, Statewide Needs Assessment
- Southwest Missouri State University, Program Needs Assessment Study
- Okaloosa-Walton Community College and the University of West Florida, Engineering Education Needs Assessment, Niceville, FL
- Minnesota Higher Education Coordinating Board, Needs Assessment of Postsecondary Education

MR. ROBERT HOLLOWAY, SENIOR CONSULTANT – MARKET DATA ANALYST**EDUCATION**

B.S., *MAGNA CUM LAUDE*,
ECONOMICS, FLORIDA STATE
UNIVERSITY

**PROFESSIONAL
AFFILIATIONS**

COLLEGE AND UNIVERSITY
PROFESSIONAL ASSOCIATION
FOR HUMAN RESOURCES

Mr. Robert Holloway has over 15 years of experience in MGT's higher education practice. His areas of expertise include economic and demographic research and analysis, including development and administration of surveys to collect data from a comprehensive spectrum of stakeholders. He is proficient in Geographic Information Systems analysis, database design and management, and a broad range of other research methodologies used to collect and analyze relevant market and opinion data to assist colleges and universities in the advancement of institutional goals.

PROJECT WORK

Mr. Holloway has worked with the following clients on projects of similar scope:

- Board of Regents of the University System of Georgia, Salary and Compensation Consultant
- Community College of Baltimore County, MD, Executive Compensation Update; Classification and Compensation Study; Faculty and President's Office Salary/Position Review; External Evaluation of Faculty Salary Schedule
- Corning Community College, NY, Compensation Study and Organizational Review
- Dalton State College, GA, Compensation and Workload Study for Non-Faculty Positions; Salary Study
- Dickinson College, PA, Classification and Compensation Study
- East Central College, MO, Classification Study
- Florida Gulf Coast University, Competitive Market Assessment of Presidential Salaries; Interim President's Compensation Study; Presidential Compensation Study
- Florida Keys Community College, Classification and Compensation Study
- Georgia Southern University, Human Resources Consulting Services
- Kennesaw State University, GA, Faculty Salary Update; Salary Survey
- Kirkwood Community College, IA, Compensation and Wage Grade Analysis
- New College of Florida, Pay and Benefits Study
- Oregon University System, Classified Employees Salary Survey
- Roger Williams University, RI, Performance of a Position Audit
- Southeast Missouri State University, Compensation Study of Positions
- Southern Polytechnic State University, GA, Comprehensive Faculty Salary Equity Study
- Texas A&M University - Kingsville, Compensation Study and Recommended Plan
- Texas State Technical College, Systemwide Consulting Services for Classification and Compensation
- University of Montevallo, AL, Faculty Compensation Study; Classification/Compensation and Performance Evaluation Consulting
- University of North Alabama, Compensation and Classification Study
- University of North Carolina, Peer Faculty Salary Comparison
- University of North Texas System, Executive Compensation Study
- Valdosta State University, GA, Classification and Compensation Structure for Non-Faculty Benefited Positions
- Washington State Board for Community and Technical Colleges, Faculty and Administrator Salary Study
- Citrus County Mosquito Control, FL, Update of Pay Survey
- Fairfield County School District, SC, Wage and Salary Classification
- Oconee County, SC, Compensation and Classification Study; Conduct Grade Scale Review
- Workforce Plus, FL, Employer Study
- York County, SC, Classification Study Update

MS. DIANA GOLDSTEIN, SENIOR ANALYST - SURVEY MANAGEMENT/ANALYSIS

EDUCATION

M.ED., UNIVERSITY OF GEORGIA

B.A., PSYCHOLOGY, WAKE FOREST UNIVERSITY

Ms. Goldstein has more than 20 years of experience in higher education administration, teaching, and student development, primarily in the areas of career services and university housing. She possesses strong skills in communication and counseling, program management, organization, data documentation, and analysis. She has served as a senior analyst at MGT for five years. Her recent work with MGT has focused on market research for academic and student service needs. She has served in a similar role on a number of academic needs assessments and planning studies for clients such as the Georgia Board of Regents, Washington State University, the Minnesota State Colleges and Universities, East Stroudsburg University, and the Regional Economic Development agency in Columbia, Missouri. Ms. Goldstein is proficient in developing and implementing a variety of stakeholder input models using a web-based survey administration, as well as conducting focus groups and individual interviews to assess needs, barriers and preferences to degree and program access.

PROJECT WORK

Ms. Goldstein has worked with the following clients on projects of similar scope:

- North Metro Study, Board of Regents of the University System of Georgia
- Strategic Planning Consulting, Norfolk State University
- Strategic Plan for the University Center of North Puget Sound, Washington State University
- Financial Management Review, Maryland Economic Development Corporation
- Strategic Planning, Virginia State University
- Academic Needs Assessment, Bainbridge College, Georgia
- Academic Restructuring, Florida A&M University
- Structure and Functions Assessment of the Human Resources Department, Florida Gulf Coast University
- Higher Education Needs and Capacity in Southwest Minnesota, Minnesota State Colleges and Universities
- Study and Analysis of Emerald Coast Operations, University of West Florida

- Workforce Development Study, Regional Economic Development, Inc., Missouri
- Higher Education Needs Assessment, East Stroudsburg University
- Market Study/Needs Assessment, Texas A&M - Corpus Christi
- Higher Education Needs Assessment, Franklin University
- Market Analysis and Academic Needs Assessment, Tarleton State University - Central Texas
- Market Analysis and Needs Assessment, West Texas A&M University
- Analysis of Educational Needs, Cape Girardeau Education Coalition Task Force
- Southwest Broward County Market Analysis, Broward College – Tennessee Tech University
- University of South Florida - Sarasota/Manatee
- Murray State University
- Kansas State University
- Florida A&M University

- University of Georgia Real Estate Foundation
- Texas State University-San Marcos
- Savannah State University
- The University of Akron
- Oklahoma State University-Tulsa
- University of Mississippi
- Armstrong Atlantic University
- Stephen F. Austin University
- University of Tennessee – Knoxville
- University of La Verne
- Eastern Kentucky University
- University of South Florida
- State University of New York at Cobleskill
- Western Kentucky University
- State University of New York at Plattsburgh
- North Carolina Central University
- North Carolina State University
- Valdosta State University
- University of Florida
- University of Georgia Real Estate Foundation

J. KENT CARUTHERS - TECHNICAL ADVISOR**EDUCATION**

ED.D., EDUCATIONAL
ADMINISTRATION AND
HIGHER EDUCATION,
OKLAHOMA STATE
UNIVERSITY

M.B.A., FINANCE,
OKLAHOMA STATE
UNIVERSITY

B.S., FINANCE, OKLAHOMA
STATE UNIVERSITY

**PROFESSIONAL
AFFILIATIONS**

NATIONAL ASSOCIATION
OF COLLEGE AND
UNIVERSITY BUSINESS
OFFICERS

ASSOCIATION FOR
INSTITUTIONAL RESEARCH

SOCIETY FOR COLLEGE
AND UNIVERSITY
PLANNING

Dr. Kent Caruthers led MGT's national higher education practice for nearly 30 years and now serves as an advisor and consultant on selected planning projects. He has over 40 years of experience in college and university planning and financial analysis. His consulting engagements have taken him to over 300 colleges and universities in 40 states. Prior to joining MGT, Dr. Caruthers was Director for Strategic Planning for the National Center for Higher Education Management Systems (NCHEMS) in Boulder, Colorado, Director of Planning and Analysis for the State University System of Florida, and Senior Institutional Research Analyst at Oklahoma State University.

Dr. Caruthers has an extensive background in designing and conducting planning initiatives for new programs and services at colleges and universities. Drawing on his background in market research, financial analysis, and program management, he has a keen understanding of the many facets of what it takes for new programs and services to be feasible. Dr. Caruthers was lead author of *Mission Review: Foundation for Strategic Planning* and continues to contribute to the professional literature on issues related to higher education planning and finance. Dr. Caruthers is active in several educational planning and management organizations and is a frequent contributor to the professional literature. He also has worked on special projects for the Southern Regional Education Board, the State Higher Education Executive Officers, and the American Association of State Colleges and Universities on several different occasions.

For many years, Dr. Caruthers has maintained a part-time residence in Summit County, Colorado and has been a property owner in the CMC service region nearby for several decades. He is quite familiar with the local area as well as the need for affordable housing for permanent residents and seasonal service workers, including the local postsecondary student population.

PROJECT WORK

Dr. Caruthers has worked with the following clients on operational and financial planning projects:

- Alabama Commission on Higher Education
- Alcorn State University, Mississippi
- Auburn University, Alabama
- Bethune-Cookman College, Florida
- Clarion University, Pennsylvania
- Edward Waters College, Florida
- Florida A&M University
- Florida Community College Distance Learning Consortium
- Florida Division of Colleges and Universities
- Florida Division of Community Colleges
- Florida Gulf Coast University
- Florida Postsecondary Education Planning Commission
- Florida State University
- Franklin University, Ohio
- Georgia Board of Regents
- Grossmont-Cuyamaca Community College District, California
- Indiana University East
- Kentucky Public Colleges and Universities
- Kentucky State University
- Minnesota State Colleges and Universities
- Nebraska Postsecondary Education
- New Jersey System of Higher Education
- Old Dominion University, Virginia
- Pennsylvania State System of Higher Education
- South Carolina Commission on Higher Education
- Suffolk Community College, New York
- Texas A&M University System
- The University of California, Merced
- University and Community College System of Nevada
- University of Missouri System
- University of Missouri, Kansas City
- University of North Florida
- University of Southern Mississippi
- University of Virginia
- University of West Florida
- Virginia Tech
- Washington Higher Education Coordinating Board
- West Virginia State College and University System

c. Information concerning terminations, litigation and debarment. Bidder shall provide answers to the following questions:

i. During the last five (5) years, has the Bidder had a contract for services terminated for any reason? If so, provide full details related to the termination.

MGT of America, Inc. has not had a contract for services terminated within the last five years.

ii. During the last five (5) years, describe any order, judgment or decree of any Federal or State authority barring, suspending, or otherwise limiting the right of the Bidder to engage in any business, practice, or activity.

During the last five years, MGT of America, Inc. has not had any order, judgement or decree of any Federal or State authority barring suspending or otherwise limiting our right to engage in any business, practice, or activity.

iii. During the last five (5) years, list and summarize pending or threatened litigation, administrative or regulatory proceedings, or similar matters that could affect the ability of the Bidder to perform the required services. The Bidder must also state whether it or any owners, officers, or primary partners have ever been convicted of a felony. Failure to disclose these matters may result in rejection of the bid proposal or in termination of any subsequent contract. This is a continuing disclosure requirement. Any such matter commencing after submission of a bid proposal, and with respect to the successful Bidder after the execution of a contract, must be disclosed in a timely manner in a written statement to the Board.

During the last five years, there has been no pending or threatened litigation, administrative or regulatory proceedings, or similar matters that could affect the ability of MGT of America, Inc. to perform the required services, nor is there any pending litigation, administrative or regulatory proceedings, or similar matters that could affect the ability of MGT to perform the required services.

MGT of America, Inc. has no owners, officers, or primary partners that have ever been convicted of a felony.

iv. During the last five (5) years, have any irregularities been discovered in any of the accounts maintained by the Bidder on behalf of others? If so, describe the circumstances of irregularities

During the last five years, there have been no irregularities discovered in any accounts maintained by MGT on behalf of others.

5. STATEMENT OF SCOPE

A clear statement of scope is required from each bidder that demonstrates their understanding of this project and how their past engagements provide them with the insight/skills/tools needed to complete this work.

The Board of Regents, State of Iowa, seeks a Higher Education Needs Assessment Report for the Des Moines metro area. The major objectives of the Report are to:

- ◆ Determine the current and long-term demand for various undergraduate and graduate degree programs and certificates in greater Des Moines.
- ◆ Determine the optimal location in the Des Moines metro area for a Regents Resource Center (RRC) from which to deliver the majority of the educational programs.

In January of 2015 the AIB College of Business in Des Moines and the University of Iowa announced that AIB intended to close and gift its campus to the University of Iowa. The terms of the gift generally call for the campus to transition from AIB to an RRC operated by the University of Iowa. The 20 acre AIB campus is located three miles south of downtown Des Moines and it includes classroom and administrative buildings, residential housing, and recreational facilities. As an RRC, all three state universities would be able to use the campus for educational programming and related services.

MGT understands that the three state universities are interested in further expanding on-site education programming in greater Des Moines. The Board expects that the Higher Education Needs Assessment Report will provide information to help ensure that this expansion is effective, efficient, and responsive to the educational needs of the region and the universities. To this end, the research on which the Report is based must yield valid and reliable data on the demand for specific academic programming in the region and on the best locations from which to deliver the various programs. In order to meet these goals the selected consultant should be capable of assembling primary and secondary data for the Des Moines market, as well as environmental scan data from comparable markets.

Assessing the demand for various degree and certificate programs in Des Moines requires a list of possible programs and a list of stakeholders who may have information to assist in determining the demand for these programs.

MGT will look for guidance from the three universities for an initial list of possible degree and certificate programs for the Des Moines market. Most of these programs will mirror those currently offered on their respective main campuses, but the list may include potential new programs identified and validated through the analysis. These programs will include both undergraduate and graduate degrees and certificates, and they will span widely across academic disciplines.

As noted in the RFP, the Board and the universities will work with MGT to determine a list of stakeholders. This list may include, but will not be limited to, the following groups.

- ◆ Students and Related Groups
 - Prospective and current students (traditional and non-traditional students)
 - Parents of prospective and current students
 - High school career advisors

- University of Iowa, Iowa State University, and University of Northern Iowa admissions personnel
- ◆ Employers and Related Groups
 - Business and non-profit HR directors and CEOs
 - City managers and HR directors
 - State agency HR directors
 - Chamber of commerce CEOs and other business association leaders
- ◆ Policymakers
 - Des Moines area state legislators
 - Selected state agency directors (e.g. Iowa Economic Development Authority)
- ◆ Des Moines Area Higher Education Institutions
 - Des Moines University
 - Drake University
 - Grand View University
 - Des Moines Area Community College

MGT has had experience collecting information and input from most of the generic groups mentioned in the RFP either qualitatively and/or quantitatively to specifically address access issues and program demand (the latter which is critical data for Provosts and Academic Deans to commit resources to an off-campus endeavor).

In order to assess the value of a Des Moines RRC for programs back at the home universities, the Board expects the MGT team to solicit input from key academic stakeholders at the universities including, but not limited to:

- ◆ Provosts and associate provosts
- ◆ Deans and associate deans

It is anticipated by the Board that the AIB campus will be the location of the Des Moines RRC starting in the fall of 2016. The campus has many positives and it may be the best site for the RRC for long-term. To test this assumption, the Board expects that MGT will assess the desirability of the AIB site against other general locations in the Des Moines metro area (e.g., downtown, west suburbs). Data for making this assessment should come from key local stakeholders, and current and projected demographic statistics for greater Des Moines. It is possible that the most desirable site will vary by program (e.g., graduate vs undergraduate) or student characteristics (e.g., traditional vs non-traditional).

The assessment will also identify the location factors that are important to prospective and current students, including but not limited to: proximity to work, home, commercial and retail establishments, and the interstate; availability of convenient and free parking; ready access to public transportation; and safety. MGT has examined these very factors and drivers, as well as those listed below in many of our needs assessment studies.

The Board expects that the research will also provide the following information.

- ♦ The motivations of current and prospective students, both undergraduate and graduate, to pursue education at the RRC in Des Moines rather than on the main campuses, online, or at another institution (This will include the extent to which the RRC will enroll students who would and would not have otherwise attended a main campus or pursued a degree from a main campus online)
- ♦ The best days of the week and times of the day to offer classes
- ♦ The attractiveness of blended degree and certificate programs at the RRC (some classes in-person and some classes online)

The Higher Education Needs Assessment Report provided by MGT will meet all of the goals specified above and the Board expects the project to begin on November 9th. The RFP requests a first draft of the final report delivered to the Board by February 1, 2016, and the presentation of the final report made to the board on or about February 24, 2016. We will work closely with all parties to meet these initial deadlines while maintaining the quality and integrity of the data collection process and corresponding analyses to provide a reliable and accurate report of findings. We will work closely with the Board and other stakeholder contacts to develop a workable schedule given various holiday and academic breaks that will be encountered within the designated time frame of the study. .

6. METHODOLOGY

A clear description of the methodology to be used to meet the requirements of this project.

The following is a description of MGT's proposed work plan to conduct a higher education needs assessment of the Des Moines metro area. Some of the following tasks, by nature, must be performed sequentially, while others can be completed independently or simultaneously. The proposed approach includes nine key work tasks that we have routinely employed to conduct academic needs assessment studies. It includes analysis of a combination of market data, qualitative and quantitative stakeholder input, and identification of program and services needs identified for the Des Moines metro area, and a review of location criteria and resulting location options most appropriate to meet identified local needs. The study concludes with the submission of an electronic study report. We also offer an **optional** presentation of findings at project completion.

MGT is willing to discuss our proposed scope of work and corresponding resources in terms of how these nine tasks best meet the needs and expectations of the Board of Regents.

Task 1.0 Conduct Project Initiation Meeting

Activity:

Participate in a project start-up meeting with the Board's Project Officer and other key representatives to review objectives of the needs assessment study and confirm the major work tasks to be included in the research, program inventories, university contacts, available data bases, key stakeholder target groups for qualitative and quantitative input purposes, and project time line.

Deliverable:

- Final Work Plan and Schedule

Task 2.0 Analyze Des Moines Metro Area Population and Market Data

Activities:

- 2.1 Compile and examine market area population demographic, educational, and economic trends, including higher education attainment and participation rates by level.
- 2.2 Identify employment, and occupational outlook trends that may impact potential postsecondary educational needs and participation in the designated region.
- 2.3 Review list of current postsecondary education providers serving the region and related undergraduate/graduate program inventories available locally in the Des Moines metro area.
- 2.4 Identify initial gaps in program inventory related to occupational projections and changing market conditions.

Deliverable:

- Des Moines Market Data Summary

Task 3.0 Conduct Interviews with BOR Officials, University Administrators, and Community Stakeholders

Activities:

- 3.1 Develop structured interview guides in collaboration with the Board's Project Officer.
- 3.2 Conduct 25-30 interviews with key BOR and University representatives, along with local community and business leaders.
- 3.3 Discuss desired role and potential impact of expansion of university level programs in the Des Moines area..
- 3.4 Identify perceived barriers and obstacles to accessing higher education locally, and degree or goal completion..
- 3.5 Identify initial interest for new or expanded academic programs and support services to meet local postsecondary education needs.
- 3.6 Prepare summary findings from these interviews, including identification of perceived programs of need, applicable delivery mechanisms, scheduling preferences, barriers, and potential stakeholder concerns and issues that must be addressed in order to meet program and access needs.

Deliverable:

- Qualitative Interview Summary Points

Task 4.0 Survey Current and Prospective College Students From the Des Moines Area

Activities:

- 4.1 Work with BOR officials to identify a pool of students from the Des Moines metro area currently attending the three public universities in Iowa as well as lists of recent prospects not enrolled.
- 4.2 Obtain student/prospect contact information from Board or university officials.
- 4.3 Develop a student/prospect survey instrument (web-based/electronic), in collaboration with the Board's Project Officer, to assess the student needs and interests in higher education programs, barriers to higher education access, interest in various learning modalities (including online and hybrid), and accessibility of the Des Moines Campus location.
- 4.4 Conduct the survey of students and recent prospects, including the initial request to participate as well as one or two reminder notices to survey recipients, if necessary, to increase response rate.
- 4.5 Conduct analysis of quantitative survey data for the student/prospect survey and prepare a matrix of findings.

Deliverable:

- Student Survey Findings Matrix

Task 5.0 Survey High School/Community College Career Advisors, and Local Employers

Activities:

- 5.1 Identify access to lists of local Des Moines high school guidance counselors, local community college career advisors, and a cross-section of local employers by industry sector..
- 5.2 Develop survey instruments (web-based/electronic) relevant for each of the above mentioned survey target audiences to assess local higher education program and training needs, gaps, preferences, barriers and impediments to participation and completion as well as workforce capacity. .
- 5.3 Conduct the survey of each group, including the initial request to participate as well as one or two reminder notices to survey recipients, if necessary, to increase response rate.
- 5.4 Conduct analysis of quantitative survey data for each group and prepare a matrix of findings.

Deliverable:

- External Stakeholder Survey Findings Matrix

Task 6.0 Prepare Environmental Scan of Comparable Markets**Activities:**

- 6.1 Work with BOR representatives and local officials to identify up to five (5) comparable markets in relation to higher education access and attainment.
- 6.2 Identify a series of data points to compile for each selected market.
- 6.3 Gather and compile education data and relevant market information.
- 6.4 Prepare comparison tables and summary narrative for the Des Moines metro and five selected markets.

Deliverable:

- Market Comparison Summary

Task 7.0 Identify Program/Service Needs, Barriers, Preferred Delivery Options and Gaps**Activities:**

- 7.1 Consolidate market research (qualitative and quantitative) data on needs, current and future occupational outlook estimates, existing program inventories, population characteristics and projections, and other factors that may increase or depress the potential demand for specific baccalaureate, graduate and certificate programs in the Des Moines metro area.
- 7.2 From survey, interview and market data research, identify needs and opportunities for new programs as well as existing program expansion in the metro area.
- 7.3 Identify an initial list of program opportunities with relative demand indicators to respond to the reported interests, needs, preferences, barriers, obstacles, conditions, and competition.

Deliverable:

- Program Needs List & Issues

Task 8.0 Assess Appropriate Location Options To Meet Identified Needs

Activities:

- 8.1 Work with BOR representatives to identify key criteria on which to evaluate potential location and delivery options for meeting identified needs in the Des Moines area.
- 8.2 Based on the market data analysis, stakeholder input, and survey findings of needs and obstacles, identify locations within the Metro area for possible delivery points and a Regents Resource Center.
- 8.3 Applying the established criteria, evaluate possible locations and identify ones that are most appropriate for the program needs and the target populations most impacted.
- 8.4 Prepare narrative to support selected locations appropriate for an RRC, and share with the BOR project officer.

Deliverable:

- Potential Location Summary

Task 9.0 Report Study Findings, Implications and Options for BOR Consideration*

Activities:

- 9.1 Prepare a report of the study methodology and findings and supporting data identifying needs for new or expanded academic degrees and programs in the Des Moines metro area.
- 9.2 Develop a list of potential new or expanded programs for the Board to consider for appropriate delivery options and a possible Regents Resource Center in the Des Moines metro area to address identified needs.
- 9.3 Identify possible general locations within the metro area most appropriate for an RRC.
- 9.4 Submit a draft report for Board review and comments..
- 9.5 Following review of the draft report by Board representatives, make revisions and edits as appropriate and deemed necessary.
- 9.6 Deliver the final report of the needs assessment study to the Board's Project Officer (electronic version only).
- 9.7 Make an on-site presentation of study findings. *OPTIONAL

Deliverable:

- Final Study Report

7. REFERENCES

Please provide the contact information and client background for three client references. Submit references for clients that are most similar to the services being proposed for the Board.

The following references and accompanying project descriptions represent a sample of the types of needs assessment work and higher education program planning studies MGT has conducted over the years that directly relate to the scope of work requested by State of Iowa Board of Regents. More than 50% of MGT's project work is from repeat clients, and that is representative of all of the references below. We have included a fourth reference in addition to the three requested in the event that one of the individuals below is not readily available for contact.

CLIENT / PROJECT <i>Description</i>	CONTACT INFORMATION
<p>WASHINGTON STATE UNIVERSITY University Center of North Puget Sound</p> <p><i>MGT, with assistance from NBBJ, was selected by Washington State University, to assist in the development of a strategic plan for the University Center of North Puget Sound. Responsibility for operation of the University Center is being transferred to WSU effective in 2013 by action of the Washington Legislature. The strategic planning effort includes delineation of mission and vision, assessment of educational needs in the region, identification of university partners to provide programming, assessment of educational sites and facilities, and development of a multi-year budget plan.</i></p>	<p>PAUL PITRE Dean, WSU North Puget Sound - Everett Campus Gray Wolf Hall, Room 112 2000 Tower Street, Ms 45 Everett, WA 98201-1390 425-405-1716 (t) pep@wsu.edu</p>
<p>MINNESOTA STATE COLLEGES AND UNIVERSITIES Southwest Minnesota Market Analysis and Needs Assessment</p> <p>MGT was retained by the Minnesota State Colleges and Universities (MNSCU) system office to conduct a program needs assessment and capacity study of the 19-county region of Southwest Minnesota. Currently served by Southwest Minnesota State University and Minnesota West Community and Technical College, the study was to collect information, data and stakeholder input from a variety of constituents to identify appropriate programs of need, and examine models to better align those needs, preferences, and delivery options with current MNSCU assets. The project incorporated secondary data along with original data collection through interviews, focus groups, and surveys of key business and community leaders, institutional representatives, students, employers, and local education officials.</p>	<p>TODD R. HARMENING System Director for Planning, Office of the Chancellor 30 E 7th St #350 St Paul, MN 55101 (651) 201-1856 (t) todd.harmening@so.mnscu.edu</p>

CLIENT / PROJECT <i>Description</i>	CONTACT INFORMATION
<p>The University System of Georgia Blue Ridge Needs Assessment</p> <p><i>The University System of Georgia (USG) retained MGT to conduct a higher education needs assessment across a multi-county area of north Georgia centered around Fannin County and the City of Blue Ridge. The study documented current and future higher education needs of residents, workers and employers, identified the extent of demand for underserved or unmet program needs, and explored options available and the fiscal viability of those to meet those needs.</i></p> <p><i>MGT's approach utilized a review of market demographic, economic, and educational data, and collection of stakeholder input at the state, USG, and community levels. In cooperation with the USG, we developed criteria for assessing options for improved access to higher education in the region. Following analysis and review of secondary data and comments from stakeholders, we evaluated the options based on the established criteria and provided a project report of findings and conclusions to the USG.</i></p>	<p>HOUSTON D. DAVIS, PH.D. Executive Vice Chancellor & Chief Academic Officer University System of Georgia, 270 Washington Street, SW Atlanta, GA 30334 (404) 962-3072 (t) houston.davis@usg.edu</p>
<p>MARYLAND HIGHER EDUCATION COMMISSION Frederick Regional Higher Education Center</p> <p><i>The Maryland Higher Education Commission (MHEC) in response to a legislative mandate, selected MGT to conduct a higher education needs assessment for the Frederick County Region of Maryland. The study is in response to the authorization and establishment of a new regional higher education center in this location. The ensuing research included market population, demographic, education and occupational data trends and projections, combined with ample input from local stakeholders including community leaders, officials and representatives of national, state and local employers with operations in the County. A gap analysis was completed to compare needs to current higher education program providers active in this region. Further a brief review of best practices and lessons learned at each of the seven existing regional higher education centers was undertaken. A final, comprehensive needs assessment report was delivered to MHEC and the local higher education center authority to conclude this engagement.</i></p>	<p>GEOFFREY NEWMAN. J. D., MBA Director of Finance Policy 6 N. Liberty Street, 10th Floor Baltimore, MD 21201 (410) 767-3085 (t) gnewman@mhec.state.md.us</p>

8. SAMPLE DOCUMENTS

Submit sample documents of the type of analysis the Board can expect from the work your firm is proposing to do.

As a sample of our similar project work, MGT has provided an electronic copy of a recent higher education needs assessment study completed in Frederick County Maryland to determine the program needs for a new regional higher education center on behalf of the Maryland Higher Education Commission (MHEC).

Due to its size, we have not included a hard copy, but have included it as a separate supplement on a flash drive to our proposal submission as indicated acceptable in the Board's responses to prospective consultant questions dated September 23, 2015.

9. COST OF SERVICES

Submit a comprehensive price proposal that outlines rates and hour by each phase and any other costs incurred.

a. A comprehensive price proposal should be submitted on the basis of “not-to-exceed pricing” for this project. Under a not-to-exceed pricing arrangement, the contractor is compensated for hours and expenses incurred up to a ceiling amount. If additional effort is required, the bidder is expected to complete this effort at no additional cost to the Board. If less effort is required than the contract price, the Board would not be billed for the work.

MGT of America, Inc. is pleased to provide all of the services required by the RFP for the not-to-exceed sum of **\$91,435**, which includes all of our estimated professional fees and expenses.

The chart **on the following page** shows a breakdown of the estimated hours per task, hourly rates, and expenses.

b. Billings would take place at the completion of key milestones/deliverables. The Board expects bidders to propose a milestone/deliverable schedule that should assume that the Board will retain 10% of every invoice which would be released at the acceptance of the final deliverable.

MGT has read the statement above and takes no exceptions to the information presented.

BREAKDOWN OF PROFESSIONAL FEES AND EXPENSES

WORK TASKS	MGT Team Members				Support	PROFESSIONAL FEE	DIRECT EXPENSES	TRAVEL	TOTAL COSTS
	Ray Thompson	Robert Holloway	Diana Goldstein	Kent Caruthers					
1.0 Conduct Project Initiation Meeting & Administration	8	2	2	2	4	\$3,400	\$50	\$1,265	\$4,715
2.0 Analyze Des Moines Metro Area Population and Market Data	8	20	16	2	8	\$9,300	\$50	\$0	\$9,350
3.0 Conduct Interviews with BOR, University and Community Stakeholders	30	24	12	16	4	\$18,300	\$150	\$3,355	\$21,805
4.0 Survey Current College Students from the Des Moines Area	8	2	36	2	8	\$8,700	\$500	\$0	\$9,200
5.0 Survey High School/Community College Career Advisors, and Local Employers	8	2	32	2	8	\$8,100	\$250	\$0	\$8,350
6.0 Prepare Environmental Scan of Comparable Markets	4	20	24	2	10	\$9,600	\$150	\$0	\$9,750
7.0 Identify Program/Service Needs & Gaps	8	8	16	4	4	\$7,200	\$50	\$0	\$7,250
8.0 Assess Appropriate Location Options To Meet Identified Needs	8	4	8	4	4	\$5,200	\$50	\$0	\$5,250
9.0 Report Study Findings, Implications & Options for BOR Consideration*	24	16	24	4	12	\$14,400	\$100	\$1,265	\$15,765
TOTAL HOURS FOR TASKS 1-9	106.0	98.0	170.0	38.0	62.0	474			
TOTAL COST FOR TASKS 1-9	\$26,500	\$19,600	\$25,500	\$9,500	\$3,100	\$84,200	\$1,350	\$5,885	\$91,435
Hourly Rate:	\$250.00	\$200.00	\$150.00	\$250.00	\$50.00				

* Includes travel cost for an OPTIONAL on-site presentation of study findings.

A: LAST YEARS AUDITED FINANCIAL STATEMENTS

The following pages are last year's audited financial statements as required by the RFP.

Consolidated Financial Statements

MGT of America, Inc.

*Years ended June 30, 2014 and 2013
with Report of Independent Auditors*

Thomas Howell
 Ferguson P.A.

MGT of America, Inc.
Consolidated Financial Statements
Years ended June 30, 2014 and 2013

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Report of Independent Auditors

To the Board of Directors
MGT of America, Inc.

Report on the Financial Statements

We have audited the accompanying consolidated financial statements of MGT of America, Inc. and its subsidiary (the Company) which comprise the consolidated balance sheets as of June 30, 2014 and 2013, and the related consolidated statements of operations and changes in stockholders' equity, and cash flows for the years then ended and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of MGT of America, Inc. and its subsidiary as of June 30, 2014 and 2013, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Thomas Howell Ferguson P.A.

Tallahassee, Florida
January 14, 2015

MGT of America, Inc.

Consolidated Balance Sheets

	June 30,	
	<u>2014</u>	<u>2013</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 164,218	\$ 89,104
Accounts receivable	4,406,349	4,127,994
Prepaid expenses	<u>39,098</u>	<u>303</u>
Total current assets	4,609,665	4,217,401
Property and equipment, net	160,157	71,670
Goodwill	1,387,492	1,387,491
Intangibles, net	567,588	708,231
Deposits	116,471	27,720
Notes receivable from related party	75,000	75,000
Prepaid taxes	1,300	5,750
Deferred income taxes, net	<u>213,542</u>	<u>86,142</u>
Total assets	<u>\$ 7,131,215</u>	<u>\$ 6,579,405</u>

(continued)

MGT of America, Inc.

Consolidated Balance Sheets (continued)

	June 30,	
	<u>2014</u>	<u>2013</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 740,490	\$ 685,215
Accrued liabilities	514,824	555,450
Lines of credit	2,695,000	2,265,000
Current portion of long term debt due to related party	61,196	23,054
Short term notes due to related parties	123,968	499,274
Unearned revenues	1,041,654	894,300
Deferred income taxes, net	683,068	545,239
Current portion of capital lease obligations	<u>32,668</u>	<u>-</u>
Total current liabilities	5,892,868	5,467,532
Long term debt, less current portion due to related party	886,011	783,206
Capital lease obligations, net of current portion	<u>45,381</u>	<u>-</u>
Total liabilities	6,824,260	6,250,738
Stockholders' equity:		
Class A prime preferred stock, \$1,000 par value, 100,000 shares authorized, 1,878 and 750 issued and outstanding at June 30, 2014 and 2013, respectively	1,877,977	750,000
Class B five percent convertible preferred stock, 65,384 shares authorized, 65,384 issued and outstanding at June 30, 2014 (none at June 30, 2013)	1	-
Class C five percent convertible preferred stock, 10,000 shares authorized, 4,167 issued and outstanding at June 30, 2014 (none at June 30, 2013)	1	-
Class A common stock, \$1 par value, 500,000 shares authorized, 57,966 and 161,585 issued and outstanding at June 30, 2014 and 2013, respectively	57,966	161,585
Class B common stock, \$1 par value, 50,000 shares authorized, 441 and 441 issued and outstanding at June 30, 2014 and 2013, respectively	441	441
Class C common stock, \$1 par value, 500,000 shares authorized, 31,111 and 40,697 issued and outstanding at June 30, 2014 and 2013, respectively	31,111	40,697
Additional paid-in capital	849,831	849,831
Members' equity	250,000	-
Retained earnings	2,690,183	2,693,023
Treasury stock	<u>(5,450,556)</u>	<u>(4,166,910)</u>
Total stockholders' equity	306,955	328,667
Total liabilities and stockholders' equity	<u>\$ 7,131,215</u>	<u>\$ 6,579,405</u>

See accompanying notes.

MGT of America, Inc.

Consolidated Statements of Operations

	Years ended June 30,	
	<u>2014</u>	<u>2013</u>
Goods and services	\$ 12,424,691	\$ 11,919,392
Operating expenses:		
Salaries and employee benefits	6,381,497	6,469,183
Contract labor	3,434,522	2,654,311
Travel	875,547	823,874
Rent	307,518	345,394
Office	128,737	86,735
Depreciation and amortization	176,280	243,483
Telephone	179,113	223,880
Professional fees	324,270	124,860
Copying	87,683	91,583
Taxes, excluding income taxes	85,490	87,661
Computer and data service	17,629	37,376
Postage	39,556	37,852
Insurance	94,820	97,110
Tuition and conference fees	22,988	18,452
Entertainment	19,938	21,516
Dues and subscriptions	51,948	49,747
Utilities	17,802	49,093
Interest	217,154	205,621
Janitorial and maintenance	7,718	32,747
Advertising	6,033	6,289
Donations	33,900	31,680
Bad debt expense	20,000	20,000
Miscellaneous	24,004	20,377
Total operating expenses	<u>12,554,147</u>	<u>11,778,824</u>
(Loss) income from operations	(129,456)	140,568
Nonoperating income and expenses:		
Gains (losses) on disposal of assets	12,383	(12,410)
Other revenue	<u>143,833</u>	<u>16,190</u>
Total nonoperating income and expenses	<u>156,216</u>	<u>3,780</u>
Income tax (benefit) expense	<u>(21,540)</u>	<u>115,555</u>
Net income	<u>\$ 48,300</u>	<u>\$ 28,793</u>

See accompanying notes.

