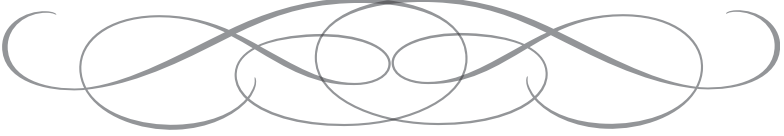


Report of the Maryland Economic Development and Business Climate Commission



2014 INTERIM REPORT



Annapolis, Maryland
February 2015

Maryland Economic Development and Business Climate Commission

**Department of Legislative Services
Office of Policy Analysis
Annapolis, Maryland**

2015

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Maryland Economic Development and Business Climate Commission

February 12, 2015

The Honorable Thomas V. Mike Miller, Jr., President of the Senate
The Honorable Michael E. Busch, Speaker of the House of Delegates

Gentlemen:

The Maryland Economic Development Commission, established at your request of March 11, 2014, respectfully submits its report summarizing the commission's activities during the 2014 interim. A subsequent report will be issued later this year that will investigate in further depth certain tax issues affecting economic development and business climate in our State, as requested in your second correspondence with the commission.

The commission's members come from a broad spectrum of backgrounds and have had business involvements in many states, as well as abroad. The commission held 8 public meetings, including hearings in 7 parts of the State involving over 100 witnesses; reviewed well over 100 relevant documents; and discussed pertinent issues informally with a large number of individuals and organizations from the business, labor, government, academic, and related communities. The 10 findings and 32 recommendations presented are unanimously endorsed by the members of the commission.

Our principal finding is that Maryland has not nearly reached its potential in growing business and creating jobs. Although operating in a high-tech economy and ranking first in the nation in the monetary value of research conducted within its borders, Maryland, during the past decade, ranks thirty-seventh in percentage job growth and twenty-sixth in the growth rate of creating university-based start-ups. Various organizations that assess "business friendliness" place Maryland at sixteenth, thirty-fifth, and forty-first among the 50 states. At the same time, our State's citizens enjoy the highest median income and have the third highest fraction of the population possessing advanced degrees. A significant positive contributor to Maryland's economy has been federal spending within the State; however, such spending will almost certainly continue to diminish in the foreseeable future. A major challenge will therefore be to diversify our State's economy and, in addition, to provide the opportunities needed to overcome the economic and educational inequities that continue to exist across the populace.

The Honorable Thomas V. Mike Miller, Jr., President of the Senate
The Honorable Michael E. Busch, Speaker of the House of Delegates
February 12, 2015
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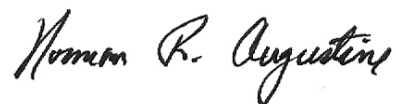
The potential to enhance economic development, business growth, and job creation in Maryland is immense; however, the challenges are also significant, particularly in view of the State's current budgetary environment. Some of the recommendations offered herein require short-term investment in order to realize longer-term benefits; others can be implemented with modest or no financial commitment. Perhaps the most important single recommendation is to fundamentally change the attitude perceived to be held by many State agencies and employees that they have no responsibility to assist in economic development, business growth, or job creation – a change that requires no funds but entails a major management commitment, particularly given the difficulty of changing entrenched cultures.

The prosperity of Maryland businesses will in most instances lead to the creation of jobs for the State's citizens. This in turn will provide increased tax revenues for the State and assist in overcoming the current fiscal challenges.

The members of the commission are honored to have been asked to pursue this issue which we believe is of the utmost importance to the future strength of our State and the well-being of its citizens. We would like to express our appreciation of the support provided by the extraordinarily capable staff members who were assigned to assist us in this endeavor and to the many citizens and organizations that wrote candid, thoughtful letters offering valuable suggestions.

The commission looks forward to continuing its work on this important task for the State of Maryland.

Sincerely,

A handwritten signature in black ink that reads "Norman R. Augustine". The signature is written in a cursive, flowing style.

Norman R. Augustine
Chair

MJP/NRA

Maryland Economic Development and Business Climate Commission

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Former Under Secretary of the Army

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¹ Mr. Brinkley resigned his position on the commission once he was nominated Maryland Secretary of Budget and Management.

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Executive Summary

This report describes the activities and recommendations of the Maryland Economic Development and Business Climate Commission (MEDBCC). The commission has made specific recommendations that will be introduced as legislation during the 2015 session of the General Assembly, as well as recommendations for nonstatutory steps to improve the State's business climate.

In March 2014, the President of the Senate and the Speaker of the House of Delegates appointed a private-sector commission to focus on the State's economic development structure and incentive programs in order to make recommendations to the presiding officers.

The commission makes the following recommendations to the General Assembly.

Role and Structure of State Economic Development: Maryland businesses have multiple financial and technical assistance programs available to enable growth and success. However, too often, businesses are unaware of these programs or are confused as to how to apply for or utilize them. State economic development agencies are not organized in a manner that (1) reflects the importance of their mission; (2) facilitates accountability; or (3) encourages ease of navigation.

- **Recommendation 1: Elevate and consolidate economic development in the State by creating a new structure headed by a Secretary of Commerce.**

- **Recommendation 2: Empower a newly designed Maryland Economic Development Commission.**
- **Recommendation 3: Realign economic development programs between the Department of Business and Economic Development and the Maryland Technology Development Corporation to build upon the strengths of each and to clarify where to access State business development resources.**
- **Recommendation 4: As the State's financial conditions improve, increase TEDCO's investment budget to more nearly match those of high-performing states.**
- **Recommendation 5: Bolster outreach efforts by expanding private participation in the State's marketing efforts.**

Impact of Federal Government: Economies that are heavily focused on one source are particularly vulnerable to sudden disruption, as was recently demonstrated by Maryland's dependence on federal employment and spending. However, federal government activities including sponsored research and contractual efforts are vital to the success of Maryland's base of entrepreneurs and overall economy. It is therefore critically important to support the infrastructure that sustains businesses related to federal operations in the State, as well as support the federal operations themselves.

- **Recommendation 6: Establish a position, housed in the Governor's**

Office, which is dedicated to design and execute a strategy in support of all federal facilities and to support the needs of businesses that depend on those facilities.

- **Recommendation 7: Create and fund State programs that capitalize on the federal presence in the State.**

Fostering a Positive Business Environment: In several highly publicized surveys, Maryland ranks poorly in business climate. This stands as an impediment to entrepreneurs, existing business, and relocating businesses. Even the most well-run economic development programs cannot excel if there is a perception that the State is unfriendly to businesses. State policies must actively combat this perception and, especially, those realities that support it.

A specific individual should be assigned to “shepherd” through the approval process each requestor seeking to create a new business, including, where possible, providing guidance as to potential sources of capital. The support of each individual case should be treated as a continuing endeavor in order to reverse the current system wherein individuals navigate the process on their own or, at best, through sporadic references from office to office.

- **Recommendation 8: State agencies with frequent interaction with the business community and the public should receive continuous customer service and business development training.**
- **Recommendation 9: Create within TEDCO a “concierge service” to assist start-ups seeking to establish operations in the State.**

- **Recommendation 10: Initiate a marketing campaign that promotes a welcoming business climate and fosters a pro-business culture among the State’s agencies and employees.**

- **Recommendation 11: Expand and publicize the State’s Central Business Licensing System.**

- **Recommendation 12: Require State entities with functions affecting business to provide a plan that outlines the steps it will take to facilitate the growth of business and jobs in Maryland while fully carrying out the organization’s basic responsibilities.**

- **Recommendation 13: Expedite the implementation of plans to upgrade transportation infrastructure of all types in the Baltimore/Washington Area.**

Regulatory Structure: Business costs, quality of life, regulatory environment, and workforce capability are among the factors evaluated to determine the best states for business. Maryland’s business related activities should be consistent, fair, and predictable in these and other factors.

- **Recommendation 14: Implement third-party review of permits and licenses in the Maryland Department of the Environment and State Highway Administration when requested by an applicant.**

- **Recommendation 15: Authorize a member of the Joint Committee on Administrative, Executive, and Legislative Review (AELR) to hold a hearing on a proposed regulation if the**

State's analysis of the proposed regulation notes a meaningful adverse, small business impact.

Tax Structure: In its preliminary evaluation of the tax structure in Maryland, MEDBCC observes that the State's tax policies serve as a deterrent to businesses considering expanding in or relocating to the State and impede the economic viability of existing businesses. The commission will devote additional time to fully address this issue and to making fully informed decisions about the tax structure. Included in the appendices to this report is a letter from President Miller and Speaker Busch requesting MEDBCC to continue efforts in this regard.

Measuring Progress: Maryland offers a myriad of programs designed to spur economic development, grow business, and create jobs. These programs distribute millions of dollars of State funds each year to support business. However, determining how well these programs are succeeding in their goals has proved to be difficult. Without ready measures of success it is impossible to maximize the State's investment in economic development, business growth, and job creation.

- **Recommendation 16:** Require the Comptroller to aggregate, secure, and report data on income taxes paid by corporations and members of pass-through entities such as partnerships and limited liability companies as well as data on business incentive tax credits.
- **Recommendation 17:** Require TEDCO to report its nonbudgeted funds through the State appropriation process.

Workforce Development: A key to any successful economy is its workforce. A workforce composed of people with diverse skill sets and education levels is critical if business is to succeed in a highly competitive marketplace. As discussed later in this report, "Maryland as a Competitor Among States," much of the State's workforce is highly educated; however, many of the State's workers are not well-matched for the positions being created.

- **Recommendation 18:** Recapitalize DBED's training program, the Partnership for Workforce Quality.
- **Recommendation 19:** Develop a statewide, coordinated marketing effort to encourage adult participation in apprenticeships and especially encourage veteran enrollment in apprenticeship programs.
- **Recommendation 20:** Require funds from the State Apprenticeship Training Fund to be used in registered apprenticeship training programs that have veteran outreach programs for current or transitioning service members. .
- **Recommendation 21:** Consider providing matching funds to community colleges to assist in the reestablishment of course offerings that provide individuals the skills needed to pursue employment in trades.
- **Recommendation 22:** Develop a user-friendly, streamlined, and appealing apprenticeship website.

- **Recommendation 23:** Establish a pilot apprenticeship program, “Apprenticeship Maryland.”
- **Recommendation 24:** Reactivate the Maryland Academy of Sciences, patterned after the National Academies of Science, Engineering, and Medicine.

Education and Entrepreneurial Support: In assessing a state’s economic climate, business surveys routinely review the number and quality of higher educational institutions in the state, the number of people holding terminal two-year, four-year, or advanced degrees, and the number of research dollars devoted to higher education. Further, it is often from the higher education pipeline that innovation is born and entrepreneurs are created as well as supported.

- **Recommendation 25:** Prioritize higher education funding, including capital funding, to a degree that reflects its extraordinary importance.
- **Recommendation 26:** Establish a university executive in residence at DBED.
- **Recommendation 27:** Establish a one-semester elective course in engineering in high schools in the State.
- **Recommendation 28:** Reassess State allocation of preK-12 funds to assist in closing the education gap and to assure equity in education.
- **Recommendation 29:** Require all research universities receiving State

funds to consider establishing mechanisms of technology transfer, including incubators and innovation hubs, and provide additional State funding to support these efforts.

- **Recommendation 30:** Increase the availability of venture capital through matching investment, publicity, and other programs.
- **Recommendation 31:** Encourage higher education institutions to implement higher education professional development standards.
- **Recommendation 32:** Establish a task force to examine appropriateness of existing conflict of interest laws, procurement rules, and intellectual property policies that inhibit technology transfer.

The Elements of Competitiveness

Three primary avenues exist by which Maryland can grow business and create jobs: creating new businesses in the State, keeping and growing existing businesses already located in the State, and attracting businesses from out of the State. The latter option generally entails participating in highly competitive bidding processes that too often benefit none other than the owners of the business being sought. Although there will be circumstances that warrant entering such “zero-sum” contests, in the view of the Maryland Economic Development and Business Climate Commission (MEDBCC) this is the least attractive of the three options and should be embraced only on a highly selective basis. The most attractive options are to grow existing domestic businesses where the economic hurdle against moving acts in the State’s favor rather than against it, and to create new businesses in the State.

While the MEDBCC’s focus has been on economic development, particularly by means of creating and growing businesses, a more fundamental and closely related issue is jobs – jobs for all Marylanders who seek them. When the populace has quality jobs, it has the spending power to help businesses thrive and the ability to pay the taxes that underpin the services that citizens have come to expect from State and local governments. If businesses do not prosper, neither will employment nor tax revenues – the latter is an immediate importance, given the State’s current fiscal circumstances. Bluntly stated, it is an oxymoron to be agnostic, or worse, towards businesses but in favor of jobs. In today’s world it is increasingly and disconcertingly possible to have businesses without jobs – but not jobs without businesses.

A global survey recently conducted reinforces the importance of job creation. The survey asked the question, “What is the most important factor affecting your overall well-being?” By far the most common answer was “to have a good job.” Not only is one’s standard of living highly correlated with one’s economic well-being, so too is one’s health and even one’s life expectancy.

So what is required to create healthy businesses and good jobs?

Under standard economic theory, in order to increase the overall number of jobs in the United States by one percentage point, the gross domestic product (GDP) must grow by about 1.7 percentage points, with a generally comparable factor presumably applying in the State. Further, a number of studies, one of which formed the basis of a Nobel Prize, demonstrated that between 50% and 85% of the growth in GDP in recent decades can be attributed to advancements in just two fields: science and technology. Given the explosion in scientific and technological knowledge that is now occurring throughout the world, this is likely to continue to be true, or more likely intensified, in the future. Today, in the State there are 3.4 science, technology, engineering, and mathematics (STEM) jobs per unemployed person, but only one nonSTEM job for every two unemployed persons.

But, the issue is not solely one of creating jobs for scientists and engineers; the issue is that the efforts of these two fields disproportionately create businesses and jobs for others. Examples

include the invention of the Internet, MP3 players, mobile phones, laptop computers, GPS devices, and magnetic resonance imaging. Each of these inventions were rooted in much earlier work in solid-state physics and quantum mechanics fields, created jobs not only for scientists and engineers, but also for individuals including factory workers, salespersons, advertisers, and truck drivers. The *Journal of International Commerce and Economics* reports that in 2006, the 700 engineers working on Apple's iPod were supported by 14,000 other workers in the United States and nearly 25,000 located abroad. Further, each new high tech job produces a multiplier effect in creating other jobs throughout the State's economy by supporting restaurants, clothiers, grocers, homebuilders, and many others.

But not all paths to business endeavors are equally productive, either in terms of business growth or in the creation of jobs. The State must prioritize which industries it should pursue to be competitive. Particularly promising for the State's growth are health care and applications of biomedical research; informatics, including cybersecurity; advanced manufacturing; financial services; and tourism. Other states are recognizing the promise of these fields, particularly cybersecurity and biomedicine, and positioning themselves to compete, making it imperative that Maryland move with urgency. Importantly, not all producers of economic growth offer comparable job growth. For example, two Internet firms that were recently acquired for \$18 billion and \$1 billion had only 55 and 13 employees, respectively.

This is not to suggest that fields other than science and technology can be disregarded. Indeed, some other business industries will have significant relevance based on the comparative advantages offered in specific geographical areas of the State. Rather, it merely acknowledges the fact that businesses in a given field and sharing a common supply chain tend to congregate. The places where they collect are often where their customers and supplies are located and new knowledge is being created and entrepreneurialism thrives. Innovators, in turn, tend to collect where other innovators are to be found, and investors gather where innovators and entrepreneurs are located. In this respect, the richer states tend to get richer – and those that do not become proactively engaged in promoting business and jobs fall behind. The pace of change in modern business, particularly in the high tech sphere, is reflected in the observation by Craig Barrett, then CEO of Intel, that 90% of the revenues that a company realizes on the last day of any given year are derived from products that did not even exist on the first day of that same year.

Several years ago the United States Senate and House of Representatives, acting on a bipartisan basis, established a commission under the National Academies of Science, Engineering, and Medicine to assess global competitiveness and to identify the factors that will enable United States businesses to prosper and create jobs in the future. MEDBCC concluded that there are three basic elements essential for developed nations to prosper in today's highly competitive global markets: (1) knowledge capital; (2) human capital; and (3) an entrepreneurial ecosystem, which includes the availability of financial investment.

The principal source of knowledge capital is research: an endeavor generally considered to be a common good because it benefits the citizenry at large, yet may not benefit the individual funder or performer. Because of this, research often will not be pursued without government intervention. Research therefore has been viewed in the United States as primarily being the

responsibility of the federal government. However, federal support for science (0.78% of GDP) is now at the lowest level in a half-century. During the past five years alone the United States government has cut its investment in research by 27% in real dollars in a period during which most competing nations have increased their investment. The United States has now fallen to twenty-ninth place among nations in the fraction of research it conducts that is federally funded. Several decades ago, the United States government funded two-thirds of the nation's research and development (R&D) while industry funded one-third. Today, that relationship has reversed, thereby creating a new problem – that industry tends to focus on the short term and dedicates more funding on development rather than research. Indeed, the great industrial research enterprises of the past century, such as the iconic Bell Laboratories, are diminishing or even disappearing. The United States has recently dropped to seventh place in the world in its investment in research as a fraction of GDP. Yet it is research that is a critical underpinning of a modern economy and quality of life. For example, research was arguably the most significant factor in increasing life expectancy in America from 47 to 79 years during the past century – as well as creating numerous businesses and jobs.

But knowledge capital unapplied is of little value to growing business and jobs. Too often, the focus of researchers has been to write peer-reviewed papers for publication in prestigious journals. A major part of the challenge faced by the State is to translate the immense quantity of newly created knowledge from the laboratory into the economy.

Human capital, the second element identified by the National Academies as essential to success in the global economy, includes the adequate availability of researchers who create knowledge; engineers who translate that knowledge into products and services; and craftsmen, technicians, and others who produce, distribute, operate, and maintain products.

Finally, there is the matter of providing an entrepreneurial ecosystem that encourages innovation and creativity, prudent risk-taking, and financial investment. Factors that hinder a successful environment include excessive regulation, high taxes, burdensome litigation, archaic communication and transportation systems, and, especially, an anti-business or even business-neutral attitude.

The United States as a Competitor Among Countries

In competing for business, Maryland is not an island unto itself. It is profoundly affected by America's overall standing among the world's economies. While competition among the states to grow business and create jobs has significantly intensified in recent decades, a far more consequential development has been taking place globally. In particular, as a result of the restructuring of the world's geopolitical system following the decline of communism, some three billion new potential capitalists entered the global job market. Global competitive factors include an increasingly educated workforce and a depressed work base. As Marylander Tom Friedman has written, "Globalization has accidentally made Beijing, Bangalore, and Bethesda next door neighbors." Americans, particularly Marylanders, who are on average among the most affluent, currently enjoy a GDP per capita that is six times that of the rest of the world's citizens.

In recent years, the United States' ranking in "overall business competitiveness" has declined from first place to seventh place in the industrialized world. Based on investments made many years ago, America still provides nearly one-fourth of the world's global economic output; however, by many measures the investment that underpins that accomplishment is no longer being replenished.

Today, American firms spend twice as much on litigation as on research. The United States has dropped in R&D investment as a fraction of GDP from first to tenth place in a little over a decade. The United States has the highest stated federal corporate income tax rate among industrialized nations. In international tests of 15-year-olds, America's students fell during the past two years from seventeenth to twenty-first place in science and from twenty-fifth to twenty-seventh place in mathematics among 34 countries belonging to the Organisation for Economic Co-operation and Development. In the creation of patents, the United States was recently bypassed by China. China now produces 800,000 engineers a year compared with 74,000 in America. Among the 93 nations evaluated in a recent survey, the United States ranked seventy-ninth in the fraction of baccalaureate degrees awarded in engineering, most closely matching Mozambique in this regard. According to the World Economic Forum, America has dropped to fifty-first place among nations in the quality of its K-12 math and science education. America's higher education system, currently holding 8 of the top 10 and 18 of the top 25 spots globally, is threatened to a degree not experienced in over a century, largely due to the 32% per student average real disinvestment by states in higher education over the past five years.

For America's states to be content by simply comparing themselves with one another is a formula for failure, although it is a practicable place to start, particularly given the absence of reliable economic data in many relevant countries. It is noteworthy that half of the world's citizens now earn less than \$2 per day. Attempting to compete in a global marketplace based on the cost of labor is a losing proposition for Marylanders. The answer for the State, as for the country as a whole, can only reside in innovation – whether it is in farming, electronics, biosciences, or any other field.

Exacerbating the situation, advancements in transportation and telecommunications have made many jobs easily transferable to locations outside of the United States. It has been estimated that over 40% of today's jobs in the United States could readily be moved overseas or replaced by automation. The primary issue is not that United States businesses are abruptly and visibly moving abroad; it is that United States businesses, driven by the inexorable pressures of competition, are gradually establishing new facilities and expanding existing facilities overseas rather than in the United States. During the recent downturn in the economy, Fortune 500 firms shed 2.9 million jobs in the United States, while adding 2.4 million jobs elsewhere.

The increase of energy availability and the decrease of its cost – the result of largely federally funded research on horizontal drilling and seismics – has aided businesses. Yet, today, America invests less in clean-energy research than its citizens spend on potato chips.

While there is a great deal that the State can do by itself to become more competitive in growing business and creating jobs, significant progress will also require greater federal attention to investing in the future, particularly in the creation of knowledge capital, human capital, and an entrepreneurial ecosystem. Actions the State can take are necessary, but will be not sufficient, in assuring the State's future prosperity.

Maryland as a Competitor Among States

Using the three basic elements essential for economic success that were cited by the National Academies – knowledge capital, human capital, and an entrepreneurial ecosystem – the State ranks very well by the first two measures and very poorly by the third if entrepreneurialism is defined as growing business and creating jobs.

Maryland is number one among the states in the dollar value of research conducted within its borders. It ranks third in the fraction of residents possessing advanced degrees. It is one of only eight states to have survived the recent recession with an AAA bond rating, and it is ranked number 6 in “quality of life.” Yet, in the past decade, the State ranked twentieth-sixth in the rate of creating university-based startups and thirty-seventh in the rate of job creation. Maryland has not nearly mobilized its competitive advantages to the extent that have such places as Silicon Valley, Boston, Austin, Huntsville, and North Carolina’s Research Triangle. It is noteworthy that in most of these areas, the economy is anchored by one or more world-class research universities. Maryland is extremely well positioned in science and technology and, therefore, seemingly poised to prosper as an innovation economy.

However, a different story emerges when the entrepreneurial ecosystem in the State is addressed. Three independent rankings of “business climate” place Maryland in twentieth, thirty-fifth, and fortieth place. While there are many surveys reflecting somewhat differing viewpoints, the evidence presented in this report is believed to fairly represent an overall consensus of those surveys. In fact, the strongest message conveyed by witnesses appearing before MEDBCC, whether representing small or large businesses, was dissatisfaction with the attitude towards business from State and local government units.

There are many reasons for the State’s apparent poor performance, few if any of which are new. Underlying a perceived long-standing complacency towards business is the fact that Maryland for many years has been the disproportionate beneficiary of business growth and job creation via the federal government. Indeed, federal, civilian, and military employment in Maryland provided 8.3% of the State’s total wages and salaries in 2013, in contrast with an average 3.4% for other states. Overall, nearly one-fourth of the State’s economy depends directly or indirectly on federal spending. Thus, when the federal government reduces spending (6% in 2013 for federal contracts in the State and 2.6% for wages), Maryland suffers correspondingly. Given the current outlook for the federal budget (entitlements and interest on debt projected by the Congressional Budget Office, absent major intervention, to consume the entirety of federal revenues by 2043), it is imperative that Maryland diversify its economy, focusing on an entrepreneurial ecosystem. This is not to suggest that growing business and creating jobs from the origination of federal programs should no longer be sought; indeed, they should be pursued energetically. Rather, it is to recognize that diversification must be given much greater priority.

Exhibit 1 displays the relative position of Maryland and the neighboring states with which it most commonly competes for business and jobs. Once again largely due to its location adjacent to the federal government, Maryland enjoys a strong position with respect to knowledge capital.

Maryland is home to numerous federal laboratories, a well-regarded system of public higher education, and a world-class private research university. (Appendix G contains tabular data relating to many of the rankings cited in this report.)

Exhibit 1
Knowledge Capital
State Rankings – Maryland Compared to Selected States
2014

	<u>MD</u>	<u>AL</u>	<u>DE</u>	<u>NJ</u>	<u>NY</u>	<u>PA</u>	<u>TN</u>	<u>TX</u>	<u>VA</u>
Nonindustry Investment in R&D	2	5	48	40	30	15	8	39	6
Industry Investment in R&D	18	32	1	7	27	15	40	23	22
Average Internet Speed	15	34	2	18	14	16	27	32	1
Broadband Access	9	47	10	6	15	18	38	41	7
Value of SBIR Awards	5	17	37	12	4	9	25	7	3

R&D: research and development

SBIR: Small Business Innovation Research (Grants)

Source: State New Economy Index 2014

Exhibit 2 displays a comparison of the same states as above with regard to the availability of human capital. While a great deal of emphasis has been appropriately placed on degreed workers in the State, there is a shortage of workers and technicians who are qualified in the trades and in other skilled fields. During the recent recession, nationally there were four million individuals categorized as unemployed, while at the same time there were three million job openings. The skills gap is a real problem that will continue to confound economic progress.

By placing much greater emphasis on apprenticeship programs, as has been embraced in such countries as Germany (which helped to minimize the impact of the recent global economic downturn), Maryland can create many well-paying jobs. These programs acknowledge that not everyone needs, or wants, a college degree – even in the high tech economy that exists in Maryland. It should be emphasized that skill demands change rapidly in a technologically driven workforce, making career-long training important. It should also be emphasized, however, that while in 1973, 72% of the available jobs in America did not require a high school diploma, by 2018, only 37% will fall into that category. Simply stated, *unskilled* jobs are rapidly being eliminated by a combination of automation and overseas competition.

Exhibit 2
Human Capital
State Rankings – Maryland Compared to Selected States
2012

	<u>MD</u>	<u>AL</u>	<u>DE</u>	<u>NJ</u>	<u>NY</u>	<u>PA</u>	<u>TN</u>	<u>TX</u>	<u>VA</u>
Population with Advanced Degrees (2012)	3	38	13	8	6	18	38	36	5
Population with Four-year Degrees (2012)	13	46	23	3	20	35	42	30	8
Population with Two-year Degrees (2012)	46	36	39	48	20	31	45	44	39
High School Graduates Taking SAT	10	34	1	7	8	12	33	22	12
High School Graduates Taking an Advanced Placement Exam	3	31	25	19	11	34	43	13	5
Technical Workers (% of Private Workers)	4	23	14	11	26	29	43	17	1
Scientists and Engineers (% of Workforce)	4	18	7	11	32	21	39	13	2
High School Completion Rate	16	37	25	8	32	16	6	2	20
Labor Force Participation	14	49	37	22	35	29	40	40	15

Source: Stats America; U.S. Census Bureau's American Community Survey: 5-year estimates; State New Economy Index 2014; Bureau of Labor Statistics.

Maryland's primary economic vulnerability was characterized by almost all of the executives who appeared before MEDBCC to be an unfriendly, or at best indifferent, business environment. **Exhibit 3** presents some of the measures that relate to this issue; however, most compelling to MEDBCC has been the anecdotal criticism the State received. This view was reflected not only by those representing businesses operating only in Maryland, but especially by those also operating in other states. Most often cited was a culture among State and local governments that might be summarized as, "We are here to assure that you comply with the rules," rather than "We are here to help you grow your business and create jobs while complying with the rules." Numerous examples were provided prominently, but not exclusively, in the regulatory arena. Ironically, most of the complaints were not directed at the rules themselves, but rather at what was perceived to be an arbitrary, irrational, and time-insensitive manner in which the rules were too often being interpreted and implemented.

Among the more tangible competitive disadvantages from which the State suffers nationally is its comparatively high corporate tax burden. While producing only about 2.6% of

the State's total revenues in fiscal 2015 (4.9% of total State general fund revenues or \$783.2 million), corporate income taxes have become a lightning rod for businesses considering moving to or growing in the State. Arguably, this degree of emphasis transcends the financial impact it has on some businesses; however, the impact on perception is undeniable and points to an issue warranting serious attention. A reduction of the State's corporate tax rate to the median United States rate (approximately 7%) would directly reduce State revenues by about 0.4% (\$150 million); however, the impact on business growth would likely increase revenues. The overall issue of taxes will be addressed in the second phase of the MEDBCC's deliberations.

While much of the testimony before the MEDBCC by representatives of businesses concerned regulatory issues and taxes, the administrative processes of workers' compensation insurance and unemployment insurance also were the subjects of criticism. Interestingly, as in the case of regulatory concerns, criticism was often addressed less at the actual provisions of law than at the cumbersome and time-consuming processes of resolving disputes, the result of which was said to be *de facto* and negate the legitimacy of any appeals processes.

Exacerbating the difficulty of growing businesses in Maryland in today's challenging economic environment is the complex structure of the State and local government activities that relate to the conduct of business – ironically, the complex structure includes those activities specifically intended to assist businesses. There is, for example, no single place an individual seeking to start a business in Maryland can go for sustained help in obtaining the necessary credentials. It seems evident that the State's entities created to promote business need restructuring in a fashion that takes advantage of the strengths of the Maryland Technology Development Corporation (TEDCO) but avoids specific shortcomings evidenced by the Department of Business and Economic Development (DBED).

Exhibit 3
Entrepreneurial (Business) Ecosystem
State Rankings – Maryland Compared to Selected States
(1=Most Favorable)*
2011-2014

	<u>MD</u>	<u>AL</u>	<u>DE</u>	<u>NJ</u>	<u>NY</u>	<u>PA</u>	<u>TN</u>	<u>TX</u>	<u>VA</u>
Corporate Income Tax Rate (2014)	35	5	40	42	28	49	23	n/a**	16
State Level Sales Tax Rate (As of 2014)	27	7	n/a	47	7	27	47	38	15
Unemployment Tax Rate (2013 Est.)	17	13	13	44	9	41	21	10	5
Workers Compensation Insurance Costs Per \$100 of Payroll (2012)	13	22	24	30	34	38	17	2	4
Energy Cost (Electrical 2013)	41	14	43	44	38	30	13	2	21
Gasoline Tax/Fee Rate per Gallon (Oct 2014)	27	12	18	2	50	46	13	10	5
Business Intensity (GDP Per Capita)	10	46	6	8	7	25	37	15	18
Public K-12 Education Expenditures Per Student (2011)	16	34	20	6	4	12	41	44	37
Violent Crime Rate Per 100,000 Residents	43	37	44	21	32	26	47	34	3
Mean Commute Time (One Way)	1	21	19	3	2	12	21	17	6
Public University Tuition (Four Years)	27	18	7	4	37	3	29	26	13
Public University Tuition (Two Years)	20	17	33	15	6	9	25	48	12
Business Start-ups (2013)	10	33	40	24	4	2	27	8	15
Quality of Life (Forbes Ranking – 2014)	8	48	36	4	10	7	42	33	5
Cost-of-living Index	43	14	37	46	49	35	4	10	25
Right to Work Laws (yes/no)	No	Yes	No	No	No	No	Yes	Yes	Yes

* For Mean Commute Time, 1=Least favorable

** Texas Franchise Tax is imposed on each taxable entity chartered/organized in Texas or doing business in Texas.

Source: American Petroleum Institute; Bureau of Labor Statistics; Federal Bureau of Investigations; National Right to Work Committee; U.S. Census; Association of University Technology Managers, Research Institute of America; U.S. Department of Labor; College Board Annual Survey of Colleges; Digestive Education Statics; State New Economy Index 2014.

Comparisons that have been presented thus far have focused on states with which Maryland has traditionally competed for jobs; that is, for the most part, states that are located geographically nearby. However, these states are not the nation's top 15 states (excluding four heavily energy-driven states) in terms of business growth and job creation since the beginning of the recent recession. Bluntly stated, Maryland has been competing relatively poorly among a poorly competing group of states. But because of its position as a beneficiary of federal spending, it has not been particularly aggressive in the promotion of business growth and job creation. This is a circumstance that can no longer prevail.

One other issue of the utmost importance to the State's economy is the growing disparity between Maryland's more prosperous residents and those who are not prospering. The latter residents are not creating business or finding jobs, and, therefore, not adding to the economy. Maryland has the second highest fraction of households classified as millionaires (7%); however, it also has 44% of its K-12 students eligible for free or reduced-price lunches. This latter group, in turn, is disproportionately composed of racial and ethnic minorities – which happens to be the fastest growing element of the State's population. It is projected that by 2040, only 51% of Maryland's population will be caucasian.

If the State and its citizens, irrespective of background, are to prosper, it is essential that all of its children be given the opportunity to receive a quality education. This unfortunately is not the case today, either in Maryland or in America as a whole – in spite of some significant efforts in Maryland to accomplish this goal. Today, a high school graduate in America who ranks in the upper academic quartile but comes from a family in the lowest economic quartile has less chance of graduating from college than a youth ranking in the bottom academic quartile but having parents in the top economic quartile. This is not a circumstance that will provide the State with the human capital it will need to compete in the 21st century global economy where the fraction of jobs demanding higher education is rapidly increasing.

MEDBCC emphasizes that if Maryland is to prosper, Baltimore City must prosper. The recommendations offered in this report generally pertain to the entire State; however, particular effort will need to be devoted to their implementation in Baltimore City if statewide progress is to be realized.

Exhibit 4 presents the net job creation record of the 15 states that have most excelled by this measure since the beginning of the recession, together with Maryland's record. While many of these states have benefitted greatly from one form or another of fortuitous circumstances (*e.g.*, geology suitable for hydraulic fracking), corresponding arguments can be made regarding Maryland (*e.g.*, volume of knowledge created in the State by the federal government). While there are many interacting factors (**Exhibit 5**) and many subtleties affecting business growth and job creation, including federal cutbacks in Maryland, the attributes most commonly possessed by these nationally ranked states (excluding the four states that have largely energy-driven economies) include:

- nonindustry investment in R&D;
- fraction of population with four-year degrees;

- technical workers (percent of private workforce);
- industrial investments in R&D;
- broadband access;
- fraction of population with two-year degrees; and
- scientists and engineers (as a percent of workforce).

Maryland excels in almost every one of these attribute; however, bluntly stated, in Maryland the engine is not connected to the train.

Exhibit 4
Economic Development of Top-performing States
(Start of Recession through 2014)
By Percent Growth in Employment

<u>MD</u>	<u>ND</u>	<u>TX</u>	<u>AK</u>	<u>UT</u>	<u>CO</u>	<u>OK</u>	<u>MA</u>	<u>NY</u>	<u>SD</u>	<u>WA</u>	<u>LA</u>	<u>MN</u>	<u>MT</u>	<u>IA</u>	<u>NE</u>
0.5	31.5	11.8	7.1	6.7	4.9	4.6	4.3	3.4	3.1	3.0	2.8	2.5	2.4	2.3	2.3

Source: Joint Economic Committee, U.S. Congress

Exhibit 5
Highest Performing States*
10-year Growth in Employment (%)
(1=Most Favorable)

	<u>MD</u>	<u>UT</u>	<u>CO</u>	<u>MA</u>	<u>WA</u>	<u>LA</u>	<u>MN</u>	<u>MT</u>	<u>IA</u>
Nonindustry Investment in R&D	2	9	11	4	10	46	38	18	24
Industry Investment in R&D	18	20	19	5	12	48	11	33	16
Broadband Access	9	5	14	1	3	42	8	45	32
Value of SBIR Awards	5	26	8	2	13	44	21	35	41
Population with Advanced Degrees (2012)	3	22	8	2	14	45	21	35	42
Population with Four-year Degrees (2012)	13	9	1	5	9	46	4	18	28
Population with Two-year Degrees (2012)	46	10	23	33	10	50	3	20	3
High School Graduates Taking SAT	10	35	31	6	21	49	35	28	48
High School Graduates Taking an Advance Placement Exam	3	45	8	9	16	50	20	40	44
Technical Workers (% of Private Workers)	4	10	3	2	5	47	15	38	36
Scientists and Engineers (% of Workforce)	4	16	5	3	1	44	10	37	35
Labor Force Participation	14	8	13	21	27	15	3	14	6
Corporate Income Tax Rate (2014)	35	10	7	34	n/a	8	47	27	44
State Level Sales Tax Rate (As of 2014)	27	17	6	38	42	7	46	n/a	27
Unemployment Tax Rate (2013 Est.)	17	24	14	36	49	2	42	38	24
Workers Compensation Insurance Costs Per \$100 of Payroll (2012)	13	8	9	3	33	40	13	50	42
Energy Cost (Electrical 2013)	41	5	22	48	30	8	24	25	3
Gasoline Tax/Fee Rate Per Gallon (Oct 2014)	27	23	15	25	42	11	25	29	16
Public K-12 Education Expenditures Per Student (2011)	16	51	41	15	29	28	27	23	22
Violent-Crime Rate per 100,000 residents	43	8	24	35	22	48	9	11	17
Business Start-ups (2013)	10	7	15	5	33	28	17	47	24
Right to Work Laws (yes/no)	No	Yes	No	No	No	Yes	No	No	Yes

*Excludes states with economies heavily impacted by shale gas recovery.

R&D: research and development

SBIR: Small Business Innovation Research Grants

Source: American Petroleum Institute; Bureau of Labor Statistics; Federal Bureau of Investigations; U.S. Census; Association of University Technology Managers; State New Economy Index 2014; U.S. Department of Commerce; Digest of Education Statistics; Research Institute of America; Small Business Administration; National Committee on Right to Work

Findings and Recommendations

Role and Structure of State Economic Development

Maryland businesses have multiple financial and technical assistance programs available to enable growth and success. However, too often, businesses, especially small businesses, are unaware of these programs or are confused as to how to apply for or utilize them. In a survey conducted jointly by the Pew Charitable Trust and the Council for Community and Economic Outreach, Maryland offers over 72 business-based incentives which are administered by 10 different State agencies. The survey is not exhaustive and does not include programs provided by local governments, the State college and university systems, or the State's incubator system. Navigating this maze of assistance programs can be daunting and time consuming, especially for small business owners whose time needs to be dedicated to operating their businesses.

Finding 1. Economic development entities need to be reorganized.

State economic development agencies are not organized in a manner that reflects the importance of their mission; facilitates accountability; or encourages ease of navigation. A strong policy setting and oversight organization is essential to successful statewide economic development activities. Such activities can often take several years to produce positive, measurable results. Consistent leadership and accountability is fundamental, but currently is lacking.

Recommendation 1: Elevate and consolidate economic development in the State by creating a new structure headed by a Secretary of Commerce.

Economic development activities cut across many State agencies. Furthermore, the business climate in the State can be profoundly affected by State agencies whose activities are too often conducted as if unrelated to the economy (*e.g.*, environmental protection and transportation). The Maryland Economic Development and Business Climate Commission (MEDBCC) heard testimony from numerous businesses to this effect. MEDBCC, therefore, recommends a substantial change to the leadership structure of economic development in Maryland.

The State's current economic development agency is led by a secretary/deputy secretary structure similar to many other State agencies. In fact, the secretary is but 1 of 22 secretaries who serve on the Governor's cabinet. This flat configuration makes it extremely difficult for any secretary to intervene on behalf of the business community. Rather than have economic development programs in the State led by a regular agency secretary, the economic development programs should be consolidated under a newly created Secretary of Commerce. The Secretary should be housed within the Governor's office to ensure that business climate and economic development policy receives increased attention. This figuration will further allow the Secretary to work across State agency lines to resolve business climate issues. Additionally, this new

position will serve as a powerful signal that the issues important to the business community will be engaged by both the Administration and the General Assembly.

Recommendation 2: Empower a newly designed Maryland Economic Development Commission.

Maryland's economic development strategy is established by the Maryland Economic Development Commission (MEDC). As set by statute, the purpose of MEDC is also to oversee Department of Business and Economic Development's (DBED) efforts to support the creation, attraction, and retention of businesses and jobs in the State. MEDC needs to be strengthened if it is to become the visible standard bearer for the State's economic development policy, programs, and progress. This desired result will necessitate an expansion of MEDC's statutory responsibilities to include specific oversight of DBED's operational activities. Currently, the statute requires MEDBCC to:

- develop and update an economic development strategic plan for the State;
- seek ideas and advice from each region of the State when developing the economic development strategic plan;
- incorporate into the economic development strategic plan the Maryland Port Administration strategic plan developed for the Helen Delich Bentley Port of Baltimore;
- recommend to the Governor the program and spending priorities needed to implement the economic development strategic plan;
- review the allocation of financing incentives;
- participate in marketing the State and encouraging new businesses to locate in the State;
- seek contributions from the private sector to supplement economic development programs and financial incentives to business; and
- carry out other economic development activities that the Governor requests.

Though the current duties of MEDC are important, they do not capture any meaningful or actionable oversight for DBED's activities. For example, each year MEDC hears a report on the allocation of financing incentives in DBED. However, it is not evident that MEDC has any significant input into the development of budget plans, or that it exercises discretion in prioritizing funding to match goals set by the strategic economic development plan. MEDC should provide the Governor with an independent assessment of DBED's budget request. Further, MEDC is not empowered to track DBED's programs for performance or for adherence to the strategic plan. It is of little use to have a substantive strategic plan if there is no mechanism to ensure that it is implemented. MEDC, through its departmental staff, should conduct periodic reviews of the State's economic development activities for adherence to the strategic plan. To the extent that such activities fail to achieve goals or are inconsistent with stated objectives and priorities, MEDC should recommend appropriate adjustments.

The existing statute also establishes parameters regarding MEDC's membership, reporting requirements, powers, and duties. Despite these provisions, the statute as it is currently written

does not endow MEDC with the authority necessary to maintain consistent oversight of the State's economic development activities. This is evidenced by the uneven application of MEDC's duties over the past decade. In fact, MEDC was virtually inactive between 2006 and 2009.

More recently, MEDC has attempted to revive its significance. The membership has been reappointed and meetings are now being held on a regular quarterly basis. In 2011, MEDC issued a relatively comprehensive five-year strategic plan to clarify the State's economic development policy. The plan included four core strategies as well as the foundations associated with those strategies and numerous recommendations. It is not clear, however, how DBED itself or other relevant State agencies are empowered to fulfill the recommendations or how MEDC is prepared to monitor and seek to enforce progress toward the goals established by the plan.

Expanding MEDC's membership is an important step in increasing effectiveness. The statute currently requires that the appointed members of MEDC have substantial interest or experience in business or knowledge of business and economic development. Further, the membership must represent the diverse regions and industries of the State. MEDC could be strengthened by expanding membership to include representatives from those State agencies that have primary impact on the economic health of the State, as well as representatives from the General Assembly. An executive committee could be created to address cross State agency issues related to the State's business climate and economic development policy.

Specifically, it would be useful for MEDC to receive input regarding the work of State agencies that have economic or community development programs such as the Maryland Technology Development Corporation (TEDCO) and the Department of Housing and Community Development. The programs offered at the State level should complement and coordinate with one another. State agencies should share best practices that result in a more unified and productive statewide business climate and economic development policy.

State agencies that are in regular interaction with business entities should be represented on MEDC, including the Department of Labor, Licensing, and Regulation; the Maryland State Highway Administration; and the Maryland Department of the Environment. State agency representatives should be the State agency secretary, administrator, or senior official, as designated by the agency head. MEDBCC heard anecdotal testimony that regulatory State agencies sometimes work at cross purposes to economic development goals. Too often, conflicting messages create the impression that Maryland is not business friendly. Providing a forum for decision-makers to discuss these issues would encourage the solutions that foster economic development and business growth and support while still protecting the intent of specific regulations.

This expanded responsibility will require a more robust meeting schedule for MEDC. Members should understand this obligation prior to committing to serve.

Recommendation 3: Realign economic development programs between the Department of Business and Economic Development and the Maryland Technology Development Corporation to build upon the strengths of each and to clarify where to access State business development resources.

One concern Maryland business representatives frequently expressed is that it is difficult to locate State resources that have the capacity to assist businesses. This is particularly true for start-up companies that generally have highly limited resources. Currently, Maryland offers several programs that provide technical and financial assistance to early-stage businesses. Locating the right resources for a particular business can be daunting. MEDC acknowledged this challenge in its five-year strategic plan – “No large steps have been taken to create a well-established culture of entrepreneurship. The pieces for a healthy business ecosystem are in place, but components remain disjointed and often, underutilized.” MEDC also noted, “there is no centralized resource in Maryland directing entrepreneurs to information, resources, other entrepreneurs and innovators, networking events, initiatives, funding, consultants, and mentors involved in the entrepreneurial ecosystem.”

TEDCO was launched in 1998 to help commercialize the results of scientific research and development conducted by higher education institutions, federal laboratories, and private-sector organizations. TEDCO aims to promote new research activity and investments that lead to business development in Maryland. It was formed as a quasi-public entity that provides nonequity investments in early-stage technology businesses and funds development and patenting of new technologies at research universities. TEDCO also develops linkages with federal research facilities in the State and helps businesses pursue research funds from federal and other sources. TEDCO is also authorized to create, manage, and provide funds for the statewide Maryland Technology Incubator Program. Technology business incubators offer start-up companies physical office space, research space, and an array of business services to support growing new businesses and creating jobs in the State.

DBED administers the Maryland Enterprise Investment Fund (Venture Fund). This program provides capital through equity purchases for start-up businesses that are developing innovative technologies. Investments are limited to 25% of the business’ total equity and require a three-to-one outside investor match. Individual investments, except those made in venture capital limited liability companies, are limited to \$500,000. Beginning in fiscal 2013, this program became the means for DBED to implement the InvestMaryland Program.

DBED also houses the BioMaryland Center. This center was created in 2009 as part of the Maryland BIO 2020 Initiative. The center’s mission is to provide comprehensive and coordinated access to core resources and services for Maryland’s bioscience community. The center is designed to be a “one-stop shop” that serves as a central repository of statewide resources for area biotechnology companies and showcases biotechnology innovation and entrepreneurship in Maryland. At its two locations in Baltimore City and Montgomery County, the center’s staff provides assistance to area businesses; markets the State’s biotechnology resources; and builds relationships with federal laboratories, universities, and private-sector businesses.

Testimony before MEDBCC indicated that TEDCO is regarded as being a highly effective facilitator of early stage business development and entrepreneurship. One strength often cited is its ability to understand the unique needs of entrepreneurs and to respond quickly to changing business conditions.