MGT of America, Inc.

Consolidated Statements of Changes in Stockholders' Equity

Years ended June 30, 2014 and 2013

	Common Stock		Preferred Stock		Additional Paid-in Capital	Members' Equity	Treasury Stock	Retained Earnings	Total
	Shares	Par Value	Shares	Par Value					
Balance as of June 30, 2012	205,844	\$ 205,844	552	\$ 552,000	\$ 849,831	\$ -	\$ (4,072,494)	\$ 2,709,133	\$ 244,314
Purchase of treasury stock	(3,121)	(3,121)	-	-	-	-	(94,416)	-	\$ (97,537)
Sale of preferred stock	-	-	198	198,000	-	-	-	-	\$ 198,000
Net loss	-	-	-	-	-	-	-	28,973	\$ 28,973
Dividends	-	-	-	-	-	-	-	(45,083)	\$ (45,083)
Balance as of June 30, 2013	202,723	\$ 202,723	750	\$ 750,000	\$ 849,831	\$ -	\$ (4,166,910)	\$ 2,693,023	\$ 328,667
Purchase of treasury stock	(113,205)	(113,205)	-	-	-	-	(1,283,646)	-	\$ (1,396,851)
Sale of preferred stock	-	-	293	1,127,979	-	-	-	-	\$ 1,127,979
Issuance of units	-	-	-	-	-	250,000	-	-	\$ 250,000
Net income	-	-	-	-	-	-	-	48,300	\$ 48,300
Dividends	-	-	-	-	-	-	-	(51,140)	\$ (51,140)
Balance as of June 30, 2014	89,518	\$ 89,518	1,043	\$ 1,877,979	\$ 849,831	\$ 250,000	\$ (5,450,556)	\$ 2,690,183	\$ 306,955

See accompanying notes.

MGT of America, Inc.

Consolidated Statements of Cash Flows

	Years ended June 30,	
	<u>2014</u>	<u>2013</u>
Operating activities		
Net income	\$ 48,300	\$ 28,793
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization	176,280	243,484
Gain on disposals of property and equipment	(12,384)	-
Changes in operating assets and liabilities:		
Accounts receivable	(278,355)	(796,063)
Income taxes receivable	-	2,756
Prepaid expenses	(38,795)	1,195
Deferred income taxes	10,427	66,533
Accounts payable	55,277	210,683
Accrued liabilities	(40,626)	(51,935)
Unearned revenues	147,354	194,371
Income taxes payable	-	(5,314)
Prepaid taxes	4,450	65,502
Deposits	<u>(88,751)</u>	<u>3,199</u>
Net cash used in operating activities	<u>(16,823)</u>	<u>(36,796)</u>
Investing activities		
Purchases of property and equipment	(150,741)	(2,541)
Proceeds from sale of property and equipment	39,000	14,310
Capital lease	<u>78,049</u>	<u>-</u>
Net cash (used in) provided by investing activities	<u>(33,692)</u>	<u>11,769</u>
Financing activities		
Proceeds from new borrowings	1,072,930	588,164
Purchase of treasury stock	(1,396,851)	(97,537)
Payments of dividends	(51,140)	(45,083)
Repayment of debt	(877,289)	(668,610)
Preferred stock issued	<u>1,377,979</u>	<u>198,000</u>
Net cash provided by (used in) financing activities	<u>125,629</u>	<u>(25,066)</u>
Net increase (decrease) in cash and cash equivalents	75,114	(50,093)
Cash and cash equivalents at beginning of year	<u>89,104</u>	<u>139,197</u>
Cash and cash equivalents at end of year	<u>\$ 164,218</u>	<u>\$ 89,104</u>
Supplemental disclosures of cash flow information		
Interest paid	\$ 217,154	\$ 205,612
Income taxes paid (refunded)	\$ 130,810	\$ (10,844)

See accompanying notes.

MGT of America, Inc.

Notes to Consolidated Financial Statements

Years ended June 30, 2014 and 2013

1. Summary of Significant Accounting Policies

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America. On May 12, 2014, MGT Financial Services, LLC (MFS) was incorporated in the state of Delaware. The 2014 consolidated financial statements include the accounts of MGT of America, Inc. (MGT) and MFS, collectively the Company.

MGT is a firm that provides management consulting services to public agencies and public related agencies in the following markets: secondary education PK-12, higher education, state and local governments, and public safety.

All material intercompany accounts and transactions are eliminated in consolidation.

Revenue Recognition

Revenue is recognized as services are rendered. The asset, unbilled receivables, represents revenues recognized in excess of billed amounts. The liability, unearned revenues, represents contracts that are billed prior to being earned.

Cash and Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash and cash equivalents include cash or deposits with financial institutions and deposits in highly liquid money market securities. Deposits with financial institutions are insured by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 per depositor. Bank deposits at times may exceed federally insured limits.

Accounts Receivable

Accounts receivable are recorded at net realizable value. The Company establishes a general reserve based on the Company's average historical write-off percentage, in conjunction with a specific reserve for receivables with known collection problems due to circumstances such as liquidity or bankruptcy.

Property and Equipment

Property and equipment is carried at cost, net of accumulated depreciation and amortization. Maintenance repairs and minor improvements are expensed as incurred. Depreciation is computed using the straight-line method of depreciation over the estimated useful lives of the assets, which range from three to 15 years.

MGT of America, Inc.

Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies (continued)

Income Taxes

Income taxes are accounted for under the asset and liability method. Under this method, deferred tax assets and liabilities are determined based on differences between the financial reporting and tax basis of assets and liabilities using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. Valuation allowances are established when necessary to reduce net deferred tax assets to amounts that management believes are more likely than not to be realized. The Company recognizes the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. Unrecognized tax benefits and uncertainties are reported, and the estimated accrued interest and penalties related to unrecognized tax benefits are charged to income tax expense. For income tax purposes the Company is considered a personal service corporation which places certain restrictions on dealings with its shareholders.

With few exceptions, the Company is no longer subject to examinations by major tax jurisdictions for years ended June 30, 2010 and prior.

Advertising

Advertising costs are charged to expense when incurred.

Subsequent Events

The Company has evaluated subsequent events through January 14, 2015, the date the financial statements were available to be issued. During the period from June 30, 2014 to January 14, 2015, the Company did not have any material recognizable subsequent events.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Accordingly, actual results could differ from those estimates.

Reclassification

Certain 2013 financial statement amounts have been reclassified to conform to the 2014 financial statement presentation.

MGT of America, Inc.

Notes to Consolidated Financial Statements

2. Accounts Receivable

Accounts receivable consists of the following at June 30:

	<u>2014</u>	<u>2013</u>
Billed	\$ 2,264,387	\$ 2,304,358
Unbilled	2,161,962	1,843,636
Allowance for doubtful accounts	<u>(20,000)</u>	<u>(20,000)</u>
	<u>\$ 4,406,349</u>	<u>\$ 4,127,994</u>

3. Property and Equipment, Net

The amounts of major classifications of property and equipment are as follows at June 30:

	<u>2014</u>	<u>2013</u>
Furniture and fixtures	\$ 414,687	\$ 692,103
Software	27,589	83,294
Leasehold improvements	<u>37,748</u>	<u>58,857</u>
	480,024	834,254
Accumulated depreciation and amortization	<u>(319,867)</u>	<u>(762,584)</u>
	<u>\$ 160,157</u>	<u>\$ 71,670</u>

4. Goodwill and Other Intangible Assets

Goodwill represents the excess of cost over the fair value of the net tangible assets and identifiable intangible assets of businesses acquired. Goodwill and intangible assets acquired in a purchase business combination and determined to have an indefinite useful life are not amortized, but instead tested annually for impairment. Intangible assets are amortized over their respective estimated useful lives to their estimated residual values, and reviewed for impairment. Recognition of an impairment loss is recognized only if the carrying amount of a long-lived asset or asset group is not recoverable from its undiscounted cash flows. An impairment loss is measured as the difference between the carrying amount and fair value of the asset or asset group. The Company evaluates its long-lived assets if impairment indicators arise. The Company evaluates each of its reporting units with goodwill during the fourth quarter of each fiscal year or more frequently if impairment indicators arise.

Intangible assets consists of the following at June 30:

	<u>2014</u>	<u>2013</u>
Noncompete agreements	\$ 605,000	\$ 605,000
Customer relationships	1,088,000	1,088,000
Trademark	<u>166,277</u>	<u>166,277</u>
	1,859,277	1,859,277
Accumulated amortization	<u>(1,291,689)</u>	<u>(1,151,046)</u>
	<u>\$ 567,588</u>	<u>\$ 708,231</u>

MGT of America, Inc.

Notes to Consolidated Financial Statements

4. Goodwill and Other Intangible Assets (continued)

Intangible assets, consisting of noncompete agreements, trademark, and customer relationships acquired in business combinations, are recorded at their estimated fair value at the date of the acquisition. Intangible assets are amortized using the straight line method over five to 15 years. Estimated future amortization is approximately \$73,000 each year in the period 2015 - 2019.

Amortization expense associated with intangible assets was \$140,643 and \$200,888 for the years ended June 30, 2014 and 2013, respectively.

The Company uses the income approach to determine the fair value of its intangible assets, which represents the price a hypothetical market participant would pay to acquire the asset. The income approach primarily utilizes discounted cash flows and incorporates assumptions it is believed marketplace participants would utilize. The discount rate used to determine the present value of the forecasted cash flows relies on market participant assumptions including the capital structure, industry risks, and business-size risks applicable to the Company.

The Company assesses the possible impairment of goodwill and indefinite-lived intangible assets in the fourth quarter of each fiscal year. No impairments to goodwill or intangible assets were recorded in 2014 and 2013.

5. Long-term Debt

Long-term debt consists of the following at June 30:

	<u>2014</u>	<u>2013</u>
Loan from related party, 7.25% until July 31, 2013, then 6.25%, maturing July 15, 2025	\$ <u>947,207</u>	\$ <u>806,260</u>
	947,207	806,260
Less current portion	<u>(61,196)</u>	<u>(23,054)</u>
	\$ <u><u>886,011</u></u>	\$ <u><u>783,206</u></u>

The debt is due to Centre Pointe, Inc. (CPI), a related party as described in Note 11.

MGT of America, Inc.

Notes to Consolidated Financial Statements

5. Long-term Debt (continued)

As of June 30, 2014, the annual maturities of long-term debt are as follows:

2015	\$	61,196
2016		65,133
2017		69,322
2018		73,781
2019		78,527
Thereafter		<u>599,248</u>
	\$	<u><u>947,207</u></u>

Substantially all assets of the Company have been pledged as collateral associated with the long-term debt.

6. Available Line of Credit

At June 30, 2014 and 2013, the Company had a \$3.5 million line of credit with a bank to be drawn upon as needed. At June 30, 2014 and 2013, the Company had borrowings outstanding under this line of credit of \$2,695,000 and \$2,000,000, respectively. The line of credit has an interest rate of prime with a floor of 6% and a ceiling of 17.7%, and matures in February 2015.

7. Income Taxes

Total federal, state, and foreign income tax (benefit) expense consisted of the following.

	Years ended June 30,	
	<u>2014</u>	<u>2013</u>
Current:		
Federal	\$ (25,000)	\$ 25,000
State	(6,969)	21,266
Foreign	<u>-</u>	<u>2,756</u>
	(31,969)	49,022
Deferred:		
Federal	11,329	72,908
State	<u>(900)</u>	<u>(6,375)</u>
	10,429	66,533
	<u>\$ (21,540)</u>	<u>\$ 115,555</u>

MGT of America, Inc.

Notes to Consolidated Financial Statements

7. Income Taxes (continued)

Income tax expense differed from the "expected" tax expense (computed by applying the U.S. statutory federal corporate tax rate to income before income taxes) as follows:

	Years ended June 30,	
	<u>2014</u>	<u>2013</u>
Computed "expected" tax expense	\$ 9,787	\$ 57,522
State income taxes, net of federal income tax benefit	1,327	3,730
Permanent book-tax differences	16,781	17,149
Change in valuation allowance	3,000	24,000
Foreign tax credit adjustment	(17,583)	(23,903)
Other, net	<u>(34,852)</u>	<u>37,057</u>
	<u>\$ (21,540)</u>	<u>\$ 115,555</u>

Deferred income taxes relate to the following temporary differences:

	June 30,	
	<u>2014</u>	<u>2013</u>
Deferred tax assets:		
Compensation	<u>117,937</u>	<u>132,297</u>
	<u>117,937</u>	<u>132,297</u>
Noncurrent deferred tax assets:		
Contribution carryforward	1,234	1,234
Net operating loss	298,097	137,034
Foreign tax credit	455,576	437,993
Less valuation allowance	<u>(441,000)</u>	<u>(438,000)</u>
Net noncurrent deferred tax assets	<u>313,907</u>	<u>138,261</u>
Deferred tax liabilities:		
Unbilled receivables	<u>(801,005)</u>	<u>(677,536)</u>
Noncurrent deferred tax liabilities:		
Fixed assets	(28,671)	(8,770)
Goodwill and other intangibles	<u>(71,692)</u>	<u>(43,349)</u>
Net noncurrent deferred tax liabilities	<u>(100,363)</u>	<u>(52,119)</u>
Net deferred tax liability	<u>\$ (469,524)</u>	<u>\$ (459,097)</u>

MGT of America, Inc.

Notes to Consolidated Financial Statements

7. Income Taxes (continued)

The Company has available at June 30, 2014, approximately \$456,000 of foreign tax credit carryforwards that expire in various years.

The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. For the years ended June 30, 2014 and 2013, a valuation allowance of \$456,000 and \$438,000, respectively, was recorded against the foreign tax credit deferred tax asset, as management believes it is more likely than not that the Company will not realize a portion of the asset. Although realization is not assured, the Company's management believes that it is more likely than not that the remaining balance of federal and state deferred tax assets will be realized.

The Company has no recorded unrecognized tax benefits or uncertainties for the years ended June 30, 2014 and 2013. The Company did not accrue interest or penalties related to unrecognized tax benefits on the June 30, 2014 and 2013 statements of operations.

The Company does not anticipate that the amounts of unrecognized tax benefits will significantly increase or decrease within the next 12 months.

8. Treasury Stock

Treasury stock is shown at cost and as of June 30, 2014 and 2013, consists of 236,204 and 122,999 shares of common stock, respectively.

9. Buy-Sell Agreement

Upon the death, permanent disability, retirement, resignation, or termination (collectively, change of status) of any stockholder, the stockholder will sell and the Company will purchase Company stock owned by the stockholder under the terms and conditions outlined in the Management Agreement. The Company's total obligation each month to fund the repurchase of the Company stock shall in no event exceed, in the aggregate, 1.80% of the Company's gross revenues.

10. Voting Rights

Class A prime preferred stock is non-voting stock with a guaranteed dividend measured by the prime interest rate plus three percent per annum, payable monthly, which shall be cumulative and payable before any dividends shall be paid with respect to the Company's common stock. Class A prime preferred stock may be offered as authorized by the Board of Directors to any owner of the Company's common stock of any class, provided such common shareholder also holds any outstanding promissory note issued by the Company. Class A prime preferred stock shall have a preference ahead of all classes of common stock in the distribution of the Company's assets in connection with the liquidation of the Company, or in the event of a sale or public offering of the Company.

MGT of America, Inc.

Notes to Consolidated Financial Statements

10. Voting Rights (continued)

Class B five percent convertible preferred stock is non-voting stock with an annual cash dividend equal to 5% of agreed value, cumulative, payable monthly, with a dividend priority equal to that of existing Class A Prime Plus 3 percent preferred shares. Upon the occurrence of certain events, the holders of Class B five percent preferred shares may, at their option, convert their shares into Voting Class B five percent convertible preferred shares with voting rights equivalent to three shares of Class A common stock for each voting Class B five percent convertible preferred share held.

Class C five percent convertible preferred stock is non-voting stock with an annual cash dividend equal to 5% of agreed value, cumulative, payable monthly, with a dividend priority equal to that of existing Class A Prime Plus 3 percent preferred shares. Upon the occurrence of certain events, the holders of Class C five percent preferred shares may, at their option, convert their shares into Voting Class C five percent convertible preferred shares with voting rights equivalent to three shares of Class A common stock for each voting Class B five percent convertible preferred share held.

Class A common stock is voting stock owned solely by the partners. Class B common stock is non-voting stock owned by employees. Class C common stock has all the rights and privileges of Class A shares; however, Class C shareholders have limited voting rights and are only authorized to vote with respect to any amendment to the share valuation formula and any proposed sale of the Company to a third party. At no time may the aggregate number of Class A common stock and Class C common stock exceed 500,000 shares.

Economic interests in MFS are represented by Common Units and Preferred Units. All actions requiring approval of the members owning units will be deemed approved if members owning more than 67% of the outstanding units vote in favor of approval; each unit represents a single vote.

11. Related Party Transactions

The Company engaged in the following related party transactions:

The Company rented its operating facilities from CPI, a company majority owned by stockholders and former stockholders of the Company. During the year ended June 30, 2013, the Company paid this related party \$35,000 for rent. During 2014, CPI sold the office building leased by the Company located in Tallahassee, Florida. The lease agreement between the Company and CPI was cancelled with no cancellation penalties incurred by the Company.

MGT of America, Inc.

Notes to Consolidated Financial Statements

11. Related Party Transactions (continued)

The Company owes stockholders and former stockholders \$123,968 and \$499,274 at June 30, 2014 and 2013, respectively, which are recorded as short term notes payable in the accompanying balance sheets at varying interest rates.

During 2012, the Company entered into an agreement (the Agreement) with an officer to loan \$75,000 interest free toward the purchase of the number of shares in the Company the officer is to own as a senior partner, pursuant to the Company's Management Agreement. The Agreement has a clause to forgive a portion of the loan for each fiscal year that the officer is due an incentive payment. The sum of \$25,000 of the outstanding principal balance of this loan will be forgiven by the Company at the end of each fiscal year during the term of the Agreement, but only on the condition that for such fiscal year, the officer is entitled to an incentive payment pursuant to the terms of the Agreement. The officer was not entitled to an incentive payment for the years ended June 30, 2014 and 2013.

During 2014, the Company paid consulting fees of \$278,291 to a related party.

12. Lease Commitments

As of June 30, 2014, future minimum lease payments under noncancellable operating leases are as follows:

2015	\$	329,189
2016		295,442
2017		295,589
2018		271,364
2019		273,502
Thereafter		<u>207,576</u>
	\$	<u>1,672,662</u>

13. Retirement Plan

The Company sponsors a defined contribution plan that covers all of the Company's active employees who have obtained the age of 21. The employer may contribute a discretionary matching contribution on behalf of all employees. In addition, a qualified nonelective contribution may be contributed by the employer, but shall be made only for or allocated to non-highly compensated individuals. Employee contributions are fully vested at the date of contribution. Company contributions are partially vested after two years and fully vested after six years. The Company makes matching contributions up to 3% of an employee's elective deferral. Company contributions to the plan for the year ended June 30, 2013 were \$92,492. No contributions to the plan were made for the year ended June 30, 2014.

MGT of America, Inc.

Notes to Consolidated Financial Statements

14. Concentrations of Credit Risk

The Company is engaged in consulting projects under contracts with federal, state and local governments, private industry, and individuals. Revenues from one contract with the federal government accounted for approximately 8% of the Company's total revenue for the year ended June 30, 2014. The Company has contract receivables, before allowance for doubtful accounts (see Note 2), as follows at June 30:

	<u>2014</u>	<u>2013</u>
Federal, state, and local governments	\$ 4,420,699	\$ 4,062,995
Private industry and individuals	<u>5,650</u>	<u>84,999</u>
	<u>\$ 4,426,349</u>	<u>\$ 4,147,994</u>

FREDERICK COUNTY HIGHER EDUCATION NEEDS ASSESSMENT

FINAL REPORT

Submitted to:



and the

**FREDERICK REGIONAL HIGHER EDUCATION
ADVISORY BOARD**

Submitted by:



June 19, 2014



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June 19, 2014

FREDERICK COUNTY
HIGHER EDUCATION NEEDS ASSESSMENT
FINAL REPORT

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I.0 INTRODUCTION

In accordance with Chapter 375 of the Acts of 2013 (House Bill 527, entitled “Frederick Regional Higher Education Advisory Board”) and funding provided in the fiscal 2014 budget, the Maryland Higher Education Commission (MHEC), on behalf of the Frederick Regional Higher Education Advisory Board, engaged MGT of America, Inc., a national education planning and research firm, to conduct a study of higher education needs and capacity in the local region. This introductory chapter provides a brief overview of that study.

The remaining chapters and appendices present data, findings and conclusions that are intended to inform planning decisions of MHEC and the Advisory Board related to potential development of a regional higher education center in Frederick County.

I.1 STUDY BACKGROUND

Despite Frederick County being home to three higher education institutions, thoughts of expanding local access to college education, particularly at the post-baccalaureate level and STEM related disciplines has been a long-standing discussion among business and community leaders.

The Major Employer Group (MEG) of the Frederick County Chamber of Commerce convened a meeting of interested parties in December of 2007 at which time the vision of a local higher education center was explored. A subsequent meeting with MHEC representatives led to a BRAC-related report calling for an education needs assessment of the area surrounding Ft. Detrick. Eventually, funds were provided by the University System of Maryland and SAIC-Frederick, Inc. to conduct the needs assessment study, with a report issued at the end of 2010.

As a result, the MEG identified five priority courses not currently offered by local institutions. An invitation to submit academic program proposals was sent to all public and private colleges and universities in Maryland. The response was a call for a more quantitative needs assessment study to determine program demand.

In 2012, Governor O’Malley pledged to support funding for such a study and establish the Frederick Regional Higher Education Advisory Board (15 members). As mentioned above, HB527 passed in 2013 and funds were designated for the current 2014 needs assessment study, the focus of this report.

I.2 STUDY OBJECTIVES

MHEC on behalf of the Frederick Advisory Board, defined a scope of work for the needs assessment to determine the following:

- ◆ Need for postsecondary education programs at all levels (associate through doctoral degrees);
- ◆ Existing availability of programs locally;
- ◆ Potential for a local higher education center to support joint commercial/federal – university graduate programs;

- ◆ Contribution of such a center to statewide economic, workforce and education priorities;
- ◆ “Best practices” derived from similar regional centers in Maryland.

1.3 PRIOR RESEARCH AND INITIATIVES

At the outset of this needs assessment study, MHEC and Advisory Board members, along with the Frederick County Chamber of Commerce identified several key local and statewide studies, reports and initiatives that have influenced the pursuit of establishing a regional higher education center in Frederick County. These included:

- ◆ University System of Maryland 2011 report: *Higher Education Demand Survey and Needs Analysis for Frederick County*.
- ◆ Maryland Federal Facilities Advisory Board’s *2013 Strategic Business Plan: Supporting Maryland’s Federal Facilities*.
- ◆ MHEC’s *Maryland Ready: 2013-2017 Maryland State Plan for Postsecondary Education*.
- ◆ Frederick County, Business Development and Retention, Target Industry Focus.

1.4 REPORT OUTLINE

The needs assessment report that follows is presented in the following sequence of five additional chapters:

2.0 Market Review --- depicts population, education and employment characteristics, data points and trends of the defined market encompassing all of Frederick County, the primary service area for a potential regional higher education center. This data sets the stage for access and delivery issues that will focus plans for a new center, as they illustrate potential attendees and subsequent barriers that must be addressed, as well as key points of opportunity.

3.0 Stakeholder Input --- summarizes qualitative commentary provided by major employers, local educators, and community leaders in Frederick County, including expressed program needs and gaps, along with common points of interest. It also identifies issues and concerns faced by the community and the state for planning, establishing and sustaining a regional higher education center in this locale. The chapter also summarizes aggregate responses to a surveyed purposeful sample of local employers regarding current and future education and training needs of employees and job seekers.

4.0 Indicators of Program Needs --- utilizing qualitative interview findings and quantitative survey data collected during this study, combined with Maryland Department of Labor, Licensing and Regulation (DLLR) occupational openings projections, academic programs of need are identified by degree level. Further, identified needs are cross-referenced with current academic program inventories from local institutions to identify gaps.

5.0 Maryland Regional Higher Education Centers --- as requested in the study scope of work, information and input was collected from each of the eight existing regional higher education centers across the state. This section reports key points of interest to the Frederick Advisory Board on issues of governance, operations, program selection, delivery, best practices and lessons learned.

6.0 Conclusions --- offers key findings and conclusions of the consultant team based upon the information and data compiled in previous sections of the report, our understanding and assessment of

the current situation in Frederick County, and our experience advising academic and community leaders in similar situations and circumstances seeking to; improve local access to postsecondary education and training opportunities, maintain an appropriately skilled local workforce, and contribute to regional competitive readiness and long-term economic stability.

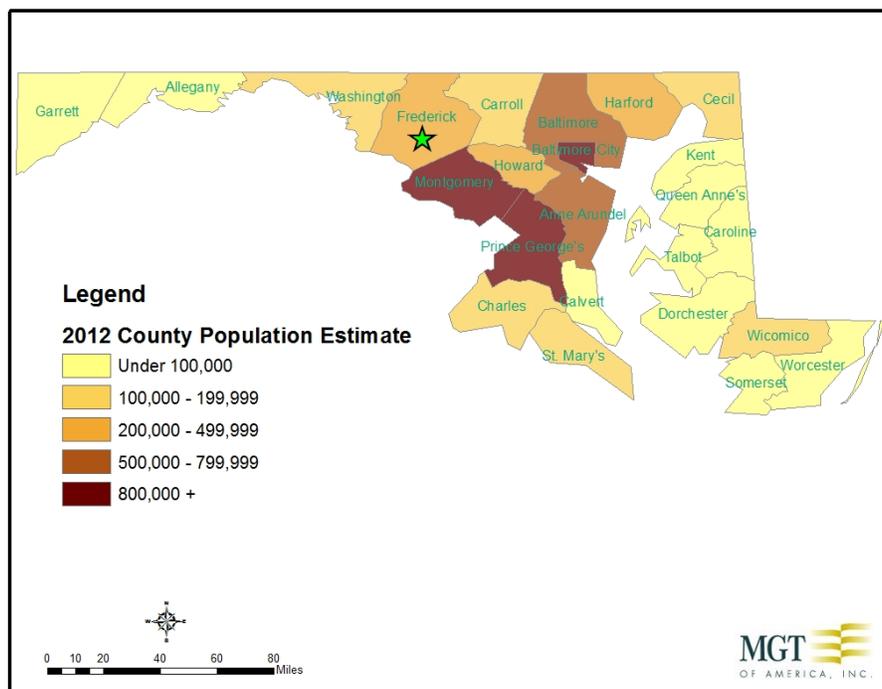
2.0 MARKET REVIEW

In any academic needs study, one must first have a reasonable understanding of the current population features of the geographic market of concern. Each data element provides insight into the factors that may help or hinder desired and targeted educational needs, barriers and access opportunities which impact a skilled workforce. For Frederick County, our analysis starts with basic data on county population counts and demographics, continues with growth rate and projections, along with educational attainment, education participation and pipeline (k-12) indicators. A summary of major local postsecondary education providers and their respective enrollment patterns is offered to understand accessible local capacity. Finally, this chapter concludes with several current informational points on employment figures, industry sector distribution, and employee residence location and work commute destination.

2.1 POPULATION TRENDS AND PROJECTIONS

Frederick County ranks 8th in total population among Maryland's 24 county jurisdictions (includes Baltimore City). **Exhibit 2-1** displays the location of Frederick County and its estimated 2012 population relative to other counties in Maryland.

EXHIBIT 2-1
2012 POPULATION ESTIMATES, MARYLAND AND FREDERICK COUNTY



Source: ArcView GIS depictions of geographies. Population estimates from U.S. Census.

In 2012, Maryland's population reached near 5.9 million, while the population of Frederick County was approximately 240,000, as shown in **Exhibit 2-2**. Frederick County constitutes approximately 4.0% of the state population. The breakdown by gender is similar in both geographies, with women comprising slightly more than half of the population.

EXHIBIT 2-2
2012 POPULATION BY GENDER
FOR MARYLAND AND FREDERICK COUNTY

	Maryland		Frederick County	
	#	%	#	%
Male	2,849,291	48%	118,567	49%
Female	3,035,272	52%	121,015	51%
TOTAL	5,884,563	100%	239,582	100%

Source: U.S. Census Bureau, 2012 American Community Survey 1-Year Estimates.

Exhibit 2-3 provides the population of Maryland and Frederick County by age groupings. As with the breakdown by gender, the proportions of the population within each group are similar. Approximately 13% of Frederick County residents are between the ages of 15 and 24, the traditional pipeline age for college enrollment.

EXHIBIT 2-3
2012 POPULATION BY AGE

	Maryland		Frederick County	
	#	%	#	%
Under 15 years	1,110,821	19%	47,651	20%
15 to 19 years	394,552	7%	17,179	7%
20 to 24 years	407,055	7%	14,592	6%
25 to 34 years	801,626	14%	27,976	12%
35-54	1,670,838	28%	74,065	31%
55-64	736,990	13%	29,275	12%
65 and over	762,681	13%	28,844	12%
TOTAL	5,884,563	100%	239,582	100%

Source: U.S. Census Bureau, 2012 American Community Survey 1-Year Estimates.

The Maryland Department of Planning projects that the population of Frederick County will grow 23% between 2010 and 2025, as shown in **Exhibit 2-4**. During the same time period the population of the state is projected to grow 11%. The agency estimates that the population of Frederick County will grow at more than twice the rate of the state between 2000 and 2025 (47% and 21%, respectively).

EXHIBIT 2-4
POPULATION ESTIMATES AND PROJECTIONS
THROUGH 2025

	Maryland	Frederick County
2000 Census	5,296,486	195,277
2010 Census	5,773,552	233,385
2015	5,962,000	247,350
2020	6,216,150	267,650
2025	6,428,250	286,950
Growth 2000-2010	477,066	38,108
% Growth 2000-2010	9%	20%
Growth 2010-2025	654,698	53,565
% Growth 2010-2025	11%	23%
Growth 2000-2025	1,131,764	91,673
% Growth 2000-2025	21%	47%

Source: Maryland Department of Planning, 2013.

Compared to other Maryland counties, Frederick ranked 8th in population size in 2010, but is projected to up to move to 7th by 2025. Frederick is anticipated to rank 3rd in population rate of growth between 2010 and 2025 significantly exceeding the state rate (see [Exhibit 2-5](#)).

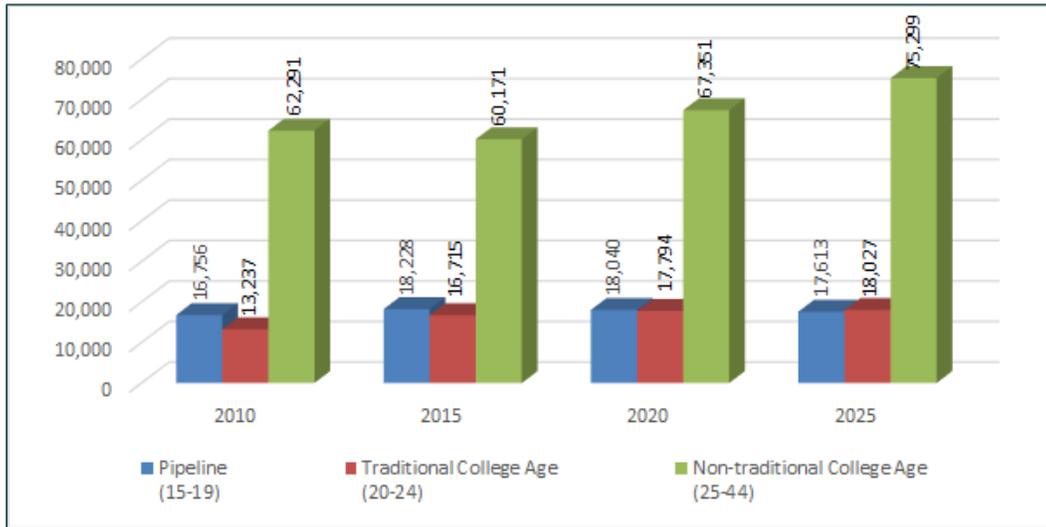
EXHIBIT 2-5
PROJECTED POPULATION CHANGE
THROUGH 2025

	Maryland		Frederick County	
	#	%	#	%
2010-2015	188,448	3.3%	13,965	6.0%
2015-2020	254,150	4.3%	20,300	8.2%
2020-2025	212,100	3.4%	19,300	7.2%

Source: Maryland Department of Planning, 2013.

Population projections by age groupings are displayed in [Exhibit 2-6](#). As shown, the typical postsecondary education pipeline group (age 15-19) is projected to grow by 5% over the 15 year period. The college-going traditional age group (20-24) is projected to grow significantly by 36%, while the 25-44 age cohort is projected to grow 21% by 2025.

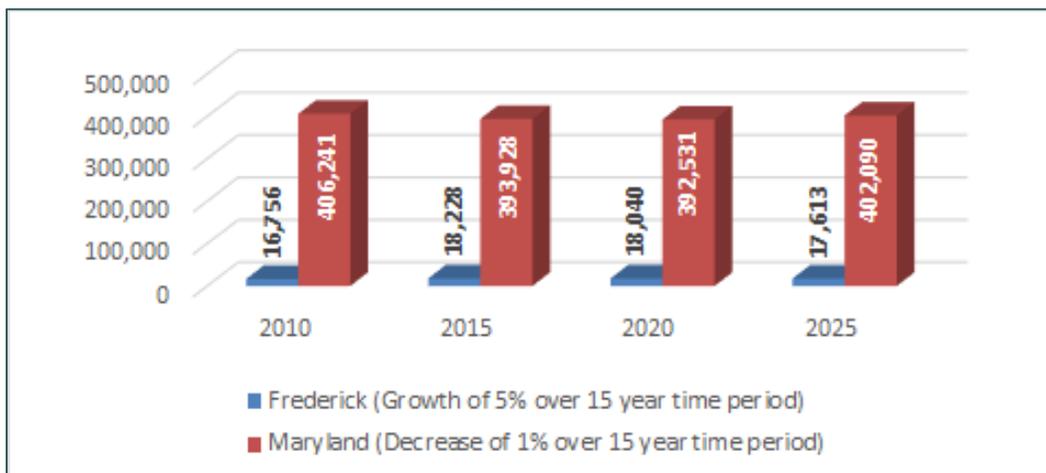
EXHIBIT 2-6
 FREDERICK COUNTY PIPELINE AND
 COLLEGE-AGE POPULATION GROWTH THROUGH 2025



Source: Maryland Department of Planning, 2013.

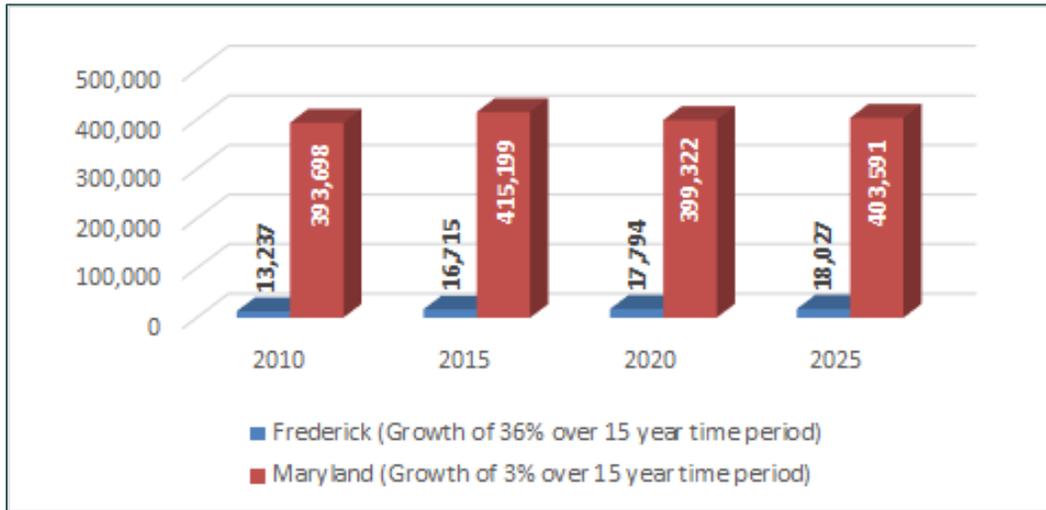
The projected population growth by age groupings for both Frederick County and the state of Maryland are shown in Exhibits 2-7 through 2-9. As shown, the population of Frederick County is projected to grow at a higher rate than the state as a whole in each age category.

EXHIBIT 2-7
 AGE 15-19 POPULATION GROWTH
 THROUGH 2025



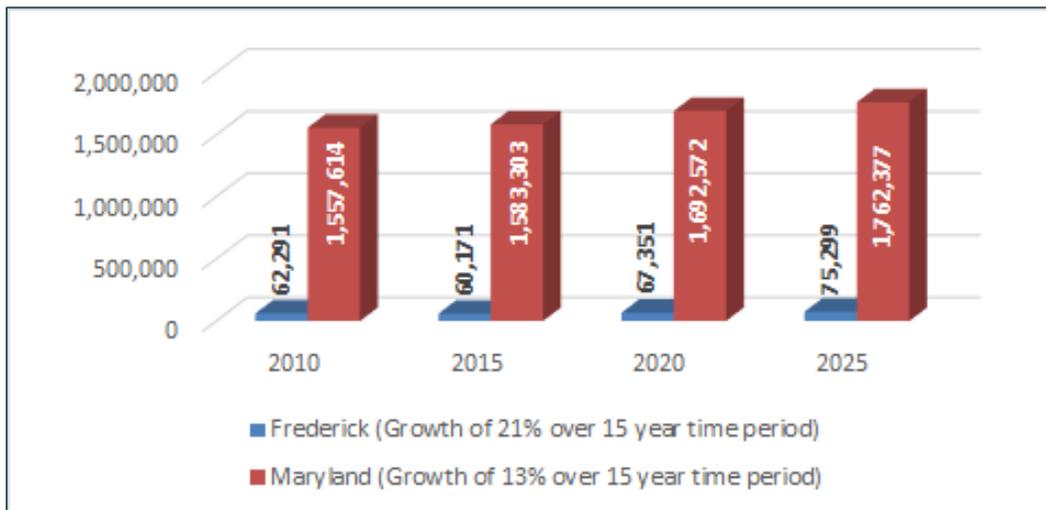
Source: Maryland Department of Planning, 2013.

EXHIBIT 2-8
AGE 20-24 POPULATION GROWTH
THROUGH 2025



Source: Maryland Department of Planning, 2013.

EXHIBIT 2-9
AGE 24-44 POPULATION GROWTH
THROUGH 2025



Source: Maryland Department of Planning, 2013.

2.2 EDUCATIONAL PROFILE OF THE SERVICE AREA

Approximately 11% of the population aged 18 and over in both Maryland and Frederick County are enrolled in some level of college or graduate school, as shown in [Exhibit 2-10](#).

EXHIBIT 2-10
2012 EDUCATIONAL PARTICIPATION
POPULATION AGED 18 AND OVER

	Maryland		Frederick County	
	#	%	#	%
Enrolled in college or graduate school	504,121	11.1%	19,773	10.9%
Population 18 years and over	4,541,628	100.0%	181,402	100.0%

Source: U.S. Census Bureau, 2012 American Community Survey 1-Year Estimates.

As shown in **Exhibit 2-11**, a slightly larger proportion of the population aged 18 to 24 in Frederick County is enrolled in college or graduate school as compared to Maryland (48% and 45%, respectively).

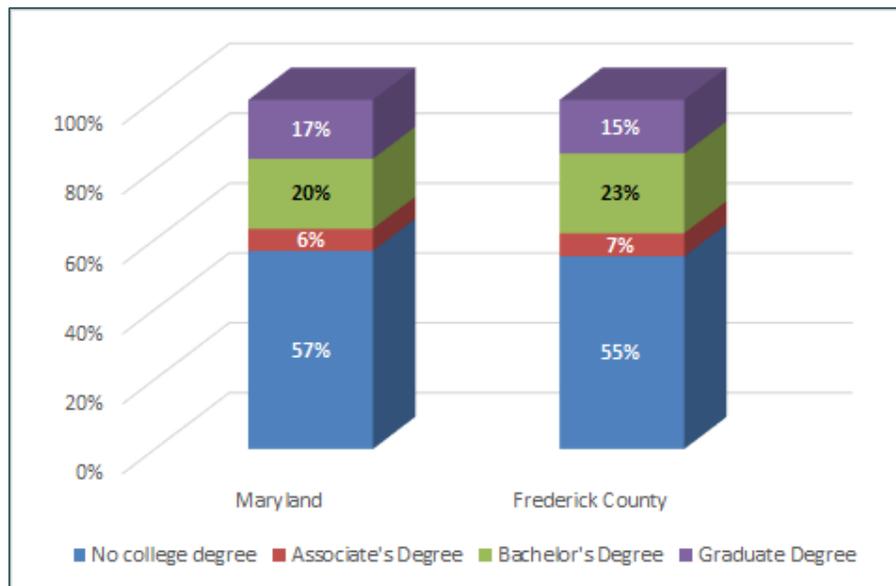
EXHIBIT 2-11
2012 EDUCATIONAL PARTICIPATION
POPULATION AGED 18-24

	Maryland	Frederick County
	#	#
Population 18-24 years	569,493	21,242
Enrolled in college or graduate school	44.7%	48.0%

Source: U.S. Census Bureau, 2012 American Community Survey 1-Year Estimates.

Exhibit 2-12 displays visually the educational attainment of the population 25 and older of Maryland and Frederick County in 2012.

EXHIBIT 2-12
2012 EDUCATIONAL ATTAINMENT
POPULATION AGE 25 AND OLDER

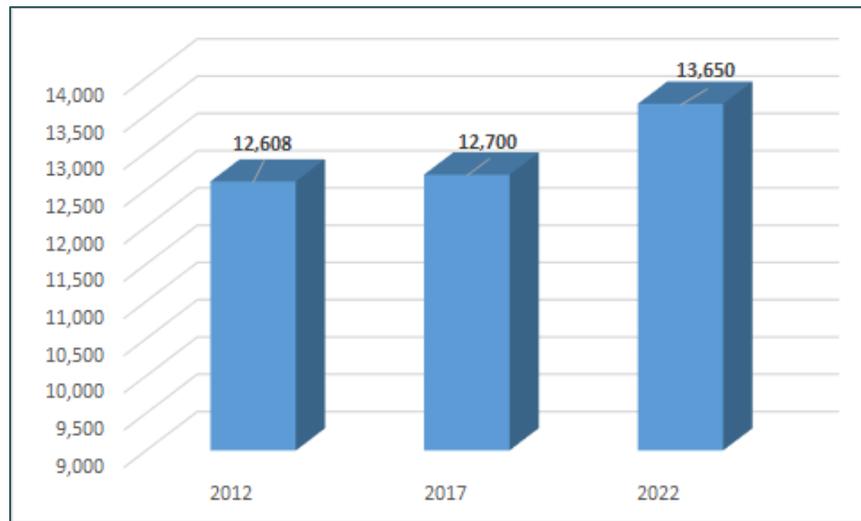


Source: U.S. Census Bureau, 2012 American Community Survey 1-Year Estimates.

2.3 HIGH SCHOOL ENROLLMENT AND GRADUATION TRENDS

Public high school enrollments in Frederick County are projected to increase by more than 1,000 students by 2022 – an increase of 8.3% from 2012, as shown in **Exhibit 2-13**.

EXHIBIT 2-13
ENROLLMENT TRENDS AND PROJECTIONS
FOR PUBLIC HIGH SCHOOLS IN FREDERICK COUNTY
2012 THROUGH 2018



Source: Maryland Department of Planning, 2009.

Graduation counts in Frederick County have fluctuated over the last four years, resulting in a slight decrease in the number of diplomas earned since 2010, but recently are trending higher (see **Exhibit 2-14**). The county public school system awarded more than 3,000 high school diplomas in 2013.

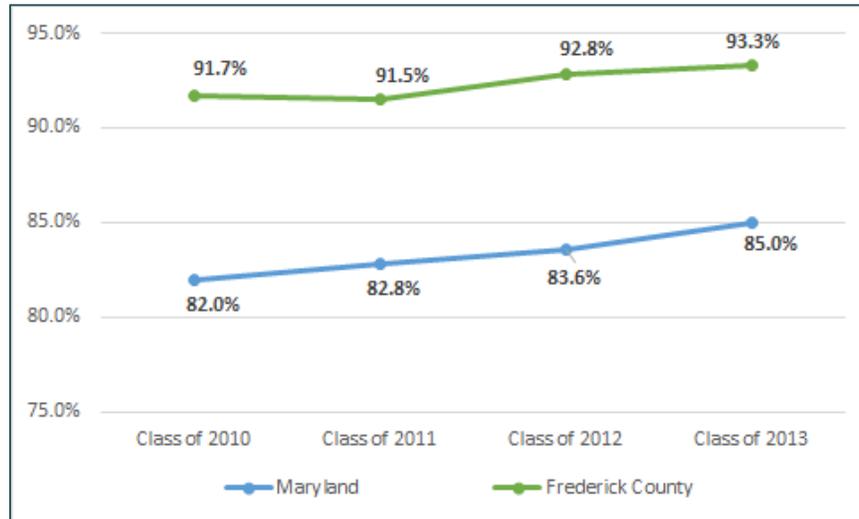
EXHIBIT 2-14
GRADUATION COUNTS (DIPLOMAS EARNED) FOR PUBLIC HIGH SCHOOLS IN FREDERICK COUNTY,
2010 THROUGH 2013



Source: Maryland State Department of Education, February 2014.

As shown in **Exhibit 2-15**, Frederick County students earn high school diplomas at a higher rate than the state of Maryland (graduation rate exceeded 93% in 2013 from Frederick public schools as compared to an 85% rate statewide).

EXHIBIT 2-15
GRADUATION RATES FOR PUBLIC HIGH SCHOOLS
IN MARYLAND AND FREDERICK COUNTY
2010 THROUGH 2013



Source: Maryland State Department of Education, February 2014.

2.4 LOCAL POSTSECONDARY PROVIDERS

Frederick County continues to maintain a strong base of college educated residents in the workforce largely due to the presence of local higher education institutions. Three local colleges are available to residents and employers in Frederick County to pursue higher education: Frederick Community College, Hood College, and Mount St. Mary’s University. A brief description of each local institution is presented below:



In its 57-year history, Frederick Community College (FCC) has grown from 77 students to more than 17,000 students registered in academic, continuing education and workforce development divisions. The 94 acre campus is located in Frederick on Opossumtown Pike.

FCC is part of the Maryland Community College system and offers an extensive array of terminal and transfer associate degrees, and has established a series of 2+2 articulation agreements to allow its graduates access and easier transition to a four-year baccalaureate degree in state. In addition, the college offers a significant number of continuing education and training

opportunities for citizens of the county and the local and commuter workforce. They also provide customized corporate training services. In 2009 FCC opened the Monroe Center (Monroe Ave.) focusing on training in the culinary arts, hospitality, and building trades. In 2012, FCC entered into a partnership with Carroll Community College and Howard Community College to open the Mt. Airy College Center for Health Care Education with a shared focused solely on allied health professions.



Located within the City of Frederick on a 50-acre campus, Hood College was founded May 12, 1893, the date of the first meeting of the board of directors, who at that time established The Woman's College of Frederick, now known as Hood College. In Fall 2013, the private institution enrolled nearly 2,400 students, more than half of them undergraduates, in addition to approximately 1,000 students seeking master's degrees, certificates or certifications.

Approximately 79% of Hood students are from the State of Maryland and roughly 47% are from Frederick County. The college offers a liberal arts focus combined with professional programs through 30 plus academic majors (27 distinct concentrations) and 44 minors for undergraduates, including those directly related to prominent employment sectors of the County. Hood College master's degree programs include 15 distinct degrees, 8 post-baccalaureate certificates and a master's level certification in educational leadership. The college has developed a variety of collaborative arrangements with both public and private sector employers involving both faculty and students.



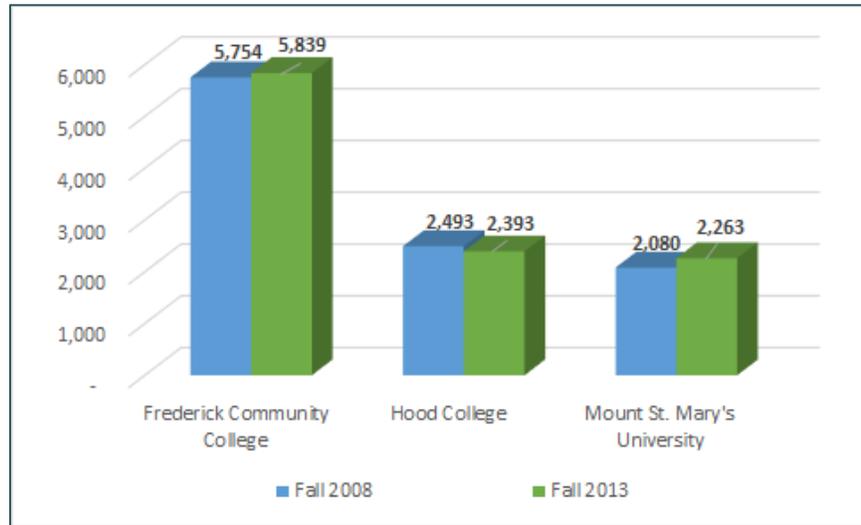
Established in 1808, Mount St. Mary's University is a private, coed college affiliated with the Catholic Church. The 1,400 acre main campus is located in Emmitsburg in north Frederick County near the Pennsylvania border. With a total enrollment of more than 2,200, the university serves more than 1,630 undergraduate students and nearly 350 graduate students in addition to those enrolled in the seminary. The University offers a broad mix of 35 undergraduate majors and seven master's programs (including an MBA).

Additionally, since 1999 Mount St. Mary's has operated a satellite campus in Frederick located in the I-270 Technology Park. It primarily serves working adults offering evening and weekend classes in an accelerated format. Available programs include four baccalaureate degrees, six full master's degrees and five master's level certificates, the latter focused on specific needs of local employers.

A listing of programs available at each institution by level is provided in [Appendix A](#). Enrollment and degree award trend data for each institution are shown in [Exhibit 2-16](#) through [Exhibit 2-19](#).

As expected, Frederick Community College (FCC) has the largest enrollment of the three local institutions, as shown in **Exhibit 2-16**. Enrollments at FCC and Mount St. Mary’s have increased since 2008 (1.5% and 8.8%, respectively), while Hood College enrollments decreased slightly during the same time period (4%).

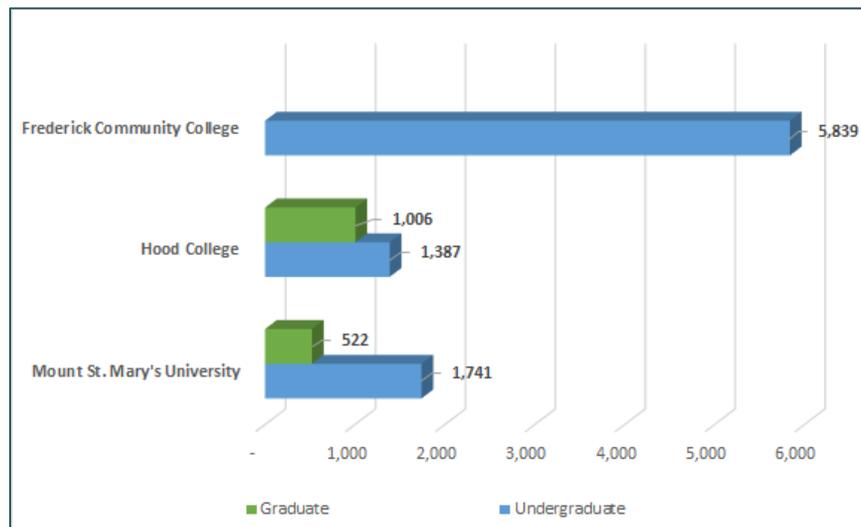
EXHIBIT 2-16
POSTSECONDARY ENROLLMENTS BY PROVIDER
FALL 2008 AND FALL 2013



Source: FCC, Hood College, and Mount St. Mary’s University, 2014.

FCC enrolls undergraduate students for their first two years only. Of the other two local institutions, Mount St. Mary’s enrolls more undergraduate students (1,741), while Hood College enrolls more graduate students (1,006), as shown in **Exhibit 2-17**.

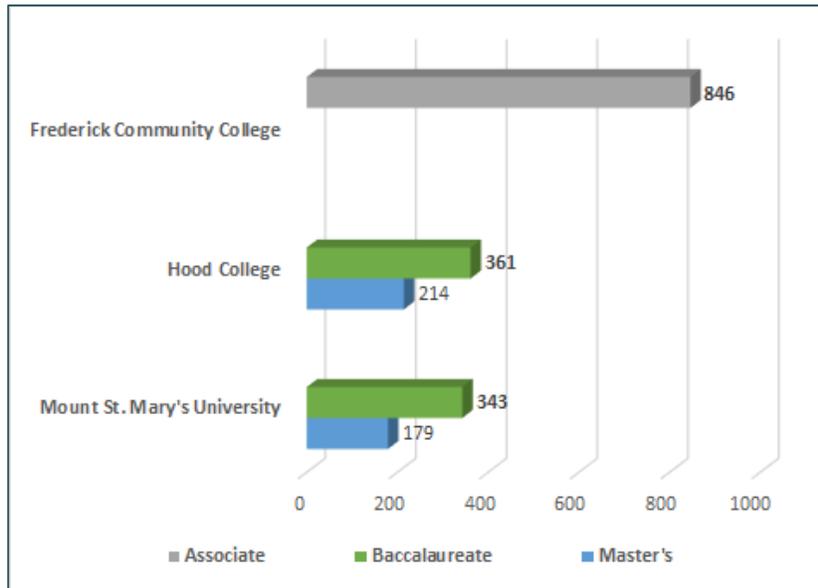
EXHIBIT 2-17
POSTSECONDARY ENROLLMENTS BY PROVIDER AND LEVEL
FALL 2013



Source: FCC, Hood College, and Mount St. Mary’s University, 2014.

Among the local higher education providers, FCC awarded the most degrees in 2012, granting nearly 850 associate degrees as shown in **Exhibit 2-18**, preparing recipients for transfer to a four-year institution or entry into the local workforce. Mount St. Mary's and Hood College awarded 522 and 575 degrees, respectively, in 2012, the majority of which were baccalaureate degrees.

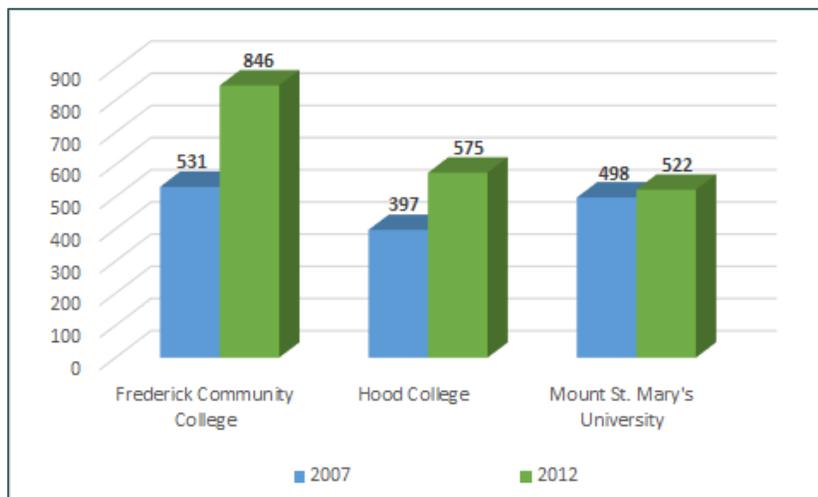
EXHIBIT 2-18
2012 DEGREES AWARDED BY PROVIDER AND LEVEL



Source: FCC, Hood College, and Mount St. Mary's University, 2014.

Exhibit 2-19 compares the total degrees awarded by the three local providers in 2007 versus 2012. While all three institutions increased the number of degrees awarded over the time period shown, FCC awarded nearly 60% more degrees in 2012 than in 2007, while Hood College awarded 45% more degrees. Mount St. Mary's increased awards granted by 5% over the same time period.

EXHIBIT 2-19
TOTAL AWARDS BY PROVIDER
2007 AND 2012 ACADEMIC YEARS

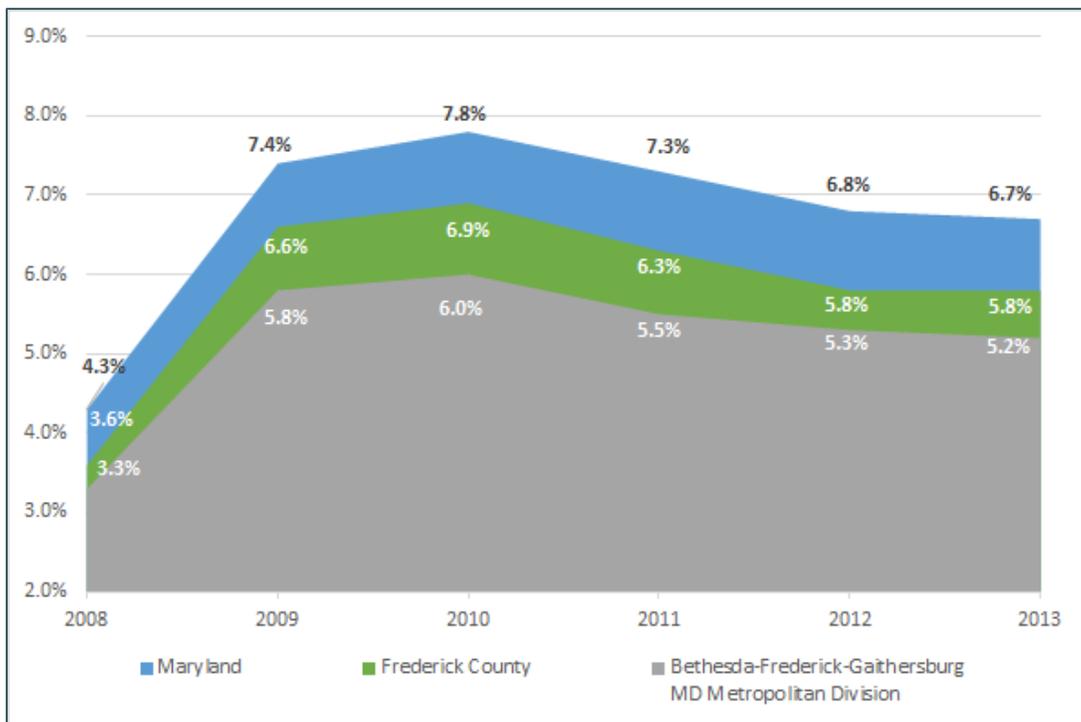


Source: MHEC, 2014.

2.5 EMPLOYER PROFILE OF FREDERICK COUNTY

As shown in **Exhibit 2-20**, the rate of unemployment in the region has fluctuated since 2008 when the current economic recession began. Frederick County fared better than the state each year, generally maintaining an unemployment rate 1% lower than Maryland as a whole. The Bethesda-Frederick-Gaithersburg Metropolitan Division maintained an even lower unemployment rate over the six year period.

EXHIBIT 2-20
MARYLAND, BETHESDA-FREDERICK-GAITHERSBURG MD, AND FREDERICK COUNTY UNEMPLOYMENT, ANNUAL AVERAGES FROM 2008 THROUGH 2013



Source: Maryland Department of Labor Licensing and Regulation, 2014.

Excluding military population, more than 80% of the positions within Frederick County are in the private sector, as shown in **Exhibit 2-21**. Trade, Transportation and Utilities, and Professional Business Services constitute the largest shares of employment within the local private sector (17% each).

EXHIBIT 2-21
FREDERICK COUNTY EMPLOYMENT BY SECTOR 2012 ANNUAL

Sector	#	%
Government Total	15,736	17%
Federal	3,932	4%
State	784	1%
Local	11,020	12%
Private Sector Total	76,940	83%
Natural Resources and Mining	609	1%
Construction	7,893	9%
Manufacturing	4,663	5%
Trade, Transportation and Utilities	15,380	17%
Information	1,202	1%
Financial Activities	6,338	7%
Professional and Business Services	15,296	17%
Education and Health Services	12,576	14%
Leisure and Hospitality	9,755	11%
Other Services/Unclassified	3,228	3%
Total Employment	92,676	100%

Source: Maryland Department of Labor Licensing and Regulation, August 2013.

As shown in [Exhibit 2-22](#), based on DLLR 2010 data on workforce commuting patterns, the largest share of Frederick County residents are employed within the county (39%), while nearly 25% work in neighboring Montgomery County.

EXHIBIT 2-22
COUNTIES WHERE FREDERICK COUNTY
RESIDENTS ARE EMPLOYED, 2010

Counties Where Residents Are Employed		
	#	%
Frederick County	40,770	39.0%
Montgomery County	25,815	24.7%
Baltimore County	4,076	3.9%
Prince George's County	3,989	3.8%
Washington County	3,460	3.3%
Howard County	3,426	3.3%
Carroll County	2,923	2.8%
District of Columbia, DC	2,872	2.7%
Anne Arundel County	2,821	2.7%
Fairfax County, VA	2,378	2.3%
All other locations	12,008	11.5%
TOTAL WORKERS FROM FREDERICK COUNTY	104,538	100.0%

Source: Maryland Department of Labor, Licensing and Regulation, 2014.

Exhibit 2-23 details the county of residence for workers employed in Frederick County. As shown nearly half of Nearly half (49%) of those who work in Frederick County also reside there, while another 10% live in neighboring Washington County.

EXHIBIT 2-23
COUNTIES WHERE FREDERICK COUNTY
WORKERS LIVE, 2010

Counties Where Workers Live		
	#	%
Frederick County	40,770	48.6%
Washington County	8,347	10.0%
Montgomery County	6,328	7.5%
Carroll County	3,591	4.3%
Baltimore County	2,841	3.4%
Prince George's County	2,138	2.5%
Adams County, PA	2,113	2.5%
Anne Arundel County	1,824	2.2%
Howard County	1,683	2.0%
Franklin County, PA	1,665	2.0%
All other locations	12,559	15.0%
TOTAL WORKERS IN FREDERICK COUNTY	83,859	100.0%

Source: Maryland Department of Labor, Licensing and Regulation, 2014.

2.6 SUMMARY OF FINDINGS

As stated at the onset of this chapter, market demographic factors and trends can and should inform any decision to expand access to higher education locally. Several key points have been highlighted in the data provided that may offer support for creation of a regional higher education center in Frederick County.

- ◆ First, adjacent to one of the most populous counties in the state, Frederick County has nearly a quarter million residents and is predicted to continue to significantly outpace the growth rate of Maryland.
- ◆ Local high school enrollment is projected to grow after 2017. Recent high school graduation numbers are trending upward and the graduation rate remains nearly ten percentage points above the state average.
- ◆ The typical college-going age cohorts in the County are growing faster than the respective state rates, and college participation of 18-24 year olds exceeds the state rate by several percentage points.
- ◆ Educational attainment of those 25 and older achieving a four-year degree or higher is nearly identical when comparing Frederick to the Maryland rate. The County is slightly higher for baccalaureate achievement (highest level attained), yet slightly lower for graduate degree completion.

- ◆ The local unemployment rate continues to decline since 2010, and remains a full percentage point below the state rate.
- ◆ In addition to a significant federal government and military employment base centered around Ft. Detrick, the employment distribution across various private industry sectors is a strong point of Frederick County.
- ◆ Finally, it is noted that while nearly half of those who work in Frederick County reside there, just over 60% of the County's employed workforce commute out of county for work. This is a key point when determining program delivery issues for expanded local access to higher education.

3.0 STAKEHOLDER INPUT

In addition to looking at secondary data (population trends, educational participation and attainment data, and occupational projections in the local market), it is critical to have direct feedback from local employers, community leaders, and others knowledgeable about the market in order to have a complete assessment of the region. An online survey was designed in conjunction with leaders of the Frederick County Chamber of Commerce to assess the higher education needs of local employers. In addition, qualitative interviews were conducted with

- ◆ Employer representatives
- ◆ Local education administrators
- ◆ Community leaders
- ◆ Frederick Regional Higher Education Advisory Board members

The results of the survey and the interviews are provided in this chapter.

3.1 EMPLOYER SURVEY FINDINGS

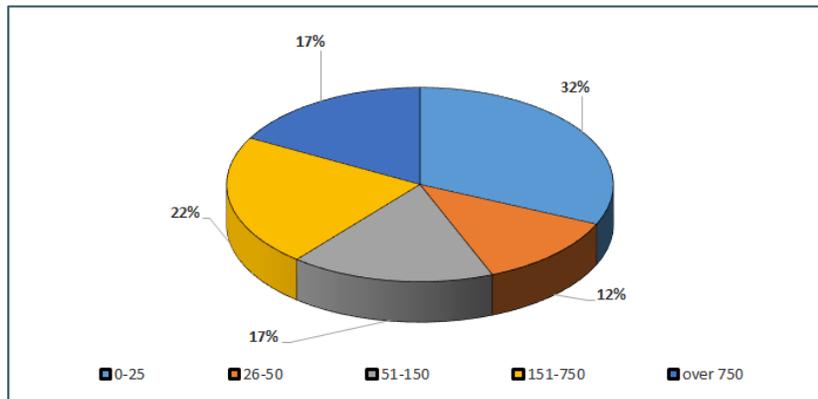
On March 13, 2014, the online survey was distributed to 136 representatives of local companies and organizations who are members of the Frederick County Chamber of Commerce. The survey target audience was developed using a purposeful rather than random sample of major local employers across a variety of industry sectors and supplemented with a set of smaller employers. Employers invited to participate represent a cross-section of business categories. The survey remained open until April 25, 2014, allowing employers more than six weeks to complete the instrument. Multiple follow-up appeals for participation to the sample of employers yielded 41 completed surveys (30% response rate). The largest proportion described their industry as Finance, Insurance, and Real Estate (27%). The final survey respondents were as follows:

- ◆ Acela Technologies, Inc.
- ◆ ADTEK Engineers, Inc.
- ◆ AstraZeneca
- ◆ Bank of America
- ◆ Battelle National Biodefense Institute
- ◆ Bechtel Power Corporation
- ◆ BioStat Solutions, Inc.
- ◆ Business Management Company, Inc.
- ◆ Canam Steel Corporation
- ◆ Community Living, Inc.
- ◆ ComSource, Inc.
- ◆ CorpOHS
- ◆ Frederick County Public Schools
- ◆ Frederick Memorial Hospital
- ◆ Frederick Mutual Insurance Company
- ◆ GTI Federal
- ◆ Hospice of Frederick County
- ◆ Hildebrand, Limparis & Associates
- ◆ Leidos Biomedical Research, Inc.
- ◆ Liberty Mutual
- ◆ Mental Health Assoc. of Frederick Co.
- ◆ MKSH
- ◆ MohnAllen, P.C.
- ◆ National Cancer Institute
- ◆ Opossum Pike Veterinary Clinic, Inc.
- ◆ Phoenix Mecano Inc.
- ◆ Plamondon Companies
- ◆ PNC Bank
- ◆ Rodgers Consulting, Inc.
- ◆ Ryan and Wetmore, PC
- ◆ St. John Regional Catholic School
- ◆ St. Joseph's Ministries

- ◆ State Farm Insurance Companies
- ◆ STULZ Air Technology Systems
- ◆ The City of Frederick Department of Economic Development
- ◆ The Frederick News-Post
- ◆ U.S. Army Garrison Fort Detrick, MD
- ◆ URS Corporation
- ◆ US Army Medical Research Institute of Infectious Diseases
- ◆ Woodsboro Bank
- ◆ YMCA of Frederick County

As shown in **Exhibit 3-1**, the largest share of respondents are companies with 25 or fewer full-time employees (34%). Nearly two-thirds of respondents (61%) have fewer than 151 employees. Organizations responding to the survey ranged in size from eight to 12,000 full-time employees. Combined survey respondents reported a total of 27,913 employees.

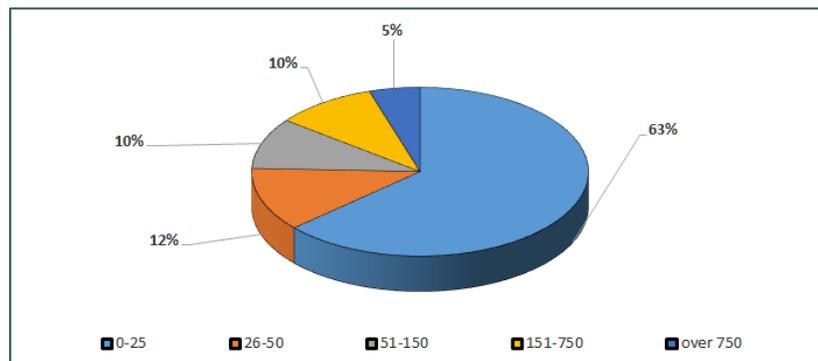
EXHIBIT 3-1
NUMBER OF FULL-TIME EMPLOYEES IN FREDERICK COUNTY
AS REPORTED BY EMPLOYERS



Source: Employer Survey, 2014.

While eight respondents indicated that they have no part-time employees, 17 indicated that they have 25 or fewer (63%), as shown in **Exhibit 3-2**. Organizations responding to the survey had between one and 2,000 part-time employees. Survey respondents accounted for a total of 4,955 part-time employees.

EXHIBIT 3-2
NUMBER OF PART-TIME EMPLOYEES IN FREDERICK COUNTY
AS REPORTED BY EMPLOYERS



Source: Employer Survey, 2014.

Employers were asked to indicate how many of their employees fell into a variety of categories. Some chose not to answer the question, but among those who did, the total employees represented and average percentage are shown below:

- ◆ Management (2,037, 10%)
- ◆ Professional (9,725, 49%)
- ◆ Technical/Paraprofessional (2,496, 12%)
- ◆ Clerical (2,383, 12%)
- ◆ Laborers (2,685, 13%)
- ◆ Other (769, 4%)

It should be noted that the responses that follow are reflective of the needs of the responding group of employers and their respective industry sectors, which represent a significant employment base in the County.

Nearly three-quarter of all respondents have difficulty filling positions at least occasionally (71%), and 22% of these face this challenge routinely. The most commonly cited reason for the inability to hire was a lack of qualified applicants (72%), followed by budgetary restrictions (17%).