Based on its history of success and on its particular strength in fostering entrepreneurship, the State should consolidate its early stage programs under TEDCO's purview. Specifically, this consolidation would transfer the Maryland Venture Fund, the InvestMaryland Program, and the BioMaryland Center from DBED to TEDCO, thereby creating one point of contact for early-stage businesses. TEDCO should also continue to build on its Innovation Gateway project to serve as the expanded portal for investors and entrepreneurs.

Recommendation 4: As the State's financial conditions improve, increase TEDCO's investment budget to more nearly match those of high-performing states.

TEDCO should focus its investments on opportunities that promise economic development, business growth, and job creation in the State and should engage one or more outside investment advisory firms to manage its investment portfolio, much as is done by the University System of Maryland Foundation. Additionally, TEDCO should provide a policy-setting and results-monitoring role with regard to early-stage investments. Importantly, investments by the State should require significant co-investment by those seeking funds.

Under this management model, DBED would continue in its current role of focusing on supporting established firms and entities within the State. The transfer of entrepreneurial programs will enable DBED to focus its resources to bolster the business climate and economic development and to respond to the needs of existing businesses. This can be achieved, in part, by strengthening DBED's regional outreach efforts. Currently, DBED has eight regional business development representatives who provide support and technical assistance to business and local governments in the following regions:

- Garrett, Allegany, and Washington counties;
- Frederick and Montgomery counties;
- Carroll, Howard, and Anne Arundel counties;
- Baltimore City and Prince George's County;
- Baltimore, Harford, and Cecil counties;
- Charles, Calvert, and St. Mary's counties;
- Queen Anne's, Kent, Caroline, Talbot, and Dorchester counties; and
- Somerset, Worcester, and Wicomico counties.

These representatives function as the Regional Growth and Retention team under the Office of Business Development; however, they have the use of only two regional offices. These are located in Hughesville and Cumberland. Testimony before MEDBCC indicates inadequacies in the outreach efforts by DBED. Physical presence in the jurisdictions should be significantly

expanded and performance measures related to business outreach should be established and monitored for success. DBED's regional experts should meet regularly with its financial incentive team and its tourism development team, among others, to ensure that strategic goals are being met, as well as to ensure that the economic needs of each region are being addressed.

An approach based on regionalism will also encourage counties in the State to work collaboratively. For example, there are natural strengths that the Washington and Baltimore regions of the State can capitalize on together in order to benefit the State as a whole.

Finding 2. The State's economic development marketing strategy is ineffectual.

The State's marketing strategy for economic development and business growth has not adequately communicated the State's strengths and capacity to be a leader in providing economic opportunities, particularly in an innovation economy.

Marketing and outreach efforts related to economic development and business growth need to be as nimble and responsive as private businesses are to changes in market demands. However, current marketing efforts, housed as a division within DBED, are subject to State agency hierarchies as well as State procurement and hiring practices, both of which are sometimes inconsistent with the demands of public markets. Further, the marketing budget competes ineffectively for State funding. For example, DBED's total advertising budget in fiscal 2014 was \$3.1 million; however, a significant portion of the funding was earmarked, by statute, for DBED's tourism development activities. The general advertising budget for the marketing division was thus less than \$350,000 in fiscal 2014.

Recommendation 5: Bolster outreach efforts by expanding private participation in the State's marketing efforts.

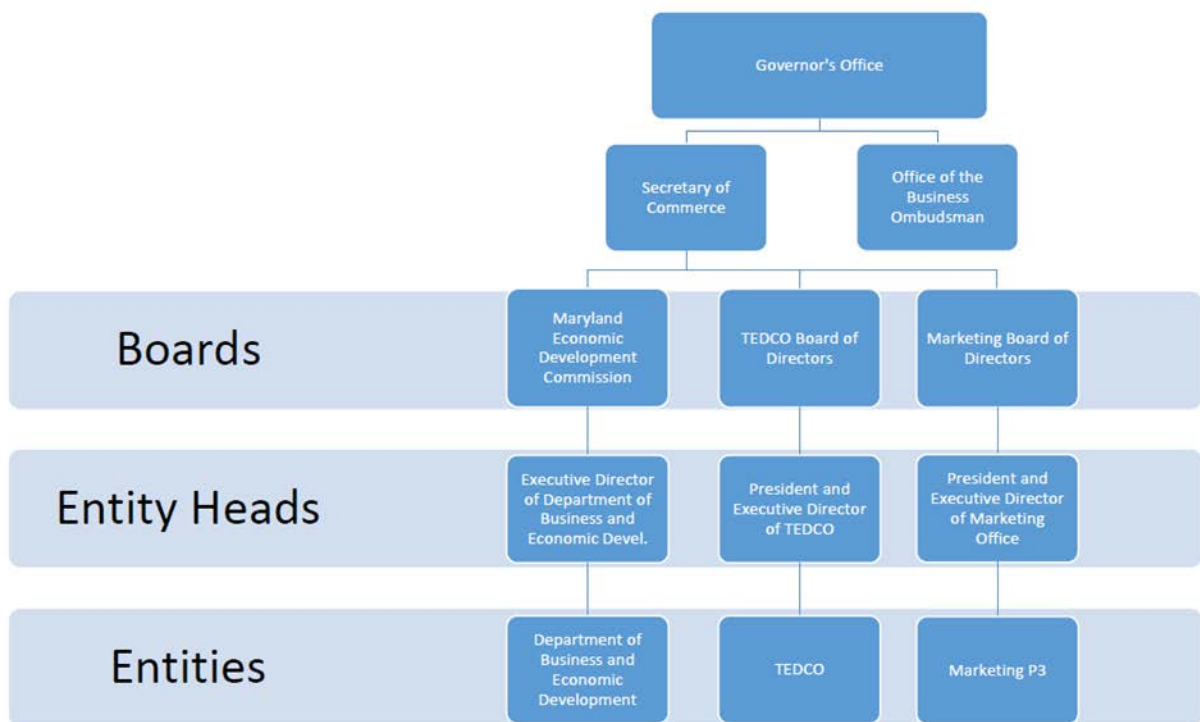
Marketing and business recruitment in the State would benefit from the greater experience that would be available through a public-private partnership. Other states, to varying degrees, have privatized aspects of their economic development efforts. In most cases, this has included either creating a quasi-public entity or contracting with a private business to create a branding strategy and to market the State's attributes to out-of-state businesses and entrepreneurs. The creation of a governing board for marketing, with significant private-sector membership, would further leverage the organizational and financial support of the business community. Additionally, having a small, nimble, and separate entity dedicated to marketing and out-of-state recruitment will leave the State economic development agency free to respond to current business needs – an endeavor that, as discussed above, deserves much sharper focus.

A few states have reported mixed results with regard to public/private partnerships supporting economic development efforts; however, most of the issues encountered relate to accountability lapses that can largely be avoided with properly applied preventative measures. Specifically, best practices dictate that the newly created marketing arm be governed by a board;

experience, however, suggests that the Governor should not chair that entity's board and should not have power to name all of its members. The General Assembly should have representation on the board and should play a role in selecting members. Board members should represent not only the private sector but also labor, the nonprofit sector, and other constituencies. Also, the marketing entity should be subject to annual legislative budget hearings and legislative audits every three years. Finally, decisions about financial incentives should remain within DBED.

Exhibit 6 depicts the new organization of the State's economic development entities. Under the structure that MEDBCC recommends, each entity would have a board to guide its policies and monitor its activities. The exhibit also demonstrates the elevation of the new Secretary of Commerce's office. The three entities include the newly realigned DBED and TEDCO, as well as the creation of a public/private marketing entity (P3).

Exhibit 6 Recommended State Economic Development Organization



Impact of Federal Government

As recently demonstrated by Maryland's dependence on federal employment and the impact of federal sequestration and the federal shutdown, there is a danger in economies that are heavily focused on one type of business endeavor. However, it cannot be denied that the federal government and its research and contractual activities are vital to the success of Maryland's future economy, including its base of entrepreneurs.

Finding 3. Federal activities in the State warrant increased attention and support.

Maryland possesses a very significant asset in the federal facilities located in the State. According to the Federal Facilities Advisory Board, Maryland's federal installations, over 70 in total, account for \$26 billion in capital assets and over 800,000 jobs. These installations are the impetus of much of the State's innovation and entrepreneurship.

DBED houses the Office of Military Affairs which is designed to address "economic viability and partnering capabilities of Maryland's military facilities and defense agencies." The office was created primarily in response to proposed Base Realignment and Closure reviews, an activity which in 1995 and 2005 largely benefitted the Maryland community. The office's mission is, however, quite narrow and does not focus significant effort on nondefense federal facilities and does not adequately formulate strategy or analysis to anticipate major program opportunities or threats to Maryland facilities (defense as well as nondefense).

Recommendation 6: Establish a position, housed in the Governor's Office, which is dedicated to design and execute a strategy in support of all federal facilities and to support the needs of businesses that depend on those facilities.

This new position will sharpen focus on the advantages to the State offered by the federal government's presence in the State. The person filling the position should have expertise in federal procurement, grants, and workforce needs and have the ability and resources to link federal facilities with local businesses. An alternative could be to reform the Federal Facilities Advisory Board and the office to also provide the proposed "Ombudsman" function. The duties of the position could complement the duties of the Governor's current federal relations staff.

Recommendation 7: Create and fund State programs that capitalize on the federal presence in the State.

The State does not devote significant resources to businesses which support federal facilities. Maryland does have a tangentially related program in the Military Personnel and Service-Disabled Veteran Loan program which provides loans to veterans for business creation or for the employment of veterans. The State also offers a Contract Financing Program under the Maryland Small Business Development Financing Authority. This program provides financial assistance to eligible businesses for working capital and the acquisition of equipment needed to

begin, continue, or complete work on contracts provided by a federal, State, or local government agency. Also, the State, on occasion, has provided seminars or forums on federal contracting and federal grant applications. However, the funds to support such endeavors are modest and are not specifically targeted to early-stage companies in growth industries.

The Small Business Innovation Research (SBIR) program is a federal competitive grant program that encourages small businesses to engage in federal research and development that has the potential for commercialization. It is designed to foster high-tech innovation while supporting the federal government's own research and development demands. Maryland businesses have been highly successful in attracting SBIR funds and, in 2012, Maryland ranked fifth in the value of SBIR awards. However, testimony before MEDBCC indicated that SBIR awardees are often start-ups that encounter difficulty in raising necessary capital beyond the federal grant itself. It was suggested that State support of these businesses would lead to successful commercialization and sustainability of these businesses. Maryland should create a program that provides matching grants for SBIR awardees. TEDCO should administer the program and target those businesses that are in industries important to the State's strategic economic development plan.

Further, much of the federally related contract work in Maryland is connected to aerospace and defense, biomedical research, biotechnology, and cybersecurity. The State should enhance and expand its inventory of programs related to these industry sectors, including conducting a competitive assessment of what other states are undertaking to maintain, grow, and lure businesses in these sectors.

It is particularly timely to initiate endeavors such as those described above since the federal government is being encouraged by the United States Congress to enhance its own technology transfer efforts.

Fostering a Positive Business Environment

Highly publicized surveys that rank Maryland low in its business climate stand as a significant deterrent to entrepreneurs and relocating businesses, as well as to retaining existing businesses. Even the most well-run economic development programs cannot excel if there is a perception that the State is unfriendly to business.

Finding 4. The State is viewed as deficient in providing customer service.

Given the State's many assets, the State's business climate is far less robust than its potential. The private sector often utilizes customer service training for front-line employees to ensure a positive customer experience and receives crucial feedback through customer satisfaction surveys. The predecessor to MEDBCC, the Speaker's Business Climate Workgroup, sought to understand the extent of this customer service issue. Attached to the fiscal 2015 budget appropriation was narrative requested by the workgroup which required that State agencies with frequent interaction with the public develop plans for the improvement of customer service. The

narrative requested that the plans should include training sessions for employees and managers and the use of surveys, workshops, and employee feedback. Further, the narrative specifically requested the participation of the State Highway Administration; the Maryland Department of the Environment; the Department of Labor, Licensing, and Regulation; and DBED. The State agencies submitted their findings in December 2014 on the limited activities related to customer services.

Recommendation 8: State agencies with frequent interaction with the business community and the public should receive continuous customer service and business development training.

Businesses must interact with the State government for a variety of reasons including highway access issues, professional licensing, tax filings, environmental permits, and regulatory permits. MEDBCC heard testimony from numerous businesses that far too often these interactions are frustrating, confrontational, inconsistent, time consuming, arbitrary, and generally unhelpful. Even absent any changes to the regulations that dictate the interactions (discussed below), State service employees should have a responsibility to provide efficient and responsive interactions while carrying out the intent of regulations. Employee customer service training should be designed to improve efficiency, responsiveness, and consistency, thereby improving the relationship between State government and the business community. There should be follow-through in the form of customer surveys conducted by independent entities and corrective action taken where appropriate.

Recommendation 9: Create within TEDCO a “concierge service” to assist start-ups seeking to establish operations in the State.

A specific individual should be assigned to help “shepherd” through the approval process those seeking to create new businesses in the State, including, where possible, providing guidance as to potential sources of capital. Each individual case should be treated as a continuing endeavor and should streamline the current system where individuals navigate the process on their own. TEDCO should also continue to build on its Innovation Gateway project to serve as the expanded portal for investors and entrepreneurs.

Recommendation 10: Initiate a marketing campaign that promotes a welcoming business climate and fosters a pro-business culture among the State’s agencies and employees.

As discussed above, MEDBCC recommends greater private-sector involvement in the State’s outreach and marketing efforts. A primary responsibility of the new marketing entity should be the creation of a dynamic and targeted campaign to bolster Maryland’s reputation as a profitable favorable place to conduct business. Much attention has been paid to New York’s well known recruitment campaign “Start Up NY” and Michigan’s tourism campaign “Pure Michigan,” along with a number of other related efforts in other states. These campaigns emphasize the assets and services offered by each state. Maryland has attempted similar campaigns in the past; however, none have appreciably affected the State’s business reputation. An ambitious plan,

created with the partnership of the private sector, has the potential to demonstrate the State's commitment to growing, retaining, and attracting business. However, such a campaign will be counterproductive if not backed with substantive changes in the State's business climate.

Recommendation 11: Expand and publicize the State's Central Business Licensing System.

As part of an effort to make it easier for businesses to interact with State government, DBED initiated the Central Business Licensing (CBL) System. The CBL project was originally designed to create a centralized, online system for all business licenses and permits. Under the plan, CBL would eventually provide businesses with a "one-stop shop" to complete and submit all relevant applications and permits regardless of State agency or type of business. CBL was intended to consolidate information from over 400 State programs that issue permits, licenses, registrations, certifications, or other types of State approval necessary to conduct business in the State.

The planned scale of the project has been significantly reduced as DBED has encountered various technical and logistical difficulties with the operation of the system. In January 2013, CBL began accepting applications to register a business and form a legal business entity, register a trade name, and establish tax accounts. The types of businesses that may register with CBL include sole proprietorships, general partnerships, limited liability companies, stock corporations, tax-exempt nonstock corporations, and closely held corporations. By the summer of 2014, CBL had expanded to accept new foreign filings, certified copy orders, resident agent and signature page updates, and certain other State filings. MEDBCC views this as a highly laudable undertaking.

Although DBED is publicizing the new CBL and working with the relevant State agencies, the percentage of registrations that could potentially use CBL is relatively low. As of August 2014, only 23% of new business registrations, trade names, or tax accounts have come through CBL. Testimony indicated that some local jurisdictions are reluctant to participate in CBL because of system compatibility issues and a desire to maintain direct oversight over licensing. Local jurisdictions should be incentivized to partner with DBED to help expand the scope of CBL, recognizing that there may be a direct tradeoff between preserving local autonomy and making Maryland as a whole more amenable to businesses.

Recommendation 12: Require State entities with functions affecting business to provide a plan that outlines the steps it will take to facilitate the growth of business and jobs in Maryland while fully carrying out the organization's basic responsibilities.

Many actions can be identified which would make Maryland more attractive as a place to locate and grow business. Frequently, these would have no impact on the manner in which State agencies carry out their responsibilities. Examples include making more timely decisions, providing reasons for decisions, considering unique circumstances, and simply being willing to engage in a two-way dialogue with a business over both specific and general issues of disagreement. No entity or person is more capable of identifying these opportunities than the entities and persons who deal directly with the business community; as such, they should be held

accountable for doing so. State agencies should coordinate with each other to ensure they are facilitating business growth efficiently and effectively.

Recommendation 13: Expedite the implementation of plans to upgrade transportation infrastructure of all types in the Baltimore/Washington Area.

Thousands of hours are wasted each day by Maryland residents transiting between their homes and their places of work. According to the U.S. Census, Maryland now ranks the worst in the nation in average commute time. The issue is particularly chronic in the Baltimore/Washington corridor which otherwise is an extremely promising area for business development. Commute time is becoming an increasingly important consideration in decisions made by both individuals and corporations as to whether to locate in the State. If the State is unable to improve the average commute time, the result, other than losing businesses, will be that specialty communities develop in areas that are not near the Baltimore/Washington corridor – a solution that could have serious consequences, especially for Baltimore.

Though the above discussion addresses the transportation of people and material, in an innovation-driven society the transfer of information is as, or more, important. Given Maryland's somewhat mediocre standing in the capacity and coverage of broadband, particularly in the State's rural regions, the State should expedite growth in the area of information highways as well as physical highways.

Regulatory Structure

Business costs, quality of life, regulatory environment, and workforce quality are among the factors typically evaluated to determine the best states for business. The regulatory environment, which is sometimes evaluated as a part of another category such as the cost of conducting business, generally includes State oversight of the environment, infrastructure, workers' benefits, and construction.

MEDBCC heard from a number of witnesses about obstacles that businesses face when interacting with State agencies. Complaints included: State agencies (1) refusing to grant "common sense" exceptions to newly adopted regulations; (2) exceeding the timeframe prescribed for determining the final outcome of a permit, license, or other agency decision; and (3) refusing to openly discuss issues with businesses regarding the interpretation of regulations. The 2014 Forbes Best states for business survey corroborates much of this witness testimony; Maryland ranks thirty-sixth in the "regulatory environment" category, which examines factors such as a state's labor regulations, health-insurance coverage mandates, and occupational licensing. (Virginia, which many business owners praise for its regulatory environment, ranks number one in the 2014 Forbes Best States for Business survey insofar as regulatory environment is concerned.)

Finding 5. Business in the State suffers from a lack of certainty and inconsistent timeframes for agency decisions.

Too often, agencies exceed the time limit in which they are prescribed to issue a decision or amend a previous compliance or enforcement decision. The overarching theme of most witness testimony before MEDBCC regarding the State's regulatory environment was the lack of certainty in State agency decisions and the seemingly indefinite period of time a State agency had to make decisions about permits and licenses. Few witnesses cited any specific regulation that routinely impedes business growth; instead, most witnesses expressed frustration with a State agency's ability to unilaterally extend the time it has to process a permit application, as well as to change its decision regarding conditions for compliance with a regulation. Others cited State agency unwillingness to address or explain what appeared to be illogical applications of regulatory provisions.

Recommendation 14: Implement third-party review of permits and licenses in the Maryland Department of the Environment and State Highway Administration when requested by an applicant.

The Anne Arundel County Department of Inspections and Permits successfully created a program to address a related issue. The "EZ Tenant Permit Process" allows an entity that is applying for certain permits or licenses, such as a developer, to bring all of the application materials in person and receive a same-day decision. The Department of Inspections and Permits also centralizes the receipt of permit applications to one location. As a result, applicants do not have to appear in several different county offices.

MEDBCC recommends the State adopt a similar program in which an applicant may pay an additional fee for expedited third-party review of a permit or license application. Using the additional fee revenue, the State agency would be able to hire an objective, qualified, third-party entity to thoroughly and quickly review applications for permits or licenses. This program will allow a State agency to avoid overextension of resources and to continue its work while allowing an applicant to receive a faster and, importantly, independent review and decision regarding its application. Additionally, the program will help assure that permit and license decisions are consistent with the intent of the governing legislation or regulation. Establishing a program for the two primary State agencies that make hundreds of regulatory decisions each year, the Maryland Department of the Environment and the State Highway Administration, will benefit both the State government and businesses. In the case of the latter, delays in decisionmaking can be the difference between a financially viable undertaking and a failed endeavor.

Recommendation 15: Authorize a member of the Joint Committee on Administrative, Executive, and Legislative Review (AELR) to hold a hearing on a proposed regulation if the State's analysis of the proposed regulation notes a meaningful adverse, small business impact.

The AELR committee was created in 1964 as a standing committee known as the Committee on Legislative Review. The AELR Committee was reconstituted in 1972 as a statutory

committee and is composed of 20 members, 10 senators appointed by the President of the Senate and 10 delegates appointed by the Speaker of the House of Delegates. The AELR Committee functions as the watchdog of the General Assembly in overseeing the activities of State agencies as they are adopted through regulation.

All proposed regulations are submitted to the AELR Committee for review at least 15 days before they are submitted to the *Maryland Register* for publication. The AELR Committee reviews the legal and economic impact of the regulations proposed by the Department of Legislative Services. The economic impact analyses for each regulation include an assessment of the regulation's effect on small businesses in an industry, geographic area, or in general.

Changes are often negotiated between the AELR Committee and the State agency proposing the regulation before it is published. The AELR Committee is not required to give explicit approval in order for a proposed regulation to become effective. The AELR Committee may, however, "hold" the adoption of the regulation. During this interim period, the committee may suggest to the State agency that certain changes need to be made. If no agreement is reached, the State agency may subsequently notify the AELR Committee of its intent to adopt the regulation despite the AELR Committee's hold. At any time, the AELR Committee may formally vote to oppose the adoption of the regulation. After the Governor receives notice of a vote to oppose, the Governor may instruct the State agency to withdraw or modify the regulation. Once the AELR Committee has opposed the adoption of a regulation, the regulation may only be adopted if approved by the Governor.

Because of the importance of small businesses to the continued economic growth in the State, MEDBCC recommends legislation authorizing a member of the AELR Committee to hold a hearing on any regulation in which an adverse meaningful small business impact is noted in the analysis. Requiring a hearing, when requested by a member of the AELR Committee, will give businesses a venue to raise issues with regulations and recommend changes to remedy potential adverse impacts. In addition, a hearing would provide the AELR Committee additional information on which to decide whether to place a hold on a proposed regulation. The additional dialogue regarding potential regulations should help limit the adoption of regulations that inappropriately harm the State's business climate.

Tax Structure

In its preliminary evaluation of the tax structure in Maryland, MEDBCC found that the State's tax policies serve as a deterrent to businesses considering expanding in or relocating to the State and impede the economic viability of existing businesses. The Tax Foundation's State Business Tax Climate Index 2014 ranked Maryland forty-first insofar as how the State's tax laws affect the economic performance of businesses. The Tax Foundation reviewed five component taxes in its rankings – corporate tax, individual income tax, sales tax, unemployment tax, and property tax – but several other taxes and factors also impact a State's tax structure. For example, tax credits and addition and subtraction modifications impact tax liability for businesses. The practice of offering tax credits to specific businesses considering establishing themselves in the

State introduces the complex issue of fairness to businesses already located within the State, particularly when the firms involved are competitors.