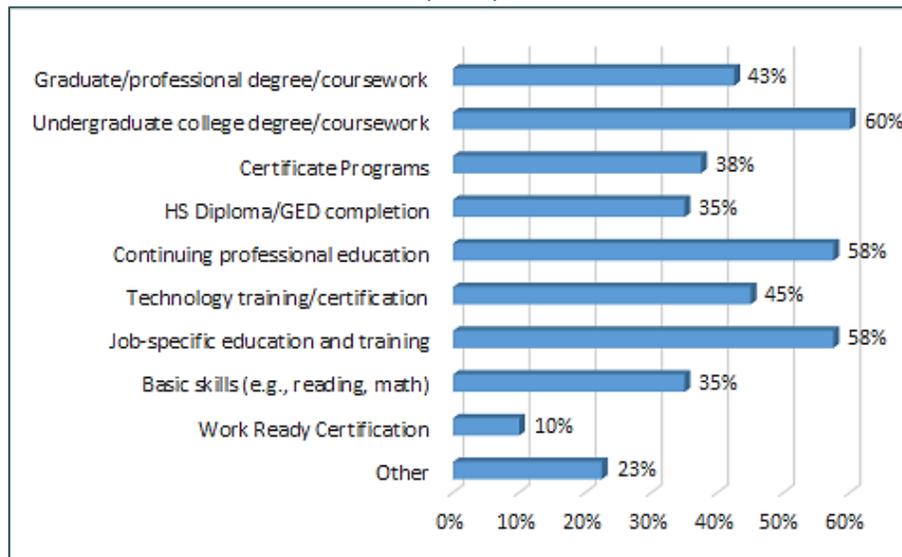
Employers were asked to indicate what kinds of educational credentials or training activities were most needed by their current employees, and the results are shown in [Exhibit 3-3](#). More than half of respondents indicated that employees need training at one of three levels:

- ◆ Undergraduate college degree/coursework (60%)
- ◆ Continuing professional education (58%)
- ◆ Job-specific education and training (58%)

Additional educational/training needs commonly reported by respondents were as follows:

- ◆ Technology training/certification (45%)
- ◆ Graduate/professional degree/coursework (43%)

EXHIBIT 3-3
EDUCATIONAL CREDENTIALS OR TRAINING ACTIVITIES MOST NEEDED BY
RESPONDENTS' CURRENT EMPLOYEES
 (n=40)



Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

Respondents were asked to indicate the ways their employee education/training programs are currently provided for degree completion and continuing education, and the results are shown in **Exhibit 3-4**. More than half (53%) indicated that education/training is provided on-site by company trainers, while approximately one-third have relied on off-site programs offered by higher education institutions (37%), or specialty training organizations (34%).

EXHIBIT 3-4
CURRENT EDUCATION/TRAINING PROGRAMS
REPORTED BY EMPLOYERS

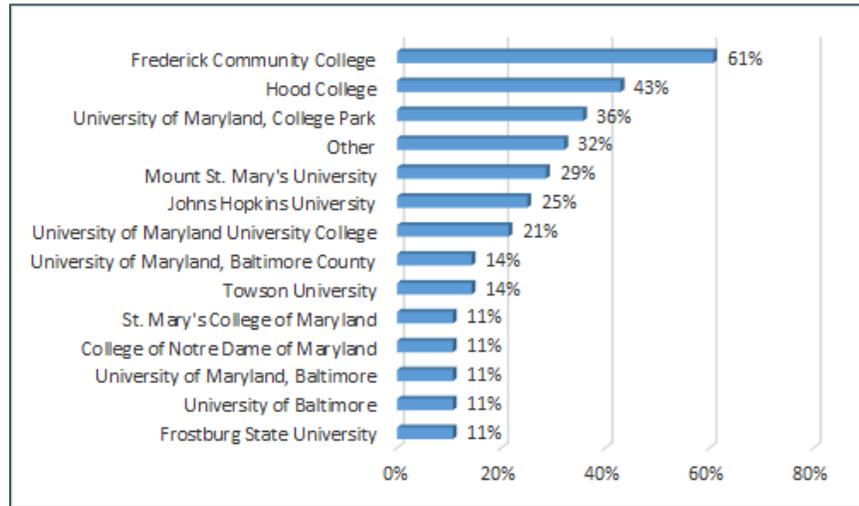
	On your site		Off site location	
	#	%	#	%
By company trainers (n=28)	27	53%	7	9%
By educational institutions (n=29)	2	4%	29	37%
Through distance learning or telecommunications (n=24)	11	22%	16	20%
By specialty training organizations (n=29)	11	22%	27	34%

Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

Respondents reported which higher education providers they use for employee education and training, as displayed in **Exhibit 3-5**. Sixty-one percent of respondents rely on FCC for training and education needs of employees, while Hood College and University of Maryland, College Park were indicated by 43% and 36% of respondents, respectively. All institutions mentioned by at least 10% of respondents are shown in **Exhibit 3-5**.

EXHIBIT 3-5
 HIGHER EDUCATION PROVIDERS CURRENTLY UTILIZED BY EMPLOYERS
 (n=28)



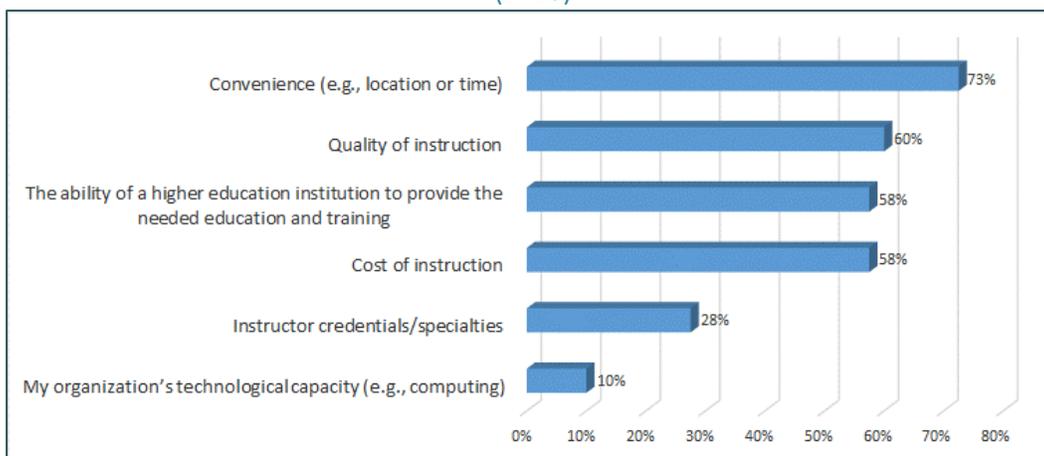
Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

The factors which weigh most heavily in respondents' decision of how to provide education and training to employees are shown in **Exhibit 3-6**. As shown, convenience is a factor for nearly three-quarters of employers in the analysis (73%). More than half indicated the following factors:

- ◆ Quality of instruction (60%)
- ◆ The ability of a higher education institution to provide the needed education and training (58%)
- ◆ Cost of instruction (58%)

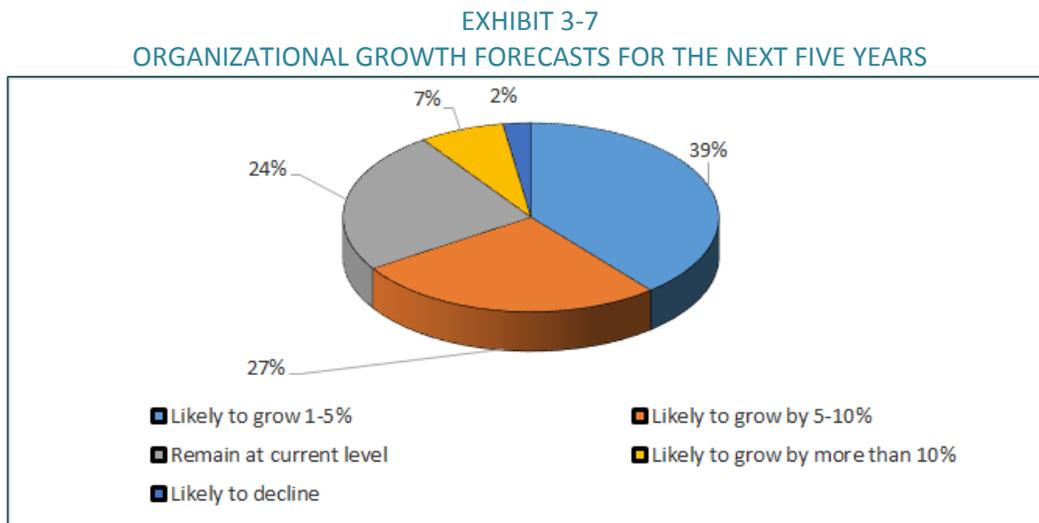
EXHIBIT 3-6
 FACTORS THAT INFLUENCE THE DECISION OF HOW TO PROVIDE TRAINING
 FOR EMPLOYEES
 (n=40)



Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

Exhibit 3-7 displays respondents' projections of growth within their organization over the next five years. As shown, the majority (73%) believe their organization is likely to grow during that time period, either by 1-5% (39% of respondents), 5-10% (27% of respondents), or more than 10% (7%).



Source: Employer Survey, 2014.

Employers were given an opportunity to list up to five academic programs which in their opinion should be available in the region to meet local education and employment needs through a new center. A consolidated listing of these desired programs is provided in **Exhibit 3-8**, along with the educational level(s) suggested for each. *It should be noted that employers were responding to an open ended question seeking "top of mind" academic program suggestions that they would most like to see offered through a regional higher education center in Frederick. Some disciplines were mentioned by more than one employer, and specific program names submitted by respondents may overlap.*

Highlighted cells indicate that, as far as the consultant team could determine, a degree at that level is not currently available from one or more of the three local higher education institutions. Online degrees offered by Maryland or out-of-state entities were not considered in this assessment of local availability. It also should be noted that of the 94 programs suggested by employers, 39 are available at the appropriate level through one or more of the three local higher education providers (a rate of 41%).

- ◆ Of 24 programs mentioned at the certificate level, 11 are available locally (46%).
- ◆ Of 18 programs mentioned at the associate level, 8 are available locally (44%).
- ◆ Of 19 programs mentioned at the baccalaureate level, 8 are available locally (42%).
- ◆ Of 33 programs mentioned at the graduate level, 12 are available locally (36%).

Approximately 35% of the programs listed are post-baccalaureate (includes both masters and doctoral level), and this group has the lowest percent available locally.

EXHIBIT 3-8
ACADEMIC PROGRAMS THAT EMPLOYERS INDICATE SHOULD BE OFFERED
THROUGH THE FREDERICK REGIONAL HIGHER EDUCATION CENTER

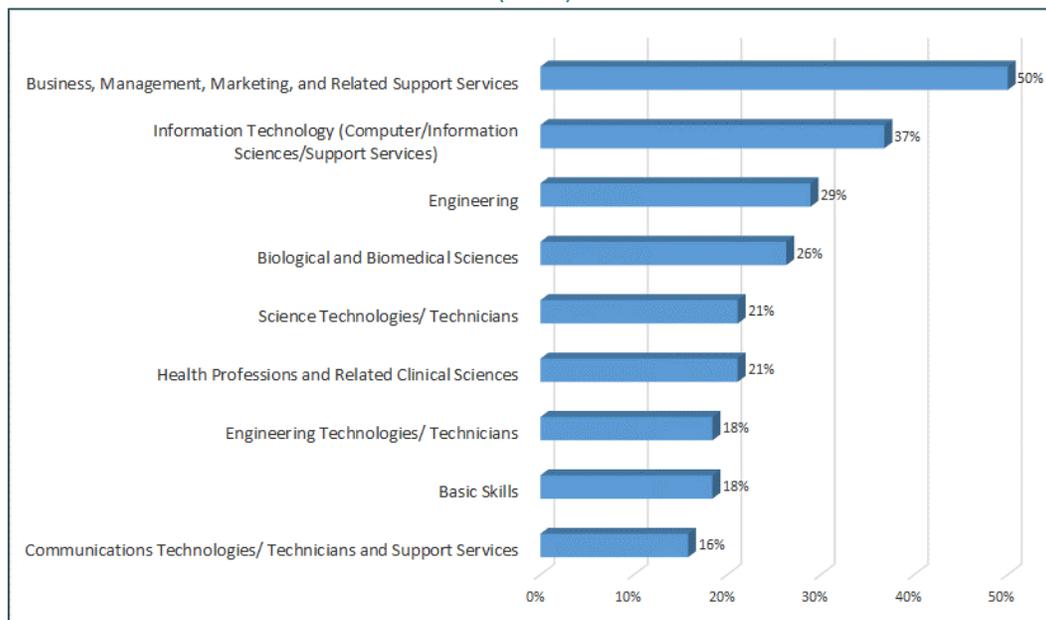
	Academic Program	Certificate	Associate	Bachelor's	Graduate
Business	Accounting*		✓	✓	
	Business/Finance/Management*	✓	✓	✓	✓
	Clinical project management	✓			✓
	RCDD/construction management	X	✓		
	Research management				X
	Project management	✓	X		✓
	Tax				X
Education	Elementary education*				✓
	Special education*				✓
Healthcare	Geriatric nursing assistant	✓			
	Medical administration technicians	✓			
	Medical researchers				X
	Medical technology	✓			
	Nursing*			✓	X
	Physical therapy assistant		X		
Information Technology, Math, and Engineering	Computer science		✓	✓	✓
	Cyber security*	X		X	
	Data modeling				X
	Engineering*			✓	
	Biomedical engineering				X
	Civil engineering	X	X	X	X
	Computer engineering			X	X
	Structural engineering	X	X	X	X
	Technological engineering				X
	Wireless (RF) engineering	X	X	X	X
	Mathematics				X
	Statistics				X
	Technology*	✓	✓	✓	✓
	Telecommunications			X	X
Science	Bioinformatics			X	✓
	Biological research				X
	Biology graduate internship				X
	Biomedical science		X	X	✓
	Biotechnical graduate internship				X
	Biotechnology*	✓	✓	✓	✓
	Chemistry		✓	✓	X
	Genetic studies				X
	Lab techniques	X	✓		
	Microbiology		X	X	✓
	Plant graduate internship				X
	Regulatory science	X	X	X	✓
Other	Animal care	X			
	Basic skills	✓			
	English*	X			
	HVAC	✓			
	Machinist	X	X		
	Material handling	X			
	Sheetmetal	X			
	Social work*				X
	Veterinary tech	X	X	✓	
Welders	✓				

Notes: An asterisk indicates that the program is available at one or more of Maryland's regional higher education centers. A check mark indicates a program suggested by survey respondents, but is already offered local by FCC, Hood College, or MSMU. A highlighted "X" represents a suggested program that is not currently available locally.

Source: Employer Survey, 2014.

Employers were asked to indicate in which of several broad academic fields/disciplines they anticipate their employees (current or future) will need education and training over the next three to five years, and the categories cited by more than 15% of respondents are displayed in **Exhibit 3-9**. As shown, business, management, marketing and related support services was the most frequent response (50%), followed by information technology (37%), engineering (29%) and biological or biomedical sciences (26%). These academic program data represent a snapshot of perceived need and are greatly influenced by the industry sector of the responding employers. They should not be generalized to the region as a whole.

EXHIBIT 3-9
ACADEMIC FIELDS/CATEGORIES IN WHICH CURRENT OR FUTURE EMPLOYEES
WILL LIKELY NEED EDUCATION AND TRAINING OVER THE NEXT THREE TO FIVE YEARS
(n=38)



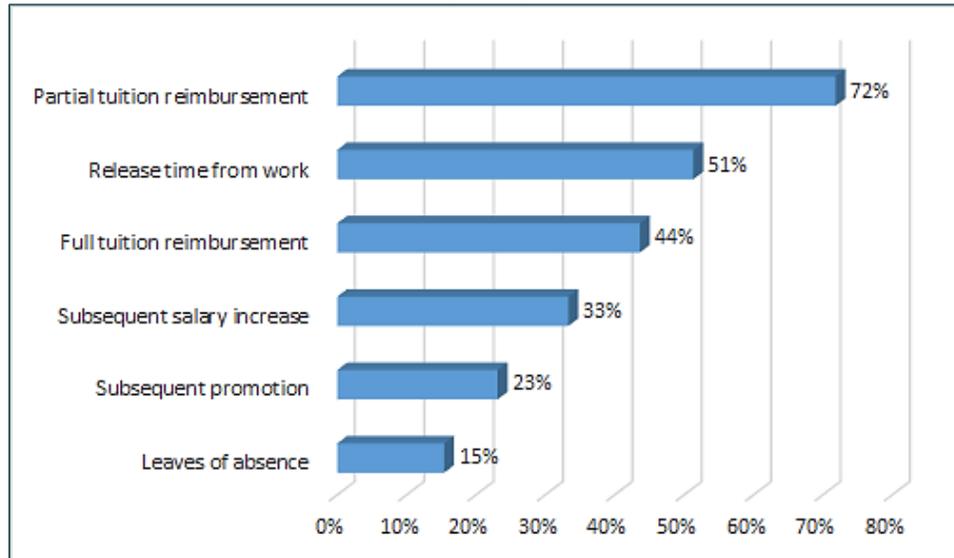
Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

Respondents who indicated needs in any of the broad academic disciplines shown in **Exhibit 3-9** were then asked to detail the specific number of current and future employees who would need training in a variety of specific disciplines within that broad grouping. The results of those survey items are displayed in **Appendix B**, and will be discussed in the next chapter reflecting specific programmatic needs by educational level and magnitude.

Employers were asked to indicate the incentives offered to encourage employees to participate in training and education and the results are shown in **Exhibit 3-10**. Nearly three-quarters of respondents (72%) offer partial tuition reimbursement, while 44% offer full tuition reimbursement. More than half (51%) offer release time from work to encourage participation in education and training.

EXHIBIT 3-10
 INCENTIVES OFFERED TO ENCOURAGE EMPLOYEES TO PARTICIPATE IN TRAINING AND EDUCATION
 (n=39)



Source: Employer Survey, 2014.

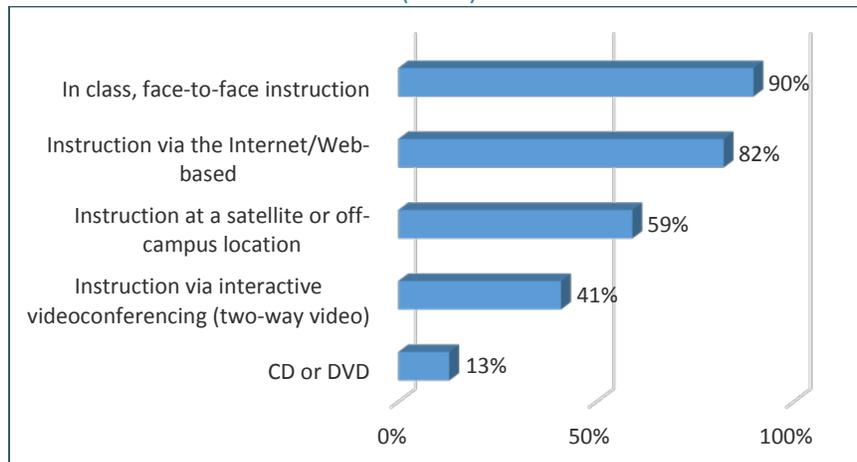
Note: Multiple response were allowed, percentages may not total 100%.

SUMMARY OF EMPLOYER NEEDS (FROM SURVEY RESPONSES)

- ◆ Nearly 75% of respondents expect their organization to grow within the next five years.
- ◆ The majority of employers surveyed (nearly three-quarters) indicated that they have difficulty (at least occasionally) filling open positions within their organizations.
- ◆ Of those, three-quarters indicated that lack of qualified applicants was a primary reason.
- ◆ Overall, employers noted that undergraduate degrees, continuing education and job specific education/training would be most needed by their employees in the coming years.
- ◆ Through an open-ended question, several broad academic categories were identified as disciplines in which current or future employees will likely need training and programs. These included business, education, health care, information technology, engineering, and the sciences.
- ◆ Graduate programs were most prevalent compared to each of the other educational levels.
- ◆ Employers noted a number of fields in which training/education is needed but not available locally, such as specific engineering fields, IT and cyber security, and biomedical/biotechnology/microbiology disciplines, to name a few.
- ◆ Across all levels, roughly 75% of the engineering and IT programs and 60% of the science programs suggested by employers are not available locally.

A series of questions was asked to determine employer preferences for education/training modality and timing. As shown in [Exhibit 3-11](#), the overwhelming majority of employers (90%) indicated that in class, face-to-face instruction would be most appropriate for their employees. Nearly as many indicated that Internet/web-based instruction would be appropriate (82%), while more than half believe that instruction at a satellite location would be acceptable (59%).

EXHIBIT 3-11
 MOST APPROPRIATE METHODS OF EDUCATIONAL/TRAINING DELIVERY
 ACCORDING TO EMPLOYERS
 (n=39)

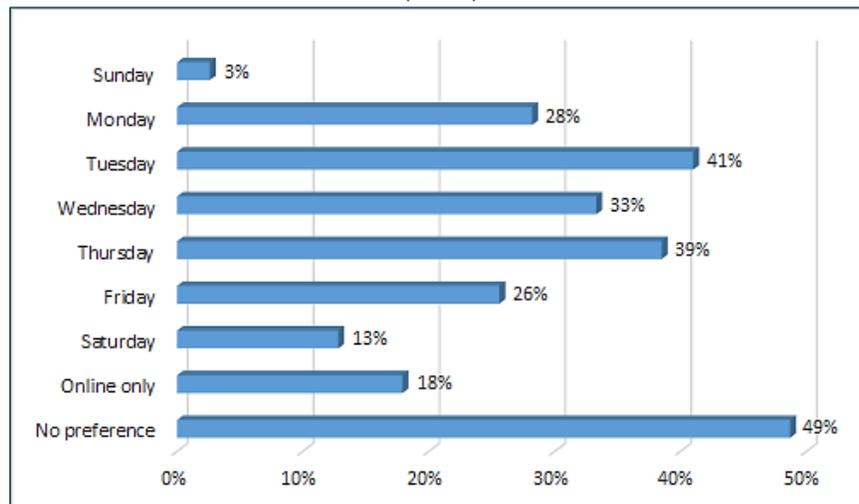


Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

The largest share of respondents (49%) indicated no preference for the day of the week which would work best for education/training of employees (see [Exhibit 3-12](#)). Among those who did indicate a preference, Tuesday and Thursday were the most frequently cited days (41% and 39%, respectively).

EXHIBIT 3-12
 MOST APPROPRIATE DAYS FOR EDUCATIONAL/TRAINING
 ACCORDING TO EMPLOYERS
 (n=39)

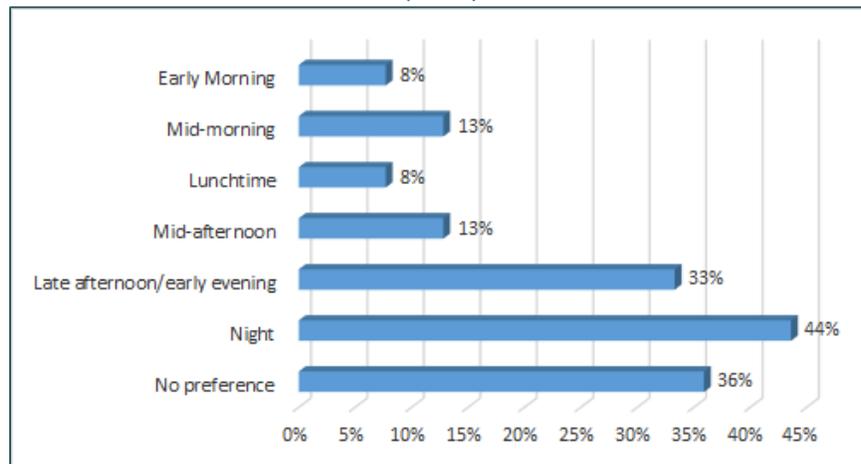


Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

Night classes are preferred by the largest share of employer respondents (44%), as shown [Exhibit 3-13](#), followed by late afternoon/early evening (33%).

EXHIBIT 3-13
 MOST APPROPRIATE TIMES OF DAY FOR EDUCATIONAL/TRAINING
 ACCORDING TO EMPLOYERS
 (n=39)



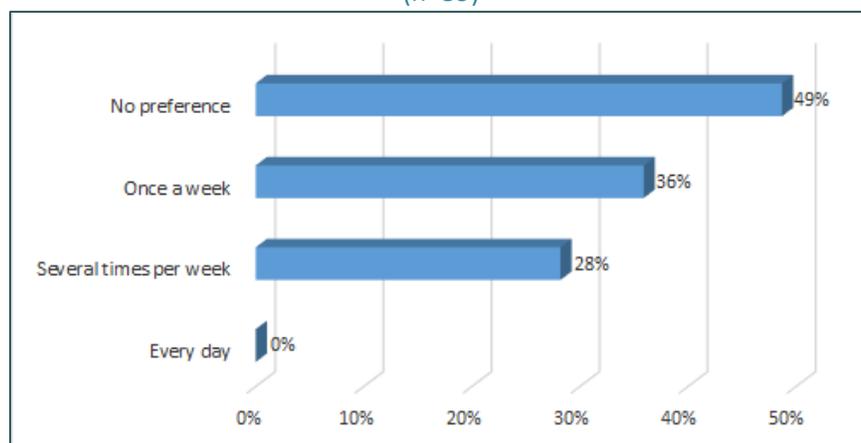
Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

When the data are examined in greater detail, employers indicate a preference for night classes Monday through Friday, followed by late afternoon/early evening classes Tuesday through Thursday.

Nearly half of employers indicated no preference for the frequency of educational/training programs (49%), as shown in [Exhibit 3-14](#). Among those who did indicate a preference, the largest share (36%) indicated that once a week would be appropriate.

EXHIBIT 3-14
 MOST APPROPRIATE FREQUENCY FOR EDUCATIONAL/TRAINING
 ACCORDING TO EMPLOYERS
 (n=39)

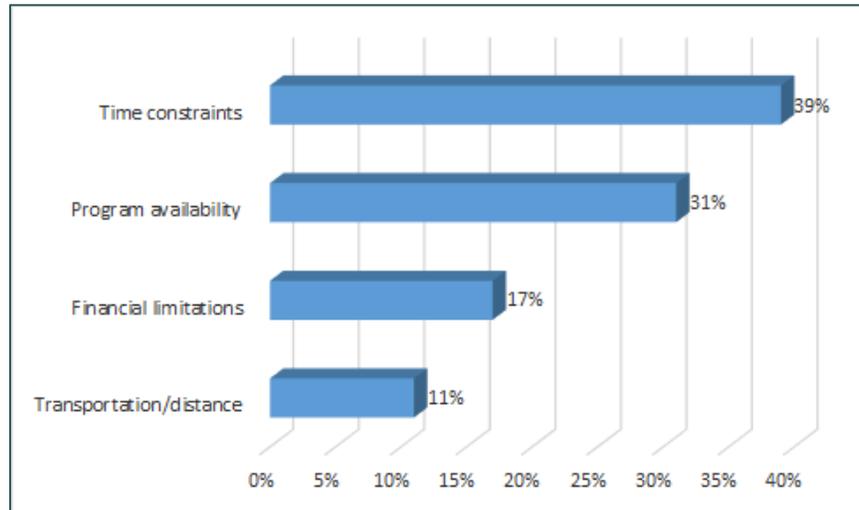


Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

When asked to indicate the major obstacles/barriers currently faced by residents and employees seeking education and training in the local area, the largest share of employers indicated time constraints (39%), followed by program availability (31%), as shown in **Exhibit 3-15**.

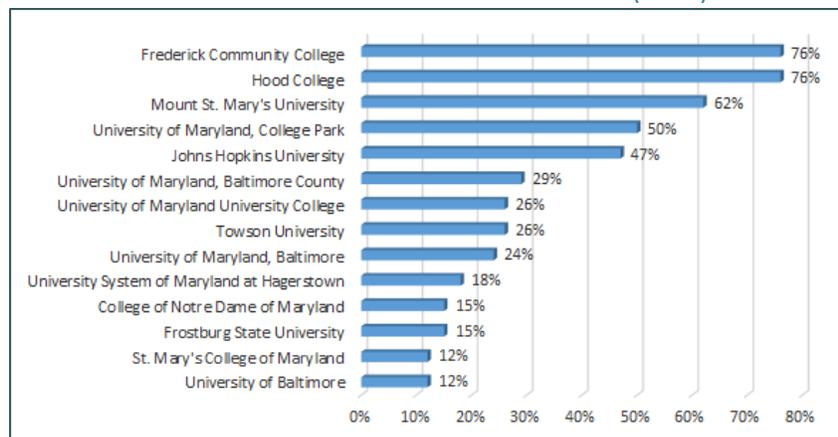
EXHIBIT 3-15
MAJOR OBSTACLES/BARRIERS CURRENTLY FACED BY RESIDENTS AND EMPLOYEES
SEEKING EDUCATION AND TRAINING IN THE LOCAL AREA
 (n=36)



Source: Employer Survey, 2014.

Survey respondents were asked to indicate which institutions they would prefer to participate in the Frederick Regional Higher Education Center, and their responses are displayed in **Exhibit 3-16**. Approximately three-quarters of employers surveyed indicated that FCC and Hood College should be included in the Center (76% each). Mount St. Mary’s was indicated by 62% of employer respondents, while approximately half mentioned the University of Maryland College Park (50%) and Johns Hopkins University (47%). Other institutions mentioned by at least 10% of respondents are displayed in **Exhibit 3-16**.

EXHIBIT 3-16
INSTITUTIONS WHICH SHOULD BE INCLUDED IN THE FREDERICK
REGIONAL HIGHER EDUCATION CENTER (n=34)



Source: Employer Survey, 2014.

Note: Multiple response were allowed, percentages may not total 100%.

SUMMARY OF EMPLOYER PREFERENCES FOR EDUCATION/TRAINING DELIVERY

- ◆ Face-to-face instruction is the slightly preferred educational modality over on-line instruction, but both are acceptable.
- ◆ If a preference were indicated, more employers reported that Tuesday and Thursday evenings would be the best times for such training and program delivery.
- ◆ Time and program availability are viewed as the greatest obstacles to education and training in the region.
- ◆ Frederick Community College, Hood College and Mount St. Mary's University were most frequently cited as higher education partners who should be part of a Frederick Regional Higher Education Center.
- ◆ Two major research universities, the University of Maryland College Park, and Johns Hopkins University were also mentioned by roughly half of the responding employers.

3.2 STAKEHOLDER INTERVIEWS

As an additional step in the needs assessment study, with guidance from the Frederick Regional Higher Education Advisory Board members and assistance from Frederick County Chamber staff, a series of personal interviews were scheduled and completed during a two-day site visit by the consulting team the second week in February. Additional follow-up interviews were completed by phone over the course of three months. A total of 34 interviews were completed representing a cross-section of private sector employers, educational institutions, public agencies and community leaders located in Frederick County (**Exhibit 3-17**). Of those participating in the interview process, 10 individuals sit on the Advisory Board.

EXHIBIT 3-17
STAKEHOLDERS WHO PARTICIPATED IN INTERVIEWS

Frederick Co. Higher Education Needs Assessment		
Completed Interviews (as of 4/21/14)		
First Name	Last Name	Company/Organization
Daryl	Boffman	Acela Technologies, Inc.
Donna	Kuzemchak	Alderman, City of Frederick
Kate	Surdez	AstraZeneca Biologics Manufacturing Centre
Patrick	Fitch	Batelle National Biodefense Institute (& Pat Weaver)
Patrick	Haley	BridgePath Scientific
Paul	Smith	Commissioner, Frederick County
Barbara	Brookmyer	Dental - FCHD
Jim	Racheff	DMS, Inc.
Dave	Esworthy	First United Bank & Trust
Theresa	Alban	Frederick County Public Schools, Superintendent
Helen	Propheter	Frederick County, Business Development Division
Jamie	White	Frederick Memorial Hospital
Lanessa	Hill	Ft. Detrick
Ron	Volpe	Hood College, President
Dave	Bufter	Leidos Biomedical Research Inc.
David	Heimbrook	Leidos Biomedical Research Inc.
Melissa	Sines	Maryland Nonprofits
JP	Matan	Matan Companies
Thomas	Lynch	Miles & Stockbridge P.C. (& Susan McBee)
Thomas	Powell	Mount St. Mary's University
Joe	Leberz	Mount St. Mary's University (Frederick Campus)
Howard	Young	NCI/CCR
Bob	Wiltrout	NCI/CCR (& Jeff Strathern)
Tanya	Sappington	NCI/CCR, Admin Resource Center
Frank	Goldstein	Severn, O'Connor & Kresslein, P.A.
Matt	Holbrook	St. John Properties, Inc.
Brad	Montgomery	State Farm Insurance Companies
Richard	Griffin	The City of Frederick (& Nikki Bamonti)
Katrina	Wyand-Yurish	The Plamondon Companies
Josh	Pedersen	United Way of Frederick County
Ann	Wylie	University of Maryland College Park
Ronald	Young	Senator, District 3, Frederick & Washington Counties
Galen	Clagett	Delegate, District 3a, Frederick County
Kelly	Schulz	Delegate, District 4a, Frederick County
Patrick	Hogan	Delegate, District 3a, Frederick County

Note: Stakeholders highlighted in blue are Advisory Board Members.

The commentary and discussion generated through this qualitative interview component is intended to inform and planning efforts to offer academic program and training through a regional higher education center in Frederick County. A summation of key points illustrating perceptions, needs, issues and concerns expressed by the collection of interview participants is presented in the first half of this chapter. These points are grouped by either topic area or industry sector.

TOPIC AREA

Items that follow in this section represent, for the most part, comments that cross industry sectors.

♦ **Access and Convenience**

- Expanding access to higher education is one of the keys to achieving 2025 statewide degree attainment goals, which go hand-in-hand with growing and sustaining a highly skilled workforce in Frederick County. A significant portion of post-baccalaureate education needs in the County can be attributed to current employees (non-traditional age) who need appropriate credentialing to continue career advancement. New programs must be geared towards working adults in terms of time of day/day of week schedules, delivery options, and costs.
- Location for the point of program delivery is also important since a significant portion of the workers in Frederick County live outside its boundaries. Commute times to/from work may help or hinder the ability to take courses locally. The location of a new regional higher education center should be carefully situated to be accessible by its prime target audiences. Both in-class and distance education models will be required.
- Not unique to Frederick or Maryland, but significant numbers of traditional age students have to work while attending college. Time constraints are very prevalent.

♦ **Affordability**

- As mentioned above, cost of attendance is probably the biggest issue for many attempting to attain a college degree at any level. The good news in Frederick County for working adults is that many of the employers polled do provide some level of tuition assistance and books.
- Cost of a credit hour and associated fees is set by each institution. Two local institutions, Hood College and Mount St. Mary's University, are relatively small private institutions which rely heavily on tuition to fund programs and services. Through financial aid and tuition discounting, both have made concerted efforts to be more cost-competitive with state-supported public institutions.
- Some programs, by their very nature and content are more expensive to start up and operate at enrollment maturity. This is especially true for STEM related disciplines.
- It is also common that graduate programming on the main campus is supported by a strong undergraduate enrollment base, which may not be available in an off-campus setting such as a regional center.

♦ **Graduate Program Partners**

- Graduate and doctoral degree programs, especially in STEM related disciplines are expensive and difficult to start-up or extend away from an institution's home campus, let alone sustain a critical mass of enrollment over time. Local higher education institutions are doing their part, but may have limited resources to commit to some technical programs, or lack authorization to offer advanced degrees in certain disciplines. They must make practical decisions to support a predominantly undergraduate population base of their respective institutions.

- For certain critical technical positions (e.g., lead researcher or principal investigator) credentialing from a recognized university with a strong reputation and track record in the given discipline is extremely important to employers.
 - Also noted is a desire to hire technical personnel who have hands-on real-world experience. Interviewees agree that collaboration between education and business sectors to establish more opportunities for students to gain meaningful work experiences is a key pathway to employment. They also acknowledge the continued effort to expand such opportunities in Frederick County from k-12 to post baccalaureate levels.
 - Depending on the discipline and pedagogy, it may prove difficult to attract an established graduate degree granting institution (master's or doctoral degree) to serve the local market needs, if tenured faculty are burdened by the endeavor or students are required to commute frequently to the home campus outside of Frederick County.
 - What may interest and attract non-local universities and their graduate faculty to engage in Frederick County are the plethora of high-end research activity and associated dollars, the cutting edge facilities and equipment available, and the rich talent pool of researchers and technical staff in various industry sectors.
- ◆ **Overlap and Duplication**
- A serious, and well-founded concern of long-standing local baccalaureate/graduate degree granting institutions is the potential for outside institutions to bring in competing programs that negatively impact the local institution's enrollment base within Frederick County. In particular, Mount St. Mary's has committed significant resources to their Frederick site, which could be in jeopardy via a new center.
 - If a local center is to be established, some assurances and policies may be required to mitigate program overlap and duplication for local institutions, as well as partners as they are established at the center.
- ◆ **Local Advantages**
- A number of interview participants touted the advantages Frederick County has over other communities and locations in-state or elsewhere that relate to workforce, quality of life, and education and training factors. These include:
 - The presence of Ft. Detrick's military elements, its tenant federal agency research operations, and private contractor scientific R&D support base.
 - Three respected long-standing higher education institutions that continue to be responsive to the local community.
 - A balanced mix of industry sectors with significant numbers of employees ranging from service companies, to manufacturing, logistics and distribution, technology start-ups, communications, hospitality and leisure.
 - Location within a reasonable drive to the Baltimore-Washington metro area for commerce, travel, arts and entertainment, and national research and public policy matters.
 - Ample land for development is available as the metro area continues to expand outward. Frederick County continues to grow and benefit from an influx of people and business to serve their needs.

◆ **Program Quality**

- This topic was considered both an issue and an advantage by several interviewees. Though employers wish to attract education and training programs of the “highest” quality from the “best” colleges and universities, they recognize that within the county a remarkable talent pool resides or works. Furthermore, that talent pool could support expansion of higher education opportunities as potential instructional adjuncts and research collaborators.

◆ **Physical Presence**

- Though there may be some debate on the extent of facilities required to house a regional higher education center and its location (Maryland has a variety of models in play at other RHECs), for the most part comments seem to suggest a physical presence is necessary to serve as the public face of a Frederick Higher Education Center.
- The capital needs of a regional center may be accommodated very differently at start-up rather than at mature build-out. Often centers start out in a temporary facility until they demonstrate sustainable demand.

◆ **Specialized Space & Equipment**

- In some instances specialized tools and equipment such as computer hardware and software, manufacturing technology, scientific lab space and specialized research tools may be required to offer the needed programs, especially in STEM related disciplines and at the post-baccalaureate level. This may not be feasible without outside support.
- Collaboration and partnering with local resources for sharing time for existing specialized space and equipment, along with mentoring and work/study opportunities must be part of any plan for expanded higher education in Frederick.

◆ **Workforce Needs**

- The initiative to establish a regional higher education center in Frederick County has been driven by an expressed need to expand local workforce capacity in biomedical/bioscience and advanced technology skills corresponding to local economic development goals via post-baccalaureate programs.
- Throughout the “Great Recession,” Frederick County has fared better than the state in terms of unemployment. As the recovery continues, the workforce’s excess capacity continues to shrink, placing additional pressures on employers to attract new entrants to fill job openings, particularly in STEM skills positions. Part of that effort is to develop a home-grown pipeline and expand educational opportunities for young residents as well as current employees looking to advance.
- It is acknowledged that employers will continue to seek top talent from across Maryland, the U.S., and beyond for cutting edge/high level leadership positions in science, research, technology, and management positions.
- In order to grow the local pipeline to STEM related degree programs and eventually viable employment for residents, additional collaboration, interchange, and support must occur between education and business/industry.
- There are non-STEM workforce needs. Those needs should not be discounted by local community leaders, economic development advocates, education administrators, and business/industry managers in planning for a regional higher education center.

INDUSTRY SECTOR

The following summary points reflect comments specific to industry sectors.

- ◆ **Bio-science/Bio-Medical Research** – NCI/CCR has been at the forefront of programs to integrate science, technology and research experience for local students into their secondary and college curriculums providing “hands-on” research lab experience. They also provide current scientific research support staff and technicians with pathways to pursue post-baccalaureate credentials and degrees, particularly in fields of biology, chemistry, pharmacology, bio-medicine, bio-technology, bio-informatics and related specialties. They offer a limited number of temporary post-degree paid fellowships for non-government employees in research positions. Hood College collaborates with NCI to offer internships with CCR for their Masters of Science Biology program. The NIH budget continues to shrink and that impacts staffing numbers. They receive large numbers of job applicants for each scientific and technical position opening.

Battelle National Biodefense Institute has an extensive staff of scientists with Ph.D. or Master’s degrees. Most new hires require graduate degree and lab experience. Ft. Detrick will be opening a new lab in the near future, which will increase demand on the local workforce for those with scientific and technical credentials and demonstrated skill sets. The difficulty lies in getting staff access to appropriate degree programs while working. To meet such demand, they seek a recognized, high quality Ph. D. program to provide local access, as well as training and credentialing in Project Management (PMP certification).

Leidos Biomedical Research has over 1,000 scientists and technical personnel that hold a post-baccalaureate degree in similar disciplines mentioned above. Local access to advanced STEM degrees would help in recruitment and retention of research personnel. The value proposition for a recognized education partner for advanced and specialized degrees is the opportunity to collaborate on “cutting edge” research.

Others firms seek staff with varying levels of formal education, but focused on a combination of science, technology, and engineering skills for research lab operations, security, and equipment maintenance.

- ◆ **Education** - The local K-12 school system has developed a series of internship, mentoring, and work/study collaborative opportunities with local employers and government research efforts coordinated through NCI and its contractors. The emphasis is on encouraging high school students to pursue pathways to STEM related college degree options, and hence applicable employment.

Local postsecondary education institutions have actively introduced a number of degree and training programs to respond directly to local needs. Other programs for possible consideration include; Human Services Leadership, Physical and Occupational Therapy, Speech Pathology, Engineering (Civil/Manufacturing), and HR Management.

University of Maryland College Park has a possible vehicle in place to provide a master’s degree with specialty emphasis that would not have all of the requirements and approval processes that come with introduction of a new academic program or changes that impact accreditation status. A professional master’s degree on a local site would likely require corporate tuition support, a sustainable critical mass of enrollment, demonstrated needs with specific outcomes, faculty and support staff hires, and compliance with accreditation requirements.

- ◆ **Healthcare** – To meet local demand, Hood College recently graduated its first class of the BSN-Bridge program, and looks to offer a 4-year BSN option. Other areas of need discussed by healthcare representatives include Occupational Therapy (Ph.D.), Physical Therapy (Ph.D.), Speech and Language Pathology (Ph.D.), School Psychology (Ph.D.), a master’s of Public health, school nurses (RN/BSN), social work and geriatrics focused degrees and continuing education, certified medical technicians, and geriatric nurse assistants. Hospital officials also see a continued need for advanced practice nurses, Nurse Practitioners/APN (MSN), clinical nurse specialists, medical coders, pharmacists, and IT healthcare specialists. They acknowledge that neither a regional higher education center nor current local institutions can resolve all of the pressing healthcare workforce needs, but feel there are limited health science programs serving the Frederick region.
- ◆ **Hospitality** – Typically this industry promotes managers from within, but does seek assistant managers and managerial trainees with a college degree and two years of hospitality and/or business experience. Staff need customer service training along with good communications skills. While there is little turnover among corporate level staff and managers, there is high turnover among non-managerial staff at properties. The FCC Culinary Arts program has a good partnership program with local hospitality business sector.
- ◆ **Pharmaceutical** – AstraZeneca Biologics Manufacturing Centre will likely see significant local expansion with a pressing need for a large number of lab technicians with bachelor’s degrees in biology and chemistry. Related skill sets in demand are manufacturing technology and quality assurance. There is a desire to see a greater emphasis locally on meeting the education needs of private sector employers in science, technology, and manufacturing.
- ◆ **IT/Technology** – There is a growing local demand for applied information and management systems knowledge, bio-informatics, telecommunications and related software and technology. A developing technology features utilization of Radio Frequency communications (RF) with wireless device applications. RF training is specialized and usually embedded in an electrical engineering program. There may be a growing regional demand for employee training in RF systems design, software development and application, and equipment testing.

SUMMARY OF QUALITATIVE INTERVIEW FINDINGS

- ◆ “Job critical” is to provide a highly skilled workforce that supports local employer needs and contributes to the economic well-being of Frederick County. To that end, a regional higher education center is the desired catalyst.
- ◆ The need is for expanded opportunities for local postsecondary education and training, with emphasis on access, convenience, and affordability.
- ◆ Local need crosses many disciplines and educational levels, but areas of acute need are STEM related programs, especially advanced graduate degree options.
- ◆ Local institutions should remain a part of any solution, and are recognized for their efforts to respond to local needs given their core missions. Program duplication or displacement of current local programs is not a desired outcome.
- ◆ It is preferred that advanced masters and doctoral programs in science and technology be offered through a recognized research university.

- ◆ Frederick County has a positive economic outlook, visible community support, a diverse employer base, and a remarkable level of highly specialized private and public sector personnel talent and physical assets that may help to attract advanced degree educational partners to a regional center.
- ◆ To support and grow a local pipeline to STEM education and thus high-paying jobs, a clear pathway must be evident. Continued collaboration between the school system, higher education partners, employers, and community leaders is imperative. A regional center could help to facilitate such partnerships.

4.0 INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

A major purpose of this assessment is to identify programs of need, parse out those that are currently being met locally to a reasonable degree, gather some measure of demand (magnitude of unmet need) for those that remain, and establish a priority from that metric. Such data will inform both MHEC and the Frederick Regional Higher Education Advisory Board as they explore strategies and actions related to meeting those needs and decisions regarding the establishment of a regional higher education center in Frederick County.

Furthermore, the information and data set forth in the entirety of this needs assessment report, and particularly, the indicators of demand presented in this chapter, may prove helpful in generating interest among potential educational partners who might consider offering programs locally.

Two different data elements are employed to frame potential program demand:

1. Occupational Projections of local Job Openings (new positions and replacements) through 2020, as released by the Maryland Department of Labor, Licensing and Regulation.
2. Survey responses from a sample of Frederick County employers reporting estimates of annual need for training and education of current and future employees.

Both data sets are sorted to reflect demand by three college degree levels typically required for entry into that profession/occupation:

- ◆ Graduate degrees (Master's, Doctorate, First Professional)
- ◆ Baccalaureate degrees (BA, BS, and non-professional)
- ◆ Associate's degree (AA, AS, AAS)

Note: Some first professional degree information has been removed from the charts and tables that follow, as those were not viewed as a priority or a realistic expectation to address through a regional higher education center at this time.

4.1 OCCUPATIONAL PROJECTIONS

In this section data is presented by each of three degree levels associated with occupational openings projected for Frederick County as described above. Two exhibits are included for each education level, directly reflecting where the job opportunities requiring college degrees will be, and the relative magnitude of total openings.

The first table displays official State projections of employment and job openings across a 10-year period for aggregate groupings of occupational categories. Data shows new positions ("change") plus replacements needed (filling existing positions due to turnover), and provides a total number of cumulative openings expected through the year 2020. A final data point identifies the percent of total openings due to replacement, often an indicator of potential re-credentialing or continuing education need.

The second table displays the top detailed occupational categories based on total number of openings across the 10-year horizon for that degree level, thus, an indicator of demand magnitude.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

With a focus on occupations that typically require a graduate degree for entry, two aggregate categories of Healthcare Practitioners/Technicians, and Life/Physical/Social Sciences show the largest number of openings through 2020 (**Exhibit 4-1**), however, the latter group has a much smaller replacement rate.

EXHIBIT 4-1
PROJECTED GROWTH BY AGGREGATE OCCUPATIONAL CATEGORIES REQUIRING
A GRADUATE DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020

Occupational Categories Requiring a Master's, Doctorate, or Professional Degree By Total Number of Openings Over 10 years						
Occupational Category	Employment			Openings		%
	2010	2020	Change	Replace.	Total	Replacement
Healthcare Practitioners and Technical Occupations	1,601	2,253	652	344	996	35%
Life, Physical, and Social Science Occupations	1,025	1,672	647	208	855	24%
Community and Social Services Occupations	780	1,068	288	169	457	37%
Education, Training, and Library Occupations	1,052	1,250	198	184	382	48%
Legal Occupations	224	342	118	43	161	27%
Management Occupations	352	398	46	100	146	68%
Computer and Mathematical Occupations	116	196	80	53	133	40%

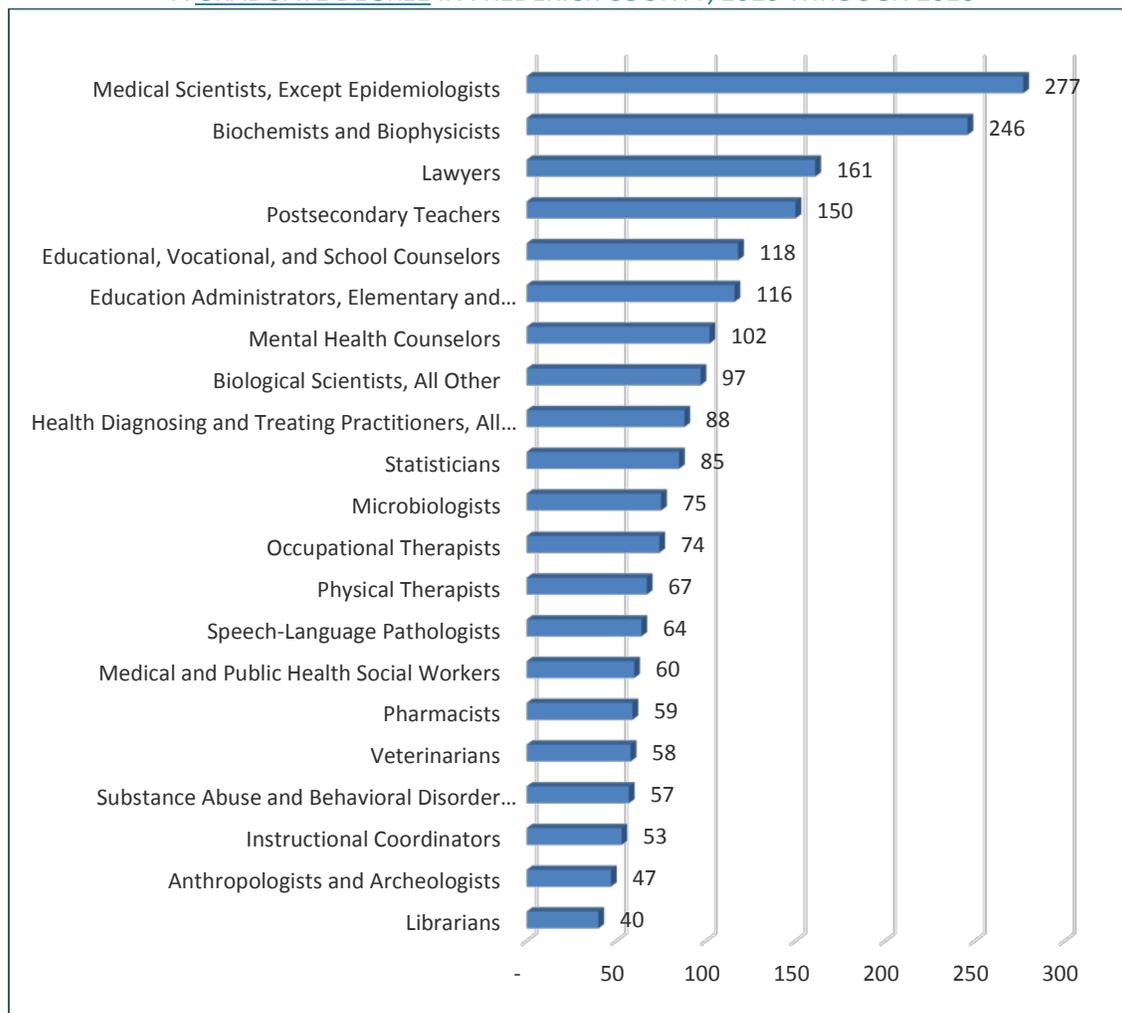
Source: Maryland Department of Labor Licensing and Regulation, 2014.

Looking at openings in more detailed occupational categories (**Exhibit 4-2**), medical scientists, and biochemists/biophysicists project more than 200 openings each over 10 years. A significant need (100+) for college instructors, vocational/school counselors, and Pk-12 administrators follows. Interestingly, based on DLLR projections, 47% of all job openings projected for biochemists in the state of Maryland through 2020 are attributed to Frederick County.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

EXHIBIT 4-2

PROJECTED OPENINGS AMONG DETAILED OCCUPATIONAL CATEGORIES REQUIRING
A GRADUATE DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020



Source: Maryland Department of Labor Licensing and Regulation, 2014.

For bachelor’s degree prevalent occupations, **Exhibit 4-3** depicts the aggregate categories foreseen with the greatest number of openings, which include Business and Financial Operations, Computer and Mathematical positions, and Management. The top detailed occupational categories with considerable projected openings that require a bachelor’s degree include engineers, business operations, information security, accounting, management analysts, high school teachers, and software developers, each with approximately 500-1,000 job openings through the end of this decade (**Exhibit 4-4**).

The number of openings for civil engineers in Frederick County is disproportionately greater when compared to projected openings across the state as a whole. Though not as prevalent in its disparity from the state, demand for filling Biomedical Engineer positions in Frederick County accounts for nearly one quarter of projected statewide need through 2020.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

EXHIBIT 4-3

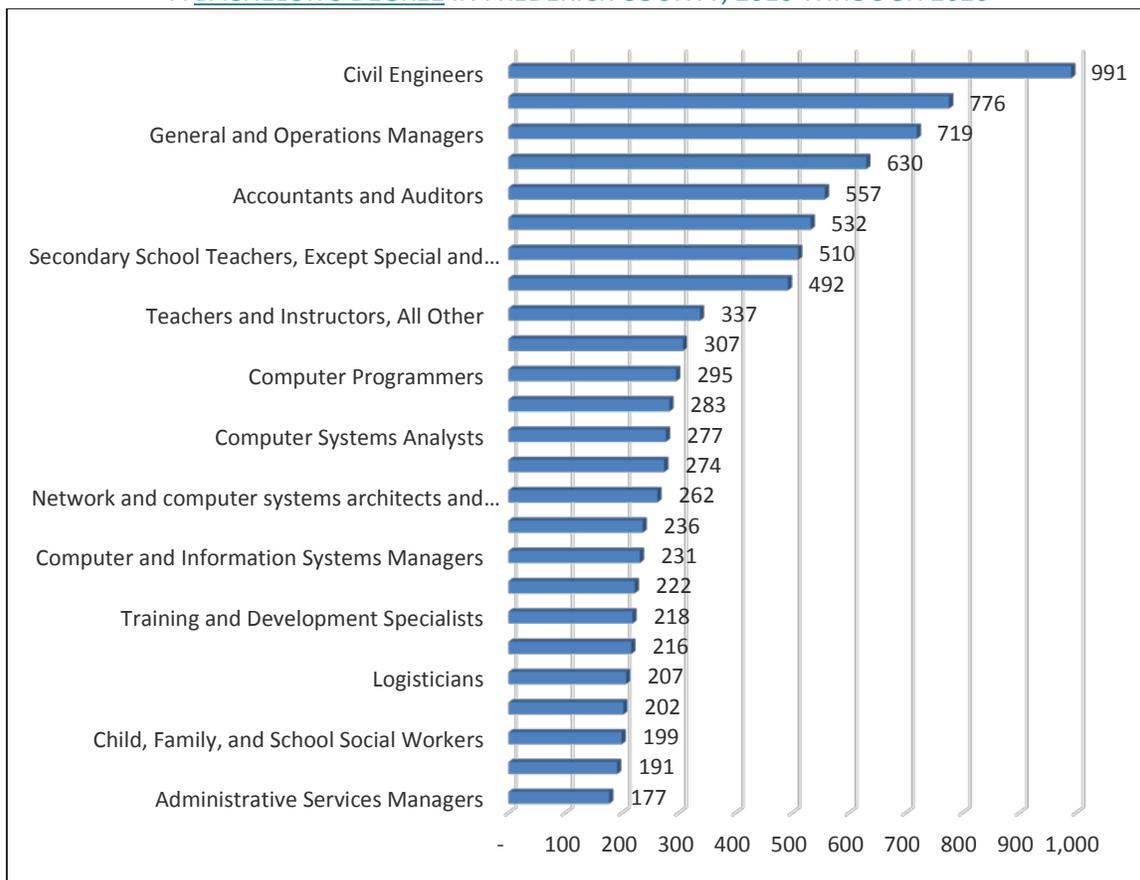
PROJECTED GROWTH BY AGGREGATE OCCUPATIONAL CATEGORIES REQUIRING
A BACHELOR'S DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020

Occupational Categories Requiring a Bachelor's Degree By Total Number of Openings Over 10 years						
Occupational Title	Employment			Openings		% Replacement
	2010	2020	Change	Replace.	Total	
Business and Financial Operations Occupations	6,259	9,117	2,858	1,234	4,092	30%
Computer and Mathematical Occupations	3,182	5,261	2,079	501	2,580	19%
Management Occupations	4,199	5,433	1,234	921	2,155	43%
Architecture and Engineering Occupations	1,675	2,918	1,243	369	1,613	23%
Education, Training, and Library Occupations	3,437	3,904	467	806	1,273	63%
Arts, Design, Entertainment, Sports, and Media Occupations	836	1,114	278	235	517	45%
Life, Physical, and Social Science Occupations	622	922	300	164	464	35%
Community and Social Services Occupations	510	701	191	117	308	38%
Sales and Related Occupations	416	539	123	102	225	45%
Healthcare Practitioners and Technical Occupations	308	385	77	80	157	51%
Personal Care and Service Occupations	139	174	35	22	57	39%
Legal Occupations	59	80	21	9	30	30%
Office and Administrative Support Occupations	13	21	8	2	10	20%

Source: Maryland Department of Labor Licensing and Regulation, 2014.

EXHIBIT 4-4

PROJECTED OPENINGS AMONG DETAILED OCCUPATIONAL CATEGORIES REQUIRING
A BACHELOR'S DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020



Source: Maryland Department of Labor Licensing and Regulation, 2014.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

For positions typically requiring a 2-year degree to start, Healthcare Practitioners and Technical occupations are by far the most needed in Frederick County (**Exhibit 4-5**). However the Architecture and Engineering aggregate category, and the Life, Physical and Social Science job grouping show strong demand (projected openings) for appropriately skilled workforce as well.

EXHIBIT 4-5
PROJECTED GROWTH BY AGGREGATE OCCUPATIONAL CATEGORIES REQUIRING
AN ASSOCIATE DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020

Occupational Categories Requiring an Associate's Degree By Total Number of Openings Over 10 years						
Occupational Title	Employment			Openings		%
	2010	2020	Change	Replace.	Total	Replacement
Healthcare Practitioners and Technical Occupations	4,697	6,341	1,644	835	2,479	34%
Architecture and Engineering Occupations	676	1,080	404	128	532	24%
Life, Physical, and Social Science Occupations	360	601	241	147	388	38%
Legal Occupations	374	604	230	53	283	19%
Management Occupations	826	930	104	53	157	34%
Education, Training, and Library Occupations	256	298	42	67	109	61%
Healthcare Support Occupations	32	62	30	5	35	14%
Office and Administrative Support Occupations	38	50	12	8	20	40%
Personal Care and Service Occupations	10	11	1	2	3	67%
Farming, Fishing, and Forestry Occupations	8	9	1	2	3	67%

Source: Maryland Department of Labor Licensing and Regulation, 2014.

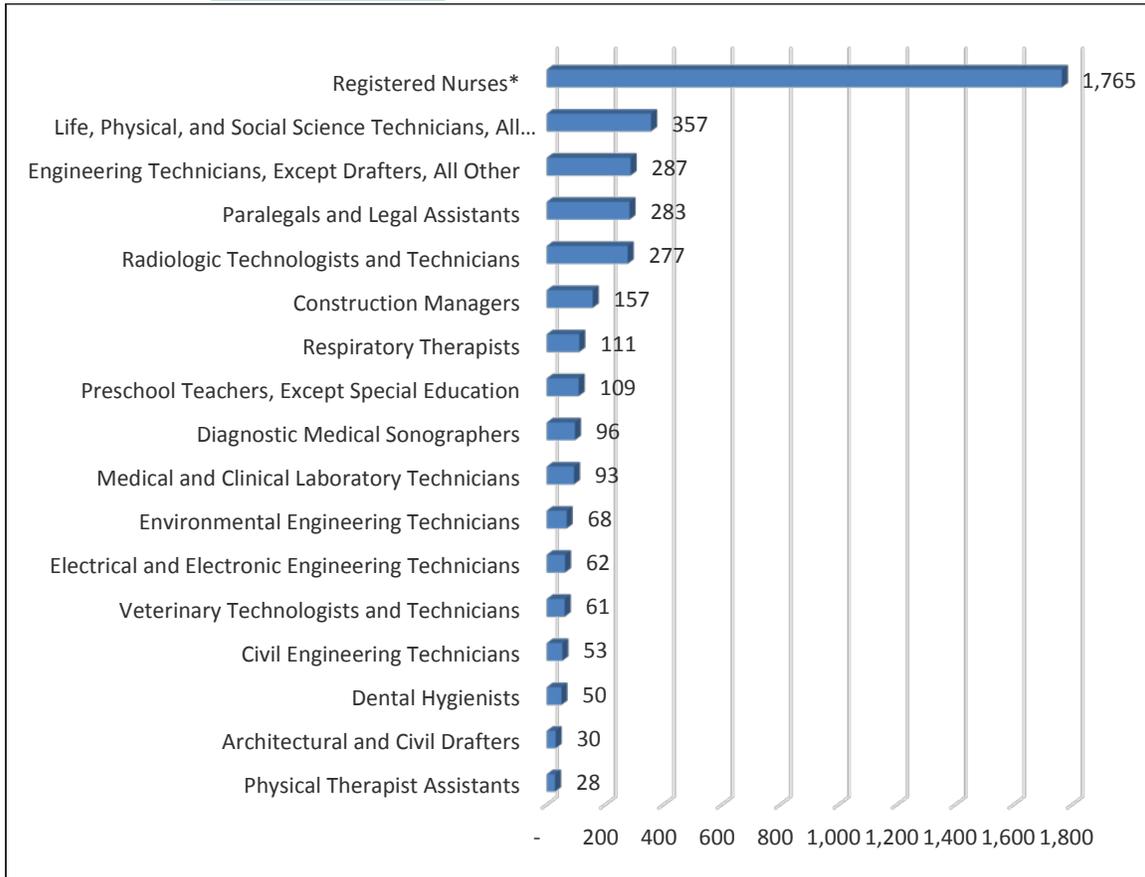
When the aggregate healthcare grouping is broken down into detailed occupational categories, nursing accounts for over 70% of this demand (**Exhibit 4-6**). It should be noted that although the classification of education typically associated with entry-level positions indicates a 2-year degree is the norm for nursing, trends indicate that a bachelor's degree is of considerable importance in the marketplace. Supply and demand pressures along with certification and licensure requirements will dictate the magnitude of future need at the BSN degree level.

Also of significance to Frederick Community College in particular, is the need for technicians in areas of Life/Physical/Social Science, Engineering specialties, and a group of additional medical/healthcare occupations.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

EXHIBIT 4-6

PROJECTED OPENINGS AMONG DETAILED OCCUPATIONAL CATEGORIES REQUIRING AN ASSOCIATE DEGREE IN FREDERICK COUNTY, 2010 THROUGH 2020



Note: *Based on interviews, local healthcare employers indicate a growing trend towards requirement of a BSN degree to fill some portion of these nursing openings.

Source: Maryland Department of Labor Licensing and Regulation, 2014.

Occupational Openings Summary

One measure that may assist planners in identifying needed postsecondary education programs and training for the local area through a new regional higher education center is future job growth as depicted by projected occupational openings in Frederick County through year 2020. Occupational groupings by typical education level required are summarized below along with the approximate number of total openings expected during the current decade. Occupations in **bold type** indicate areas where local programming is not readily available.

Graduate Level (masters, advanced master, doctorate):

- ◆ **Biological and Medical Scientists (700)**
- ◆ **Healthcare Services Professionals (625)**
- ◆ **Educational Administrators Pk-12 (325)**
- ◆ Postsecondary Teachers (150)

Baccalaureate Degree Level:

- ◆ **Civil Engineers (1,000)**
- ◆ Business, Management, Finance and Administrative Specialists (4,000)
- ◆ **Information Technology and Security, Computer/Network Systems and Software (2,700)***
- ◆ Pk-12 Teachers and Training Specialists (1,500)
- ◆ Nurses** (900)

Associate/Certificate Degree Level:

- ◆ Nurses** (900)
- ◆ Other Health Care Technicians (700)
- ◆ **Engineering Technicians (500)**
- ◆ Life, Physical and Social Science Technicians (350)

* Some specialty disciplines at the Bachelor's degree level are not readily available locally.

** Based on input from healthcare employers, the projected openings in the nursing profession were evenly divided between a BSN and 2-year associate degree level.

4.2 INDICATORS OF PROGRAM DEMAND

In this section we focus on estimated local education and training needs by degree level based on employer survey responses using CIP discipline descriptors. Such predicted need covering the next 3 to 5 years includes current and future employees of each responding firm or entity, and applies to degree completion as well as specific training and continuing education, as expressed by the employers.

For the three education levels (degrees), we present the detailed survey findings of training and education needs in descending order of magnitude within aggregate academic groupings. Furthermore, comparing the needed disciplines to local institution program inventories (Appendix A), the charts indicate if that particular discipline is not available through one or more of the local colleges. Disciplines with less than 10 employees in need were removed from these tables for brevity.

A cautionary note is offered, in that the disciplines listed and numbers of employees to be served, are reflective of the type and size of firms responding to the survey and the target sample (see Chapter 3.0 for explanation regarding the survey methodology and representation). The numbers associated with each reported program discipline represent a cumulative estimate of employees who might need that particular training or program within the time horizon. In all likelihood, an employee may be in need of education and training in more than one discipline, and therefore would be counted separately for each. This does not guarantee that all will pursue such education and training, and it does not predict if all of the related instruction would be received locally, or provided by a higher education institution. However, it does offer an indication of the relative potential for addressing that need, in this case through multiple approaches including local partners and a regional higher education center.

Program/discipline information presented in Exhibit 4-7 reflects reported needs from the employer survey targeted for graduate level education (masters, graduate certificates, advanced masters and doctorate). In several cases an applicable master's program may be available locally, but no local institution currently offers a doctoral program). Further, in some disciplines where the estimate of need

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

is large, the capacity of an existing program may not provide ample access to meet anticipated demand. Though this study did not attempt to correlate individual program capacity with demand estimates, such factors should be considered on an individual basis when planning to introduce a new program locally.

From the job openings data in the preceding section of this chapter, we know that a significant number of positions will be available for teachers and training specialists local. Survey data displayed in Exhibit 4-7 (Part I) is focused on the Pk-12 education system, and perceived needs for training and education in various disciplines for instructors, support personnel and administrators. Although a number of the requested disciplines are offered locally at the baccalaureate level, graduate education focused on the elementary and secondary education professions is somewhat limited. Additionally a number of these needs could be addressed through customized training opportunities or one or a sequence of courses and not require a full degree program. This may be another component of a regional higher education center to be considered.

However, need for teacher credentialing in the form of a master's degree or a graduate certificate in various disciplines is evident. Additionally, a doctoral program focused on educational administration, curriculum and instruction, assessment, or public administration may be warranted.

Turing attention to Exhibit 4-7 (Part II), non-education specific disciplines in Information Technology and Computer Systems, along with the Sciences (primarily related to biology and biomedical specialties) are most in need, and not readily available locally.

For example, *Biochemistry, Biophysics, and Molecular Biology* graduate level training and education needs are estimated for 50+ employees. This would require a very specialized and focused program with a limited capacity in order to address this need. Further this discipline is one of a dozen reported non-teacher education specialties (CIPs) listed that reflect an emphasis on science representing nearly 400 employees. Based on comments from various employers in this industry sector, education needs are for very specialized advanced graduate degrees, including Ph.D.'s. Depending on the position, the conferring institution is important as well the degree credential.

Although graduate programming in Computer Science and Information Technology is available locally, some of the discipline specialties may not be. This grouping represents more than 150 employees identified for possible training and education in this aggregate technical post-baccalaureate focus.

Some training and education programming at the graduate level in business and management operations may be captured in the two local MBA programs and their corresponding areas of concentration, but several specialty classifications (CIPs) requested by employers on the survey are not offered.

Finally, despite the major focus in local demand for nursing credentialing is at the 2-yr degree and the BSN (as determined by projected position openings, and interviews), there is some expressed need for access to a graduate nursing program.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

EXHIBIT 4-7
 LOCAL NEEDS REQUIRING GRADUATE LEVEL EDUCATION/TRAINING
 (PART I)

Graduate Level Education/Training			
Academic Disciplines	Number of Current and Future Employees Needing Training as Indicated by Employer Survey	Program Not Available at This Level in the Local Market	
Education Professions			
Education	Teacher Education and Professional Development	1000	
	Mathematics and Computer Science	700	
	Teaching English or French as a Second or Foreign Language	700	X
	Special Education and Teaching	500	
	Biological and Physical Sciences	500	X
	Educational Administration and Supervision - PK-12	500	
	Student Counseling and Personnel Services	300	X
	Social Work	300	
	Curriculum and Instruction	250	
	Public Administration	200	X
	Accounting and Computer Science	125	
	Behavioral Sciences	100	X
	Bilingual, Multilingual, and Multicultural Education	100	X
	Intercultural Multicultural and Diversity Studies	100	X
	Multi Interdisciplinary Studies	100	X
	Statistics	75	X
	Mathematics	75	
	Applied Mathematics	60	X
	Classical and Ancient Studies	50	X
	Nutrition Sciences	40	X
	Communications Technology Technician	35	X
	Mathematics and Statistics	25	X
	Educational Assessment, Evaluation, and Research	25	X
	Educational Instructional Media Design	25	X
	Graphic Communications	20	X
Audiovisual Communications Technologies/Technicians	20	X	
Computer and Information Sciences	15		
Computer Systems Networking and Telecommunications	15	X	
Computer/Information Technology Admin. and Management	15		
Computer Programming	15		

Highlighted cells indicate that no program is available at this level locally.