Maryland spends approximately \$100 million a year on broadly applicable business tax credits such as the Research and Development Tax Credit, the Job Creation Tax Credit, the Enterprise Zone Tax Credit, and the Cybersecurity Investment Tax Credit. Maryland is not unique in engaging in such practices. As a result of the complexity of tax rates, tax credits, local taxes, and the State budget, MEDBCC has been asked to continue its work to examine the State tax structure (see Appendix A). As such, MEDBCC defers recommendations regarding taxes until it completes additional analysis of the State's tax structure. It does, however, note the widespread perception that Maryland is a high-tax state and that business tax revenues represent a relatively modest element of the State's revenues.

Measuring Progress

Maryland offers a myriad of programs designed to spur economic development and create jobs. These programs distribute millions of dollars in State funds to support business each year. However, determining how well these programs are succeeding in their goals has proved to be very difficult.

Finding 6. The State lacks sufficient data to assess the performance of business incentive programs.

Under Maryland income tax law, business entities that are not formed as a corporation are not subject to the corporate income tax. These entities are known as pass-through entities, examples of which are partnerships and limited liability companies. Instead of paying the corporate income tax at the entity level, the individual members of these entities pay individual income taxes on taxable income generated by the entity.

Recommendation 16: Require the Comptroller to aggregate, secure, and report data on income taxes paid by corporations and members of pass-through entities such as partnerships and limited liability companies as well as data on business incentive tax credits.

Data currently collected and reported by the Comptroller regarding taxes paid by members of pass-through entities and corporate income taxes has not allowed for accurate estimates of the fiscal impact of legislative proposals to reduce or alter these taxes. The same is true for data related to tax credits. Without suitable data it is impossible to reconcile the myriad programs conducted by the State and thereby ascertain which programs are effective and which are ineffective. Further, as the MEDBCC's recommendations are implemented, it will be essential to continue monitoring and assessing their impact so as to provide any needed corrective measures.

Although it is known how many entities are certified to receive a tax credit from the State agency that does the certification (*e.g.*, DBED, State Department of Assessments and Taxation, etc.), the Comptroller does not share data concerning how many of the certified credits were actually claimed or when they were claimed. Several other states have passed legislation that requires their tax collection agency to share aggregate, secure data on tax credits claimed. This allows for a realistic analysis of the effectiveness of tax credit incentives.

Recommendation 17: Require TEDCO to report its nonbudgeted funds through the State appropriation process.

In addition to the above issue, it is noted that TEDCO is a quasi-public entity; hence, it relies on a State appropriation as well as funds it earns outside of the State funding process. These outside funds are often used to supplement TEDCO's business financing programs. It is difficult to assess the overall impact of State support for the programs administered by TEDCO when it is not evident to what extent these funds are being subsidized. Additionally, in the interest of good government, transparency of all funds associated with a State-formed entity is appropriate. Requiring TEDCO to report on the source and use of all funds will help the State accurately assess TEDCO's performance.

Workforce Development

Finding 7. Employment needs often do not match workforce skills.

The skillsets of workers in the State often do not align with the needs of employers in the State. Currently there are 132,000 unfilled jobs in Maryland, with employers stating that they cannot find candidates possessing the necessary skills to fill those jobs.

Arguably, no factor is more important to a successful economy than its workforce. A workforce composed of people with diverse skill sets and education levels is critical if a business is to succeed in today's highly competitive, innovation-based marketplace. As discussed in a previous section of this report, "Maryland as a Competitor Among States," elements of the State's workforce are highly educated, yet all State workers are not well-matched to available positions.

Recommendation 18: Recapitalize DBED's training program, the Partnership for Workforce Quality.

Established in 1989, the Partnership for Workforce Quality Program (PWQ) encourages Maryland businesses to invest in training for employees by providing one-to-one matching grants to businesses with 150 or fewer employees. DBED administers the program to maintain the quality of the State's workforce and disburses funds to eligible businesses in the form of grants in an amount of up to 50% of the qualified, reimbursable direct cost of training. These funds enable businesses to acquire employees possessing new skills that have been identified in their business plans as catalysts for growth and competitiveness. In addition, PWQ funds help participating

businesses develop and implement training systems to improve business competitiveness and worker productivity; upgrade the skills of workers to accommodate new technologies and production processes; and promote employment stability.

Historically, PWQ was funded through general or special funds in an amount of approximately \$1 million annually. However, in recent years, the funding has been drastically reduced. In fiscal 2015, the appropriation for PWQ was \$100,000. The decrease in funding has limited the number of businesses that receive grants as well as the actual amount of the individual grants disbursed. To foster a workforce that is meeting the employment needs of businesses in Maryland, MEDBCC recommends significantly increasing the funds available to PWQ. At its current funding level, which is far below a critical mass, inefficiency and ineffectuality are assured.

Finding 8. Apprenticeships are seriously underutilized.

Apprenticeships in Maryland are used primarily in the construction fields; yet, as a means of developing a highly skilled and efficient worker, they are underutilized in many other fields.

In 2013, the State Task Force on Economic Development and Apprenticeships issued its report, finding that skill mismatches and weak career opportunities for youth were two key reasons for expanding apprenticeships in Maryland. Generally, apprenticeship is a voluntary, industry-sponsored practice that prepares individuals for occupations typically requiring high-level skills and related technical knowledge. Apprenticeships can be sponsored by one or more employers and may be administered solely by the employer or jointly by management and labor groups. An apprentice receives supervised, structured, on-the-job training under the direction of a skilled journeyman together with related technical instruction in a specific occupation. Apprenticeships are designed to meet the specific workforce needs of the program sponsor. In general, the number of apprenticeships available is highly dependent on the current training needs of the industry and thus tend to be cyclical with business patterns.

Apprenticeships last from one to six years, although most are three to four years, and involve a minimum of 144 hours of classroom instruction per year and at least 2,000 hours per year of on-the-job training. A national apprenticeship and training program was established in federal law in 1937 with the passage of the National Apprenticeship Act, also known as the Fitzgerald Act. The purpose of the Act was to promote national standards of apprenticeship and to safeguard the welfare of apprentice workers.

Along with 27 other states, Maryland has chosen to operate its own apprenticeship programs. In 1962, Maryland created the 12-member Maryland Apprenticeship and Training Council (MATC). Within the framework established in federal law, the State's apprenticeship and training law established the guidelines, responsibilities, and obligations for training providers and created certain guarantees for workers who become apprenticed.

Although the State has an established apprenticeship program, the program trained fewer than 7,600 apprentices in fiscal 2014, over 75% of whom were in construction trades. Maryland apprentices account for less than 0.4% of the State's workforce today.

Recommendation 19: Develop a statewide, coordinated marketing effort to encourage adult participation in apprenticeships and especially encourage veteran enrollment in apprenticeship programs.

Many employers do not participate in adult apprenticeship programs and those who do generally have limited openings available for adult apprentices. Developing a statewide marketing plan to increase adult enrollment will help encourage participation in apprenticeship. In addition to the employer of an apprentice, several other entities are involved in coordinating the State apprenticeship program. DBED; the Department of Labor, Licensing, and Regulation (DLLR); the Governor's Workforce Investment Board (GWIB); and the Maryland State Department of Education (MSDE) all play roles in encouraging apprenticeship participation. Because of the number of State agencies involved in facilitating apprenticeship programs, DBED, DLLR, and GWIB should coordinate to set targets for expanding the number of slots offered by employers. Further, quotas should be established for apprentices working in sectors other than construction, such as advanced manufacturing and medical technologies.

Recommendation 20: Require funds from the State Apprenticeship Training Fund to be used in registered apprenticeship training programs that have veteran outreach programs for current or transitioning service members.

DLLR administers the State Apprenticeship Training Fund, a special, nonlapsing fund. Under statute, DLLR must use the funds to (1) promote programs in the State's public secondary schools and community colleges that assist students in preparing for and entering apprenticeship training programs and (2) pay any costs associated with carrying out the provisions related to the fund. MEDBCC recommends expanding the authorized use of the funds to support Maryland's veterans and current members of the National Guard. The State's service men and women, many of whom possess a skill acquired in the military, may not be aware of existing apprenticeship programs as they seek employment opportunities. Expanding the use of State funds will increase opportunities for veterans.

Recommendation 21: Consider providing matching funds to community colleges to assist in the reestablishment of course offerings that provide individuals the skills needed to pursue employment in trades.

Over the years, many community colleges have markedly shifted their focus from skills training to preparation for entry into a four-year college or university. Although college readiness remains of the utmost importance, if Maryland is to benefit from developments such as modern manufacturing and advanced techniques in medical care and supercomputing, it will need qualified individuals to fill the quality jobs associated with these endeavors. Maryland should encourage community colleges in the State to expand its offering that develop skills needed to be successful in a trade.

Recommendation 22: Develop a user-friendly, streamlined, and appealing apprenticeship website.

In addition to the need to establish a robust apprenticeship marketing plan, MEDBCC recommends the development of a comprehensive apprenticeship website. South Carolina, a state often applauded for having a rapidly growing and successful state apprenticeship program, has a well-developed, easy to use website, “Apprenticeship Carolina.” Redesigning Maryland’s existing apprenticeship webpage on the DLLR website would complement a strong marketing plan. DLLR should seek to structure the website in a manner that makes it easy for both youth and adults to navigate and understand the opportunities provided by apprenticeships.

Recommendation 23: Establish a pilot apprenticeship program, “Apprenticeship Maryland.”

Youth apprenticeship programs in the State are not available in most high schools. Only a few programs offer students the opportunity to earn credits towards a high school diploma while developing a specific skill set through apprenticeships. MEDBCC recommends expansion and further development of youth apprenticeship programs. More specifically, the State should pilot an apprenticeship preparation program in interested jurisdictions that support apprenticeships in the manufacturing industry and science, technology, engineering, and math industries. DLLR, DBED, and MSDE should identify employers and skill standards for the pilot program and promote the pilot programs using concentrated marketing to connect employers with the pilot programs. While college-oriented high school curricula are extremely important, many youth and adults may be far better served through voluntary engagement in apprenticeship training.

Recommendation 24: Reactivate the Maryland Academy of Sciences, patterned after the National Academies of Science, Engineering, and Medicine.

Given the importance of science and engineering to Maryland’s economy, the Governor and General Assembly should have a standing source of highly informed advice on issues related to these fields, much as the National Academies provide support to the President of the United States and the U.S. Congress. Further, establishing such an institution would provide a beacon to young people regarding the importance of science and engineering and their promise as fields of endeavor.

Interestingly, the oldest such state academy in the United States is the Maryland Academy of Sciences, established in 1797. However, in recent decades it ceased to exist as a traditional academy, but did lead to the creation of the Maryland Science Center, which would be a logical home for a reinvigorated academy. Membership should consist of residents of the State who hold Nobel Prizes; have been elected to membership in the National Academy of Sciences, National Academy of Engineering, or the Institute of Medicine; or have received the National Medal of Science or National Medal of Technology. A potential name could be the Maryland Academy of Sciences and Technology (MAST).

Education and Entrepreneurial Support

In assessing a state's economic climate, business surveys routinely review the number of higher education institutions in the state; the number of people holding two-year, four-year, or advanced degrees; and the number of research dollars available to a state's higher educational institutions. The strong consensus is that such institutions are critical to economic growth and job creation. The Research Triangle in the Raleigh-Durham area, Route 128 in Boston, and Silicon Valley are but a few examples where the location of higher educational institutions has promoted establishing and sustaining strong local economies.

Finding 9. Education is a critical element in economic development.

Since World War II, the country's universities have been recipients of federal funds in their role as the stewards of basic research. More recently, the outcome of their research has translated into innovations that spawned regional economic development. Many of the State's research universities have established full-service corporate research campuses in which emerging businesses can have office space and access to critical, but often expensive research equipment. The origin of many of the emerging technologies at the Science and Technology Park at Johns Hopkins, the University of Maryland BioPark, and bwtech@UMBC is faculty-conducted research at universities. In this regard, the Maryland Innovation Initiative, Maryland E-Novation Initiative, and related endeavors such as the Maryland Stem Cell Research Fund need to be continued and provided greater resources. Universities have a unique ability to foster the growth of life science, cybersecurity, and other high-technology businesses in the State. As such, Maryland universities support economic development both by educating its workforce and by transferring faculty research and ideas to the marketplace. Additionally, the K-12 system provides the foundation on which the State can maintain a strong workforce and a culture of innovation. Both serve as a critical element in economic development.

Recommendation 25: Prioritize higher education funding, including capital funding, to a degree that reflects its extraordinary importance.

Maryland invests approximately \$5.5 billion dollars each year in its higher education institutions. A recent study on the economic impact of the University System of Maryland (USM), conducted by the Jacobs France Institute, found that USM graduates employed in Maryland increased State income and sales taxes by an estimated \$1.1 billion annually. Similarly, the impact of Maryland community colleges has been estimated to be over \$600 million per year. Additionally, economic development and innovation is a core goal of the USM 2020 Strategic Plan. The State's other public higher education institutions, including its community colleges, also play a critical role in developing a well-educated workforce, preparing teachers, and creating knowledge that can be commercialized. MEDBCC strongly recommends that the General Assembly protect funding of the State's higher education institutions, as they are critical to tomorrow's economy, and once weakened are very difficult to rebuild.

Recommendation 26: Establish a university executive in residence at DBED.

DBED is not only a vital element in connecting government resources to business, it also can play a much greater role in connecting both government and business to the State's research universities. In order to facilitate this and provide academia with a voice within DBED, a high-level executive should be designated by USM as an "Executive in Residence" at DBED. The Executive in Residence should work on a part-time basis to align the State's resources with those of the research and business community and thereby grow the economy of the State.

Recommendation 27: Establish a one-semester elective course in engineering in high schools in the State.

Among the reasons many young Americans do not pursue courses in engineering is that they have no concept of what engineers do or contribute to society. Courses are readily available in virtually all high schools that address history, sociology, art, music, languages, literature, even science but rarely, if ever, anything on engineering. The availability of such a course would provide valuable academic content as well as, hopefully, serve as an inspiration for students to pursue careers in the field. This is particularly true in the case of women, who currently represent only 19% of the country's cadre of engineers, and minorities who are underrepresented to an even greater degree. It is engineers and entrepreneurs, often overlapping groups, that most often translate ideas into realities, which is currently one of the greatest shortcoming in Maryland's business and job development enterprises.

Recommendation 28: Reassess State allocation of preK-12 funds to assist in closing the education gap and to assure equity in education.

Specific steps need to be identified and implemented to assure that every youth in Maryland from all backgrounds has the opportunity to receive the finest possible education from preK-12 through higher education. This particularly demands that students be provided mathematics and science teachers with core degrees in those disciplines. One such existing program offers scholarships to university mathematics and science students in exchange for teaching commitments. The role of community colleges in this regard is noteworthy in that over half of the nation's teachers begin their education in community colleges. The State should maintain continuous, ongoing, and predictable funding for its K-12 system.

Finding 10. Technology transfer at universities is crucial and is impeded by State laws.

One of the critical challenges faced by the State is to increase the flow of knowledge and ideas from its research universities to the commercial sector. This requires mechanisms to bridge the existing gap between academia and the private sector. Mechanisms that have been successfully used in many states, including Maryland, are the creation of incubators, innovation hubs, and accelerators. Ironically, there are already 31 incubators in Maryland, but virtually all suffer from

the lack of critical mass. In most states, incubators associated with universities have been particularly effective.

Recommendation 29: Require all research universities receiving State funds to consider establishing mechanisms of technology transfer, including incubators and innovation hubs, and provide additional State funding to support these efforts.

Facilitating the flow of faculty between academia, business, and government through part-time engagements and assured rehiring is an important means of technology transfer. So, too, is the establishment of a position of “Innovator in Residence” at universities and in their incubators.

Maryland’s current budget to support incubators, innovation hubs, and co-investments is simply not compatible with being a serious competitor in an innovation economy. Although MEDBCC fully recognizes the budgetary dilemma currently being confronted by the State, it also recognizes that without adequate investments in areas such as incubators, there can be little expectation of a growing economy. In the private sector, under such circumstances it is common to increase investments in high-priority areas while simultaneously reducing overall expenditures. State investment in university-affiliated incubators, innovation hubs and comparable entities, in the form of budgeted funds and tax credits, should be increased and should allow an appropriate balance to be maintained between operating funds and capital funds.

Recommendation 30: Increase the availability of venture capital through matching investment, publicity, and other programs.

Venture capitalists support many early-stage and start-up businesses, many of which are created at university incubators and innovation hubs. MEDBCC heard testimony that venture capitalists are generally unfamiliar with opportunities in Maryland and tend to be focused on such states as California, Massachusetts, and North Carolina even though significant opportunities exist elsewhere. To address this issue, the State should sponsor “open houses” to showcase innovation investment opportunities in the State and to familiarize investors with the State’s co-investment opportunities. Engaging the federal laboratories located in the State to participate in such activities would further assist in the success of the open houses.

Recommendation 31: Encourage higher education institutions to implement higher education professional development standards.

As technology transfer at universities continues to evolve, professors and instructors at higher education institutions should introduce best practices into the classroom instruction regarding commercialization of technology. Expectations gradually have begun to change for tenure-track positions; increasingly, professors are expected to use time outside the classroom to develop ideas and commercialize them. Because of this change, higher education institutions should develop professional standards to ensure professors remain up-to-date not only on current teaching and research, but also on commercialization practices. The most effective means of technology transfer continues to be the transfer of people among universities, government, and the private sector, yet well-intentioned ethics laws at both the State and federal levels are a major

obstacle to doing so. Some states and many countries have become highly adept at promoting synergies among government, business, and academia.

Recommendation 32: Establish a task force to examine appropriateness of existing conflict of interest laws, procurement rules, and intellectual property policies that inhibit technology transfer.

Existing State procurement rules inhibit the efficient purchase of research equipment and supplies and the hiring of research personnel. In addition, ethics regulations and intellectual property laws restrict the commercialization of technology from State universities and government institutions. Universities provided testimony to MEDBCC describing the challenges of commercializing intellectual property under current law.

A task force with representatives of the State's economic development agencies, higher education community, and technology incubators should examine whether State procurement rules and ethics requirements applying to technology transfer and incubators should be revised. The task force should consider the need of universities to be compatible with the demands of a fast-moving market and the protections that procurement rules and ethics requirements provide.

Similarly, universities should modify intellectual property policies to facilitate technology transfer much as has been done at, for example, Pennsylvania State University. Most evidence to date suggests that rigid intellectual property practices have been counterproductive in all but a few prominent instances.

Conclusion

The most significant action needed to enhance Maryland's business competitiveness does not demand additional funding or action by others. Rather, it demands a cultural change within the State away from its perceived image of being unfriendly to business. Cultural changes are of course difficult to implement – but they depend on leadership, not money. In this case, the needed change is for every State agency and every State employee to genuinely understand that, as they responsibly carry out their regular duties, they have an additional obligation to assist businesses in Maryland succeed, grow, and create jobs.

A second significant action that does require financial investment is to build a bridge between the creation of knowledge in the State and its application so as to promote and grow business and to create jobs. Maryland is a leader in research and education but this has not been adequately translated into economic prosperity. As the State broadens its economy beyond activities related to the federal government, as it must, this will become increasingly important and require the full cooperation of business, government, and academia.

Among other important considerations that have significant budgetary implications are tax, transportation, and education issues, all of which need to be addressed. With regard to education, MEDBCC cautions that the underpinning of the economic advantages that Maryland currently enjoys, (*i.e.*, knowledge capital and human capital), are largely the province of the State's education and training systems at all levels, and as such warrant having a very high priority assigned insofar as the allocation of State resources is concerned.

MEDBCC does not attempt to offer “offsets” to the cost of implementing its recommendations because its efforts have been limited to examining a single aspect of the State's overall budget and operations; thus, MEDBCC has no basis for making comparative judgments. It does note, however, that increased government efficiency and higher taxes on nonessentials items (alcohol, tobacco, soft drinks, etc.) and gasoline (having declined \$1.76 per gallon since its peak price at the pump) seem worthy of exploring.

In summary, Maryland has extensive unrealized potential to grow its business community and create jobs. However, others throughout the world are also recognizing that business is confronting altogether new challenges and opportunities and are moving quickly to engage them. As one example, in the life sciences disciplines, long considered to be a Maryland strength, during the past 18 months Maryland businesses have conducted two Initial Public Offerings while Massachusetts and California businesses conducted 24 and 52, respectively. Given that Maryland may be at a crossroads insofar as growing business and creating jobs, this report provides recommendations for the State's consideration.

Appendix A

PRESS RELEASE

For immediate release:

March 11, 2014

For more information:

Alexandra Hughes
Office of the Speaker
410-841-3917 (office)

Jake Weissmann
Office of the Senate President
410-841-3700 (office)

SENATE PRESIDENT AND HOUSE SPEAKER ANNOUNCE MEMBERS OF PRIVATE SECTOR ECONOMIC DEVELOPMENT COMMISSION

ANNAPOLIS, MD – Senate President Thomas V. Mike Miller, Jr., and House Speaker Michael E. Busch, today announced members of a private sector commission created to focus on the State’s economic development structure and incentive programs to make recommendations to the presiding officers. This announcement follows the introduction of a joint business and economic development agenda for the session that was announced at the end of January.

“The competition for jobs and economic development will no longer be limited to Maryland versus our sister states. It is going to be a global competition,” said Senate President Miller. “We are asking for the expertise of these distinguished individuals because we don’t want Maryland to merely ‘compare favorably’ to other places in the world. We plan to be at the forefront of the innovation economy of the future.”

“This commission is critically important to map out the future growth of Maryland’s economy,” said Speaker Busch. “This panel of private sector leaders have state, national, and global experience in promoting business competitiveness and I believe they will produce a blueprint for the next Governor and next legislature to guide our policy making decisions to continue Maryland’s economic and private sector growth and prosperity.”

There are few states that can compare with Maryland in terms of education, research, science, and innovation – in ranking after ranking, the investments Maryland has made in these areas is clearly paying off. At the same time, the competition of the future is a global one and we need to evaluate those things about our State which could hinder the success of existing businesses as well as the development of new economic opportunities.

The Commission will be chaired by **Norman Augustine**, former Under Secretary of the Army, president of Lockheed Martin, and Chairman and Principal Officer of the American Red Cross.

He served for 16 years on the President's Council of Advisors on Science and Technology under both Republican and Democratic presidents.

"I look forward to working with my colleagues on this bipartisan panel to help create jobs and insure quality lives for all Marylanders," said Norm Augustine. "The broad charter given to the group is indicative of the commitment to the panel's work by our state's leaders. In today's highly competitive global marketplace, to stand still is to rapidly fall behind."

Members of the Commission announced today are:

- **Peter Armistead Bowe**, President, Ellicott Dredge Enterprises
- **Calvin Butler**, Chief Executive Officer, Baltimore Gas & Electric
- **Douglas Doerfler**, Chief Executive Officer of MaxCyte, Chairman, TechCouncil of Maryland
- **Brian Gibbons**, Chairman and Chief Executive Officer, Greenberg Gibbons
- **Joshua C. Greene**, Co-Founder/Executive Director, Cleantech Open Southeast & Partner, Patton Boggs
- **Glen Ives**, Vice President of Sabre, Inc. and President of Southern Maryland Navy Alliance
- **Jon Laria**, Managing Partner, Baltimore, Ballard Spahr LLP
- **Dr. Victor McCrary**, Vice President for Research and Development, Morgan State University
- **Dr. Darryll Pines**, Dean of the Clark School, University of Maryland, College Park
- **Dr. DeRionne Pollard**, President, Montgomery College
- **Kenneth Rigmaiden**, General President, International Union of Painters and Allied Trades
- **Mary Ann Scully**, Chairman, President, Chief Executive Officer, Howard Bank
- **J. Robert Smith**, Vice President, Allegany Aggregates
- **Christy Wyskiel**, Senior Advisor for Enterprise Development, Johns Hopkins University
- **Senator Ed Kasemeyer** (D- Baltimore/Howard)
- **Senator Catherine Pugh** (D- Baltimore City)
- **Senator David Brinkley** (R- Frederick)
- **Delegate Dereck Davis** (D- Prince George's)
- **Delegate John Bohanan** (D- St. Mary's)
- **Delegate Wendell Beitzel** (R- Garrett/Allegany)

The Commission will begin work this session and will report back in December of 2014.