Source: Employer Survey and local provider and RHEC program listings.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

EXHIBIT 4-7
 LOCAL NEEDS REQUIRING GRADUATE LEVEL EDUCATION/TRAINING
 (PART II)

Graduate Level Education/Training			
Academic Disciplines		Number of Current and Future Employees Needing Training as Indicated by Employer Survey	Program Not Available at This Level in the Local Market
Non-Education Professions			
Business	Accounting and Related Services	46	
	Business Administration, Management and Operations	30	
	Business Operations Support and Assistant Services	15	
	Business Corporate Communications	14	X
	Human Resources Management and Services	14	
	Business Commerce	20	X
	Business Managerial Economics	13	X
	Finance and Financial Management Services	10	
Healthcare	Nursing	27	
Information Technology and Computer Systems	Computer and Information Sciences	43	
	Computer Programming	35	X
	Computer Systems Networking and Telecommunications	34	X
	Computer/Information Technology Admin. and Management	30	
	Computer Systems Analysis	18	X
	Management Information Systems and Services	15	
Science	Microbiological Sciences and Immunology	75	
	Biochemistry, Biophysics and Molecular Biology	54	X
	Cell/Cellular Biology and Anatomical Sciences	44	X
	Biological and Biomedical Sciences	31	
	Biology	30	
	Biology Technician Biotechnology Laboratory Technician	28	
	Biotechnology	25	
	Clinical/Medical Laboratory Science and Allied Professions	22	X
	Physiology, Pathology and Related Sciences	21	X
	Biomathematics and Bioinformatics	19	X
	Chemistry	11	X
	Ecology, Evolution, Systematics, and Population Biology	11	X
	Zoology/Animal Biology	11	X
Plant Sciences	10	X	
Other	Veterinary Medicine (DVM)	40	X
	Basic Skills	20	
	Agriculture	15	X

Highlighted cells indicate that no program is available at this level locally.

Source: Employer Survey and local provider and RHEC program listings.

For baccalaureate degree and corresponding levels of training and continuing education needs expressed on the employer survey, the listings presented in [Exhibit 4-8](#) are dominated by unmet need of

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

information technology, computer science and telecommunications disciplines, as well as specialty areas related to medical research and biological sciences. Teacher education again tops the list in terms of reaching the largest number of employees in need of education and training, but that may become a capacity issue associated with locally available programs.

EXHIBIT 4-8
LOCAL NEEDS REQUIRING BACHELOR'S LEVEL EDUCATION/TRAINING

Bachelor's Level Education/Training			
Academic Disciplines		Number of Current and Future Employees Needing Training as Indicated by Employer Survey	Program Not Available at This Level in the Local Market
Business	Business Administration, Management and Operations	348	
	Business Commerce	310	X
	Accounting and Related Services	157	
	Business Operations Support and Assistant Services	76	
	Business Corporate Communications	72	X
	Business Managerial Economics	48	
	Human Resources Management and Services	47	
	Finance and Financial Management Services	33	
Education	Teaching Assistants/Aides*	205	
Healthcare	Biological and Biomedical Sciences	41	
	Nursing	21	
	Clinical/Medical Laboratory Science and Allied Professions	15	X
	Pharmacology and Toxicology	11	X
Information Technology and Computer Systems	Computer and Information Sciences	53	
	Computer Systems Networking and Telecommunications	35	X
	Management Information Systems and Services	32	
	Communications Technology Technician	29	X
	Computer Programming	24	X
	Computer/Information Technology Administration and Management	19	
	Biostatistics and Bioinformatics	12	X
Science	Biology Technician Biotechnology Laboratory Technician	310	
	Microbiological Sciences and Immunology	72	
	Biology	71	
	Biochemistry, Biophysics and Molecular Biology	66	
	Biotechnology	34	
	Cell/Cellular Biology and Anatomical Sciences	27	X
	Physiology, Pathology and Related Sciences	21	X
	Plant Sciences	10	X
Other	Basic Skills	48	
	Data Processing	13	X
	Veterinary Biomedical and Clinical Sciences	12	X

Highlighted cells indicate that no program is available at this level locally.

*Note: All needs in this category are accounted for by the Frederick County Public School System.

Source: Employer Survey and local provider and RHEC program listings.

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

Although the list in **Exhibit 4-11** is much smaller than preceding ones focused on baccalaureate and graduate education, the associate degree level needs identified by surveyed employers reiterated the on-going emphasis on “basic skills” training and education. Additionally, security and electrical engineering and drafting/design technology programs, though limited in numbers from the survey, are in line with growing or established technology manufacturing sectors prevalent in the County. Although the 2-year nursing was not identified as a specific need from the survey, the estimated number of position openings identified in the earlier section of this chapter still demand attention. Frederick Community College has been very responsive to identifying and adapting their program inventory to respond to changing needs.

EXHIBIT 4-9
LOCAL NEEDS REQUIRING ASSOCIATE LEVEL EDUCATION/TRAINING

Associate Level Education/Training		
Academic Disciplines	Number of Current and Future Employees Needing Training as Indicated by Employer Survey	Program Not Available at This Level in the Local Market
Teaching Assistants/Aides*	400	
Basic Skills	76	
Security and Protective Services, Other	45	X
Biology, General	39	
Business Administration, Management and Operations	24	
Electrical, Electronics and Communications Engineering	14	X
Quality Control and Safety Technologies Technicians	13	X
Drafting/Design Engineering Technologies/ Technicians	12	X

*Note: All needs in this category are accounted for by the Frederick County Public School System.

Source: Employer Survey and local provider and RHEC program listings.

4.3 SUMMARY OF NEEDS

Whether the focus on education and training needs in Frederick County is derived from employer survey data, or extrapolated from projected annual job openings, several things are most evident.

- ◆ Traditional undergraduate programs routinely in demand such as nursing, teacher education and business (business, management, accounting, finance and HR) are well represented in the needs analysis. Local institutions have made strides in addressing such needs at the appropriate education level. However, in some instances demand is likely to exceed local program capacity.
- ◆ There are no local doctoral level education programs for administrators, curriculum, and evaluation/assessment specialists.
- ◆ Biological Science and a host of related science research specialties make up a significant portion of identified need at the graduate degree level (including Ph.D.'s) and to a lesser extent, at the 4-year degree level. Although there are two masters level degrees offered by local institutions, the advanced specialty concentrations, technical infrastructure, and the institutional credentials are critical missing elements in meeting local needs. The program areas of most interest include:

INDICATORS OF PROGRAM NEED IN FREDERICK COUNTY

- Biomedical sciences, biochemistry, biophysics, bioinformatics, biomathematics, immunology, biotechnology, cellular biology, and medical scientists.
- ♦ A second dominant cluster of need crossing both baccalaureate and graduate levels involves technology related disciplines and jobs centered around:
 - Computer and information sciences, programming, software development, systems analysis, networking, telecommunications, cybersecurity, and management information systems.
- ♦ Additional need for STEM programs and relevant positions appear on the lists for mathematics, statistics, and several engineering disciplines (civil and electrical engineering).
- ♦ Numerous health related disciplines and occupations appear on the graduate and baccalaureate program needs lists that may prove more difficult to address due to the complexities and costs associated with such programs, accreditation and certification requirements, and the impacts these factors have on program capacity.
- ♦ There appears to be a significant, continuing need for nurses as projected by position openings, and credentialing is trending toward a BSN for a portion of those positions.
- ♦ Finally, reported need for training and education focused on basic skills such as communications, writing, English, math, organizational skills, team building, problem solving, and leadership transverse each level of post-secondary education, and may be integrated into other program majors or corporate and continuing education curriculum.

5.0 MARYLAND REGIONAL HIGHER EDUCATION CENTERS

Maryland has a well-established system of regional higher education centers (RHECs) sited across the state. The Frederick Regional Higher Education Center Advisory Board and MHEC representatives realized the cumulative knowledge and experiences of these centers would hopefully prove quite valuable to planning for and implementing a similar entity in their county. Thus part of the mandated scope of work for this needs assessment study was to gather input from each center in this regard.

The eight existing regional centers in Maryland were reviewed in order to provide information that could help guide decision making and planning related to a proposed center in Frederick. Information about the centers was obtained from MHEC offices, center Websites, and interviews with center leadership. This chapter summarizes the interviews by key topic area and presents an analysis of program offerings by degree level, some suggested “best practices” as well as “lessons learned” offered by the center leaders, as well as the consulting team.

5.1 INTRODUCTION TO MARYLAND REGIONAL HIGHER EDUCATION CENTERS

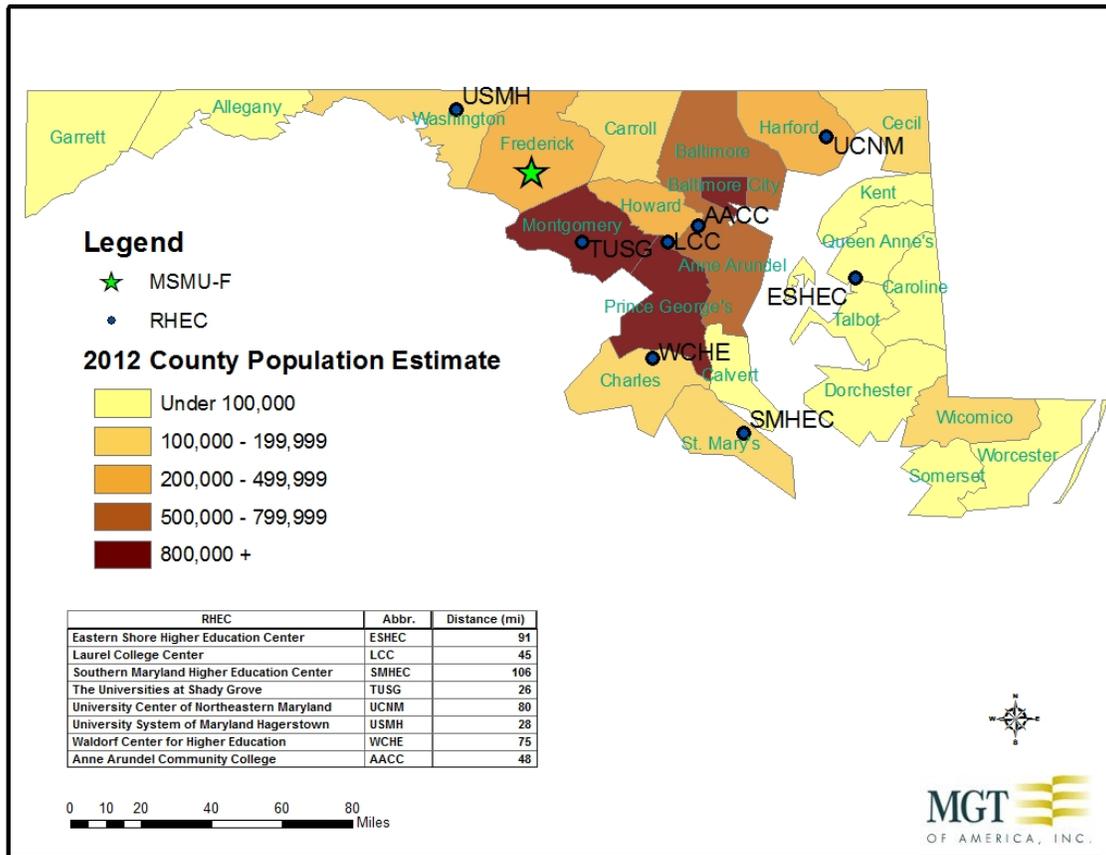
Each of the eight regional centers has a model of operation and governance, program inventory, institutional partnerships, and facilities that is unique to their specific situation, surroundings, local needs and target audiences.

The regional centers and location of each are as follows:

- ◆ Anne Arundel Community College at Arundel Mills
- ◆ Eastern Shore Higher Education Center, Wye Mills (Queen Anne's County)
- ◆ Laurel College Center (Prince Georges County)
- ◆ Southern Maryland Higher Education Center, California (St. Mary's County)
- ◆ The Universities at Shady Grove, Rockville (Montgomery County)
- ◆ University Center of Northeastern Maryland, Aberdeen (Harford County)
- ◆ University System of Maryland Hagerstown (Washington County)
- ◆ Waldorf Center for Higher Education (Charles County)

Exhibit 5-1 displays the location of each RHEC. As shown, most of the Centers are located a significant distance from Frederick County and vary dramatically in home county size (population).

EXHIBIT 5-1
LOCATION OF MARYLAND'S EIGHT REGIONAL HIGHER EDUCATION CENTERS



Source: ArcView GIS depictions of geographies. Population estimates, U. S. Census.

The Maryland Regional Higher Education Centers and their institutional partners are shown in **Exhibit 5-2** along with the degree level of programming offered at each. Institutional partners which are most active with the centers include:

- ◆ University of Maryland University College (UMUC) – partnering with eight RHECs
- ◆ Towson University – partnering with five RHECs
- ◆ University of Maryland College Park (UMCP) – partnering with five RHECs
- ◆ Notre Dame of Maryland University – partnering with four RHECs
- ◆ Salisbury University – partnering with four RHECs

There are a number of other institutions, primarily from Maryland, that partner with only one or two regional centers as noted in the chart below.

EXHIBIT 5-2
PARTNER INSTITUTIONS OPERATING AT MARYLAND CENTERS BY DEGREE LEVEL

	UM Shady Grove	USM Hagerstown	Arundel Mills	Eastern Shore	UC Northeastern MD	Laurel College	Southern Maryland	Waldorf
Bowie State University	G						G	
Capitol College							U, G	
College of Notre Dame of Maryland University								U, G
Coppin State University		U						
Frostburg State University		U, G	U					
Gratz College							G	
Gratz College RTC				G				
Harrisburg University of Science and Technology							G	
Johns Hopkins University					U, G		G	
McDaniel College			G					
Morgan State University					G			
Notre Dame of Maryland University			U, G	G	U, G	U	G	
Salisbury University	U	U, G		U, G			U, G	
Stevenson University			U	U, G			U	
The George Washington University							G	
Towson University	U, G	U, G			U, G		G	U
UM Baltimore	U, G							
UM Baltimore County	U, G							
UM College Park	U, G	G			G	G	U, G	
UM Eastern Shore	U			U, G				
UM University College	U, G	U	U	U	U	U	U	U
University of Baltimore	U, G							
Washington Adventist University							U	
Webster University							G	

Source: Compiled from MHEC summary fact sheet of RHECs, each center's website, and MGT interviews with RHEC directors.

Note: U = undergraduate degree available at the center through this partner, G = graduate degree available at the center through this partner.

Exhibit 5-3 displays a list of common academic programs each available at three or more of the RHECs in Maryland. Not surprisingly, the undergraduate programs most commonly found across centers are also programs that are routinely popular on most main campuses as well. The only exception from this list are programs related to Cybersecurity, a growing academic program, which correlates to an emerging workforce demand targeted by Maryland.

Commonly found graduate programming is often driven by business management (including MBA options), education degrees to supplement local school system personnel needs, and the continuous efforts to fill advanced patient care and administrative requirements in the healthcare system. The gamut of engineering and information technology graduate programming is congruent with the push for more STEM degree completions throughout Maryland, and across the nation.

EXHIBIT 5-3
COMMON PROGRAMS AVAILABLE
AT MARYLAND CENTERS

Undergraduate	
Program	Number of RHECs where this program is available
Business Administration/Management	8
Criminal Justice (or Sociology with a Criminal Justice focus)	6
Cybersecurity	5
Elementary Education	8
Information Systems Management	6
Nursing	5
Social Science	3
Social Work	4
Graduate	
Program	Number of RHECs where this program is available
Business Administration/Management	5
Elementary Education	8
Engineering	4
Information Technology	3
Nursing	5
Social Work	4

Source: MGT analysis.

A detailed listing of programs offered at each regional center by degree level and partner institution is displayed in **Appendix D**.

5.2 CRITICAL ISSUES FROM RHEC INTERVIEWS

In this section, we summarize a variety of issues explored with RHEC Directors during interviews. The interview process was focused on learning about each center's approach and strategy to issues related to start-up and operation typically associated with higher education centers. The following section summarizes those findings. Responses are identified by center, because each Maryland RHEC is somewhat unique in its surroundings, mission, programming and populations served.

Governance Structure

Arundel Mills Center

A Learning Response Team was formed with representatives from each of the partner institutions and the community college. Initially, the Team met monthly to develop processes and to guide the Center's development. After 10 years in existence, the meeting frequency has declined a bit but continues to meet to address issues as they arise. In addition, marketing representatives from all partner institutions and the community college meet annually to plan joint marketing efforts. The Center developed a Memorandum of Understanding (MOU) for partner agreements to cover a broad set of aspects of the relationship.

Eastern Shore Higher Education Center

Eastern Shore Higher Education Center is the only center in the state that is located on a community college campus (Chesapeake College). A steering group comprised of the campus partners exists for advisement and information sharing. The director reports to the vice president of academic affairs of Chesapeake College and the college's Board of Trustees, however, the Center is considered a separate entity from the college. The Center serves five counties, but does not receive direct support from them.

Laurel College Center

The Center is a partnership between Howard Community College and Prince George's Community College. A Policy and Coordination Council meets every other month, and is comprised of the Vice Presidents for financial affairs, academic affairs, student services, and workforce development; and senior administrators (community college Presidents). There is a Joint Community College Board meeting every other year. There is a liaison from each partnering college working with the community colleges and Laurel on nuts-and-bolts issues. The Center offerings include courses from the two community colleges and the university partners.

The partner universities offer upper level and graduate programs. Articulation between community college and university programs is important. The Center is moving toward greater partner involvement in the future.

Southern Maryland Higher Education Center

The Southern Maryland Higher Education Center's Board of Governors is appointed by the Governor and is comprised of 13 members representing the three county region. The chairperson is appointed by the Governor.

University Center of Northeastern Maryland

The Center's building is owned by the county government; the facility is on state land, and the Center is managed by Harford Community College. Two advisory boards support the Center, the first of which is an advisory board of the partners (e.g., Harford Community College, Cecil Community College, representatives from economic development entities and the business community from both counties, and the director of the Center) and is specific to the Center. The advisory board uses subcommittees to focus on specific issues such as Facilities and Technology, Marketing, and Programs and Partnerships. The second, the Northeast Maryland Higher Education Advisory Board provides support and advice; it is mandated through legislation and supports the overall region.

The Universities at Shady Grove

The Shady Grove Governing Council Academic Program Advisory Committee is comprised of the chief academic affairs officers, and reviews programs and policies. The Board of Advisors is comprised of approximately 30 representatives from business, large and small industry, public schools, state/local government, Montgomery College president. The board has no fiduciary responsibility; it represents stakeholders' interests and serves to advocate for the Center and to tie Center offerings to industry and economic development. The Universities at Shady Grove is the largest regional center with a 4,000 student headcount and is comprised of public universities only. The director attributed its large enrollments to location near population, focus on economic development, large Federal workforce, high tech industry presence, and large established community college. There is high demand for bachelor and graduate degrees and Montgomery College is a prime feeder institution.

USM at Hagerstown

The Center is one of two in the University System of Maryland and operates as a function of the system office. There is a Governing Council comprised of the Senior Vice Chancellor of Academic Affairs, the Center's Executive Director, and the Provosts of the partner institutions. The Council meets four or five times per year, and addresses policy issues/changes. There also is a Board of Advisors, a local board consisting of approximately 20 representatives of large employers, the chamber, and Presidents of two community colleges. This board provides advice related to programs, recruitment, and raising private sector funds. The Center's Executive Director dually reports to the Senior Vice Chancellor and President of Frostburg State University. Frostburg State University is the coordinating institution and provides back office administrative services. The Center pays an annual fee for these services.

Waldorf Center for Higher Education

The Waldorf Center is a joint partnership between University of Maryland University College (UMUC) and College of Southern Maryland (CSM). There is no advisory or governing board for the Center; the two institutional boards are relied upon for advisement. In addition to UMUC and CSM, Towson University and Notre Dame of Maryland University rent classrooms space. Their offerings are somewhat limited, but plans to expand are in place.

Management and Operational Decisions

Arundel Mills Center

The Executive Director administers the Center along with an Assistant Director and Scheduler. A broader group meets to prepare the annual Plan for MHEC (e.g., Dean of Enrollment Services, Director of Finance, Executive Director of Information Technology, and Institutional Assessment).

The Center is required to submit an Annual Plan to MHEC and maintains enrollment information on partner student use.

Eastern Shore Higher Education Center

There are two operations/management staff for the Center who deal with operations and management issues.

Laurel College Center

The director is responsible for room assignments, technology, staffing, and supplies. The Center occupies five floors of a 10 story office building (leased space). The Center offers mostly community college programs. There are 300-500 partner institution enrollments. Decisions look at the community college majors and the needs of community/employers. Growing fields include cybersecurity, education (less popular in recent years), and health fields. Demographics, academic information, partner interests/strengths are weighed in the decision

Southern Maryland Higher Education Center

The Center has an Executive Director appointed by the Board of Governors. Additional full-time staff include four Principals:

- a. University Coordination who serves as a liaison with university partners, schedules space/classrooms, and maintains records on class enrollments (minimal data).
- b. Executive Assistant who serves as an administrative secretary.
- c. Event Coordinator who oversees over 200 programs/events each year.
- d. Janitor who oversees services during the week (additional weekend services are contracted).

In addition, the Center employs eight part-time student staff and a three-quarter time Business Manager/Bookkeeper.

University Center of Northeastern Maryland

The director manages the Center with advisory board input. The director reports to the vice president at Harford Community College.

The Universities at Shady Grove

The director works collaboratively with the institution partners.

USM at Hagerstown

The Executive Director makes day-to-day decisions and budget decisions.

Waldorf Center for Higher Education

UMUC is the managing partner of the Center. The Associate Vice President provides strategic oversight of the Center. Day-to-day operations are overseen by the Assistant Director (new).

Academic Program and Degree Selection**Arundel Mills Center**

Recently, a bachelor's program in Engineering with a concentration in Electrical Engineering was instituted. The community college offered a lower level engineering program and the industry in the region has a strong engineering employee base. The community college President and Vice President successfully obtained funding from the county to build an engineering lab and additional needed space for the program. The Center's MOU restricts partnering institutions from competing with each other at the Center. Over time, some programs were discontinued due to lack of use/interests. Some of this can be attributed to the partner institutions' marketing efforts.

Eastern Shore Higher Education Center

When the Center was initiated, a needs assessment study was conducted and identified three areas of strongest interest and need: nursing, social work, and education. Offerings were built program-by-program. A second study was initiated in December 2013 with a survey to Chamber of Commerce members, Economic Development representatives, faculty, and residents. The findings are being compiled.

Laurel College Center

The Center offers mostly community college programs. There are 300-500 partner institution enrollments. Decisions look at the community college majors and the needs of community/employers. Growing fields include cybersecurity, education (less popular in recent years), and health fields.

Southern Maryland Higher Education Center

The Center offers 100 degree programs, all of which are part-time with the exception of one. The programs are workforce oriented. Tuition is typically paid by the students' employers. Development of program offerings is a "diplomatic" process. The Center is located in a relatively small community of 350,000 population, and the economy is heavily research/development based (military related; testing/evaluation). There is a substantial teacher workforce in need of continuing education opportunities to maintain certification and to obtain master's degrees. The need for new programs comes from the employers/businesses.

University Center of Northeastern Maryland

Needs are identified through data/research analysis from the business community and partners. HCC and CCC compile data on employment needs in order to identify areas of interests for new programs. Currently, Aberdeen Proving Ground is conducting a needs assessment, and it is anticipated that interest in programs will be identified. If interest in a new program is identified, higher education institutions that offer the program are approached by the director about offering it at the Center. The greatest challenge to bringing a program to the Center involves the institution finding instructors for the offerings.

The Universities at Shady Grove

Program decisions are made "carefully" following research by the Board of Advisors, counties, workforce experts, collaboration with partners, and industry advocacy. The Center is planning biological sciences/engineering, health, STEM, life sciences, and computer engineering programs.

USM at Hagerstown

The Executive Director researches and discusses options with the Provosts and Program Chairs, and decisions are ratified by the Governing Council.

Waldorf Center for Higher Education

Program/degree decisions are made in consideration of supporting a 2+2 approach, i.e., where programs exist at one institution, what programs are needed from the other institution to complete articulations. In addition, programs are considered that will support growth at each institution. Other institutions offer programs that do not compete with UMUC or CSM.

Process to Determine Regional Needs

Eastern Shore Higher Education Center

Besides the survey/study approach, the director participates in numerous committees, meets with stakeholders, and builds personal relationships to stay in touch with the workforce and economic development needs of the region. The director also works closely with Chesapeake College to develop articulation programs with the other campus partners. In addition, the director interacts frequently with students to learn their interests.

Laurel College Center

Demographics, academic information, Partner interests/strengths are weighed in the decision.

Southern Maryland Higher Education Center

The process involves constant communication with industries/employers via attendance at community/civic group meetings, interaction with partner governing boards, administering surveys, and convening advisory groups for various fields. Most ideas for new programs are initiated from employers, but some are brought forward by university partners. On average, 5-10 new programs are initiated each year. Much of the area “industry” is related to the military base, where 2,000 new employees are hired each year (32 engineering program offerings, currently). In addition, the teacher workforce has been a large part of Center offerings since its inception (34 graduated education programs offered).

University Center of Northeastern Maryland

MHEC requirements and standards are followed. The advisory board is involved in the analysis and decision making.

The Universities at Shady Grove

There is no established process, but consideration is given to workforce data and trends, pathway programs with Montgomery College, local job demand, and the local talent pool.

USM at Hagerstown

Research to demonstrate need is conducted on an as needed basis. An established and uniform process is not in place. The research is either conducted internally or by an external consultant. There is interest in conducting a needs assessment this year.

Waldorf Center for Higher Education

Data are collected and analyzed from various sources, including Census, workforce development and needs, postsecondary education attainment in the population, shifts in enrollment in existing programs, large employer needs, community survey to measure awareness and interest.

Access and Degree Completion Barriers

Arundel Mills Center

Location near major interstate and a mega-mall.

Eastern Shore Higher Education Center

Recognize that adult learners may progress through programs slowly and will have different interests and needs than that of traditional-age students.

Laurel College Center

Transportation can be a major barrier so consider location of the Center to minimize the barrier. Tutoring and ESOL classes are needed. Provide advisement to students. Marketing is essential to raise awareness of Center, and to promote articulation. Choose a name that communicates “Center” rather than a free-standing institution; name should represent the institutions; have a tag line “Community of Colleges and Universities.”

University Center of Northeastern Maryland

The greatest barriers relate to inconsistent course offerings. Often the institution have a minimal number of students enrolled in a course in order to offer it. When courses are cancelled because of low participation, students become frustrated. Financial support for adult students is limited.

Many of the bachelor’s degree program students arrive with community college degrees but still may need some elective courses. The course offerings at the Center are focused on the major courses for the degree, and electives are not typically offered. Students need to commute to the main campuses to complete elective requirements.

The Universities at Shady Grove

Full programs, not partial, are needed. Finances are a major problem for many students/families. Awareness of the Center needs constant attention. Raising awareness is best accomplished through a “total community effort.”

USM at Hagerstown

The greatest barrier is the financial needs of students. The Center focuses on working adults, but has seen the share of traditional age students increasing.

Waldorf Center for Higher Education

Affordability and access are potential barriers. To address these, ensure that the transfer pathways are transparent, focus efforts on completion, offer complete program onsite (do not necessitate students going to home campuses), provide scholarship support, and have a consistent university presence.

Operational Support, Student Services, and Instructional Delivery
Arundel Mills Center

The community college offers all partner students access to the virtual library, testing center, and a bank of computers. The partner institutions provide all advisement and registration services.

Eastern Shore Higher Education Center

The Center provides office space to partners. For partners with long-established programs, an office is assigned. For partners with programs that are new or less robust, shared office space is available. Each partner has access to a copier (via code), computers, printing, phones, furniture, locker space, chart

paper/markers, and instructional technology. A building attendant (full-time) cares for the facility (the Center pays for his service and other contracted services).

Student services are provided primarily by the partner colleges (e.g., tutoring, academic support, online or face-to-face). The Center's Learning Resource Center is open to all students and offers a lending library. A cafeteria is on site and open until 6:00 p.m. College partners often provide additional onsite services during peak times such as registration. (Book orders are now done online through the college partners.)

Instructional services are provided by the college partners. Instruction is delivered primarily face-to-face or in a hybrid mode (minimal fully-online courses). Distance learning through real-time video feed from one institution to another is offered through two labs currently; a third lab will be available starting in March.

Laurel College Center

Classes are offered mostly face-to-face, with some hybrid courses offered by the Partners. Student services for the community college students included advisement, placement, registration, paying fees. Financial aid services are offered onsite twice each year and through SKYPE with the main campuses. Partners offer periodical services (some once per week or month).

Southern Maryland Higher Education Center

The delivery model is primarily face-to-face; however, some online and hybrid courses are offered and some student services are online. Some university partners have coordinators onsite and/or increase their presence during peak times. The delivery model intends for students not to need to travel to the main campuses.

University Center of Northeastern Maryland

Instruction is offered onsite, online, and in hybrid modes. Student services are offered by higher education institution partners, onsite, at the home campuses, and/or online. Some partners establish specific hours for general student services support, or offer support during high demand times (e.g., registration periods). Space in the Center is available for support services staff.

The Universities at Shady Grove

A rich array of student services are offered (counseling, academic success, student affairs/life, registration, admissions, recruitment). The Center raises funds for scholarships. The Partner institutions formed an agreement to share courses across the institutions on site. Some courses are jointly sponsored. The Center offers complete services for students; there is no need to go to main campuses. Strong pathways exist between Montgomery College and partner programs. Instruction is offered face-to-face and hybrid, plus a small number offered online.

USM at Hagerstown

Operational support is provided back office to Frostburg. Staff include the Executive Director, 2 FT/PT facilities staff, 2 FT/PT IT staff, 2 staff share marketing/recreation/outreach/student services. The Center operates from 8:00 a.m. until 10:00 or 11:00 p.m.; Saturday until 2:00 p.m. Student Services include a Writing Center (for all students), Career Services, and Student Council. Each institution provides its own academic advisement (onsite, usually part-time). There currently is an effort to centralize internship and practical experience opportunities.

Waldorf Center for Higher Education

Student services are offered primarily onsite (face-to-face) with some video conference advising (UMUC). The Virginia system (TeleTechNet) was mentioned by the interviewee as a strong interactive distance learning platform which could be considered for a new RHEC. Student support services are provided for students of the two institutions at a one-stop shop with advisors from both institutions. Marketing is done through use of billboards and direct mail.

Space Allocation

Arundel Mills Center

There are four classrooms and a suite of offices for the partner institutions to use. The staff Scheduler works with the partners to schedule the space to meet needs. Some partners offer classes at other sites of the community college, but those are not counted toward the Center's efforts. Scheduling at the Center is a challenge due to limited space.

Eastern Shore Higher Education Center

Space is allocated starting with the original partner colleges, working well in advance of a new semester. The director requests space needs from the partner colleges. As a high level of consistency exists from one semester to the next, the needs are predictable. Space is allocated on a first come, first served basis, along with some negotiation to meet everyone's needs. All spaces are utilized in the evenings.

Laurel College Center

So far, there is adequate space for everyone. Some negotiations occur to make most/best use of the space. Partners use space in the evenings, only.

Southern Maryland Higher Education Center

The space allocation process is "utilitarian" and based on the size of enrollments (classrooms seat a maximum of 15 or 25 students). Classes for degree programs take priority over other training programs or events. Saturday classes are popular. Events are scheduled on weekends and during the daytime, as well. Most degree program classes occur in weekday evenings.

University Center of Northeastern Maryland

Scheduling is completed manually into an online template according to need. The Center has been able to accommodate demand by and variable times and program duration needs of the partners. The peak instructional times are between 4:40 and 10:00 p.m., Monday through Thursday. Space is rented for meetings Monday through Saturday, with Friday being the most common. Classroom and computer labs are available.

The Universities at Shady Grove

The Executive Director in consult with the partner institutions. Programs pay for space use.

USM at Hagerstown

Space is requested by the partner institutions based on course offerings. Typically, the previous semester is a starting point for scheduling, and negotiations are used to integrate use of space among all partners.

Waldorf Center for Higher Education

This has not been a problem. UMUC offers courses in the daytime; both institutions offer courses in the evening.

Start-Up and Growth Issues

Arundel Mills Center

The Center received valuable advice from other model centers (Macomb Center in Michigan; Loraine Community College in Ohio).

Eastern Shore Higher Education Center

It is important to build trust with students that a program will remain at the Center until their completion. Obtain college partner commitment to continue a program through a cohort completion.

Laurel College Center

The Center now sees the need to have the four-year partners more involved in governance and marketing. Greater involvement translates into greater commitment.

Southern Maryland Higher Education Center

Looking at other centers, it is important to aggressively market the center's programs, i.e., don't wait for students to walk in. In addition, the center's staff need to include experience/understanding of graduate programs and their students (expectations are different from community colleges).

University Center of Northeastern Maryland

The director emphasized the importance of having a clear vision for the Center (i.e., target student populations, other uses for the Center).

The Universities at Shady Grove

Initially, do not "over promise" because even with the best planning, it takes time to be fully operational (estimate 2-5 years). Avoid program duplication among partner institutions. Work closely with the partners for pathway programs. Proposals for new programs need to demonstrate articulation pathway and justify their economic need to be sustainable overtime. The Center now has articulation agreements with five community colleges.

USM at Hagerstown

There were typical growing pains. Changes occur due to changing needs, e.g., no longer need as many computer labs.

Waldorf Center for Higher Education

Student services are offered in a unique approach that uses an advisement model based on completion points and students have the same advisor through their 2+2 program. Caution was offered against centralizing student services due to higher costs (duplication) and potential confusion of who to see for advisement. In other words, keep each institution responsible for its own services. Some services are delivered face-to-face during peak times, e.g., Veteran's services, financial aid.

Community and Employer Perceptions

Arundel Mills Center

Local perceptions are positive, but marketing efforts need to be strong and continuous (e.g., Information Sessions, Chamber outreach, partner outreach, Website(s)).

Eastern Shore Higher Education Center

Because the Center is located on Chesapeake College land, many community members have the misperception that the Center is part of the college rather than a separate entity.

Laurel College Center

Awareness grows with continued communication and close ties with the Chamber. Strong ties to employers are important. Consider forming advisory groups for program areas.

Southern Maryland Higher Education Center

Using “soft” measurements, feedback about the Center via word of mouth and recognition in public/community meeting indicates that the community thinks highly of the Center.

University Center of Northeastern Maryland

The Center recently completed a rebranding effort. For those who know about the Center, perceptions are favorable. The business community is more aware of the Center than are adult students, who are harder to reach.

The Universities at Shady Grove

Businesses that are involved with the Center are very pleased and supportive. The diversity of students is appreciated. There is strong community support, but some members of the community still do not understand the Center.

USM at Hagerstown

It is important to constantly communicate the Center to the community both in terms of its offerings as well as to explain that it is not a university, but a collection of partner institutions.

Waldorf Center for Higher Education

Many community members remain unaware of the Center. Marketing is key in promoting the Center. For those aware of the Center, it is perceived as a great resource.

Best Practices

Arundel Mills Center

Visit other model centers for advice. Restrict competition between partners. Be selective when choosing partners to ensure that institutional cultures and goals will mesh with the Center. Develop AA/AAS degree articulation agreements with partner institutions. When a program is offered at both the baccalaureate and graduate degree levels, attempt to have the same partner institution offer both levels in order to improve student transition from one to the other.

Place a high priority on marketing and coordination with partner institutions. One marketing idea: have institutional flags for each partner at the Center to promote the partnerships. Locate Center in an easily accessible place (good transportation, near people at work/home).