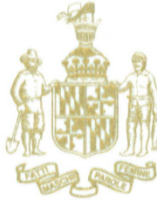
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Commission Charge

Study the State's economic development platform, including the existing structure and connectivity of the State's economic development entities, to evaluate:

- the structure of the State's economic development agencies, including interaction between the agencies and interaction/outreach with the private sector;
- the working relationships between State and local economic development agencies;
- the strengths and weaknesses of economic incentive and investment programs, including business retention and attraction programs and tax credit programs, as administered by the State;
- the State's regulatory structure and its impact on economic development;
- the working relationships between the State's higher education institutions, related incubators, accelerators, and State economic development agencies;
- effective approaches that the State could take through its agencies and programs to:
 1. stimulate economic growth in sectors not related to the federal government;
 2. sustain the viability of economically important, federally supported, private and public institutions, and other entities regardless of the vicissitudes of federal policies; and
 3. ensure fairness, simplicity, and transparency in the State tax structure to promote the regional competitiveness in order to encourage job growth and economic development; and
- the State's entrepreneurial network and the fiscal and human resource gaps that may prohibit small and midsize businesses from growing.

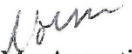
Letter Requesting Second Phase



THOMAS V. MIKE MILLER, JR.
PRESIDENT OF THE SENATE

MICHAEL E. BUSCH
SPEAKER OF THE HOUSE

THE MARYLAND GENERAL ASSEMBLY
STATE HOUSE
ANNAPOLIS, MARYLAND 21401-1991


Dear Mr. Augustine:

Thank you for meeting with us recently and also for your continued work on the Maryland Economic and Business Climate Commission. We truly appreciate the time and sacrifice that you and the other members have made in order to improve the business climate in our State.

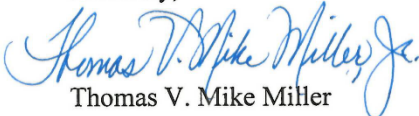
When we announced the creation of the Commission last February, we truly hoped that we would get a robust look at the opportunities and challenges facing our State from industry leaders and private sector experts. The meetings that you have conducted across the State and the input you have solicited have exceeded our expectations.

Based on our meeting we concur that that the Commission's work would benefit from additional time and analysis with a specific focus on the State's tax structure. We believe a comprehensive review of Maryland's State and local business-related taxes and tax incentives will be an important component of your thorough report on the State's business climate.

If the Commission is prepared to make any recommendations which would be appropriate for review by the General Assembly in the upcoming Session, any interim recommendations would be welcome as well. We are happy to afford you and the Commission any resources and time needed in order to fully complete this more focused undertaking.

We understand that the goal would be to submit a full final report in September of 2015 and are comfortable with that time frame. Please accept our continued and heartfelt thanks to you and the other members of the Commission for donating your valuable time and expertise to the State of Maryland.

Sincerely,


Thomas V. Mike Miller


Michael E. Busch

Cc: Members of the Commission
Warren Descheneaux

Appendix B

Biographies of Commission Members

Norman R. Augustine, Chair

Mr. Augustine is the retired Chairman and CEO of the Lockheed Martin Corporation and formerly Chairman and CEO of the Martin Marietta Corporation. Previously he served as Assistant Secretary of the Army (R&D) and Undersecretary of the Army. He later joined the faculty of Princeton University as a Lecturer with the rank of Professor.

Mr. Augustine was presented the National Medal of Technology by the President of the United States and received the Joint Chiefs of Staff Distinguished Public Service Award. He has five times received the Department of Defense's highest civilian decoration, the Distinguished Service Medal. He is co-author of *The Defense Revolution* and *Shakespeare In Charge* and author of *Augustine's Laws* and *Augustine's Travels*. He chaired the Congressionally chartered Commission on U.S. Competitiveness that produced the "Gathering Storm" reports.

He chaired the Board of Visitors of the Berkeley National Laboratory, served on the National Academies' Panel on Elementary Particle Physics, chaired the NSF/NASA Committee on Astronomy and Astrophysics, and served on the Secretary of Energy Advisory Board and the Board of the Universities Research Association.

He served on the boards of Black & Decker (now Stanley Black & Decker), Procter & Gamble, Lockheed Martin, and ConocoPhillips. Mr. Augustine was Chairman and Principal Officer of the American Red Cross for nine years, Chairman of the National Academy of Engineering, President and Chairman of the Association of the United States Army, Chairman of the Aerospace Industries Association, President of the Boy Scouts of America, and Chairman of the Defense Science Board. He is a Trustee Emeritus of Johns Hopkins, a former member of the Boards of Trustees of Princeton and MIT, and a Regent of the University System of Maryland. He has been elected to membership in the American Philosophical Society, the National Academy of Sciences, the American Academy of Arts & Sciences, the Explorers Club, Tau Beta Pi, Phi Beta Kappa, and Sigma Xi. He holds 33 honorary degrees and was selected by Who's Who in America and the Library of Congress as one of "Fifty Great Americans" on the occasion of Who's Who's 50th anniversary.

Delegate Wendell R. Beitzel

Delegate Beitzel was first elected to the Maryland House of Delegates in 2006 and is beginning his third term. He is a member of the Appropriations Committee and the Transportation and the Environment and Capital Budget Subcommittees, the chair of the Maryland Legislative Sportsmen Caucus, a representative of the Maryland House of Delegates on the Maryland Tourism Development Board, a member of the Maryland Veterans Caucus, and a member of the Rural Maryland Caucus. Delegate Beitzel served a four-year term as

County Commissioner for Garrett County, Maryland, and was Garrett County Commissioner representative on the Maryland Association of Counties (MACo) legislative committee and served on the Board of Directors for MACo. He has over 30 years of administrative experience in both the public and private sectors. He is the former Director of Infrastructure for the Wisp Ski and Golf Resort, a past Administrator of the Garrett County Department of Public Utilities (formerly the Garrett County Sanitary District) for 18 years, worked for 10 years in the environmental health field responsible for enforcement and administration of environmental health regulations, and worked at NIH as a microbiologist. In his parallel career in the private sector, he owned and operated lodging and food service businesses for more than 30 years. He is a former bank director, was elected or appointed to serve on numerous boards, commissions, and organizations, and owns an active farming operation.

Delegate Beitzel participated on Governor Ehrlich's transition team in 2002, is Maryland's representative on the National Assembly of Sportsmen's Caucuses, and was recently elected by the Assembly to the Executive Council. He earned a Bachelor of Science degree from Fairmont State College in Fairmont, West Virginia, and Masters of Science in both Management and Business Administration from Frostburg State University.

Delegate John L. Bohanan, Jr.

Delegate Bohanan currently serves as a Senior Advisor to United States Congressman Steny Hoyer. He was a member of the Maryland House of Delegates serving District 29B in St. Mary's County from 1999 to 2015. He served on the Appropriations Committee where he was Chairman of the Education and Economic Development Subcommittee and a member of the Capital Budget Subcommittee. He also served as the Chairman of the Spending Affordability Committee.

Delegate Bohanan served as a board member of several important local organizations, including the Lexington Park Rescue Squad, the St. Mary's County Historical Society, the Historic Sotterley, Inc., the Judith P. Hoyer Blue Ribbon Commission on the Financing of Early Child Care and Education, the Tri-County Council for Southern Maryland, and the St. Mary's County Juvenile Drug Court Team. Mr. Bohanan was born in Leonardtown and grew up in Lexington Park. He attended Little Flower School in Great Mills and graduated from Towson University with a degree in Finance.

Peter A. Bowe

Mr. Bowe is President and CEO of Ellicott Dredge Enterprises, LLC, a holding company he formed in 2003 to merge Ellicott Dredges, LLC of Baltimore and Liquid Waste Technology, LLC of Wisconsin and, more recently, Rohr-IDRECO in Germany and the Netherlands. In his more than 30 years at Ellicott, he has held the positions of President, Treasurer, Vice President, General Manager, and member of the Board of Directors. During that period he has led Ellicott's expansion into multiple export markets via acquisition and organic growth. Prior to his work at Ellicott, Mr. Bowe worked on Wall Street at J.P. Morgan in the Petroleum Department.

Among the awards and recognition he and Ellicott have received are the following: *SmartCEO Magazine* named Mr. Bowe the 2014 “Baltimore SmartCEO of the year”; Ernst & Young selected Mr. Bowe as 2009 “Entrepreneur of the Year” for Maryland in manufacturing; and the Western Dredging Association named him “Dredger of the Year” for 2009. Ellicott’s purchase of the assets of Rohr Corporation for mining dredges won the Association for Corporate Growth “Deal of the Year” award. In 2011, *Business Week* recognized Ellicott as one of the 100 fastest growing United States inner-city-based companies for the fourth straight year. The United States Government Agency Overseas Private Investment Corporation awarded Ellicott its inaugural Small Business “Impact Award” for work in Iraq. Vice President Al Gore appointed Mr. Bowe to the U.S.-Egypt Presidents’ Council in 1995, and Commerce Secretary William Daley reappointed him in 1997.

Mr. Bowe is a board member of the World Trade Center Institute, the National Urban Debate League, a member of the World Presidents’ Organization and Chief Executives’ Organization, and past President of the Harvard Business School Club of Maryland. He has served as director for IHC Holland, Bank Maryland Corporation, and Maryland-Business Center China. He is a former Director of Collections Marketing Center, a SaaS company for web-based debt collections. He is past Chairman of the Small Business Exporters’ Association. He and his wife founded the Bowe-Stewart Foundation to support organizations helping underprivileged citizens realize employment opportunities in Baltimore and Chicago.

Mr. Bowe received his B.A., Magna Cum Laude, from Yale College and his M.B.A. with distinction from Harvard University. He has published op-ed pieces in the *Wall Street Journal*, *The Baltimore Sun*, and elsewhere, primarily on international trade issues, and testified to Congress more than 10 times on similar issues. In 2009, Mr. Bowe orchestrated the sale of Ellicott to Markel Corp., which has a philosophical commitment to keeping Ellicott based in Baltimore.

Senator David R. Brinkley¹

Senator Brinkley was born and raised in Frederick County, where he attended public school. He attended Gettysburg College and graduated from the University of Maryland, College Park, in 1981. He began his career in the Financial Services profession with an insurance company in Montgomery County, and later opened his own office in Frederick. He earned his professional designations in 1984 and maintains securities registrations with the Financial Industry Regulatory Authority and insurance licenses in 12 states. His practice is focused on Estate and Retirement planning.

He was elected to the House of Delegates in 1994, serving two terms, and serving on the Commerce and Government Matters Committee, and was the only Republican Chairman of a subcommittee, the Procurement Subcommittee. Beginning in 2002, he was elected to the first of

¹ Mr. Brinkley resigned his position on the Commission once he was nominated Maryland Secretary of Budget and Management.

three terms in the Maryland Senate. Senator Brinkley served 11 years on the Budget and Taxation Committee, and his last year on the Finance Committee. Twice he served as Minority Leader of the Senate.

Over his 20-year legislative career, his pro-job creating voting record placed him in the 97th percentile of Maryland Senators, according to Maryland Business for Responsive Government (MBRG.org 2014 Roll Call).

After Governor Hogan's election in 2014, Senator Brinkley served on the transition team formulating the FY2016 Budget, and in January 2015, he was nominated as Secretary of Budget and Management.

Calvin G. Butler, Jr.

Mr. Butler became chief executive officer of Baltimore Gas and Electric Company (BGE) on March 1, 2014. Mr. Butler previously served as BGE's Senior Vice President, Regulatory and External Affairs. In that role, he was responsible for executing the company's strategic direction and cultivating relationships with government, regulatory, community, and other key stakeholders. Mr. Butler also served as Exelon's Senior Vice President of Corporate Affairs and held other leadership positions within Exelon and BGE's sister company, ComEd (Chicago). He played a critical role in helping to successfully navigate company and stakeholder relations during the merger between Exelon and Constellation Energy.

Before joining Exelon in 2008, Mr. Butler held leadership positions with RR Donnelley, including Vice President of Manufacturing, Senior Director of Government Affairs, and Senior Vice President of External Affairs. He also managed RR Donnelley's supplier diversity and government sales groups and served as president of their nonprofit foundation. He was responsible for negotiating incentive packages with state officials on behalf of RR Donnelley in its expansion efforts for its manufacturing divisions across the country.

Mr. Butler has received many awards from business and community organizations. He is currently on the Board of Trustees for the Baltimore Community Foundation; the Boards of Directors for the University of Maryland Medical Center, Maryland Zoological Society (Baltimore), Enoch Pratt Free Library, and the Cal Ripken, Sr. Foundation; and the Board of Trustees for his alma mater, Bradley University. In 2014, Mr. Butler served as the chair of the American Heart Association's Greater Baltimore Heart Walk. He earned a bachelor's degree from Bradley University in Peoria, IL, and a Juris Doctor degree from Washington University School of Law in St. Louis, Missouri.

Delegate Dereck E. Davis

Delegate Davis was born in Washington, D.C., and raised in Prince George's County, Maryland. He attended Prince George's County Public Schools and graduated from Central High School in Capitol Heights, Maryland. He continued his education at the University

of Maryland at College Park, where he received his B.A. in Political Science and his master's degree in Public Policy.

Delegate Davis is currently employed by Prince George's County as the Deputy Director for the Office of Community Relations. His responsibilities include oversight of the Common Ownership Communities, Mediation, Community Outreach, and the 311 Call Center divisions. He has also worked as an administrator with the Washington Suburban Sanitary Commission; the Maryland Department of Labor, Licensing, and Regulation; and the Prince George's County Council.

Delegate Davis was first elected to the Maryland House of Delegates in 1994 at the age of 27, making him one of the youngest African Americans ever elected to the Maryland General Assembly. He was appointed Chairman of the House Economic Matters Committee on January 8, 2003, becoming just the fourth African American to chair a House standing committee and the first from Prince George's County. He has received numerous awards, including the 2012 Mission of Love Founders Award, the 2011 Maryland Clean Energy Center's Legislative Leadership Award, the 2010 Maryland Black Caucus Foundation's Outstanding Leadership Award, the 2009 Apartment and Office Building Association (AOBA) Outstanding Leadership Award, the 2007 American Heart Association's Public Official Award, the 2006 Maryland Consumer Rights Coalition's Legislator of the Year Award, and the 2002 Mothers Against Drunk Driving Award of Excellence.

Douglas Doerfler

Mr. Doerfler has more than 30 years' experience in the discovery, development, and international financing and commercialization of biotechnology products and companies. He was the founding President and CEO of MaxCyte in June 1999.

Prior to joining MaxCyte, Mr. Doerfler held senior corporate development and operating responsibilities for PFRM, Inc., a privately owned biotechnology holding company. He was President, Chief Executive Officer, and a Director of Immunicon Corporation, a cell-based therapy and diagnostics company. He also held various executive positions with Life Technologies that included leading global businesses, mergers, and acquisitions and its initial public offering (IPO).

Mr. Doerfler plays an active role as an advocate for the life sciences industry. He is Chairman of the Tech Council of Maryland, serves on the Executive Committees of the Alliance for Regenerative Medicine (ARM) and the Biotechnology Industry Organization (BIO), and Co-Chairs BIO's Capital Formation Committee. Mr. Doerfler received his B.S. in Finance from the University of Baltimore School of Business and holds a certificate in Industrial Relations (Collective Bargaining).

Brian J. Gibbons

As Chairman and Chief Executive Officer of Greenberg Gibbons, Mr. Gibbons is the visionary behind many of the most successful retail destinations in the Mid-Atlantic region. His company has created award-winning mixed-use and revitalization projects with a value in excess of \$1.2 billion. Major highlights include innovative redevelopments such as the Hunt Valley Towne Centre, the Annapolis Towne Centre, the Towne Centre Laurel, and the Foundry Row at Owings Mills; the ground up development of the Village at Waugh Chapel, the Waugh Chapel Towne Centre, and the Turf Valley Towne Square; and current plans to update the Shops at Kenilworth in Towson. Greenberg Gibbons creates places where people love to work, shop, live, and play, and these developments become valuable community assets.

Prior to joining Greenberg Gibbons, Mr. Gibbons was a partner and member of the management committee of Fedder and Garten, P.A., a Baltimore-based law firm. He serves on the boards of Sinai Hospital, Hospice of the Chesapeake, and the University of Maryland at Baltimore. In 2013, Mr. Gibbons received the Distinguished Citizen Award from the Boy Scouts of America's Baltimore Chapter for exemplifying strong community leadership and personal integrity. He holds a Bachelor of Arts degree and a Juris Doctor degree from the University of Maryland.

Joshua C. Greene

Mr. Greene helped co-found the Southeast Region of 501c3 Cleantech Open, which runs the world's largest accelerator program for clean-tech startup companies, and currently serves as Chairman of its Regional Advisory Board. By day, he is a Partner at the international law firm of Squire Patton Boggs LLP, where he serves as Chair of the firm's Energy, Environment, and Natural Resources Policy Practice. Mr. Greene's practice focuses on energy and environmental regulation, compliance, and project finance with a particular concentration on renewable and alternative energy development, energy efficiency, technology diligence, project funding, and economic development.

In addition to his energy and environmental regulatory practice, he has been actively engaged in counseling clients regarding financial services regulation, including environmental and energy commodities in the United States and abroad. Outside of his work with the Cleantech Open and his law firm, Mr. Greene is very active in his community and currently serves on the Board of Directors of the Maryland Clean Energy Center and serves as the Chair of the School Board Nominating Commission of Anne Arundel County. His past appointments and service include service on the Board of Directors of the Maryland African American Museum Board; Vice-Chairman of the Anne Arundel County Charter Revision Commission; a member of the Maryland General Assembly Compensation Commission; as well as service on the Board of Directors of the Anne Arundel County Court Appointed Special Advocates, Inc. Mr. Greene's experience also includes owning two businesses in Maryland, as well as working for United States Congressmen Eliot Engel and Jerry Nadler of New York.

Glen Ives

Mr. Ives is a resident of St. Mary's County and is the Chief Operating Officer of Sabre Systems, Inc., a professional services company providing innovative technology, scientific, and management solutions to government and commercial clients. A graduate of the United States Naval Academy and United States Army War College, he served as a Naval Officer and Navy pilot deployed throughout the world and across the United States.

His last assignment was in Southern Maryland as Commanding Officer of Naval Air Station Patuxent River, the nation's premier Research, Development, Test, and Evaluation Center of Excellence for Naval Aviation, representing a \$40 billion enterprise of over 22,000 engineering, technology, and business professionals.

Mr. Ives recently helped lead Maryland's efforts to become an FAA-designated Unmanned Aircraft Systems (UAS) Test Site for UAS integration into the National Airspace by coordinating a partnership with the states of Maryland, Virginia, and New Jersey and their respective universities. His leadership and efforts also helped to bring the University System of Maryland to the Southern Maryland region with an anticipated \$80 million Academic and Research, Development, and Technology Innovation and Commercialization complex at the Southern Maryland Higher Education Center. This new multi-million-dollar center will fuel technology innovation, transfer, and commercialization and new startups. It will also significantly strengthen community work force education and training opportunities, and help to grow better paying quality jobs and diversify the region's economy and industry base.

He served as past Honorary Chairman of the United Way, Christmas in April, and Special Olympics. He is a Rotarian, a graduate of Leadership Maryland, and serves on the Boards of the Southern Maryland Navy Alliance, the College of Southern Maryland Foundation, the St. Mary's County Chamber of Commerce, the Patuxent Partnership, the Juvenile Drug Court, and the Annmarie Garden. Mr. Ives is also a member of the Board of Trustees of St. Mary's College of Maryland and the Board of Governors for the Southern Maryland Higher Education Center. He served on the Metropolitan Commission Task Force and the Workforce Investment Board, chaired the Catholic Schools Task Force and most recently co-chaired the River Concert Series Task Force.

Senator Edward J. Kasemeyer

Senator Kasemeyer serves as Chairman of the Budget and Taxation Committee. Senator Kasemeyer is also a member of the Legislative Policy Committee, the Executive Nominations Committee, the Rules Committee, the Joint Committee on Pensions, and the Joint Spending Affordability Committee. An active participant in community affairs, he is a member of the University of Maryland Medical System Board and the Board of the Howard County Conservancy.

Senator Kasemeyer, a Howard County resident for more than 50 years, attended Maryland public schools and graduated from Western Maryland College (now known as

McDaniel College). Before entering the political arena, Senator Kasemeyer enjoyed a successful career in real estate and land development. He is a former President of the Howard County Chamber of Commerce. Having had the opportunity to work in both the private and public sectors, and the benefit of being a member of the Senate's Budget and Taxation Committee under multiple administrations, Senator Kasemeyer brings a unique perspective to the Maryland Economic Development Commission. He understands the need for a regulatory framework while grasping the importance of systems that facilitate rather than impede business growth.

Jon M. Laria

Mr. Laria is the Managing Partner of the Baltimore office of Ballard Spahr LLP, a national law firm. He represents owners, developers, and lenders in all types of commercial real estate transactions, including development, finance, acquisition, and leasing. He also has an active land use and zoning practice and has provided counsel for some of Baltimore's most prominent development projects. Before joining Ballard Spahr, Mr. Laria was employed by a major Maryland developer, where he engaged in all aspects of commercial real estate transactions.

Since 2010, Mr. Laria has chaired the Maryland Sustainable Growth Commission. Created by statute, the commission is charged with advising the Governor and Maryland General Assembly on state, regional, and local planning efforts and Maryland's progress towards its economic growth, resource protection, and planning goals. The commission recently published a report, "*Reinvest Maryland*," which recommends enhanced investment in existing communities throughout the state.

Mr. Laria is a co-founder of the Baltimore Development Workgroup, an affinity group of real estate professionals in Baltimore dedicated to improving the business climate for real estate investment and development in the city. He also serves on Baltimore City's Tax Policy Review Group, appointed by Mayor Stephanie Rawlings-Blake, and served a prior administration as a member of the mayoral Blue Ribbon Committee on Taxes and Fees. He also served as a participant in the mayor's outcome-based city budgeting process.

Mr. Laria is a Director of the Greater Baltimore Committee (GBC), a pre-eminent regional business organization, where he serves on the GBC's Competitive Tax Restructuring and Spending Accountability Commission, a panel of experts examining ways to make Maryland's tax structure more competitive. Mr. Laria is an officer or member of many other civic boards and organizations, including the Urban Land Institute's Baltimore District Council and Healthy Neighborhoods, Inc.

Dr. Victor R. McCrary, Jr.

Dr. McCrary, Jr. is the Vice President for the Division of Research and Economic Development at Morgan State University, Baltimore, Maryland. In his position, Dr. McCrary is responsible for developing a comprehensive research strategy for the university which includes:

fostering cross disciplinary research, expanding the current base of research programs via external partnerships, increasing the university's intellectual property portfolio, and translating the university's research portfolio to position the university as a catalyst for economic growth and vitality for Northeast Baltimore and the State of Maryland. Dr. McCrary's ultimate goal is to create an innovation ecosystem at Morgan State and its neighboring communities, and he firmly believes research activities and student research internships are key pathways towards this goal. This also includes leveraging the role of technology and innovation for increasing the wellness and betterment of the community. His accomplishments include the university establishing a \$500K science, technology, engineering, and mathematics (STEM) student internship program between Johns Hopkins University and Morgan State University, which led a Morgan faculty team to be awarded a \$23.3 million grant from the National Institutes of Health. Dr. McCrary brings his experience and public service to the Maryland Economic Development Commission as a former member and chair of the Howard County Neo-Tech Incubator Advisory Board and as a former member of the board for the John Rouse Entrepreneurial Fund for small business. Further, he has also participated and organized a number of panels for the American Chemical Society on minority technical entrepreneurship.

Dr. McCrary holds a bachelor's degree in chemistry from The Catholic University of America, a doctoral degree from Howard University in physical chemistry, and an executive master's degree in science and engineering from the University of Pennsylvania. Dr. McCrary has authored or co-authored over 60 technical papers and co-edited two books. He was an adjunct lecturer on technical executive leadership in the Executive Masters of Technology Management Program at the University of Pennsylvania from 1995 to 2013. He is also a Fellow of the American Chemical Society.

Dr. Darryll J. Pines

Dr. Pines is Dean of the Clark School of Engineering at the University of Maryland and the Farvardin Professor of Aerospace Engineering. Prior to becoming Dean of the Clark School of Engineering, Dr. Pines served as Chair of the Department of Aerospace Engineering from 2006 to 2009 and as a Professor and Assistant Professor in the Clark School of Engineering from 1995 to 2003. From 2003 to 2006, he also served as Program Manager of the Tactical Technology Office and Defense Sciences Office for the Defense Advanced Research Projects Agency. Dr. Pines has been Director on the Board of Engility Holdings, Inc. since 2012. He is also a member of the Board of Directors for Aurora Flight Sciences based in Manassas, Virginia, which he joined in 2014. He also served on the State of Maryland's Federal Facilities Advisory Board created by former Governor Martin O'Malley to leverage Maryland's unique relationship with the federal government. Dr. Pines received a Bachelor of Science in Mechanical Engineering from the University of California at Berkeley and a Master of Science and Ph.D. in Mechanical Engineering from the Massachusetts Institute of Technology.

Dr. DeRionne P. Pollard

Since her installation as the president of Montgomery College in 2010, Dr. Pollard has made economic development a pillar of her strategic vision, as outlined in the *Montgomery*

College 2020 strategic plan. Under her leadership, the college was awarded a \$15 million Trade Adjustment Assistance Community College and Career Training grant by the Department of Labor Employment and Training Administration in 2014. The college leads 14 community colleges in Maryland in funding job-driven training programs aimed at Maryland industries with workforce needs: cybersecurity, information technology, and scientific and technical industries, among others.

Dr. Pollard is passionately committed to closing the skills gap and increasing the competitiveness of Maryland's workforce. Her investment in Montgomery College's Workforce Development and Continuing Education unit has led to innovations such as "Career Coach" – a portal that helps students to quickly assess the career fields with the most openings in Montgomery County, view the certificates or training necessary to enter them, and see specific wages offered. By making student retention and graduation a high priority, Dr. Pollard's work also furthers the Maryland Competitiveness Coalition's goal of a more highly trained workforce in targeted sectors.

Dr. Pollard serves on boards of the Montgomery College Business Development Corporation, the Montgomery County Chamber of Commerce, the Universities at Shady Grove, and the Tech Council of Maryland. She was named as a White House Champion of Change for her efforts to expand reentry employment opportunities for incarcerated people in Maryland. In 2013, she received the *Washington Business Journal's* Minority Business Leader Award and was named Outstanding Leader for 2013 by Leadership Montgomery.

Senator Catherine E. Pugh

Senator Pugh is the Majority Leader of the Maryland State Senate. She serves on the Finance Committee and is Chair of the Subcommittee on Health. She has passed over 100 pieces of legislation focusing on economic diversity, education, health, technology, and broadband, including Senate Bill 606 that required the State of Maryland to diversify its \$40 billion Pension Portfolio, resulting in an increase of African American and other minority managed dollars from \$300 million to \$4.7 billion.

Senator Pugh serves on numerous boards, including the 13-hospital system where her leadership has led to over 20% of their commodity and construction contracts being awarded to minority firms and over 20% of their investment portfolio being managed by African Americans and other minorities.

Senator Pugh holds an MBA from Morgan State University and has received qualification from the University of California as an Economic Development Specialist. She is the author of the *Healthy Holly* series and *Mind Garden Where Thoughts Grow*. Senator Pugh is the founder of the Baltimore Marathon, which is entering its 15th year and has an annual economic impact of over \$30 million on the city. Senator Pugh is also the founder of the Baltimore Design School, a transformation school serving 6th through 12th graders.

She holds numerous awards including the Iota Phi Theta Humanitarian Award, the Greater Baltimore Committee Bridging the Gap Award, the National Association of Securities Professionals Joyce Johnson Award, the Mental Health Association and the NAACP Legislator of the Year Awards, the United States Small Business Administration Minority Business Advocate of the Year Award, and the NAACP Benjamin L. Hooks Keeper of the Flame Award.

Kenneth E. Rigmaiden

Mr. Rigmaiden began his career with the International Union of Painters and Allied Trades (IUPAT) in 1977 upon graduating from San Jose State. He went on to serve as an executive board member, a trustee, the vice president, and eventually president of Local Union 1288, as well as an instructor for floor covering installation in Local 1288's apprenticeship training program. Elected as Local 1288's business representative in 1986, he focused his career on labor relations. One of his noted accomplishments was the amalgamation of several local unions in his region to form Local Union 12. Mr. Rigmaiden was elected business manager for the new Local Union 12 in 1993.

In 1996 he was selected to serve as a general representative and in 1997 was selected to serve as an assistant to the general president, with specific duties in national agreements and jurisdiction maintenance. He also served as the national project coordinator for the IUPAT Job Corps Program. Mr. Rigmaiden was elevated to the position of executive general vice president for the IUPAT in 2002. As the executive general vice president, he was the general administrator of the IUPAT's affairs. In March 2013, Mr. Rigmaiden was unanimously appointed general president by the General Executive Board, effective April 1, 2013. He was elected to the position at the 2014 IUPAT General Convention.

Mr. Rigmaiden serves as a co-chair of the Finishing Trades Institute, the IUPAT's innovative and exciting job training program. He believes that for registered apprenticeship programs to remain relevant, they must be proactive in meeting the training needs of the industries they work in. He also serves as co-chair of the Labor Management Cooperation Initiative and the IUPAT Industry Pension Fund. Mr. Rigmaiden is a member of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) Executive Council, a trustee of the AFL-CIO Housing Investment Trust, a member of the Board of Directors of Ullico, Inc., as well as belonging to several AFL-CIO constituency and allied groups.

Mary Ann Scully

Ms. Scully is the President and Chief Executive Officer of Howard Bank and chairs the bank's Board of Directors. She is a lifelong banker with over 30 years of varied executive experiences in the Maryland marketplace. In 2003, she headed the organizing team for Howard Bank, the first new bank to open in the county in 15 years. Howard Bank serves small and medium-sized businesses in Greater Baltimore – Anne Arundel County, Baltimore County, Harford County, and Howard County – from its birthplace in Ellicott City and eight branch offices. The bank also serves home buyers through mortgage offices in Baltimore, Anne

Arundel, Harford, and Howard counties. Ms. Scully has successfully led the company through five equity raises and a Securities Exchange Commission Act 34 registration.

Ms. Scully has been a Howard County resident since 1995. She is a past chair of the Maryland Bankers Association and a past chair of the Community Foundation of Howard County. Ms. Scully is presently a trustee and member of the Executive Committee of Associated Catholic Charities, a trustee and corporate campaign co-chair of Kennedy Krieger Institute, and a board member of the Baltimore Federal Reserve. She was recently elected to the Torrey Smith Foundation Board. She is an active member of St. Louis Parish in Clarksville, Maryland. She is a 2007 graduate of Leadership Maryland.

In 2007, Ms. Scully was recognized as an honoree in the Howard County Women's Hall of Fame, and she was named Entrepreneur of the Year by the Howard County Chamber of Commerce. She received the Howard County "Good Scout" Award from the Baltimore Area Council of the Boy Scouts of America in 2011. In 2002, 2005, and 2007, Ms. Scully was recognized as one of Maryland's Top 100 Women by *The Daily Record*, was a 2008 and 2012 *Daily Record* Influential Marylander, and was a winner of a 2012 Trailblazer Award presented by the Baltimore Center Club.

J. Robert Smith, Jr.

Mr. Smith is the Vice President and General Manager of Allegany Aggregates, Inc. and Allegany Concrete in Cumberland, Maryland. He graduated from Fort Hill High School and attended Allegany College of Maryland. Mr. Smith is a member and a past president of the Allegany County Chamber of Commerce, co-chair of The Mountain Maryland Pace Reception, and a founding member of The Greater Cumberland Committee. In addition, he serves on the Executive Board of the Potomac Council of Boy Scouts of America, the Board of Directors of the Allegany College of Maryland Foundation, the Board of Directors of the Tri-County Council of Western Maryland, and the Board of Directors for Canal Place Preservation and Development Authority and is also a past president of both the Greater Allegany County Business Foundation and the Rotary Club of LaVale, Maryland.

Christy Wyskiel

Ms. Wyskiel is Senior Advisor to the President of Johns Hopkins University on matters of innovation, commercialization, and entrepreneurship. She is a seasoned entrepreneur and investor with 20 years of experience primarily focused on the life sciences and healthcare industries. Prior to her career as an entrepreneur, Ms. Wyskiel was a Managing Director at Maverick Capital, a long-short equity hedge fund with over \$12 billion under management, where she had a long track record of successful healthcare investing in both public and private companies. Prior to that, she was a healthcare and medical technology stock analyst at T. Rowe Price. Ms. Wyskiel co-founded two Baltimore-based startups and has served as a formal and informal advisor to many others. At Johns Hopkins, she has responsibility for efforts related to technology transfer, commercial relations, the Social Innovation Lab, the DreamIt

HCIT accelerator, and other entrepreneurial efforts, including over 70 active Johns Hopkins startups.

Ms. Wyskiel graduated from Williams College (BA, Economics and German) and the Stern School of Business at New York University (MBA, Accounting and Finance). She is currently on the board of Teach for America-Baltimore and co-chairs Baltimore's Next Generation Investing Event, an event she co-founded which has raised over \$450,000 for three K-8 education initiatives in Baltimore City. In 2014, she was added to the Board of Trustees of the Abell Foundation and the Baltimore Development Corporation. From 2012 to 2014, she served on the board of the Maryland State Retirement Plan (MSRP), which oversees \$3 billion in defined contribution assets of state employees.

Appendix C

Summary of Commission Meetings

From April 2014 through December 2014, the commission and its workgroups were presented with information on a variety of topics related to economic development and the business climate. The following provides a summary of each meeting.

April 30, 2014 – Annapolis

The inaugural meeting of the commission was held in Annapolis and began with welcoming remarks from Norm R. Augustine followed by an introduction to the charge of the commission by the President of the Senate, Thomas V. Mike Miller, Jr. and the Speaker of the House, Michael E. Busch. Chair Augustine then discussed the work plan of the commission with the members. Next, the commission heard a presentation on the organization of State economic development efforts from Dominic Murray, the Secretary of the Department of Business and Economic Development; Robert Brennan, the Executive Director of the Maryland Economic Development Corporation; and John Wasilisin, the Chief Operating Officer of the Maryland Technology Development Corporation (TEDCO). Additionally, the commission was presented with testimony from local economic development officials, including Larry Twele and Michael Lofton from the Maryland Economic Development Association. This was followed by a presentation on Maryland's competitive strengths and weakness from Dr. Philip Phan from the Johns Hopkins Carey Business School. The meeting concluded with a group discussion from the commission's members and workgroup meetings to discuss each workgroup's work plans.

May 27, 2014 – Hagerstown

The Department of Legislative Services began the meeting at University System of Maryland at Hagerstown, with a presentation on the structure of State economic development activities. Secondly, the commission heard from a panel of local businesses which provided their perspectives on the business climate in the State. The remainder of the meeting focused on the State's federal installations and their impact on the State's economy. Much of the discussion related to federal research and the potential for commercialization. Specifically, the commission heard from Dr. Paul Mele, Director of Research and Technology Applications for the U.S. Army Medical Research and Material Command; Dr. Courtney Silverthorn, Senior Interagency Policy Specialist for the National Institute of Standards and Technology; Paul Zielinski, Chair of the National Federal Laboratory Consortium; and Todd Pelham, a recipient of the federal Small Business Innovation Research Grant. The meeting concluded with a group discussion from the commission's members and workgroup meetings.

June 30, 2014 – Germantown

The Department of Legislative Services began the meeting at Montgomery College in Germantown, with a presentation on the State's tax structure and a presentation on the State's

regulatory process. Additionally, a panel from the Maryland Chamber of Commerce provided testimony on its Competitiveness Coalition. Additionally, the commission heard from Kevin F. Kelly, Chairman of the Federal Facilities Advisory Board. Further, the commission heard from a panel of local businesses which provided their perspectives on the business climate in the State. The meeting concluded with a group discussion from the commission's members and workgroup meetings.

July 29, 2014 – Baltimore

The meeting was held at Morgan State University and began with a welcome from the President of the university, David Wilson. The bulk of the agenda focused on education and workforce development. The commission heard a presentation on State workforce development efforts from the Department of Labor, Licensing, and Regulation. Additionally, the commission heard from representatives from the unions and building trades. June Streckfus from the Maryland Business Roundtable for Education provided information on workforce development programs in K-12 institutions. Further, the commission heard a presentation on expanding apprenticeships in Maryland from Dr. Rob Lerman, Professor of Economics, American University. Also, the commission heard from a panel of local businesses which provided their perspectives on the business climate in the State. The meeting concluded with a group discussion from the commission's members and workgroup meetings.

September 10, 2014 – Queenstown

The meeting was held at the Wye Research and Education Center and began with a panel of local businesses which provided their perspectives on the business climate in the State. The remainder of the meeting focused on best practices in economic development. The Pew Charitable Trust presented information on their Business Incentive Initiative which is a program designed to measure the effectiveness of business incentives in several different states, including Maryland. Secondly, the commission heard from a panel of developers on their experiences in large-scale developments in multiple states. The meeting concluded with a group discussion from the commission's members and workgroup meetings.

September 30, 2014 – Patuxent River

The meeting was held at the Naval Air Station at Patuxent River. Representatives from the station provided an overview of the facility. Local government economic development needs were presented by two panels from the Maryland Association of Counties and the Maryland Municipal League. Participating were representatives from Worcester, Anne Arundel, and Allegany counties; Baltimore City, Cambridge, Rockville, and Frederick. Additionally, the commission heard a presentation from representatives from public and private institutions of higher education. Specifically, the commission heard from Patrick J. Hogan, Vice Chancellor for the University System of Maryland; Wallace D. Loh, President, University of Maryland; James Hughes, Vice President, University of Maryland Office of Research and Development; T.E. Schlesinger, Dean of the Whiting School of Engineering, Johns Hopkins University; Sharon Markley, Vice President, Stevenson University; and Dr. Edgar Schick, Interim Provost,

Hood College. The community colleges were represented by Dr. Bradley Gottfried, President, College of Southern Maryland. Finally, the commission heard from a panel of minority business owners and a panel of local business owners. The commission was also invited to a tour of the station after the conclusion of the meeting.

October 29, 2014 – Baltimore County

The meeting was held at the University of Maryland, Baltimore County and began with a panel of local businesses which provided their perspective on the business climate. The remainder of the meeting focused on issues related to incubators, biotechnology, and innovation. The panel on biotechnology included: Richard Bendis, CEO, BioHealth Innovation; Judy Britz, Executive Director, BioMaryland Center; and Brad Stewart, Tech Council of Maryland. This was followed by an incubator panel: Robert Snyder, President, Maryland Business Incubator Association; Deb Tillett, Executive Director, Emerging Technology Center; and Ellen Hemmerly, Executive Director, bwtech@UMBC. The commission also heard from a panel of technology companies and the issues that are important to them. Over lunch, the commission heard a presentation from Freeman Hrabowski, III, President of the University of Maryland Baltimore County, the host for the commission's meeting. Next, the commission heard a presentation on early State investment and commercialization. The speakers included: Peter Greenleaf, Chairman of the Maryland Venture Fund Board; Thomas Dann, Managing Director of the Maryland Venture Fund; Robert Rosenbaum, President, Maryland Technology Development Corporation (TEDCO); and Jennifer Hammaker, Program Manager of the Maryland Innovation Initiative, TEDCO. Finally, the meeting concluded with a group discussion from the commission's members and workgroup meetings.

November 14, 2014 – Annapolis

Warren Deschenaux, the Director of the Office of Policy Analysis for the Department of Legislative Services, presented information on the economic outlook for the State of Maryland. Additionally, the commission heard testimony on the economic development strategy of the State from Suzy Ganz and Seth Goldman, representing the Maryland Economic Development Commission. Dennis Davin from Allegheny County (Pennsylvania) Economic Development provided testimony to give a perspective from another state's economic development efforts. The commission also heard from a panel of representatives from manufacturing and the State port. Specifically, the panel included Mike Galiazzo, Regional Manufacturing Institute; Brian Sweeney, Maryland Manufacturing Extension Partnership; and Rick Powers, Maryland Port Administration. Finally, the commission provided one additional opportunity to hear from local businesses on their perspectives on the business climate in the State.

Appendix D

Meeting Agendas

April 30, 2014 (Meeting #1)
Annapolis, MD

9:00 Welcome and Opening Remarks

Norman R. Augustine, Chair

9:05 Background and Charge

Thomas V. Mike Miller, Jr., Senate President
Michael E. Busch, Speaker of the House

9:20 Introduction of Commission Members

9:30 Discussion of Proposed Work Plan

Norman R. Augustine, Chair

9:45 Organization of State Development Effort

Dominick Murray, Secretary, Maryland Department of Business and Economic Development (DBED)
Robert Brennan, Executive Director, Maryland Economic Development Corporation (MEDCO)
John M. Wasilisin, Executive Vice President and Chief Operating Officer, Maryland Technology Development Corporation (TEDCO)

11:15 Break

11:30 Local Government and State Economic Development Relationship

County Economic Development Authority (HCEDA)
Larry Twele and Michael S. Lofton, Past President of the Maryland Economic Development Association

12:30 Lunch in Senate Lounge

1:45 Maryland's Competitive Strengths and Weaknesses

Dr. Philip Phan, Executive Vice Dean, The Johns Hopkins Carey Business School

2:30 Group Discussion

3:45 Break

4:00 Discussion in Workgroups

5:00 Adjournment

May 27, 2014 (Meeting #2)
University System of Maryland at Hagerstown
Hagerstown, MD

Focus: Working with Federal Installations and Their Impact on the State's Economy

10:00 Welcome and Opening Remarks

Norman R. Augustine, Chair

10:10 Maryland Economic Development Agency Structures

Sally Guy, Department of Legislative Services

10:30 Panel of Local Businesspeople

Brien Poffenberger, President of Hagerstown-Washington County Chamber of Commerce and incoming President and CEO of the Maryland Chamber of Commerce
Rich Daughtridge, Owner, High Rock Studios
Wade Watson, Vice President of Group Trucks Operation, Volvo Group Hagerstown
John Williams, Chairman, President, and CEO of Jamison Door Company

12:00 Lunch

1:00 Dr. Paul C. Mele, Director, Office of Research and Technology Applications,
U.S. Army Medical Research and Material Command

1:45 Dr. Courtney Silverthorn, Senior Interagency Policy Specialist, National Institute of Standards and Technology (NIST)
Paul Zielinski, Director of Technology Partnerships Office, NIST; Chair, National Federal Laboratory Consortium

2:30 Todd Pelham, Manager, Business and Corporate Development, Integrated Biotherapeutics, recipient of Small Business Innovation Research Grant

3:15 Full Commission Discussion

3:45 Workgroup Meetings

4:45 Adjournment

**June 30, 2014 (Meeting #3)
Montgomery College
Germantown, MD**

Focus: Maryland's Tax and Regulatory Policies

9:00 Welcome from Montgomery College

9:15 Opening Remarks

Norman R. Augustine, Chair

9:30 Maryland's Tax Structure

Ryan Bishop, Department of Legislative Services

10:15 Maryland's Regulatory Process

Marie Razulis, Administrative, Executive, and Legislative Review Joint Committee

10:45 Maryland Chamber of Commerce's Competitiveness Coalition

Kathy Snyder, President, Maryland Chamber of Commerce

Bill Couper, former Chairman, Maryland Chamber of Commerce

Aris Melissaratos, former Secretary, Department of Business and Economic Development (DBED)

11:30 Building on Maryland's Federal Assets

Kevin F. Kelly, Chairman, Federal Facilities Advisory Board, and Member of Cybersecurity Roundtable

12:15 Lunch

1:00 Local Businesses and Chamber of Commerce

Gigi Godwin, President and CEO, Montgomery County Chamber of Commerce

Ilaya Hopkins, Vice President, Public Affairs, Montgomery County Chamber of Commerce

Lisa Cines, Chair, Board of Directors Executive Committee, Montgomery County Chamber of Commerce

Holly Sears Sullivan, Montgomery County Business Development Corporation

2:00 Full Commission Discussion

2:30 Workgroup Meetings

Subgroup A: Tax Credit Overview and Local Economic Development Officials

Guests: Tina Benjamin, Economic Development for Montgomery County; Ursula Powidzki, Assistant Secretary, DBED and Mark Vulcan, Manager, Tax Programs, DBED

Subgroup B: Permitting and Regulatory Process

Guests: Marie Razulis, AELR Joint Committee and Dave Ryer, Managing Director, Division of Administration and Technology, DBED

Subgroup C: Community College Training

Guest: Dr. Bernie Sandusky, Executive Director, Maryland Association of Community Colleges

4:00 Adjournment

July 29, 2014 (Meeting #4)
Morgan State University
Baltimore, MD

Focus: Education and Workforce Development

- 9:00 Welcome from Morgan State University**
Dr. Victor McCrary, Vice President, the Division of Research and Economic Development at Morgan State University
David Wilson, President, Morgan State University
- 9:05 Opening Remarks**
Norman R. Augustine, Chair
- 9:15 Workforce Development, EARN, and Future Employment Trends Panel**
Scott R. Jensen, Deputy Secretary, Maryland Department of Labor, Licensing, and Regulation (DLLR)
Elisabeth Sachs, Senior Advisor and Program Director of EARN Maryland, DLLR
- 10:00 Unions and Building Trades Panel**
Mark Coles, Executive Director, Maryland Building & Construction Trades Council
Tom Pfundstein, Director of Curriculums and Instruction, Finishing Trades Institute
Bob McKinley, Dominion Energy
- 10:45 Break**
- 10:55 Improving Workforce Development Programs in Schools**
June Streckfus, Maryland Business Roundtable for Education
- 11:35 Expanding Apprenticeship in Maryland**
Dr. Rob Lerman, Professor of Economics, American University; Fellow, Urban Institute
- 12:15 Lunch**
- 1:00 Panel of Local Businesspeople**
Robert L. Wallace, President and CEO, BITHENERGY, Inc.
Saad Alam, Founder and CEO, Citelighter
Lee Jokl, Co-Founder and COO, Citelighter
Frank Patton, CFO, Pompeian Olive Oil
- 2:00 Full Commission Discussion**
- 2:30 Workgroup Meetings**