Eastern Shore Higher Education Center

It is important to be highly visible in the community and to work closely with the college partners.

With a small marketing budget, be strategic on how to spend: e.g., billboard, sponsor TV ads, radio spots, newspaper, and email blasts.

Laurel College Center

For the Laurel Center, establishing strong communication between the two community colleges benefitted the Center with strong mutual support. The Center attempts to have some events to bring students together.

Southern Maryland Higher Education Center

Multiple marketing efforts need to be employed, e.g., open houses, ads, mailings, etc., to recruit students. The center needs to have an entrepreneurial approach to meet the needs of the community workforce development. The Southern Maryland Higher Education Center now has 14 university partners, and is negotiating with a 15th institution. Good communication, marketing, and attention to partner needs leads to success. Also, aggressively marketing center space for community events/meeting use can significantly increase rental revenues.

University Center of Northeastern Maryland

The Advisory Board and Subcommittees structure has worked well, in part because it involves a broad range of stakeholders.

The Universities at Shady Grove

It is important to understand your market place to identify sustainable programs. Undergraduate programs need student services/academic support services. The Center has centralized these services and all partner institutions collaborate.

USM at Hagerstown

Always try to improve on delivering what is needed.

Waldorf Center for Higher Education

Meet with college partners quarterly. For primary institutions, hold faculty meetings. It is critical to link institutions with the 2+2 approach and to offer graduate programs to support workforce and economic development needs. The director needs to be intertwined in the community; include a focus on external affairs.

Lessons Learned for Frederick County

- ◆ Reach out to other Centers for development guidance, both within Maryland and in other states. Have one designated point of contact for each partner institution to ensure consistent and efficient communication. Align upper level program offerings of the partners with lower level offerings at the community college(s).
- ◆ There are financial incentives for independent colleges to offer programs/classes at the Center rather than other locations. With Frederick's location, attracting out-of-state college partners may be possible. Having generous hours of operation and encouraging community groups to use available space helps to promote the Center and its programs. If a nonprofit group needs space for meetings (not for fund raising), consider offering the space free of charge. Work to keep all stakeholders happy. Advocate for students to keep programs going. Expect that a new program will take about three years to become firmly established.
- ◆ Host *Visioning Events* with the Chamber and local employers to raise awareness of the Center. The governance group should meet regularly. When selecting Partners, consider institutional culture to ensure a good match. Consider offering space rent-free to Partners for a few years to help support interest and success. When selecting staff for the Center, recognize that each one needs to wear many hats, to be flexible, and support concept of the Center.
- ◆ Start modestly, collaborate with other regions as needed, and understand your audience. It takes five years to build relationship and to fully establish a Center. Offer full programs. Pathway programs/articulation and responding to community needs are critical.
- ◆ With increasing tuition costs, there is an endless need for financial/scholarship support.
- ◆ When designing or renovating a facility for use as a Center, address safety and security concerns, e.g., multiple exits.
- ◆ Be prepared to be flexible and to readjust the schedule if offerings don't result in enrollments. It is difficult to routinely get good, up-to-date data on demand for programs. Attempt to keep "red tape" to a minimum. Listen to your community and target audiences to be served.

5.3 SUMMARY OF FINDINGS

The consultant team has consolidated all of the information derived from RHEC interviews and data, along with our knowledge of other similar higher education centers operating outside of Maryland, for the Frederick Advisory Board to consider as they plan their approach to a Frederick County RHEC.

GOVERNANCE

A governing/coordinating board needs to represent the intended identity of the Center. Each existing Center has a board that is unique to its history and purpose. For example, if the focus of the Center is primarily 2+2 articulation with a single community college, the board of the community college may serve as the Center's board. However, if the focus extends beyond 2+2 into graduate programs, a board comprised of Center member institutions may be more appropriate. In some cases, the Center relies on boards of a few of its primary institutional partners plus a Council of key administrators. A board may be

comprised of key stakeholders including both institutions of higher education and industry representatives.

Depending on the composition of the governing board, additional boards comprised of institutional marketing representatives or industry advisors strengthen the Center's efforts. For example, a board of institutional marketing representatives can coordinate and present a clear message of what the Center is and how it can serve individuals, employers and the community. An advisory board of industry, business, economic development, and Chamber representatives can help guide the evolution of the Center's offerings and build funds for scholarship support.

A Memorandum of Understanding is an essential document, defining partner agreement and relationships related to both governance and operational functions.

PROGRAM DECISIONS

A combination of analytical research of demographic and industry/work force trends and anecdotal information from industry, economic development, Chamber, higher education partners, and Center staff is used to make decisions about programs to initiate, expand, or phase out. Partner institution strengths and interests contribute to program decisions. Pathway programs of the partnering institutions offer students prepared for the next level program (both 2+2 and higher levels). Center staff participate broadly in community/civic activities and organizations to remain aware of the educational and employment needs of the region. Industry/employers needs often initiate program analysis, but in some cases, partnering institutions propose program offerings.

Centers typically restrict partnering institutions from competing with each other's programs to avoid program duplication and diluting individual program enrollment. However, exceptions are permitted if program content differs significantly, or each program serves a unique audience.

In Maryland, the MHEC provides requirements and standards for program offering decisions at RHECs. The Center's governing and/or advisory boards participate in the decision making process.

MARKETING

Success of Centers are dependent on marketing and needs to be a high priority for boards and staff. The staff and board need high visibility in the community and must communicate a clear message about the purpose of the Center to serve the region. One component of communication entails a coordinated effort among partnering institutions. The Center's name needs to communicate that it is a "center" rather than a free-standing institution. Students will not just show up and enroll in programs without deliberate and constant attention to communicating the message of the Center. Marketing messages need to include a message to employers and community leaders about the need to raise funds to support students with financial need as well as the message to needy students about the availability of financial support.

OTHER PLANNING CONSIDERATIONS

During interviews, Center leadership offered insight into best practices and lessons learned to assist the Frederick Center initiative in planning and decision making:

- ◆ Develop a Memorandum of Understanding (MOU) to define the roles, responsibilities, and expectations of the Center and partners and to clarify critical policies and procedures.

- ◆ Develop a decision model to actively involve Center partners in decision making related to academic, financial, operational and marketing issues.
- ◆ Develop strong pathway programs connecting successful programs with the next level degree program. Develop articulation agreements where appropriate. This is particularly important with the local community college.
- ◆ Restrict competition among partners. Develop a process and criteria to determine which partner institution is most appropriate to offer a program through the center. This criteria may include a “right of first refusal” for local institutions or non-local partner institutions before seeking other options.
- ◆ Emphasize consistent and coordinated marketing for the Center, its partners, and the education and training offerings they provide through the Center. Include Center leadership involvement in community and civic organizations and events. Aggressively market Center space for use for community events and meetings during times when space is not in use for instruction.
- ◆ It is very important to have a physical presence that is visible and easily identified as the Regional Center. This could be realized on a shared site such as an existing campus, or a stand-alone facility. Often higher education center start-ups use temporary space with the option of adding to or changing locations/facilities as future demand dictates. Not all instructional or support activities associated with the Center must be delivered on the same site.
- ◆ Locate the Center near potential participants and/or within easy access to driving routes and interstates. Access is key and being in a location that is easily accessible, especially from identified priority target populations is essential to center success.
- ◆ Reach out to other Centers for development guidance.
- ◆ Encourage collaboration and educational opportunities between businesses, industry, and partner institutions, with varying levels of involvement such as; adjunct instructors, mentoring, equipment, physical space, research activities, and financial resources.
- ◆ Employ industry, business, and community supporters to raise funds for student financial support.

5.4 ADDITIONAL RESOURCES

A list of ten selected higher education centers across the country that include multiple partner institutions to deliver programs is offered below as an informational resource for members of the Frederick Regional Higher Education Center Advisory Board.

- ◆ University Center of Lake County (IL), <http://www.ucenter.org/>
- ◆ Quad Cities Graduate Study Center (IL/IA), <http://www.gradcenter.org/>
- ◆ Roanoke Higher Education Center (VA), <http://www.education.edu/>
- ◆ Low Country Graduate Center (SC), <https://lowcountrygraduatecenter.wordpress.com/>
- ◆ Southwest Virginia Higher Education Center, <http://www.swcenter.edu/>
- ◆ Auraria Higher Education Center (CO), <http://www.ahec.edu/>
- ◆ Santa Fe Higher Education Center (NM), http://hec.sfcc.edu/about_the_sfhec/

- ◆ University Center of North Puget Sound (WA), <http://www.uceverett.org/>
- ◆ Macomb University Center (MI), <http://www.macomb.edu/future-students/choose-program/university-center/index.html>
- ◆ The University Partnership at Loraine County Community College (OH), <http://www.lorainccc.edu/UP/>

6.0 CONCLUSIONS

This needs assessment study is yet another step in the continued process to expanded access to higher education in Frederick County. One model for achieving that goal is establishment of a new regional higher education center. Study results and conclusions are intended to help inform decisions by MHEC, the Frederick Regional Higher Education Advisory Board, and elected officials in determining the best approach and strategy to meeting the postsecondary education needs of the area. Those who have the most to gain, Frederick's residents, employers, business owners, and workers, have been represented in this and prior studies to gauge collective need. We have presented our findings and conclusions with this in mind.

The subsequent sections of this final chapter provide a brief synopsis of our observations based on the needs assessment findings, followed by a series of issues and concerns for the involved parties to consider as they move closer to expanding access to higher education and training in the County, thus enhancing the skilled, educated workforce required to sustain a competitive and viable economy well into the future. This is an outcome sought not only locally, but across the State of Maryland.

6.1 OBSERVATIONS

Frederick County is well positioned to continue to maintain relatively low unemployment, grow its diverse business/industry mix, support the presence of extensive federal and military activities, and match or surpass the educational attainment levels of the state and progress towards achieving Year 2025 goals.

Advantages that currently exist in Frederick County which will help further this quest include:

- ◆ Several key industry clusters (bioscience and technology) with significant employment capacity that rely heavily on STEM educated workers. These jobs typically provide a good living wage base.
- ◆ A significant mix of public and private sector resources among local business and industry.
- ◆ A longstanding presence of the US Army at Ft. Detrick, along with a plethora of operations from the Department of Defense and other federal agencies.
- ◆ An impressive talent pool of leading research scientists and support staff, as well as cutting edge research lab and testing facilities and equipment, unlike that found in many other communities of this size.
- ◆ Relatively easy access to opportunities and activities of the Baltimore-Washington metropolitan area.
- ◆ Three long-standing local higher education entities fully engaged in the community, offering a wealth of degree programs and training opportunities.
- ◆ A supportive and forward-thinking group of local elected officials, economic development professionals, and business leaders.

What else is needed? Community and business leaders recognize that in order to continue to grow and expand, the skilled workforce must keep pace. Currently, there is concern that:

- ◆ The local pipeline of available workers with appropriate skill sets and credentials does not achieve the depth and breadth needed for the future, especially in STEM-related disciplines.
- ◆ Efforts to grow and maintain a local pipeline to support workforce needs, must continue to expand opportunities and pathways.
- ◆ The local higher education institutions do not have the resources to meet all of the identified local needs.
- ◆ Current courses and degree programs of need are not easily accessible or affordable to local residents and employees in Frederick County.
- ◆ A lack of such higher education options may prove detrimental in the long-run to existing employers in terms of retention or expansion, and attracting new business to the County.

Furthermore, as discussed in **Chapter 4.0** of this report, there is a very long and diverse list of perceived post-secondary education and training needs. Some of those identified needs will continue to be addressed by the local institutions, but others may be difficult to attract a willing partner to the area.

6.2 POTENTIAL PROGRAMS FOR CONSIDERATION

Relying on input from local stakeholders, responses from the employer survey, and the projections of occupational position openings produced by Maryland DLLR, our team has identified particular education programming of need that should be explored for a new regional higher education center in Frederick County.

The list of programs that follow were selected due to the quantity of potential employment need, the lack of local access, and /or the unique discipline specialty and credential identified by local employers.

Graduate Level Programs:

- ◆ Biotechnology, Biomedical Science, and Bioinformatics Specialties (advanced master's and doctorate)
- ◆ Educational Administration, Curriculum, Assessment (doctorate)
- ◆ Informational Technology, Computer and Network Systems, Telecommunications (master's)
- ◆ Engineering Specialties (master's) - Civil , Biomedical, Structural, Wireless RF
- ◆ Business Management and Operations with emphasis on one or two prolific local industry sectors (master's)

Baccalaureate Level Programs:

- ◆ Computer Systems, Networks, Telecommunications
- ◆ Cyber Security
- ◆ Business Communications
- ◆ Biomedical Lab Technology

- ◆ Nursing BSN
- ◆ General Bachelor's Degree Completion Option

Two-Year/Associate Degree Programs:

- ◆ Engineering and Bioscience Technology

At this time, other programming needs below a 4-year degree or post baccalaureate certificate should remain the responsibility of Frederick Community College.

6.3 ISSUES FOR ADVISORY BOARD CONSIDERATION

Based on the consultant team's work in similar situations, what we heard from local stakeholders, and information and experiences shared by representatives of the existing eight Regional Higher Education Centers (RHECs) spread across Maryland, we offer the following issues for the Frederick Advisory Board to consider as they move forward. Assuming they move to formally seek establishment an RHEC in Frederick County, they will need to address the following issues:

1. It will be critical to carefully determine and clearly define the primary mission of the RHEC as it will drive expectations and, ultimately, results. Who will be the primary audience for the programs they wish to deliver? Non-traditional working adults, traditional age high school and community college students? Current employees seeking specialized or advanced post-baccalaureate degrees and training?
2. The three local higher education institutions and the local school system should have continued involvement in the planning and implementation of an RHEC. They should not be replaced in their current and future efforts to provide access to needed educational opportunities and to contribute to the local pipeline by the new RHEC and its future partners. Under most scenarios, program duplication or introduction of programs competing with existing local institutions or partners should be avoided, if at all possible. However, when warranted, meeting local education needs through other options may be required.
3. The governance model and operational plan for an RHEC should be carefully crafted to provide input and collaboration among all of the public and private partners involved that must support this endeavor at start-up through build-out, and who ultimately will be the beneficiaries of its success.
4. "Build it and they will come" is not a good strategic plan. A collaborative and targeted effort will be required of all partners in terms of resources, marketing, and program selection and delivery.
5. A physical presence (facility) for the RHEC will be necessary as a tangible acknowledgement of its existence. This should be a place that can be readily identified as the face of the RHEC and a location that is easily accessible to its intended target audiences. An RHEC is about access. That does not imply that courses and programs must all be delivered at the same site. It is also assumed that some significant portion of programs associated with the RHEC may be delivered online or through a distributed format.
6. Finally, careful program selection and delivery will be key to the initial success or failure of the RHEC and its growth going forward. Programs must respond to documented needs, and be accessible and delivered in a manner appropriate for the intended students and discipline. They should provide a credential that is valuable to both the recipient, their career path goals, and

their respective employer. Affordability and convenience will be key. The initial RHEC programming choice and the education partners selected for participation will be critical. For advanced graduate degrees in STEM disciplines, attracting a recognized, quality partner institution may require leveraging related local talent, community and employer assets, and offering collaborative research opportunities for existing faculty at the desired partner institution.

APPENDIX A

FREDERICK COMMUNITY COLLEGE

Undergraduate Academic Offerings

- Accounting
- Addictions Counseling
- American Sign Language Studies
- Architectural Computer Aided Design
- Architectural Computer Aided Design (CAD)
- Art
- Biology
- Bioprocessing Technology
- Building Trades Technologies With concentrations in: Carpentry, Electrical, HVAC, Plumbing, Welding
- Business Administration
- Business Enterprise
- Business Management
- Business Studies
- Chemistry
- Child Care Preschool and School Age Teacher Training
- Civil War
- Communications (Speech)
- Computer Aided Design Operator
- Computer Graphics
- Computer Science
- Computer Science Studies
- Computerized Accounting
- Construction Management & Supervision
- Construction Management Basics
- Construction Technology Academy
- Corrections
- CPA Exam Qualification
- Criminal Justice
- Culinary Arts & Supervision
- Digital Media Design
- Drama
- Early Childhood Development
- Early Childhood Education/Early Childhood
- Economics
- Education
- Engineering
- English/Literature
- Entrepreneurship
- General Studies Fire Science
- General Studies Therapeutic Massage
- Geographic Information Systems Basics
- Gerontology
- Government & Politics
- History
- Hospitality Supervision
- Human Services (Gerontology, Social Work Transfer, Developmental Problems)
- Information Systems Management
- Information Technology With concentrations in: Database Administration, Information Technology Specialist, Software Specialist, Computer Studies, Information Security & Assurance, Personal Computer, Software
- International Business
- Management
- Mathematics
- Mathematics (Secondary)
- Medical Administrative Specialist
- Medical Assistant
- Medical Coding Basics
- Medical Laboratory Technology
- Medical Transcription Basics
- Music
- Nuclear Medicine Technology
- Nursing
- Paralegal
- Personal/ Fitness Trainer
- Philosophy
- Physical and Health Education
- Police Science
- Practical Nursing

- Pre-Nursing
- Psychology
- Respiratory Care
- Sociology
- Spanish (Secondary)
- Special Education
- Supervision
- Surgical Technology
- Television Production

HOOD COLLEGE

Undergraduate Academic Offerings

- Accounting
- African American Studies
- African Studies
- American Studies
- Archaeology
- Art
- Art Education (pre-K–12)
- Art History
- Biochemistry
- Biology
- Biotechnology
- Business Administration
- Business Marketing
- Chemistry
- Classical Studies
- Coastal Studies
- Communication Arts
- Computational Science
- Computer Science (B.S.)
- Creative Writing
- Criminology and Delinquency
- Digital Media
- Early Childhood Education
- Ecology
- Economics
- Elementary Education/Special Education
- Engineering Dual Degree
- English
- Environmental Biology
- Environmental Chemistry
- Environmental Science and Policy
- Environmental Studies
- Finance
- Forensic Sciences
- French
- French-German
- German
- Gerontology
- Global Studies
- Graphics
- History
- Human Resource Management
- Integrated Marketing Communications
- International Economics and Finance
- Journalism
- Latin American Studies
- Law and Society
- Literature
- Management
- Marketing
- Mathematics
- Mathematics Education
- Medieval Studies
- Middle Eastern Studies
- Molecular Biology
- Music
- Music History and Literature
- Music Performance
- Nursing*
- Pharmacy
- Philosophy
- Physics
- Piano Pedagogy
- Political Economy
- Political Science
- Pre-Dental Studies
- Pre-Law Studies
- Pre-Medical
- Pre-Veterinary
- Psychology
- Public History
- Public Relations
- Religious Studies
- Renaissance Studies
- Secondary Education
- Social Science Research
- Social Work
- Sociology
- Spanish
- Special Education
- Studio Art
- Theater and Drama
- Videography
- Web Development
- Women's Studies
- Writing

Graduate Academic Offerings

Arts and Humanities

- Ceramics (C)
- Ceramics (M.A.)
- Ceramics (MFA)
- Humanities (M.A.)

Biomedical and Environmental

- Biomedical Science (M.S.)
With concentrations in: Biotechnology/Molecular Biology,
Microbiology/Immunology/Virology, Regulatory Compliance,
- Environmental Biology (M.S.)
- Geographic Information Systems (C)
- Regulatory Compliance (C)

Business

- Business Administration (MBA) With concentrations in: Accounting, Finance, Human Resources, Information Systems, Marketing, Public Management
- Management of Information Technology (MIT)
- Regulatory Compliance (C)

Care

- Gerontology (C)
- Human Sciences (M.A.)
- Thanatology (M.A.)
- Thanatology (C)

Computer Science and Information Technology

- Computer Science (M.S.)
- Cybersecurity (C)
- Information Technology (M.S.)
- Management of Information Technology (M.S.)

Education

- Curriculum and Instruction (M.S.) With concentrations in: Elementary Education, Elementary Science and Mathematics Education, Secondary Education, Special Education
- Educational Leadership (M.S.)
- Educational Leadership (C)
- Elementary STEM Education (C)
- Humanities (M.A.)
- Mathematics Education (M.S.)
- Secondary Mathematics Education (Certificate)
- Reading Specialization (M.S.)

MOUNT ST. MARY'S UNIVERSITY

Undergraduate Academic Offerings

- Accounting
- Biochemistry
- Biology
- Business
- Chemistry
- Communication Studies
- Computer Science - Cyber Security
- Criminal Justice
- Economics
- Education
- Elementary Education
- Elementary & Special Education
- English
- Environmental Science
- Environmental Studies
- Fine Arts - Art, Art Educ., Music, Theater
- Foreign Languages - French, German, Greek, Interdisciplinary, Italian, Japanese, Latin, Spanish
- History
- Information Systems
- Interdisciplinary Studies - International Studies, Environmental Studies, Gender Studies, Latin American Studies, Legal Studies, Non-Western Studies
- International Studies
- Legal Studies
- Mathematics
- Non Western Studies
- Nursing
- Occupational or Physical Therapy
- Philosophy
- Political Science
- Pre-Law Program
- Pre-Med Studies
- Psychology
- Secondary Education
- Sociology
- Sport Management
- Theology

Graduate Academic Offerings

- Master of Business Administration
- Emerging Leaders MBA
- Master of Science in Biotechnology and Management
- Master of Health Administration
- Master of Education
- Master of Arts in Teaching
- Master of Arts in Philosophical Studies

Graduate Certificate Offerings

- Certificate of Advanced Study in Reading
- Logistics and Supply Chain Management
- Government Contracting Certificate
- Organizational Development Certificate
- Project Management Certificate

Adult Undergraduate Programs

- Accelerated Bachelor of Science in Business
- Bachelor of Science in Elementary Education/Elementary Special Education
- Accelerated Bachelor of Arts in Criminal Justice
- Bachelor of Science in Human Services

APPENDIX B

NOTE: Estimated employee counts displayed in the following charts may represent an overlap between specific disciplines. Counts are in reference to how many employees, current or future, at each firm or organization which will likely need training or education programs in that specific discipline. So, one employee may need training in multiple areas, and therefore would be included in the count estimate for each unique discipline.

B-1

NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN SPECIFIC DISCIPLINES BY LEVEL AGRICULTURE, AGRICULTURE OPERATIONS, AND RELATED SCIENCE

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Agriculture, General			1	10			2	5
Total	0	0	1	10	0	0	2	5
Animal Sciences			3	3			3	3
Total	0	0	3	3	0	0	3	3
Plant Sciences			5	5			5	5
Total	0	0	5	5	0	0	5	5
Soil Sciences			1	1			1	1
Total	0	0	1	1	0	0	1	1

Source: Employer Survey, 2014.

B-2

NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN SPECIFIC DISCIPLINES BY LEVEL BASIC SKILLS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Basic Skills	30		5		2	2		
	15	10	25	20	60		7	
	5	19	5		40	40		
					3		4	3-5
					5	5	2	
Total	50	29	35	20	110	47	13	0

Source: Employer Survey, 2014.

B-3

NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
BIOLOGICAL AND BIOMEDICAL SCIENCES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Biology, General			12	12			12	12
			15	5			2	1
			5			39	25	
	Total	0	0	32	17	0	39	39
Biochemistry, Biophysics and Molecular Biology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				3			5	3
			5	1			10	5
			13	13			10	10
			10	5			5	0
Total	0	0	33	29	0	0	33	25
Botany/Plant Biology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	1			1	1
			0	0			0	0
Total	0	0	1	1	0	0	1	1
Cell/Cellular Biology and Anatomical Sciences	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			5	10			5	15
			10	5			5	0
				7			2	7
Total	0	0	15	22	0	0	12	22
Microbiological Sciences and Immunology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				3			5	3
			15	20			17	20
			30	10			5	5
				7				7
Total	0	0	45	40	0	0	27	35
Zoology/Animal Biology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			3	5			1	1
			5	5			0	0
Total	0	0	8	10	0	0	1	1
Genetics	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	1			1	1
			5	5			2	2
Total	0	0	6	6	0	0	3	3
Physiology, Pathology and Related Sciences	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	2			2	2
			15	15			2	2
Total	0	0	17	17	0	0	4	4
Pharmacology and Toxicology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	2			2	2
			5	5			2	0
Total	0	0	7	7	0	0	4	2
Biomathematics and Bioinformatics	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				3			2	2
			2	2			2	2
				2				2
Total	0	0	7	12	0	0	5	7
Biotechnology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			5	1			10	5
			2	2			2	2
			10	10			5	5
Total	0	0	17	13	0	0	17	12
Ecology, Evolution, Systematics, and Population Biology	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	2			2	2
			5	5			0	2
Total	0	0	7	7	0	0	2	4
Biological and Biomedical Sciences, Other	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	1			10	5
			2	2			2	2
	0	0	0	3	0	0	0	3
			20	10			5	5
Total	0	0	24	16	0	0	17	15

Source: Employer Survey, 2014.

B-4
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES

Business Discipline	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Business Commerce, General			300	8			7	9
			2	2			1	1
Total	0	0	302	10	0	0	8	10
Business Administration, Management and Operations			5				2	
			4			20	20	
			300	8			3	6
			7	2			3	2
	4		4	4				3
								2
								3
Total	0	4	320	14	0	20	28	16
Accounting and Related Services							1	
			2	3			5	
			100	8			40	17
			5	2			2	1
			2	10				
								5
Total	0	0	109	23	0	0	48	23
Business Operations Support and Assistant Services							1	
	3	2						
			60	8			9	4
			5	2			1	1
Total	3	2	65	10	0	0	11	5
Business Corporate Communications					1		1	
			60	8				
			1	1			9	4
							1	1
Total	0	0	61	9	1	0	11	5
Business Managerial Economics			40	8		1		
			1	1			7	4
Total	0	0	41	9	0	1	7	4
Entrepreneurial and Small Business Operations							1	
							1	1
							1	1
Total	0	0	0	0	0	0	3	2
Finance and Financial Management Services							1	
			20	5				
			1	1			10	3
							1	1
Total	0	0	21	6	0	0	12	4
Hospitality Administration Management							1	1
			1	1			1	1
Total	0	0	1	1	0	0	2	2
Human Resources Management and Services			20	6			1	
			15	3			6	3
							5	2
Total	0	0	35	9	0	0	12	5

Source: Employer Survey, 2014.

B-4 (CONTINUED)
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
International Business			0	1				1
Total	0	0	0	1	0	0	0	1
Management Information Systems and			15	5			14	7
			2	2			1	1
Total	0	0	17	7	0	0	15	8
Marketing								
		1				1	1	
Total	0	1	0	0	0	1	1	0
Specialized Sales, Merchandising and Marketing Operations						1		
Total	0	0	0	0	0	1	0	0
Construction Management								
	4		2			1		
					4		1	
Total	4	0	2	0	4	1	1	0
Communication and Media Studies							1	
Total	0	0	0	0	0	0	1	0

Source: Employer Survey, 2014.

B-5
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
COMMUNICATION, JOURNALISM, AND RELATED PROGRAMS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Journalism			1				5	
Total	0	0	1	0	0	0	5	0
Public Relations, Advertising, and			0				1	
Total	0	0	0	0	0	0	1	0

Source: Employer Survey, 2014.

B-6

NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
COMMUNICATIONS TECHNOLOGIES/TECHNICIANS AND SUPPORT SERVICES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Communications Technology Technician				30			1	
			20	2	20	4	2	2
	8	3	3				3	1
								5
Total	8	3	23	32	20	4	6	8
Audiovisual Communications Technologies	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	15			1	5
Total	0	0	1	15	0	0	1	5
Graphic Communications	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	15			1	5
Total	0	0	1	15	0	0	1	5

Source: Employer Survey, 2014.

B-7

NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
CONSTRUCTION TRADES/DRAFTING

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Building Construction	3	2			6	4		
Total	3	2	0	0	6	4	0	0
Electrical and Power Transmission	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	4	2			10	2	1	
Total	4	2	0	0	10	2	1	0

Source: Employer Survey, 2014.

B-8
 NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
 SPECIFIC DISCIPLINES BY LEVEL
 EDUCATION

Education, General	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Total	0	0	0	3	0	0	0	1
Bilingual, Multilingual, and	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				100				100
Total	0	0	0	100	0	0	0	100
Curriculum and Instruction	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				250				250
Total	0	0	0	253	0	0	0	250
Educational Administration and Supervision - PK-12	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
		5	5	500				500
Total	0	5	5	500	0	0	0	500
Educational Instructional Media	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				25				25
Total	0	0	0	25	0	0	0	25
Educational Assessment, Evaluation, and Research	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				25				25
Total	0	0	0	28	0	0	0	25
Special Education and Teaching	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	2	2		400				500
Total	2	2	0	405	0	0	0	505
Student Counseling and Personnel Services	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				300				300
Total	0	0	0	301	0	0	0	300
Teacher Education and Professional Development, Specific Levels and Methods	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				1000				1000
Total	0	0	0	1003	0	0	0	1003
Teacher Education and Professional Development, Specific Subject Areas	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				1000				1000
Total	0	0	0	1003	0	0	0	1003
Teaching English or French as a Second or Foreign Language	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				500				700
Total	0	0	0	500	0	0	0	700
Teaching Assistants/Aides	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
		5	5		5	10	5	
Total	0	405	205	10	15	10	505	0

Source: Employer Survey, 2014.

B-9
 NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
 SPECIFIC DISCIPLINES BY LEVEL
 ENGINEERING

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Engineering, General							6	6
							1	
Total	0	0	0	0	0	0	7	6
Civil Engineering							6	6
Total	0	0	0	0	0	0	6	6
Computer Engineering, General			1				1	
			1				1	
Total	0	0	2	0	0	0	2	0
Electrical, Electronics and Communications Engineering							1	
	4	4					1	
					10	10	2	
Total	4	4	0	0	10	10	4	0
Mechanical Engineering							2	
							1	
Total	0	0	0	0	0	0	3	0
Ocean Engineering							1	
Total	0	0	0	0	0	0	1	0
Construction Engineering							2	
Total	0	0	0	0	0	0	2	0
Industrial Engineering							1	
Total	0	0	0	0	0	0	1	0
Manufacturing Engineering							3	
							1	
Total	0	0	0	0	0	0	4	0

Source: Employer Survey, 2014.

B-10
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
ENGINEERING TECHNOLOGIES/TECHNICIANS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Engineering Technology, General						2	2	
					1			
Total	0	0	0	0	1	3	2	0
Civil Engineering Technologies						3	3	
Total	0	0	0	0	0	3	3	0
Electrical Engineering Technologies Technicians								
	5	2	2	2		1		
					2	1	1	1
Total	5	2	2	2	2	2	1	1
Electromechanical Instrumentation and								
	5	2	2	2	2	1	1	1
Total	5	2	2	2	2	1	1	1
Environmental Control Technologies								
	7	2	2	2	3	1	1	1
Total	7	2	2	2	3	1	1	1
Quality Control and Safety Technologies								
		10	5	5		3	1	1
Total	0	10	5	5	0	3	1	1
Mechanical Engineering Related Technologies/ Technicians								
	5	1	1	1			1	
					2	1	1	1
						1		
Total	5	1	1	1	2	2	2	1
Construction Engineering								
			1				1	
Total	0	0	1	0	0	0	1	0
Engineering-Related Technologies								
			2				1	
Total	0	0	2	0	0	0	1	0
Computer Engineering								
			2				1	
Total	0	0	2	0	0	0	1	0
Drafting/Design Engineering Technologies/ Technicians								
	8	4			1			
			1		1			
					20	8		
							1	
Total	8	4	1	0	22	8	1	0
Nuclear Engineering Technologies/								
			2				1	
Total	0	0	2	0	0	0	1	0
Engineering-Related Fields								
			2				1	
Total	0	0	2	0	0	0	1	0

Source: Employer Survey, 2014.

B-11
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
HEALTH PROFESSIONS AND RELATED CLINICAL SCIENCES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Health Services/Allied Health/Health Sciences, General			1	1		2	1	1
		4	2	2				
Total	0	4	3	3	0	2	1	1
Dental Support Services and Allied			1	1			1	1
Total	0	0	1	1	0	0	1	1
Health and Medical Administrative Services			1	1			1	1
				2				1
Total	0	0	1	3	0	0	1	2
Allied Health Diagnostic,			1				1	
Total	0	0	1	0	0	0	1	0
Clinical/Medical Laboratory Science and Allied Professions				4			10	15
		5	2	2			1	
			1		1		1	1
Total	0	5	3	6	0	1	12	16
Medicine (MD)				2				3
								2
Total	0	0	0	2	0	0	0	5
Medical Basic Sciences				4				1
Total	0	0	0	4	0	0	0	1
Medical Clinical Sciences Graduate Medical			2				2	
				4				2
Total	0	0	2	4	0	0	2	2
Mental and Social Health Services and Allied Professions			1					1
				1				1
						1		
Total	0	0	1	1	0	0	1	2
Nursing				4			5	20
			4	2	4		1	
	15		5				2	
			2				2	1
Total	15	0	11	6	4	0	10	21
Pharmacy, Pharmaceutical				2				2
Total	0	0	0	2	0	0	0	2
Public Health			1	1				1
							1	1
Total	0	0	1	1	0	0	1	2
Veterinary Medicine (DVM)				35				1
								3
								1
Total	0	0	0	35	0	0	0	4
Veterinary Biomedical and Clinical Sciences				1		2	2	
				2			10	
								1
Total	0	0	0	3	0	2	12	1
Health Aides/Attendants/			2	2			2	
Total	0	2	2	0	0	2	2	0
Medical Illustration and Informatics				1				
Total	0	0	0	1	0	0	0	0
Bioethics Medical Ethics				2				
Total	0	0	0	2	0	0	0	0

Source: Employer Survey, 2014.

B-12
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
INFORMATION TECHNOLOGY (COMPUTER/INFORMATION SCIENCES/SUPPORT
SERVICES)

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Computer and Information Sciences, General				2			2	
			10	15			5	
				1			1	
			4	1			2	2
			10	4	10	3	4	2
			5				1	1
			2				5	1
Total	4	2	33	23	10	3	20	31
Computer Programming	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			10	15				25
			1	1			2	1
			5	2			1	1
				1			5	2
Total	0	0	16	19	0	0	8	31
Data Processing	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	1			1	1
			5	2			5	2
Total	0	0	7	3	0	0	6	3
Information Science/Studies	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	1			1	1
								1
Total	0	0	1	1	0	0	1	2
Computer Systems Analysis	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				6				6
			1	1			1	1
Total	0	0	4	9	0	0	4	9
Data Entry/ Microcomputer	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			2	2			2	1
Total	0	0	2	2	0	0	2	1
Computer Science			2	1			1	1
			2	2			2	1
								1
Total	0	0	4	3	0	0	3	3
Computer Software and Media Applications	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1	1			1	1
			2	2			2	1
				1				
Total	0	0	3	4	0	0	3	2
Computer Systems Networking and Telecommunications	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	1						1	
	8	2	2		20	6	10	4
				15			5	2
			5	2			2	2
			10	3				20
Total	9	2	17	21	20	6	18	28
Computer/ Information Technology Administration and Management	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1			1		
			4	2			1	
			5	5			1	
			2				3	1
	1						2	2
4							20	
Total	5	0	12	22	10	1	7	23

Source: Employer Survey, 2014.

B-13
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
INTERPERSONAL SKILLS

Interpersonal and Social Skills	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	5							10
				10				
Total	5	0	0	10	0	0	0	10

Source: Employer Survey, 2014.