Subgroup A Guest: Vernon Thompson, Executive Vice President of Business Development, Howard County Economic Development Authority

Subgroup B and D Guests:

Robert Rosenbaum, President and Executive Director, TEDCO

John Wasilisin, Executive Vice President and Chief Operating Officer, TEDCO

Ursula Powidzki, Assistant Secretary, Business and Enterprise Development, DBED

Gregory Cole, Director, Office of Finance Programs, DBED

Mark Vulcan, Manager, Tax Programs, DBED

Subgroup C Guest: June Streckfus, MD Business Roundtable on Education

4:00 Adjournment

September 10, 2014 (Meeting #5)
Wye Research and Education Center
Queenstown, MD

Focus: Best Practices

9:30 Opening Remarks

Norman R. Augustine, Chair

9:45 Local Business Panel

John Doran, President, Centreville Manufacturing

John Elstner, President, 3 Point Products

Donald Gross, Owner, GROCO

10:45 Pew Charitable Trusts Business Incentives Initiative

Erik R. Pages, President, EntreWorks Consulting; Senior Fellow, Center for
Regional Economic Competitiveness

Robert Zahradnik, Director, State and Local Policy, The Pew Charitable Trusts

12:15 Lunch

1:15 Developer Panel (Focus on Site Selection)

Jon M. Peterson, Principal, Peterson Companies

Robert E. Buchanan, Principal, Buchanan Partners

2:45 Full Commission Discussion

3:15 Workgroup Meetings

Subgroup A Guest: Pew Charitable Trusts

Subgroups B and D Guests: Developer Panel

Subgroup C Guests: Ronald DeJuliis and Roger Lash, Maryland Department of Labor,
Licensing, and Regulation Apprenticeship Program

4:30 Adjournment

September 30, 2014 (Meeting #6)
Naval Air Station Patuxent River
Patuxent River, MD

9:45 Welcome to Naval Air Station Patuxent River

10:00 Maryland Association of Counties

William A. Badger, Jr., Director, Economic Development, Worcester County
Mary Burkholder, Executive Vice President, Anne Arundel Economic Development Corp.
Kimberly A. Clark, Executive Vice President, Baltimore Development Corporation
Matthew W. Diaz, Director, Economic and Community Development, Allegany County
Maryland Municipal League
Dan Burris, Mayor, Leonardtown
Natalie Chabot, Economic Development Director, Cambridge
Laurie Boyer, Economic Development Director, Rockville
Richard Griffin, Economic Development Director, Frederick

10:45 Higher Education Panel

Patrick J. Hogan, Vice Chancellor, University System of Maryland
Wallace D. Loh, President, University of Maryland
Jim Hughes, Chief Enterprise and Economic Development Officer and Vice President,
University of Maryland Office of Research and Development
Maryland Independent College and University Association
T.E. "Ed" Schlesinger, Dean of the Whiting School of Engineering, Johns Hopkins
University
Sharon Markley, Vice President of Public Affairs and Strategy, Stevenson University
Dr. Edgar Schick, Interim Provost and Vice President of Academic Affairs, Hood
College

12:30 Working Lunch

Dr. Bradley Gottfried, President, College of Southern Maryland and Maryland
Association of Community Colleges

1:15 Small and Minority Business Panel

Stanley W. Tucker, President and Chief Executive Officer, Meridian Management Group,
Inc.
Maurice B. Tosé, President and Chief Executive Officer, TeleCommunication Systems,
Inc.
Carmina Perez-Fowler, Assistant Secretary for MBE Compliance and Procurement,
Governor's Office of Minority Affairs

1:45 Panel of Local Businessowners

2:30 Full Commission Discussion

3:00 Adjournment

October 29, 2014 (Meeting #7)
University of Maryland, Baltimore County (UMBC)
Catonsville, MD

Focus: Incubators and Biotechnology

9:00 Opening Remarks

Norman R. Augustine, Chair

9:15 Local Business Panel

Craig Bandes, President and CEO, Pixelligent Technologies

Ed Evans, Owner, Maaco North Point Blvd.

Scott Westcoat, Owner, The Hub C'Ville Bikes

10:15 Biotechnology Panel

Richard Bendis, CEO, BioHealth Innovation

Judy Britz, Executive Director, BioMaryland Center

Brad Stewart, Tech Council of Maryland

11:00 Incubator Panel

Robert G. Snyder, President, Maryland Business Incubation Association

Deb Tillett, Executive Director, Emerging Technology Center

Ellen Hemmersly, Executive Director, bwtech@UMBC

11:45 Technology Company Panel

Jay Steinmetz, Barcoding, Inc.

Neil Furukawa, Vice President, Cyberpoint International, LLC

12:30 Lunch

Speaker: Freeman A. Hrabowski, III, President of UMBC

1:30 Early State Investment and Commercialization

Peter Greenleaf, Chairman, Venture Fund Board

Thomas Dann, Managing Director, Equity Funds

Robert Rosenbaum, President and Executive Director, Maryland Technology Development Corporation (TEDCO)

Jennifer Hammaker, Program Manager, The Maryland Innovation Initiative, TEDCO

2:15 Full Commission Discussion

2:45 Workgroup Recommendation Discussion

4:15 Adjournment

November 14, 2014 (Meeting #8)
Annapolis, MD

9:00 Opening Remarks

Norman R. Augustine, Chair

9:15 Maryland Department of Legislative Services

Warren Deschenaux, Director, Office of Policy Analysis

9:45 Suzy Ganz, CEO, Lion Brothers; Chair, Maryland Economic Development Commission
Seth Goldman, Tea-EO, Honest Tea, Inc.

10:30 Allegheny County (Pennsylvania) Economic Development

Dennis Davin

11:15 Manufacturing and Ports Panel

Mike Galiazzo, Regional Manufacturing Institute

Brian Sweeney, Executive Director, Maryland Manufacturing Extension Partnership

Rick Powers, Director of Marketing, Maryland Port Administration

12:00 Lunch and Commission Discussion

2:00 Forum – Chambers of Commerce and Business Representatives

Appendix E

List of Witnesses

Economic Development Entities

1. Gregory Cole, Department of Business and Economic Development
2. Thomas S. Dann, Department of Business and Economic Development
3. Dominick Murray, Department of Business and Economic Development
4. Ursula Powidzki, Department of Business and Economic Development
5. David Ryer, Department of Business and Economic Development
6. Mark Vulcan, Department of Business and Economic Development
7. Ronald DeJuliis, Department of Labor, Licensing, and Regulation
8. Roger Lash, Department of Labor, Licensing, and Regulation
9. Scott R. Jensen, Department of Labor, Licensing, and Regulation
10. Elisabeth Sachs, Department of Labor, Licensing, and Regulation
11. Pamela Ruff, Maryland Economic Development Association
12. Susan J. Ganz, Maryland Economic Development Commission
13. Robert Brennan, Maryland Economic Development Corporation
14. Jennifer Hammaker, Maryland Technology Development Corporation
15. Robert Rosenbaum, Maryland Technology Development Corporation
16. John Wasilisin, Maryland Technology Development Corporation
17. Philip Schiff, Tech Council of Maryland

Education Entities

18. Bradley Gottfried, College of Southern Maryland
19. Edgar Schick, Hood College
20. T.E. Schlesinger, Johns Hopkins University
21. Bernie Sandusky, Maryland Association of Community Colleges
22. June Streckfus, Maryland Business Roundtable for Education
23. Maryland Independent College and University Association
24. Sharon Markley, Stevenson University
25. Jim Hughes, University of Maryland
26. Wallace D. Loh, University of Maryland
27. Ellen Hemmersly, University of Maryland Baltimore County
28. Freeman A. Hrabowski, III, University of Maryland Baltimore County
29. William E. Kirwan, University System of Maryland

Local Economic Development Entities

30. Maryland Association of Counties
31. Maryland Municipal League
32. Matthew W. Diaz, Allegany County Economic and Community Development Office

33. Mary Burkholder, Anne Arundel Economic Development Corporation
34. Kimberly A. Clark, Baltimore Development Corporation
35. Natalie Chabot, Cambridge Economic Development Office
36. Richard Griffin, Frederick Economic Development Office
37. Paul Frey, Hagerstown-Washington County Chamber of Commerce
38. Vernon Thompson, Howard County Economic Development Authority
39. Holly Sears Sullivan, Montgomery County Business Development Corporation
40. Lisa Cines, Montgomery County Chamber of Commerce
41. Gigi Godwin, Montgomery County Chamber of Commerce
42. Ilaya Hopkins, Montgomery County Chamber of Commerce
43. Tina Benjamin, Montgomery County Economic Development Office
44. James R. Estep, Greater Prince George's Business Roundtable
45. Laurie Boyer, Rockville Economic Development Office
46. Bill Scarafia, St. Mary's County Chamber of Commerce
47. James Dinegar, Greater Washington Board of Trade
48. William A. Badger, Jr., Worcester County Economic Development Office

Miscellaneous Entities

49. Dennis Davin, Allegheny County (Pennsylvania) Economic Development Office
50. Judith Britz, BioMaryland Center
51. J. Ryan Bishop, Department of Legislative Services
52. Warren G. Deschenaux, Department of Legislative Services
53. Marie H. Razulis, Department of Legislative Services
54. Deb Tillett, Emerging Technology Center
55. Kevin Kelly, Federal Facilities Advisory Board
56. Tom Pfundstein, Finishing Trades Institute
57. Carmina Perez-Fowler, Governor's Office of Minority Affairs
58. Mark Coles, Maryland Building and Construction Trades Council
59. Robert G. Snyder, Maryland Business Incubation Association
60. Kathy Snyder, Maryland Chamber of Commerce
61. Brian Sweeney, Maryland Manufacturing Extension Partnership
62. Rick Powers, Maryland Port Administration
63. Peter Greenleaf, Maryland Venture Fund Authority
64. Montgomery County Executive's Business Advisory Group
65. Paul Zielinski, National Federal Laboratory Consortium
66. Courtney Silverthorn, National Institute of Standards and Technology
67. Robert Sahradek, The Pew Charitable Trusts
68. Mike Galiazzi, Regional Manufacturing Institute
69. Technology and Life Sciences Community Coalition
70. Paul C. Mele, U.S. Army Medical Research and Materiel Command, Office of Research and Technology Applications

Businesses and Individuals

71. Saad Alam, Citelighter
72. Craig Bandes, Pixelligent Technologies
73. Richard Bendis, BioHealth Innovation
74. Robert E. Buchanan, Buchanan Partners
75. Dan Burris
76. Bill Couper
77. Sandy Crawford, Ellicott Dredges, LLC
78. Rich Daughtridge, High Rock Studios
79. John Doran, Centreville Manufacturing, Inc.
80. Sinclair Dunlop, Epidarex Capital
81. John Elstner, 3 Point Products
82. Neil Furukawa, Cyberpoint International, LLC
83. Seth Goldman, Honest Tea, Inc.
84. Donald Gross, GROCO
85. Kate Gray, KRM Development
86. Lee Jokl, Citelighter
87. Robert Lerman, The Urban Institute
88. Michael S. Lofton
89. Bob McKinley, Dominion Energy
90. Arias Melissaratos
91. Erik R. Pages, EntreWorks Consulting
92. Frank Patton, Pompeian Olive Oil Company
93. Todd Pelham, Integrated Biotherapeutics
94. Jon M. Peterson, Peterson Companies
95. Philip Phan, Johns Hopkins Carey Business School
96. Adelle Pierce, AM Pierce and Associates
97. Brien Poffenberger, Hagerstown-Washington County Chamber of Commerce
98. Alan Parris, Smartronix, Inc.
99. Kyp Sirinakis, Epidarex Capital
100. Jay Steinmetz, Barcoding, Inc.
101. Maurice B. Tosé, TeleCommunication Systems, Inc.
102. Stanley W. Tucker, Meridian Management Group
103. Tracye Turner, Optimal Solutions Group, LLC
104. Robert L. Wallace, Bithenergy, Inc.
105. Wade Watson, Volvo Group Hagerstown
106. Scott Westcoat, The Hub C'Ville Bikes
107. John Williams, Jamison Door Company

Appendix F

2014 LEGISLATIVE HANDBOOK SERIES VOLUME 2 – GOVERNMENT SERVICES IN MARYLAND

Chapter 13. Economic Development and Business Regulation

Maryland seeks to be known as a leading entrepreneurial state with a remarkable knowledge-based economy, innovation-minded culture, and strong consumer protection. To achieve this vision, the State works with local governments to help businesses become and remain successful, create stable employment opportunities for Marylanders, and regulate businesses and industries.

Economic Development Structure and Services

As implemented by the Maryland Department of Business and Economic Development, economic development policy is guided by the Maryland Economic Development Commission, a body of up to 25 voting members established by legislation in 1995. After being inactive for several years, the commission was revived in August 2009. The commission, which now has 22 voting and 6 nonvoting members, is composed largely of private-sector representatives. It is charged with developing and updating a strategic plan for the State and recommending to the Governor ways that the plan should be implemented. It also participates in marketing the State to businesses and reviews regulations for business financing programs. The commission's January 2013 annual status report cites several consensus and industry-specific findings concerning the status of the commission's five-year strategic plan, as well as observations on several legislative and funding issues that were pending at the start of the 2012 legislative session.

Department of Business and Economic Development

The State's Department of Business and Economic Development strives to attract new businesses, stimulate private investment, encourage the expansion and retention of existing companies, and provide Maryland businesses with workforce training and

financial assistance. The department's objectives are carried out through three divisions: Business and Enterprise Development; Marketing and Communications; and Tourism, Film, and the Arts. As part of the commission's five-year strategic plan, the department also works to strengthen Maryland's business climate and ensure development in all regions of the State. Eight regional business development representatives provide support and technical assistance to companies and local governments in the following regions:

- Garrett, Allegany, and Washington counties;
- Frederick and Montgomery counties;
- Carroll, Howard, and Anne Arundel counties;
- Baltimore City and Prince George's County;
- Baltimore, Harford, and Cecil counties;
- Charles, Calvert, and St. Mary's counties;
- Queen Anne's, Kent, Caroline, Talbot, and Dorchester counties; and
- Somerset, Worcester, and Wicomico counties.

The representatives function as the Regional Growth and Retention team under the Division of Business and Enterprise Development's Office of Business Development. They have the use of regional offices in Hughesville and Cumberland. The department also promotes Maryland's attractions and visitor services, attracts feature film and television production, and supports artists and arts organizations.

Marketing and Business Development

Marketing Maryland to domestic and international companies as a place to conduct business successfully is a key function of the department's Division of Business and Enterprise Development and the Division of Marketing and Communications. The marketing unit develops brochures, creates displays for trade shows and conferences, plans promotional events, manages sponsorships, and oversees the business advertising campaigns to promote Maryland's core industries. The research and business resources unit develops integrated research-driven resources and information and analyzes, monitors, and communicates key economic and employment data. The Division of Business and Enterprise Development focuses its efforts on attracting businesses, cultivating important industry clusters, and building relationships with key economic drivers such as the State's federal facilities, universities, and military installations. Staff in this division assist companies in identifying potential sites for the location of their new or expanding businesses and work with the local economic development offices and other

units of the department to develop financial incentive or technical assistance packages where appropriate.

Business Licensing: Responding to complaints from businesses that were trying to identify the types of licenses and permits needed to operate in Maryland, the State created the Business License Information System. The system is an Internet-based application that helps business owners determine which State permits and licenses are required. The system also gives comprehensive information and contacts for all of Maryland's occupational licenses, as well as links to other business-related sites throughout the State. The department launched an additional Internet-based system, the Central Business Licensing (CBL) System, in January 2013 in an effort to make it easier for businesses to interact with State government. CBL is an online portal through which Maryland entrepreneurs can register their businesses and trade names, form their legal business entities, and establish their required tax accounts with the State. In fiscal 2014, approximately 14,000 businesses (14% of eligible businesses) were created using CBL. CBL is expected to continue expanding to include permits, certifications, and registrations.

International Business Services: The Office of International Investment and Trade fosters foreign direct investment in Maryland and operates foreign trade offices in 10 countries: India, Brazil, France, Israel, Nigeria, United Arab Emirates, China, Taiwan, South Korea, and Vietnam. The office also organizes foreign trade and investment missions to showcase Maryland businesses and the State as a place for business location. Under the ExportMD Program, the office awards grants that provide up to 40 hours of staff time from overseas offices and reimbursement up to \$5,000 for expenses associated with an international marketing initiative. Businesses that are planning an international business initiative within six months after certain application deadlines, and that are classified as a small business under the U.S. Small Business Administration size standards, may qualify for the program. In the past, the office has reimbursed businesses for marketing materials, website development, airfare, and registration fees associated with attending international trade shows.

Workforce Development: Several programs are available to employers seeking to train their workforces. More information on workforce development may be found in Chapter 14 (Labor and Workforce Development) of this volume of the Legislative Handbook Series.

Financing Programs

The Office of Finance Programs under the Division of Business and Enterprise Development is charged with delivering and administering the department's financial incentive and tax credit programs to its customer base, which is diverse and includes the

business community, local economic development agencies, financial institutions, and other parties that extend credit. To meet these responsibilities, the office has assembled a staff of skilled professionals to oversee the process, which includes customer education on products offered, project analysis, negotiation, structuring, underwriting, documentation, accounting, loan administration, and collection. The office is also responsible for portfolio oversight and reporting for each of the programs, which includes both legislative and audited annual reports. Exhibit 13.1 shows funds available for financial incentives during fiscal 2013.

Exhibit 13.1
Funding for Loan Guaranty, Loan, Grant, and Investment Programs
Under the Department of Business and Economic Development
Fiscal 2013

Maryland Industrial Development Financing Authority	\$36,371,041
Conventional Loan and Bond Insurance Fund	
Maryland Small Business Development Financing Authority	3,649,740
Maryland Economic Development Assistance Authority and Fund	15,000,000
Maryland Venture Fund	26,794,864
(Challenge Investment Program and Enterprise Investment)	
Maryland Biotechnology Investment Tax Credit Reserve Fund	8,000,000
Economic Development Opportunity (Sunny Day) Fund	1,071,429
Maryland Economic Adjustment Fund	0
Military Personnel and Veteran-Owned Small Business No-Interest Loan Program	150,000

Note: The above figures represent funds available for financial incentives through fund balances and/or appropriations in fiscal 2013.

Source: Department of Business and Economic Development; Department of Legislative Services

The financing programs outlined below target local jurisdictions, small businesses, technology start-ups, and companies offering major economic development opportunities through relocation or expansion.

Traditional Banking: The Maryland Industrial Development Financing Authority, created in 1965, is the State's largest and most established financing program. It facilitates capital access by issuing private activity revenue bonds for small and

midsize companies and can provide credit insurance in the form of a deficiency guarantee to reduce lenders' risk. As of June 30, 2013, the bond insurance fund had outstanding insurance of \$16.6 million against a reserve balance of \$36.4 million.

Small Businesses: The Maryland Small Business Development Financing Authority offers four types of programs for enhancing the capacity of businesses owned by the socially or economically disadvantaged to be more competitive. The authority's programs guarantee private borrowings when the eligible business has secured a government contract, provide guarantees for working capital and for surety bonds, and make equity investments in small businesses. The maximum amount payable by the authority for a long-term loan guarantee increased from \$1 million to \$5 million on October 1, 2006, but reverted back to the \$1 million cap on October 1, 2014.

Business Attraction and Retention: The department offers several incentive programs designed to attract expanding or relocating companies from out of state or to make the expansion of a locally based company financially feasible. It also administers a portion of the federally funded Community Development Block Grant Program, which is used for economic development projects and to create job opportunities for low- and moderate-income persons.

The department's primary and most flexible tool for business financial assistance is the Maryland Economic Development Assistance Authority and Fund, which offers the following five incentive programs:

- loans to businesses of up to \$10 million for a significant economic development opportunity on a statewide or regional level;
- loans to businesses of up to \$5 million, or conditional loans and grants to businesses of up to \$2 million, for a local economic development opportunity;
- direct assistance to the Maryland Economic Development Authority or a local jurisdiction for purposes such as land acquisition, infrastructure improvements, acquisition of fixed assets, and leasehold improvements;
- regional or local revolving loan funds; and
- special purpose loans, including day care facilities, aquaculture, and brownfields.

Eligible businesses must be located within a priority funding area and an eligible industry sector. With few exceptions, assistance may not exceed 70% of the total project costs

unless the recipient is the Maryland Economic Development Corporation, which may request 100% assistance.

Based on the definition of “qualified distressed county,” seven jurisdictions are covered by special provisions relating to projects in distressed counties: Baltimore City and Allegany, Caroline, Dorchester, Somerset, Washington, and Worcester counties. A county is considered distressed if (1) its average unemployment rate (for the most recent two years) is more than 150% above the average State unemployment rate during the same 24-month period; (2) its average unemployment rate (for the most recent two years) is more than the average State unemployment rate during the same 24-month period by two percentage points or more; (3) its average per-capita personal income (for the most recent two years) is 67% or less of the State average per-capita personal income during the same 24-month period; or (4) it has met any of the preceding criteria during the preceding 24 months. Beginning July 1, 2016, a county that is two percentage points or more above the State unemployment rate will no longer be classified as a qualified distressed county. For a qualified distressed county project, the Secretary of Business and Economic Development is authorized to provide financial assistance in any amount. Any other projects receiving more than \$2.5 million in assistance require approval of the authority.

The State’s tool for promoting Maryland’s participation in extraordinary economic development opportunities is the Economic Development Opportunity Fund, also known as the Sunny Day Fund. As part of the State Reserve Fund, any use of this fund must be approved by the Legislative Policy Committee. The Sunny Day Fund is designed to be used for extraordinary economic development opportunities that result in significant job creation and retention and private investment in the State. Incentives may be used to attract new business, federal research, or public institutions, or to retain or expand new businesses, federal research, or public institutions. Recipients must commit to job creation or retention targets and invest in capital at a level equal to five times the value of the incentive offered. However, the committee has approved several projects that are outside of the traditional scope and original intent of the program. These projects included funding for university research labs for work on national intelligence and biotechnology and funding for the development of university biotechnology parks.

The department has used the Sunny Day Fund sparingly in recent years. In fiscal 2012, the Legislative Policy Committee approved a multi-year \$9.5 million incentive to retain a large engineering firm in Frederick County. At the end of fiscal 2013, the fund posted a fund balance of \$8.8 million, in part due to the rescission of a previously approved project.

Established in 1994 to provide loans to new or existing companies in communities suffering from dislocation due to defense adjustments, the Maryland Economic

Adjustment Fund assists new or existing businesses with 50 or fewer employees. Applicants must demonstrate creditworthiness, ability to repay the obligation, and inability to obtain financing on affordable terms through normal lending channels. Recipient companies do not have to show that they have suffered as a result of declining defense spending, only that they are located in an area suffering from defense adjustments. The department has not used the program in recent years due to a lack of appropriations and a reduced fund balance. However, the legislature appropriated \$700,000 in fiscal 2014.