B-14
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
LEGAL PROFESSIONS AND STUDIES

Non-Professional General Legal Studies	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1				1	
Total	0	0	1	0	0	0	1	0
Law (LL or JD)	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				2				2
Total	0	0	0	2	0	0	0	2
Legal Support Services/Paralegal	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1				1	
Total	0	0	1	0	0	0	1	0

Source: Employer Survey, 2014.

B-15
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
LEISURE AND RECREATIONAL ACTIVITIES

Leisure and Recreational Activities	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	30				30			
		1					2	
Total	30	1	0	0	30	0	2	0

Source: Employer Survey, 2014.

B-16
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
LIBRARY SCIENCE

Library Science Librarianship	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				1				1
Total	0	0	0	1	0	0	0	1
Library Assistant	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			1				1	
Total	0	0	1	0	0	0	1	0
Library Science, Other	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
		1				1		
Total	0	1	0	0	0	1	0	0

Source: Employer Survey, 2014.

B-17
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
MATHEMATICS AND STATISTICS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Mathematics				75				75
Total	0	0	0	75	0	0	0	75
Applied Mathematics				60				60
Total	0	0	0	60	0	0	0	60
Statistics				75				3
								75
Total	0	0	0	75	0	0	0	78
Mathematics and Statistics, Other				25	1			
								25
Total	0	0	0	25	1	0	0	25

Source: Employer Survey, 2014.

B-18
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
MECHANIC AND REPAIR TECHNOLOGIES/TECHNICIANS
(E.G., ELECTRICAL CONSTRUCTION AND MAINTENANCE, INDUSTRIAL MAINTENANCE)

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Mechanics and Repairers, General	10				10			
Total	10	0	0	0	10	0	0	0
Electrical/Electronics Maintenance and Repair Technology	1				4			
	4							
Total	5	0	0	0	4	0	0	0
Heating, Air Conditioning,								
	5				5			
Total	5	0	0	0	5	0	0	0
Heavy/Industrial Equipment Maintenance								
	1				2			
	5				5			
Total	6	0	0	0	7	0	0	0
Vehicle Maintenance and Repair								
	1				1			
Total	1	0	0	0	1	0	0	0
Vehicle Maintenance and Repair								
	3				3			
Total	3	0	0	0	3	0	0	0

Source: Employer Survey, 2014.

B-19
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
MILITARY TECHNOLOGIES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Military Technologies		1				1		
Total	0	1	0	0	0	1	0	0

Source: Employer Survey, 2014.

B-20
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
MULTI/INTERDISCIPLINARY STUDIES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Biological and Physical Sciences				500				500
Total	0	0	0	500	0	0	0	500
Mathematics and Computer Science				700				700
Total	0	0	0	700	0	0	0	700
Accounting and Computer Science				125				125
Total	0	0	0	125	0	0	0	125
Behavioral Sciences				100				100
Total	0	0	0	100	0	0	0	100
Nutrition Sciences				40				40
Total	0	0	0	40	0	0	0	40
Classical and Ancient Studies				50				50
Total	0	0	0	50	0	0	0	50
Intercultural Multicultural and				100				100
Total	0	0	0	100	0	0	0	100
Multi Interdisciplinary				100				100
Total	0	0	0	100	0	0	0	100

Source: Employer Survey, 2014.

B-21
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
NATURAL RESOURCES AND CONSERVATION

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Natural Resources Conservation and							1	
Total	0	0	0	0	0	0	1	0
Natural Resources Management and							1	
Total	0	0	0	0	0	0	1	0
Wildlife and Wildlands Science							1	
Total	0	0	0	0	0	0	1	0
Natural Resources and Conservation,							1	
Total	0	0	0	0	0	0	1	0

Source: Employer Survey, 2014.

B-22
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
PARKS, RECREATION, LEISURE, AND FITNESS STUDIES

Health and Physical Education/Fitness	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
	5	2	1		10	2		
Total	5	2	1	0	10	2	0	0

Source: Employer Survey, 2014.

B-23
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
PHYSICAL SCIENCES (E.G., PHYSICS, CHEMISTRY)

Chemistry	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				4				1
				3		5	5	3
Total	0	0	0	7	0	5	5	4
Physics	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				2				1
Total	0	0	0	2	0	0	0	1
Physical Sciences, Other	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
			3				3	
Total	0	0	0	0	0	0	0	0

Source: Employer Survey, 2014.

B-24
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
PRECISION PRODUCTION

Drafting	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
					1			
Total	0	0	0	0	1	0	0	0
Precision Metal Working	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
					1			
Total	0	0	0	0	1	0	0	0

Source: Employer Survey, 2014.

B-25
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
PUBLIC ADMINISTRATION AND SOCIAL SERVICE PROFESSIONS

Public Administration	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				200				200
Total	0	0	0	200	0	0	0	200
Social Work	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
				300				300
Total	0	0	0	300	0	0	0	300

Source: Employer Survey, 2014.

B-26
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
SCIENCE TECHNOLOGIES/ TECHNICIANS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Biology Technician			3	8			10	20
Biotechnology Laboratory			300				300	
Total	0	0	303	8	0	0	310	20
Nuclear and Industrial Radiologic							1	1
Total	0	0	0	0	0	0	1	1
Science Technologies/						1		
Total	0	0	0	0	0	1	0	0

Source: Employer Survey, 2014.

B-27
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
CRIMINAL JUSTICE OR OTHER SECURITY/PROTECTIVE SERVICES

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Security and Protective Services,		40	4	2		5	1	1
Total	0	40	4	2	0	5	1	1

Source: Employer Survey, 2014.

B-28
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
TECHNOLOGY EDUCATION/INDUSTRIAL ARTS

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Technology Education/ Industrial						1		
Total	0	0	0	0	0	1	0	0

Source: Employer Survey, 2014.

B-29
NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
SPECIFIC DISCIPLINES BY LEVEL
TRANSPORTATION AND MATERIALS MOVING

	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Ground Transportation	2				5			
Total	2	0	0	0	5	0	0	0
Transportation and Materials Moving,		2				1		
Total	0	2	0	0	0	1	0	0

Source: Employer Survey, 2014.

B-30
 NUMBER OF CURRENT AND FUTURE EMPLOYEES NEEDING EDUCATION/TRAINING IN
 SPECIFIC DISCIPLINES BY LEVEL
 OTHER

Other	Current Employees				Future Employees			
	Certificate	Associate	Bachelor's	Graduate	Certificate	Associate	Bachelor's	Graduate
Core industry training	40				40			
Industrial machining	3				3			
Veterinary technician		20	6			4	2	
Total	43	20	6	0	43	4	2	0

Source: Employer Survey, 2014.

APPENDIX C

C-1 PROJECTED GROWTH BY DETAILED OCCUPATIONAL CATEGORY REQUIRING A GRADUATE DEGREE IN FREDERICK COUNTY BY TOTAL NUMBER OF OPENINGS THROUGH 2020

Occupations Requiring a Master's, Doctorate, or Professional Degree By Total Number of Openings Over 10 years					
Occupational Title	Employment			Openings	
	2010	2020	Change	Replace.	Total
Medical Scientists, Except Epidemiologists	267	527	260	17	277
Dentists, General	344	492	148	102	250
Biochemists and Biophysicists	216	413	197	49	246
Lawyers	224	342	118	43	161
Postsecondary Teachers	432	515	83	67	150
Educational, Vocational, and School Counselors	288	344	56	62	118
Education Administrators, Elementary and Secondary School	293	326	33	83	116
Mental Health Counselors	122	198	76	26	102
Physicians and Surgeons, All Other	191	255	64	38	102
Biological Scientists, All Other	232	277	45	52	97
Health Diagnosing and Treating Practitioners, All Other	177	231	54	34	88
Statisticians	64	110	46	39	85
Microbiologists	133	178	45	30	75
Occupational Therapists	70	131	61	13	74
Physical Therapists	75	133	58	9	67
Speech-Language Pathologists	167	199	32	32	64
Medical and Public Health Social Workers	95	132	37	23	60
Pharmacists	137	161	24	35	59
Veterinarians	56	103	47	11	58
Substance Abuse and Behavioral Disorder Counselors	87	125	38	19	57
Instructional Coordinators	118	145	27	26	53
Anthropologists and Archeologists	40	70	30	17	47
Podiatrists	73	106	33	14	47
Internists, General	55	84	29	11	40
Librarians	98	112	14	26	40
Historians	28	55	27	12	39
Health Educators	44	72	28	10	38
Rehabilitation Counselors	63	84	21	13	34
Therapists, all other	72	91	19	15	34
Operations Research Analysts	31	52	21	10	31
Education Administrators, Postsecondary	59	72	13	17	30
Audiologists	34	60	26	2	28
Urban and Regional Planners	38	55	17	10	27
Physician Assistants	47	64	17	9	26
Marriage and Family Therapists	34	52	18	7	25
Family and General Practitioners	46	58	12	9	21
Pediatricians, General	27	40	13	5	18
Computer and Information Research Scientists	21	34	13	4	17
Clergy	34	43	9	6	15
English Language and Literature Teachers, Postsecondary	44	52	8	7	15
Psychologists, All Other	12	21	9	4	13
Clinical, Counseling, and School Psychologists	20	27	7	6	13
Art, Drama, and Music Teachers, Postsecondary	34	41	7	5	12
Nursing Instructors and Teachers, Postsecondary	35	41	6	6	12
Philosophy and Religion Teachers, Postsecondary	28	35	7	4	11
Business Teachers, Postsecondary	30	36	6	5	11
Physicists	26	29	3	8	11
Chiropractors	12	20	8	2	10

Source: Maryland Department of Labor Licensing and Regulation, 2014.

Note: Occupations with fewer than 10 openings over the time horizon were excluded from this chart.

C-2

**PROJECTED GROWTH BY DETAILED OCCUPATIONAL CATEGORY REQUIRING A
BACHELOR'S DEGREE IN FREDERICK COUNTY BY TOTAL NUMBER OF OPENINGS,
THROUGH 2020 (PART 1)**

Occupations Requiring a Bachelor's Degree By Total Number of Openings Over 10 years					
Occupational Title	Employment			Openings	
	2010	2020	Change	Replace.	Total
Civil Engineers	917	1722	805	186	991
Business Operations Specialists, All Other	1188	1736	548	228	776
General and Operations Managers	1790	2176	386	333	719
Information Security Analysts, Web Developers, and Computer Network Architects	728	1250	522	108	630
Accountants and Auditors	828	1207	379	178	557
Management Analysts	659	1084	425	107	532
Secondary School Teachers, Except Special and Vocational Education	1412	1536	124	386	510
Software Developers, Systems Software	491	932	441	51	492
Teachers and Instructors, All Other	1099	1268	169	168	337
Human resources, labor relations, and training specialists, all other	396	636	240	67	307
Computer Programmers	316	538	222	73	295
Software Developers, Applications	364	609	245	38	283
Computer Systems Analysts	335	549	214	63	277
Market Research Analysts and Marketing Specialists	254	460	206	68	274
Network and computer systems architects and administrators	311	520	209	53	262
Medical and Health Services Managers	401	539	138	98	236
Computer and Information Systems Managers	305	489	184	47	231
Loan Officers	558	637	79	143	222
Training and Development Specialists	274	446	172	46	218
Special Education Teachers, Middle School	419	511	92	124	216
Logisticians	232	395	163	44	207
Database Administrators	219	384	165	37	202
Child, Family, and School Social Workers	341	459	118	81	199
Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	234	397	163	28	191
Administrative Services Managers	283	390	107	70	177
Cost Estimators	321	430	109	62	171
Graphic Designers	207	309	102	64	166
Biological Technicians	213	292	79	72	151
Computer Occupations, All Other	418	479	61	78	139
Insurance Sales Agents	120	211	91	27	118
Insurance Underwriters	127	194	67	41	108
Life Scientists, All Other	147	241	94	9	103
Personal Financial Advisors	297	365	68	34	102
Engineering Managers	119	197	78	23	101
Environmental Scientists and Specialists, Including Health	89	163	74	26	100
Financial Analysts	208	262	54	44	98
Natural Sciences Managers	90	133	43	54	97
Financial Managers	292	331	39	53	92
Marketing Managers	130	183	53	38	91
Interpreters and Translators	126	180	54	34	88
Biomedical Engineers	59	130	71	13	84
Mechanical Engineers	109	158	49	35	84
Meeting and Convention Planners	85	150	65	16	81
Financial Specialists, All Other	218	251	33	46	79
Engineers, All Other	96	147	51	21	72
Medical and Clinical Laboratory Technologists	188	220	32	37	69
Technical Writers	83	134	51	16	67
Public Relations Specialists	126	159	33	34	67
Purchasing Managers	91	127	36	28	64
Sales Managers	118	148	30	34	64

Source: Maryland Department of Labor Licensing and Regulation, 2014.

Note: Occupations with fewer than 10 openings over the time horizon were excluded from this chart.

C-2

**PROJECTED GROWTH BY DETAILED OCCUPATIONAL CATEGORY REQUIRING A
BACHELOR'S DEGREE IN FREDERICK COUNTY BY TOTAL NUMBER OF OPENINGS,
THROUGH 2020 (PART 2)**

Occupations Requiring a Bachelor's Degree By Total Number of Openings Over 10 years					
Occupational Title	Employment			Openings	
	2010	2020	Change	Replace.	Total
Industrial Engineers	79	122	43	17	60
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	154	178	24	36	60
Industrial Production Managers	76	117	41	18	59
Special Education Teachers, Preschool, Kindergarten, and Elementary School	113	139	26	33	59
Computer Hardware Engineers	62	104	42	15	57
Budget Analysts	100	136	36	21	57
Recreation Workers	139	174	35	22	57
Special Education Teachers, Secondary School	151	163	12	45	57
Credit Analysts	142	168	26	30	56
Community and Social Service Specialists, All Other	83	117	34	18	52
Editors	90	115	25	26	51
Electronics Engineers, Except Computer	103	126	23	25	48
Surveyors	43	81	38	9	47
Securities, Commodities, and Financial Services Sales Agents	142	150	8	39	47
Chemists	78	98	20	25	45
Environmental Engineers	37	72	35	8	43
Human Resources Managers	59	86	27	14	41
Property, Real Estate, and Community Association Managers	143	154	11	30	41
Probation Officers and Correctional Treatment Specialists	44	74	30	10	40
Electrical Engineers	45	70	25	11	36
Adult Literacy, Remedial Education, and GED Teachers and Instructors	90	110	20	14	34
Education Administrators, All Other	101	105	4	28	32
Public Relations Managers	52	67	15	15	30
Kindergarten Teachers, Except Special Education	64	77	13	17	30
Aerospace Engineers	28	51	23	6	29
Occupational Health and Safety Specialists	44	57	13	16	29
Legal Support Workers, All Other	56	76	20	8	28
Social Scientists and Related Workers, All Other	29	44	15	12	27
Writers and Authors	60	68	8	16	24
Loan Counselors	67	74	7	17	24
Healthcare Practitioners and Technical Workers, All Other, including genetic counselors	22	37	15	8	23
Dietitians and Nutritionists	35	45	10	12	22
Education Administrators, Preschool and Child Care Center/Program	54	61	7	15	22
Training and Development Managers	26	41	15	6	21
Compensation, Benefits, and Job Analysis Specialists	46	56	10	8	18
Social and Community Service Managers	26	37	11	6	17
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	22	33	11	5	16
Architects, Except Landscape and Naval	21	31	10	4	14
Advertising and Promotions Managers	29	35	6	8	14
Vocational Education Teachers, Postsecondary	30	38	8	5	13
Physical Scientists, All Other	15	22	7	5	12
Producers and Directors	26	30	4	8	12
Chemical Engineers	20	25	5	6	11
Statistical Assistants	13	21	8	2	10
Reporters and Correspondents	27	24	-3	10	10

Source: Maryland Department of Labor Licensing and Regulation, 2014.

Note: Occupations with fewer than 10 openings over the time horizon were excluded from this chart.

C-3

**PROJECTED GROWTH BY DETAILED OCCUPATIONAL CATEGORY REQUIRING AN
ASSOCIATE DEGREE IN FREDERICK COUNTY BY TOTAL NUMBER OF OPENINGS THROUGH
2020**

Occupations Requiring an Associate's Degree By Total Number of Openings Over 10 years					
Occupational Title	Employment			Openings	
	2010	2020	Change	Replace.	Total
Registered Nurses	3471	4608	1137	628	1765
Life, Physical, and Social Science Technicians, All Other	321	542	221	136	357
Engineering Technicians, Except Drafters, All Other	325	550	225	62	287
Paralegals and Legal Assistants	374	604	230	53	283
Radiologic Technologists and Technicians	557	748	191	86	277
Construction Managers	826	930	104	53	157
Respiratory Therapists	202	275	73	38	111
Preschool Teachers, Except Special Education	256	298	42	67	109
Diagnostic Medical Sonographers	147	220	73	23	96
Medical and Clinical Laboratory Technicians	144	209	65	28	93
Environmental Engineering Technicians	60	117	57	11	68
Electrical and Electronic Engineering Technicians	119	158	39	23	62
Veterinary Technologists and Technicians	52	104	52	9	61
Civil Engineering Technicians	54	97	43	10	53
Dental Hygienists	63	100	37	13	50
Architectural and Civil Drafters	50	70	20	10	30
Physical Therapist Assistants	25	49	24	4	28
Cardiovascular Technologists and Technicians	41	53	12	6	18
Desktop Publishers	28	39	11	5	16
Chemical Technicians	17	28	11	2	13

Source: Maryland Department of Labor Licensing and Regulation, 2014.

Note: Occupations with fewer than 10 openings over the time horizon were excluded from this chart.

APPENDIX D

D-1 PROGRAM OFFERINGS AT THE ARUNDEL MILLS CENTER

Arundel Mills					
	UM University College	Frostburg State University	McDaniel College	Notre Dame of Maryland University	Stevenson University
UNDERGRADUATE					
Business					
Business Administration B.S.	X				
Management Studies B.S.	X				
Computer Technologies					
Cybersecurity B.S.	X				
Homeland Security	X				
Information Systems Management B.S.	X				
Education					
Liberal Studies/Elementary Education B.A.				X	
Engineering					
Engineering B.S.		X			
Health Professions					
Nursing B.S.					X
GRADUATE					
Education					
Administrator Certificate			X		
Administration and Supervision Certificate				X	
Education M.S.			X		
Human Resources Development H.R.D. M.S.			X		
Leadership in Teaching L.D.T.				X	
Teaching M.A.T.				X	
Library Media Specialist Certification				X	
Reading Specialist Certification				X	
Special Education Certification				X	
TESOL Certification				X	

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-2

PROGRAM OFFERINGS AT THE EASTERN SHORE HIGHER EDUCATION CENTER

Eastern Shore						
	UM University College	UM Eastern Shore	Salisbury University	Gratz College RTC	Stevenson University	Notre Dame of Maryland University
UNDERGRADUATE						
Business						
Business Administration B.S.	X					
Criminal Justice						
Criminal Justice B.S.	X					
Education						
Elementary Education B.S.			X			
ESOL B.A. (online courses)			X			
Professional and Technical Education Certification courses		X				
Environmental Management						
Environmental Management B.S. (online program)	X					
Health Professions						
Nursing B.S.					X	
Social Work						
Social Work B.A.S.W.			X			
Other						
Interdisciplinary Studies - American Studies Track B.S./B.S.			X			
GRADUATE						
Business						
Business Administration M.B.A.			X			
Organizational Leadership Ph.D. (pending)		X?				
Criminology and Criminal Justice						
Forensic Studies (online program) M.S.					X	
Education						
Career and Technical Education coursework		X				
Education M.A.				X		
Educational Leadership M.Ed.			X			
ESOL Certificate (online courses)			X			
Gifted and Talented M.A.						X
Instructional Leadership for Changing Populations Ph.D.						X
Geography						
GIS Management M.S. (online program)			X			
Health Professions						
Nursing M.S. (online program)					X	
Social Work						
Social Work M.S.W.			X			
Other						
Work-based Learning Endorsement courses		X				

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-3

PROGRAM OFFERINGS AT THE LAUREL COLLEGE CENTER

Laurel College			
	UM College Park	UM University College	Notre Dame of Maryland University
UNDERGRADUATE			
Business			
Business Administration B.A.			X
Criminology and Criminal Justice			
Criminal Justice B.S.		X	
Education			
Elementary Education/Liberal Arts B.A.			X
Elementary Education/Liberal Studies and Special Education Certification B.A.			X
Information Systems			
Information Systems Management B.S.		X	
Social Science			
Social Science B.S.		X	
GRADUATE			
Education			
Elementary and Secondary Education Master's Certification (MCERT)	X		

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-4 (PAGE 1)
PROGRAM OFFERINGS AT THE SOUTHERN MARYLAND EDUCATION CENTER
(UNDERGRADUATE)

Southern Maryland														
	UM College Park	UM University College	Notre Dame of Maryland University	Johns Hopkins University	Bowie State University	Capitol College	The George Washington University	Gratz College	Harrisburg University of Science and Technology	Salisbury University	Stevenson University	Webster University	Washington Adventist University	Towson University
UNDERGRADUATE														
Business, Management and Communication														
Business Administration B.S.		X				X								
Information Systems Management B.S.		X												
Management Studies B.S.		X												
Education														
Early Childhood Care and Education B.A.													X	
Early Childhood Education/Special Education B.A.													X	
Engineering and Information Technology														
Computer Engineering B.S.						X								
Computer Science B.S.						X								
Electrical Engineering B.S.						X								
Electronic Engineering Technology B.S.						X								
Mechanical Engineering B.S.	X													
Nursing, Health, and Social Work														
RN to Bachelor's B.S.N.														
Social Work B.A.										X		X		

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-4 (PAGE 2)

PROGRAM OFFERINGS AT THE SOUTHERN MARYLAND EDUCATION CENTER (GRADUATE)

	Southern Maryland													
	UM College Park	UM University College	Notre Dame of Maryland University	Johns Hopkins University	Bowie State University	Capitol College	The George Washington University	Gratz College	Harrisburg University of Science and Technology	Salisbury University	Stevenson University	Webster University	Washington Adventist University	Towson University
GRADUATE														
Business, Management and Communication														
Business Administration M.B.A.						X						X		
Contemporary Communication: Strategic Communication M.A.			X									X		
Government Contracting Graduate Certification												X		
Human Resource Management M.A.												X		
Information Assurance M.S.I.A.E.						X								
Management M.A., with Individualized Specializations or Concentrations in:														
Information Systems and Project Management			X											
Procurement and Acquisition Management M.A.												X		
Technical Management M.S.				X										
Education														
Accelerated Certification for Teaching ACT Instructional Leadership for Changing Populations Ph.D.			X											
Teaching M.A., in: Early Childhood Education, Elementary Education, Secondary Education			X											
Leadership in Special Education M.A.			X											
Gifted and Talented Education M.A.			X											
Leadership in Special Education M.A., in: STEM for Educators K-8			X											
Certification of Advanced Study in Education (CASE), post-Master's, in: Special Education, TESOL, Administration, Reading, Library Media			X											
STEM K-8 Certification, post-Masters Graduate Certification Programs and Post Masters Certification for Certified Teachers, in Special Education			X											
Certification Program in Teaching English for Speakers of Other Languages (TESOL)			X											
Certification Program for Administration and Supervision			X											
Certification Program for: Reading Specialist, Gifted and Talented Specialist, Library Media			X											
Math Education, M.S., in: Middle School Track, Secondary School Track														X
Reading M.Ed.														X
Early Childhood Education M.Ed.														X
Human Resource Development M.S. Educational Leadership														X
Certification in Administration and Supervision, post-Master's														X
School Counseling M.S.				X										X
Clinical Communication Counseling M.S.				X										X
Instruction M.A.														
Learning Technologies M.S.														
Engineering and Information Technology														
Systems Engineering Ph.D.								X						
Engineering Management Ph.D.								X						
Engineering Management, Focus on Systems								X						
Engineering M.S.														
Systems Engineering M.S.				X										
Technical Management M.S.				X										
Information Assurance D.Sc.														
Information Assurance M.S.														
Professional master of Engineering, with options in: Aerospace Engineering, Electrical and Computer Engineering														
Environmental Engineering, Mechanical Engineering (Energy and Environment Core), Nuclear Engineering, Reliability Engineering, Sustainable Energy Engineering, Civil and Environmental Engineering, Project Management	X													
Graduate Certificate in Engineering, with options in: Aerospace Engineering, Electrical and Computer Engineering, Mechanical Engineering (Energy and Environment Core), Reliability Engineering	X													
Systems Engineering, Nuclear Engineering, Sustainable Energy Engineering, Civil and Environmental Engineering, Project Management, Environmental Engineering, Software Engineering														
Information Systems and Management M.S.														
Learning Technologies M.S.														
Nursing, Health, and Social Work														
Nursing: Nurse Practitioner Track M.S.					X									
Social Work M.S.W.														

Source: MHEC and MGT interviews with RHEC representatives, 2014.

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PROGRAM OFFERINGS AT THE UNIVERSITY CENTER OF NORTHEASTERN MARYLAND

UC Northeastern MD						
	UM College Park	UM University College	Notre Dame of Maryland University	Johns Hopkins University	Towson University	Morgan State University
UNDERGRADUATE						
Business						
Business Management B.A.			X			
Business Administration/ Management B.S./B.A.					X	
Business Administration (Management Concentration) B.S./B.A.					X	
Human Resource Management B.S.		X				
Cyber Security						
Cyber Security B.S.		X				
Education						
Early Childhood Education/Special Education B.S.					X	
Elementary Education/Special Education B.S.					X	
Elementary Education B.A.			X			
Nursing						
Nursing B.S.			X			
Psychology						
Psychology B.A./B.S.					X	
Sociology/Criminal Justice						
Police Executive Leadership B.S.				X		
Sociology (Criminal Justice Concentration) B.S./B.A.					X	
Technology						
Information Technology B.S./B.A.					X	
GRADUATE						
Business						
Contemporary Communication M.A.			X			
Leadership and Management M.A.						
Concentrations in:						
Health Care Administration						
Human Resource Management						
Project Management			X			
Education						
Education Ed.D.						X
Human Resource Development						
Educational Leadership Track M.S.					X	
Leadership in Teaching M.A.			X			
Engineering						
Applied and Computational Mathematics M.S.				X		
Engineering, Professional Masters	X					
Systems Engineering M.S.				X		
Nursing						
Nursing M.S.			X			
Sociology/Criminal Justice						
Police Executive Leadership M.S.				X		
Technology						
Applied Information Technology M.S.					X	

Source: MHEC and MGT interviews with RHEC representatives, 2014.

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PROGRAM OFFERINGS AT THE UNIVERSITIES AT SHADY GROVE (UNDERGRADUATE)

UM Shady Grove									
	UM College Park	UM University College	UM Eastern Shore	Towson University	Salisbury University	University of Baltimore	UM Baltimore County	UM Baltimore	Bowie State University
UNDERGRADUATE									
Biological Sciences									
Biological Sciences B.S.	X								
Biotechnology									
Biotechnology B.T.P.S.		X							
Business									
Accounting B.S.	X	X							
Business Administration B.S.		X							
General Business B.S.	X								
General Business w/Entrepreneurship Specialization B.S.	X								
International Business B.S.	X								
Marketing B.S.	X								
Human Resource Management B.S.		X							
Communication									
Communication B.S.	X								
Communication Studies B.S.		X							
Computer and Information Sciences									
Computer and Information Sciences B.S.		X							
Computer Networks and Security B.S.		X							
Cybersecurity B.S.		X							
Digital Media and Web Technology B.S.		X							
Information Systems Management B.S.		X							
Construction Management Technology									
Construction Management Technology B.S.			X						
Criminology and Criminal Justice									
Criminology and Criminal Justice B.A.	X								
Education									
Early Childhood Education B.S.				X					
Elementary Education/Special Education (ESEE-Integrated Program with Dual Certification)				X					
Exercise Science									
Exercise Science B.S.					X				
Health Systems Management									
Health Systems Management B.S.						X			
History									
History B.A.							X		
Hotel and Restaurant Management									
Hotel and Restaurant Management B.S.			X						
Investigative Forensics									
Investigative Forensics B.S.		X							
Laboratory Management									
Laboratory Management B.T.P.S.		X							
Nursing									
Nursing B.S.							X		
Political Science									
Political Science B.A.							X		
Psychology									
Psychology B.A.							X		
Public Health Science									
Public Health Science B.S.	X								
Public Safety Administration									
Public Safety Administration B.S.		X							
Respiratory Therapy									
Respiratory Therapy B.S.					X				
Simulation and Digital Entertainment									
Simulation and Digital Entertainment B.S.						X			
Social Work									
Social Work B.A.							X		

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-6 (PAGE 2)
 PROGRAM OFFERINGS AT THE UNIVERSITIES AT SHADY GROVE (GRADUATE)

UM Shady Grove									
	UM College Park	UM University College	UM Eastern Shore	Towson University	Salisbury University	University of Baltimore	UM Baltimore County	UM Baltimore	Bowie State University
GRADUATE									
Biotechnology									
Biotechnology M.S.		X							
Biotechnology M.P.S.							X		
Business									
Business and Management (Accounting) M.S.	X								
Business and Management (Marketing Analytics) M.S.	X								
Business Administration M.B.A. Management M.S.	X	X							
Computer Information Systems and Technology									
Technology Management M.S.		X							
Information Technology M.S.		X							
Cybersecurity									
Cybersecurity M.P.S.							X		
Education									
Administration 1 Certificate (Post-Masters)				X					
Early Childhood Education M.Ed.				X					
Education M.Ed.									X
Education Ed.D.									X
Education Curriculum and Instruction Grades 1-5 M.Ed.	X								
Education Curriculum and Instruction - Reading Specialist	X								
Education Policy and Leadership Ed.D.	X								
Elementary and Secondary Education Subjects Master's Certification	X								
Human Development M.Ed.	X								
Literacy Coaching Specialist Certificate	X								
Math Education (Specialization in Middle School Math)	X								
Physical Education Master's Certificate	X								
Special Education M.A.T.				X					
Special Education M.Ed.				X					
Engineering									
Engineering, Professional Master	X								
Geographic Information Systems									
Geographic Information Systems M.P.S.							X		
Health Care Administration/Management									
Health Care Administration M.S.		X							
Health Systems Management M.S.						X			
Industrial-Organizational Psychology									
Industrial-Organizational Psychology M.P.S.							X		
Information Management									
Information Management M.I.M.	X								
Library Science									
Library Science M.L.S.	X								
Nursing									
Nursing M.S.								X	
Pharmacy									
Pharmacy Pharm.D.								X	
Public Administration									
Public Administration M.P.A.						X			
Public Administration D.P.A.						X			
Public Health									
Public Health Practice and Policy M.P.H.	X								
Publications Design									
Publications Design M.A.						X			
Social Work									
Social Work M.S.W.								X	

Source: MHEC and MGT interviews with RHEC representatives, 2014.

D-7
PROGRAM OFFERINGS AT USM AT HAGERSTOWN

USM Hagerstown						
	UM College Park	UM University College	Towson University	Salisbury University	Frostburg State University	Coppin State University
UNDERGRADUATE						
Business						
Accounting B.S.		X			X	
Business Administration B.S.						
Sport Management B.S.						X
Computer Technologies						
Cybersecurity B.S.		X				
Information Systems Management B.S.		X				
Education						
Elementary/Early Childhood Education B.S.					X	
Health Professions						
Health Information Management B.S.						X
Nursing B.S.			X			
Nursing - RN to B.S.			X			
Social Sciences						
Criminal Justice B.S.		X				
Investigative Forensics B.S.		X				
Psychology B.S.					X	
Social Science B.S.		X				
Sociology B.S.					X	
Social Work						
Social Work B.A.S.W.				X		
Other						
Liberal Studies B.S.					X	
GRADUATE						
Business						
Business Administration M.B.A.						
Education						
Administration and Supervision M.Ed.					X	
Curriculum and Instruction M.Ed.					X	
Educational Leadership Ed.D.					X	
Elementary Education M.A.T.					X	
Interdisciplinary M.Ed.					X	
Reading M.Ed.					X	
Secondary Education M.A.T.					X	
Special Education M.Ed.					X	
Engineering						
Aerospace GCEN	X					
Aerospace M.Eng.	X					
Bioengineering M.Eng.	X					
Civil and Environmental GCEN	X					
Civil and Environmental M.Eng.	X					
Electrical and Computer GCEN	X					
Electrical and Computer M.Eng.	X					
Environmental GCEN	X					
Environmental M.Eng.	X					
Fire Protection M.Eng.	X					
Mechanical GCEN	X					
Mechanical M.Eng.	X					
Nuclear Engineering M.Eng.	X					
Reliability GCEN	X					
Reliability M.Eng.	X					
Software Engineering GCEN	X					
Sustainable Energy Engineering M.Eng.	X					
Systems M.Eng.	X					
Health Professions						
Nursing M.S.			X			
Nursing Education Post-Baccalaureate Certificate			X			
Social Work						
Social Work M.S.W.				X		

Source: MHEC and MGT interviews with RHEC representatives, 2014.

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PROGRAM OFFERINGS AT THE WALDORF CENTER FOR HIGHER EDUCATION

Waldorf			
	UM University College	College of Notre Dame of Maryland University	Towson University
UNDERGRADUATE			
Business			
Accounting B.S.	X		
Business Administration B.S.	X		
Legal Studies B.S.	X		
Management Studies B.S.	X		
Communication			
Communication Studies B.A.	X		
Computer and Information Sciences			
Information Systems Management B.S.	X		
Computer Science B.S.	X		
Computer Networking and Security B.S.	X		
Cybersecurity B.S.	X		
Digital Media and Web Technologies B.S.	X		
Criminal Justice and Safety Services			
Criminal Justice B.S.	X		
Environmental Management B.S.	X		
Fire Service Administration B.S.	X		
Homeland Security B.S.	X		
Investigative Forensics B.S.	X		
Education			
Elementary Education B.S.			X
Accelerated Certification for Teaching, Post-Baccalaureate			
Early Childhood Education			
Elementary Education			
Dual Early Childhood/Elementary		X	
Dual Elementary/Special Education			
Dual Secondary/Special Education			
Secondary Education Grades 7-12 (Numerous Subject Areas)			
Subject Matter N-12 - Art, Music			
Liberal Arts			
English B.S.	X		
History B.A.	X		
History with Women's Study Minor B.S.	X		
Humanities B.A.	X		
Social Sciences			
Political Science B.S.	X		
Social Science B.S.	X		
GRADUATE			
Education			
Gifted and Talented Education M.A.		X	
Leadership in Special Education M.A.			
Administrator 1			
Exceptionalities		X	
Leadership in Teaching M.A.			
Administrator 1			
Library Media Specialist			
Math Instructional Leader			
Reading Specialist			
General Track (6 core courses/6 electives)		X	
TESOL for Certified Teachers M.A.		X	
Graduate Degree Program for Teacher Certification M.A.			
Early Childhood Education			
Elementary Education			
English for Speakers of Other Languages (ESOL)			
Dual Early Childhood/Elementary		X	
Dual Elementary/Special Education			
Dual Secondary/Special Education			
Secondary Education Grades 7-12 (Numerous Subject Areas)			
Subject Matter N-12 - Art, Music			
Certification, Post-Masters (non-degree)			
Administrator 1			
Gifted and Talented			
Library Media Specialist		X	
Math Instructional Leader			
Reading Specialist			
Special Education			
ESOL			
Certification of Advanced Study in Education (CASE)			
Administrator 1			
Gifted and Talented			
Library Media Specialist		X	
Math Instructional Leader			
Reading Specialist			
Special Education			
ESOL			
Instructional Leadership for Changing Populations Ph.D.		X	

Source: MHEC and MGT interviews with RHEC representatives, 2014.