Technology Firms: The department's Maryland Venture Fund runs several programs that provide emerging, high-technology businesses that are based in Maryland (or committed to moving to Maryland) access to early stage capital. The Maryland Venture Fund typically invests when companies are ready for their first round of institutional financing in an amount between \$100,000 and \$1,000,000. Maryland Venture Fund activities are provided through six types of program activity: the Enterprise Investment Fund, the Challenge Investment Program, the Enterprise Venture Capital Limited Partnership Fund, the InvestMaryland Fund, the Maryland/Israel Development Fund, and the Federal Information Processing Standard Certification Grant Program. Investment decisions are based on the project's potential return, promotion of economic development, and creation of jobs.

The Maryland Enterprise Investment Fund makes investments in the form of equity, convertible debt, limited partnership interests, and venture capital investments. Investments are limited to 25% of the company's total equity and require a three-to-one outside investor match. The Challenge Investment Program provides early-stage technology companies with seed financing in the form of an investment tied to a contingent royalty repayment agreement. Investments are based on market potential of the technology.

In 2011, the State established the InvestMaryland Program, a State-supported venture capital program that was funded through an auction of tax credits against the insurance premium tax for insurance companies. The Maryland Venture Fund Authority oversees the program. Through the tax credit auction sale, the State raised \$84 million to invest in early-stage technologies in the areas of software, communications, cyber-security and life sciences. Of the auction proceeds, 24.75% was retained by the Maryland Enterprise Investment Fund, 67.0% was distributed to eligible private venture firms, and 8.25% was distributed to the Maryland Small Business Development Financing Authority.

The State also participates in the Maryland/Israel Development Center/Fund, a partnership between local organizations and the Israeli government that promotes business ventures between State and Israeli businesses and research institutions. The

partnerships must focus on highly innovative products or services that are both novel and possess the potential for significant scalability in the global market place. Funding support is given to each partner by its own governmental authority, and funding from public sources may not exceed 50% of total project cost.

Research Endowments: Established in 2014, the department also administers the Maryland E-Innovation Initiative Program, Fund, and Authority. The special, non-lapsing fund may finance research endowments at nonprofit institutions of higher education in scientific and technical fields of study. For fiscal 2016 through 2021, total distributions to the fund must equal \$8.5 million each year through a combination of revenues attributable to a portion of the State admissions and amusement tax and budget bill appropriations.

Military and Veteran Assistance: The Military Personnel and Veteran-Owned Small Business No-Interest Loan Program was established in 2006. The program provides financial support for (1) small business employers of military reservists and National Guard members called to active duty; (2) businesses owned by military reservists and National Guard personnel called to active duty; (3) veteran-owned small businesses or veterans seeking to start a small business; and (4) businesses employing service-disabled veterans or owned by service-disabled veterans. The financing assistance provided to businesses may be made at any time from the point the military reservist is activated to six months after the end of activation and is based on eligibility criteria including the extent to which the activated military reservist is an essential employee.

For businesses owned by military reservists and National Guard members called to active duty, and for small businesses that employ such persons, the program assists with identifiable costs that result from the call to active duty. For businesses employing or owned by service-disabled veterans, the program assists with costs to make the home, motor vehicle, or place of employment of the service-disabled veteran accessible to individuals with disabilities and with other necessary expenses incurred by an employer of a service-disabled veteran as a result of the veteran's disability, such as purchasing equipment necessary to enable a business to employ a service-disabled veteran. The no-interest loans range from \$1,000 to \$50,000.

Tax Credits

The department administers several tax credit programs, including the Biotechnology Investment Tax Credit; the Base Realignment and Closure Revitalization and Incentive Zone Program; the Brownfields Tax Incentive; the Enterprise Zone Tax Credit; the Job Creation Tax Credit; the Regional Institution Strategic Enterprise Zone Program; the One Maryland Tax Credit; the CyberMaryland Investment Incentive Tax

Credit, the Film Production Incentive Tax Credit, and the Research and Development Tax Credit. Only two programs, the Biotechnology Investment Tax Credit program and the CyberMaryland Investment Incentive Tax Credit, are budgeted within the department's appropriation. Two others, the Enterprise Zone Tax Credit and the Base Realignment and Closure Revitalization and Incentive Zone Program, are discussed in this chapter, but are budgeted under the State Department of Assessments and Taxation.

Under the State's Enterprise Zone program, a business that locates or expands in designated areas is eligible for reduced property taxes for a number of years. The designation of the area is made by the department upon application from the local jurisdiction. The State then reimburses the locality one-half of the lost revenues which otherwise would have been realized from the increased property assessment. There are 30 enterprise zones throughout the State, and \$14.4 million is budgeted in fiscal 2015 for reimbursements to local governments. Reimbursements totaled \$17.0 million in fiscal 2013.

In 2008, the General Assembly established a process for the creation of Base Realignment and Closure Revitalization and Incentive Zones in the State. The benefits of a Base Realignment and Closure Zone designation are primarily tax-related financial incentives, including State support of up to 100% of the increase in the State property tax of any qualifying property and 50% of the local property tax for any increase in the local tax revenues collected on the increased value of qualifying property. These financial incentives are limited to \$5 million per year. The State Department of Assessments and Taxation is expected to administer \$650,000 in Base Realignment and Closure Revitalization and Incentive Zone credits in fiscal 2015. In fiscal 2013, \$227,600 was provided in tax credits.

For a complete list of tax credits available to businesses, see Chapter 5 – Business Taxes in *Volume III – Maryland's Revenue Structure* of the Legislative Handbook Series.

Biotechnology

The Maryland Biotechnology Center, created in 2009 as part of the Maryland BIO 2020 Initiative, is an organization within the department. The center's mission is to provide comprehensive and coordinated access to core resources and services for all of Maryland's bioscience community. The center is designed to be a "one-stop shop" that serves as a central repository of statewide resources for area biotechnology companies and showcases biotechnology innovation and entrepreneurship in Maryland. At its two locations in Baltimore City and Montgomery County, the center's staff provides assistance to area companies, markets the State's biotechnology resources, and builds relationships with federal laboratories, universities, and private-sector companies. The center has distributed more than \$5 million to 28 organizations through the Biotechnology Development Awards programs since the program started in 2010.

Tourism, Film, and the Arts

The Maryland Tourism Development Board, a 24-member body established by statute in 1993, promotes the State as a tourist destination. To fund the marketing and promotional activities of the board, State law directs the Governor to budget a specified amount each fiscal year; \$9.3 million was appropriated in fiscal 2013.

In conjunction with the board, the department's Office of Tourism Development within the Division of Tourism, Film, and the Arts serves as the State's official travel marketing agency. The office showcases Maryland's recreational, historical, and cultural attractions to increase visitation, promotes the State as an international and national travel destination, publicizes events, and maintains an official travel website. The office encourages travel in Maryland from around the State, country, and world through web marketing, print and broadcast advertising, public relations, promotions and events, print and electronic publications, and direct sales efforts to tour operators and group travel leaders. The office operates several welcome centers throughout the State, as well as a Telemarketing Call Center. The office also administers a program of matching grants to supplement local funds for tourism marketing, with the purpose of attracting visitors to the State. In fiscal 2013, the board awarded \$4.7 million in grants to destination marketing organizations.

The Maryland State Arts Council is a 17-member State agency established in 1967. The council's mission is to encourage and invest in the advancement of the arts for the people of the State. The goals of the council are to support artists and arts organizations in their pursuit of artistic excellence, to ensure the accessibility of the arts to all citizens, and to promote statewide awareness of arts resources and opportunities. The council accomplishes much of that work through grants to arts organizations and local arts agencies. In fiscal 2013, the council awarded \$7.7 million in grants to arts organizations. Another \$2.1 million in matching grant funds was distributed in fiscal 2013 to the 24 official county arts agencies to support community-based arts, including exhibits and performances, programming in schools, and technical assistance to local artists and groups. The council also makes grants to enhance the availability of artists in public schools, further the creative work of individual artists, and support the preservation of folk and traditional arts.

The Maryland Film Office within the division promotes the State as a location for television and movie productions and has been increasingly successful during the 1990s and 2000s. The General Assembly established the Film Production Activity Employer Wage Rebate Grant Program in 2005 to compete with tax incentive programs in Pennsylvania, New York, Louisiana, and other states. In 2011, however, the General Assembly restructured the program as the Film Production Activity Tax Credit. According to program guidelines, a film production activity may receive a refundable

income tax credit in an amount up to 25% of the qualified direct costs incurred while filming on-location in Maryland. A television series may receive a credit of up to 27% of qualified direct costs. The aggregate total of tax credits issued in a fiscal year may not exceed \$7.5 million, except in fiscal 2014 which was funded at \$25 million. Recent productions filmed in Maryland include HBO's "VEEP" (2011-13), Netflix/MRC's "House of Cards" (2012-13), "Better Living through Chemistry" (2012), "Jamesy Boy" (2012), "Ping Pong Summer" (2012), and "LUV" (2011). In addition, Maryland was once the location of the long-running television show "Homicide: Life on the Streets" and HBO's critically acclaimed series, "The Wire."

Maryland Economic Development Corporation

The General Assembly created the Maryland Economic Development Corporation (known as MEDCO) in 1984 as a public corporation to complement the financing assistance provided directly through State agencies. As a public entity, the corporation may own commercial and industrial real estate, issue bonds for construction or renovation work, and then lease the resulting facility to a private business entity. The corporation's financings are structured so that the lease revenues from the facility pay the costs of the bonds as well as administrative expenses. Bonds issued by MEDCO are not a debt of the State nor is their repayment a moral or legal obligation of the State. In many cases, State funds such as general obligation bonds are combined with bonds issued by the corporation to make a project financially feasible. The corporation's participation in economic development projects has increased significantly from 88 projects in fiscal 1999 to 251 projects in fiscal 2013.

Maryland Technology Development Corporation

In 1998, the General Assembly created the Maryland Technology Development Corporation (known as TEDCO) as a means to enhance the transfer of technology from universities and federal laboratories to the private sector and foster the growth of companies in critical or high-growth sectors. As a public entity, the corporation has greater flexibility than a State agency and is eligible for federal grants to manage programs to help improve Maryland's technology economy. Following rebranding and restructuring efforts initiated in 2012, the corporation generated new sources of income and streamlined management of several programs.

Research Programs

In fiscal 2007, the corporation received an initial \$15 million appropriation to capitalize a new Maryland Stem Cell Research Fund. The fund supports stem cell research and development at Maryland research institutions and private-sector research companies. In subsequent years, State funding has varied; through fiscal 2013 the

program has provided more than \$100 million in grants to nearly 300 different research projects. The Stem Cell Research Commission must contract with an independent scientific peer review committee to evaluate stem cell research proposals for the commission. An applicant for State-funded stem cell research must first obtain an institutional review board's approval before receiving funding.

The corporation is also a founding member of the Agricultural Technology Innovation Partnership consortium, which gives Maryland companies access to U.S. Department of Agriculture/Agricultural Research Service research capabilities nationwide.

Commercialization Programs

The Technology Validation Program, formerly the University Technology Investment Fund, provides funding to validate a technology for a specific application or to validate the market opportunity for a technology. The validation of a technology for a specific application generally involves a small proof-of-principle study to demonstrate that the technology works as intended. Eligible program recipients include entrepreneurs considering the creation of a Maryland-based start-up company relying on a technology from an eligible university, a university or not-for-profit research institution in Maryland, or a federal lab in Maryland. Initial awards can be up to \$50,000. General funds for the program ceased in fiscal 2010; however, the corporation has advised that it will support the program with approximately \$300,000 of its own non-budgeted funds.

The Maryland Innovation Initiative was established by the General Assembly in 2012 as a partnership between the State and five Maryland academic research institutions: Johns Hopkins University; Morgan State University; University of Maryland, College Park; University of Maryland, Baltimore; and University of Maryland, Baltimore County. The program is designed to combine the technology transfer expertise of the corporation and the research expertise of universities to speed commercialization opportunities, promote commercialization of research conducted in the partnership universities, and leverage each institution's strengths.

To support the Maryland Innovation Initiative, the corporation received a \$5 million appropriation each year in fiscal 2013 through 2015. The funds may be used to (1) provide grant funding to a qualifying university, qualifying university-based entrepreneur, or other start-up entity to promote the commercialization of technology developed wholly or partly by a qualifying university; (2) pursue grant funding for the initiative or its qualifying universities; (3) develop and implement guidelines for technology transfer; and (4) identify projects at qualifying universities that may be viable for commercialization.

The corporation also administers the Patent Assistance Program and the Rural Business Innovation Initiative. The Patent Assistance Program provides matching funds to help start-up companies pay ongoing patent expenses for technologies licensed from Maryland's universities or the National Institutes of Health. The Rural Business Innovation Initiative provides technical and business assistance to small companies and early-stage technology-based companies in rural Maryland as defined by the Rural Maryland Council. The initiative offers professional ongoing mentoring and targeted projects to help companies succeed at no cost to the company.

Investment Programs

The Technology Commercialization Fund, formerly known as the Maryland Technology Transfer and Commercialization Fund, provides seed investments to early stage technology companies that are economically viable but do not yet have the scope for a venture capital investment. To be eligible, a company must partner with a university in Maryland or a federal laboratory, must be a tenant in a technology incubator, or must be a participant in the corporation's Rural Business Innovation Initiative. The fund awardee companies must (1) be for-profit entities that employ 16 or fewer full-time employees and (2) be pre-revenue or have received less than an aggregate of \$500,000 in equity investments from sophisticated investors. Awards are up to \$100,000 in nonequity investments per company. The companies serve as a "farm team" for the Department of Business and Economic Development Challenge Program, which targets businesses at a later stage of development. The fund awardees also often go on to participate in the Maryland Industrial Partnerships Program at the University of Maryland, College Park.

One of the corporation's other activities is the Incubator Assistance Program, which provides services and infrastructure for fledgling companies. The corporation provides small operating grants, but has in the past awarded capital funds to local governments and nonprofit organizations for incubator development. The corporation also administers the Cybersecurity Investment Fund, a fund the legislature established in 2014 to provide seed and early-stage funding for emerging technology companies in the State focused on cybersecurity and cybersecurity product development.

The corporation's Capital Partners, LLC, through its association with the corporation, manages a family of specialized venture capital funds, including the Veterans' Opportunity Fund, Propel Baltimore Fund, Orange Knocks Cyber Fund, and Chesapeake Regional Innovation Fund. The company is structured as a traditional for-profit entity that manages each fund with the purpose of maximizing the return-on-investment of its limited partners' capital. The company provides its venture funds with unique access to university and federal research lab assets throughout the Mid-Atlantic region.

Entrepreneurship Support

In 2012, the corporation launched the Maryland Entrepreneurs Resource List, which provides a list of entrepreneurs who are available to mentor or provide leadership to early-stage companies or other resource list entrepreneurs based on their experience. The resource list features more than 85 mentors and is queried on a regular basis. The corporation also provides portfolio mentorship and support, assists in pitch preparations, organizes business plan competitions, and coordinates the Entrepreneurship Expo and the Innovation, Corporate Excellence and Entrepreneurship Awards program.

Maryland Stadium Authority

The Maryland Stadium Authority is an independent unit in the Executive Branch. The authority is responsible for the construction, operation, and maintenance of the Camden Yards stadiums used by the Baltimore Orioles and the Baltimore Ravens, as well as the Veterans Memorial at the Camden Yards complex. The authority also was responsible for the expansion of the Baltimore and Ocean City convention centers and was involved in the demolition of Memorial Stadium. Through the capital budget bill in 1998, and subsequently codified in 2008, the General Assembly has broadened the authority's jurisdiction, allowing local governments, State agencies, and universities to contract with the authority for construction management services. In 2013, the authority's jurisdiction again was expanded to issue bonds to construct and improve Baltimore City public school facilities and oversee all public school construction and improvement projects in Baltimore City that are funded by the bonds. Recent completed projects include the Baltimore Grand Prix; the construction of new facilities at Coppin State University; and the Coppin Center demolition. Projects not yet complete, or in the planning stages, include the expansion of the Ocean City Convention Center; State Center; Baltimore City public schools construction; and the Montgomery County Convention Center garage. The authority also performs feasibility studies on proposed projects. Studies being conducted relate to the expansion of the Baltimore City Convention Center; the Maryland Horse Park; an Annapolis performing arts center; the Show Place Arena and the Prince George's County Equestrian Center; and a Bowie lacrosse stadium and youth sports complex.

The authority consists of seven members; six are appointed by the Governor with the advice and consent of the Senate, and one is chosen by the Mayor of Baltimore with Senate advice and consent. As a public corporation of Maryland, the authority may issue tax-exempt bonds to finance its operations. Proceeds from the sale of authority bonds and revenues collected or received from any other source, including a tax on gate receipts at Oriole Park, are deposited in the Maryland Stadium Authority Financing Fund. The fund is a revolving fund for carrying out the purposes of the authority.

Maryland Agricultural and Resource-based Industry Development Corporation

The General Assembly established the Maryland Agricultural and Resource-based Industry Development Corporation in 2004 as a public corporation to assist the State's farm, forestry, and seafood businesses by providing targeted business assistance services. The corporation is authorized to develop agricultural industries and markets, support the commercialization of agricultural processes and technology, assist with rural land preservation efforts, and alleviate the shortage of nontraditional capital and credit available at affordable interest rates for investment in agricultural and resource-based businesses. The corporation administers several loan and grant programs to support these activities. The corporation also has developed the guidelines to establish a Next Generation Farmland Acquisition Program in cooperation with the Maryland Agricultural Land Preservation Foundation and other agencies to assist new and beginning farmers to purchase farmland. However, the program has not been implemented due to lack of funding. At least \$4 million for corporation operations must be included in the State's fiscal 2016 and later budgets, which reflects an increase from the \$2.88 million required in fiscal 2013 through 2015. The mandatory \$4 million funding has been extended to fiscal 2021 due to the reduction in funding in fiscal 2010 through 2015.

Regional and Local Economic Development

The Department of Business and Economic Development provides an annual operating grant to each of the five rural regional planning and development councils in Maryland. Each council represents a multi-county region with geographic and cultural ties. There are regional councils in Western Maryland; Southern Maryland; and the upper, middle, and lower regions of the Eastern Shore (Tri-County Council for Southern Maryland; Tri-County Council for Western Maryland; Tri-County Council for the Lower Eastern Shore of Maryland; Mid-Shore Regional Council; and Upper Shore Regional Council). Elected, civic, and business leaders in their respective regions seek to create economic development strategies, preserve and assist agricultural and resource-based industries, obtain federal funding for infrastructure improvements, and develop support for a diverse set of public policy initiatives.

Economic development activities at the local level are administered in several ways. Each of the counties and Baltimore City, except for Kent County, has an agency or organization that serves as the primary economic development office. Seventeen counties use government agencies to perform this function, in which the lead economic development official is appointed by and reports to the county executive or county commissioners or council. Some use an advisory board representing the business community appointed to work with the agency. Other jurisdictions rely on private or

quasi-public economic development corporations or economic development commissions to direct and administer their efforts. Examples of these include the Baltimore Development Corporation and Salisbury-Wicomico Economic Development, Incorporated. Exhibit 13.2 shows the organizational structure in place in each county.

A private corporation may have more flexibility to raise corporate funds for promotional efforts, invest in projects or companies, and directly hold title to real estate than a traditional county office. Although independent, corporations often derive much of their funding from local tax revenues, and the board of directors may be appointed by the chief executive officer of the jurisdiction.

Local governments often offer financing incentives to expanding or relocating businesses in conjunction with State incentives. Local participation in economic development projects, whether undertaken independently or in conjunction with State resources, typically includes grants to offset training expenses, partial property tax forgiveness, infrastructure improvements, or direct loans or grants for project expenses. A number of counties operate their own revolving loan funds to assist businesses that are too small for State assistance or are in an industry sector for which the State does not typically provide incentives, such as retail.

Most local economic development offices also operate marketing programs that focus on participation in trade shows and special events. These activities are seen as more cost-effective than advertising in magazines or business journals. Often the State and local governments share the expenses of exhibit space at a trade show, reducing the costs to both organizations while generating exposure. In general, the budgetary resources of the State are more effective in reaching national and international audiences.

Local offices, whether public or private, work closely with existing businesses and market their jurisdiction to potential new or expanding businesses. Coordination with the State, through its network of regional development offices, allows local governments to have ready access to the range of State services. Regional and local economic development entities realize that cooperation between jurisdictions, rather than competition, benefits not only the region as a whole but the individual local jurisdictions as well.

Exhibit 13.2 Organizational Structure for County Economic Development

<u>Economic Development Commission</u>	<u>County Department or Office</u>	<u>Economic Development Corporation or Authority</u>
Somerset	Allegany	Garrett
	Baltimore	Harford
	Calvert*	Kent***
	Carroll	Montgomery
	Cecil**	Queen Anne's
	Charles	St. Mary's
	Dorchester	Talbot
	Frederick	Washington
		Worcester

*Calvert County also has an economic development commission and a development authority.

**Cecil County also has an economic development commission.

***Kent County terminated its economic development office during fiscal 2010 and transferred its functions to the county administrator.

Source: Department of Business and Economic Development

Funding Economic Development

Most economic development activities are supported by general tax revenues at both the State and local level. Exhibit 13.3 summarizes fiscal 2013 State spending on economic development activities, which totaled approximately \$240.8 million.

Exhibit 13.3
State Expenditures for Economic Development
Fiscal 2013
(\$ in Thousands)

	General Funds¹	Special Funds	Federal Funds	Total²
Division of Business and Enterprise Development ³	\$15,393	\$60,141	\$2,529	\$78,063
Division of Marketing and Communications	2,383	864		3,247
Division of Tourism, Film, and the Arts	25,882	624	788	27,294
Maryland Biotechnology Center	905	2,400		3,305
Other ⁴	5,690	2,414	158	8,262
Technology Development Corporation	18,573			18,573
Maryland Stadium Authority	34,578			34,578
MARBIDCO	2,875			2,875
Enterprise Zone and BRAC Tax Credits ⁵	17,274			17,274
Racetrack Renewal/Purse Enhancements ⁶	47,295			47,295
Total	\$170,848	\$66,443	\$3,475	\$240,766

MARBIDCO: Maryland Agricultural and Resource-Based Industry Development Corporation

BRAC: Base Realignment and Closure

¹ Includes Budget Restoration funds.

² Excludes \$968,975 in funds reimbursed by other State agencies for services provided.

³ Excludes funds for Partnership for Workforce Quality which is included as part of workforce development in Chapter 14.

⁴ Includes executive management, administration, information technology, legal, and research functions.

⁵ These tax credit programs are budgeted within the State Department of Assessments and Taxation.

⁶ Includes racetrack facility renewal funds, which are dedicated video lottery terminal revenues that must be used for construction and capital improvements to racetrack facilities.

Source: Governor's Budget Books, Fiscal 2015

Federal funds represent a relatively small portion of the State's economic development spending. In fiscal 2013, the department received less than \$3.5 million in federal funds; the majority of which was granted by the U.S. Department of the Treasury for the State Small Business Credit Initiative. Special funds (interest earnings, fund balances, and loan repayments) account for more than one-half of the department's operating budget and most of the funds available for grants and loans to businesses. Each loan fund is a separate nonlapsing fund – meaning that fund earnings and repayments of principal and interest are credited back to the fund and are then available to offset the

program's operating costs and to provide additional capital for loans, grants, or investments.

Economic development at the local level generally consists of spending on business development and tourism. In fiscal 2013, the counties and municipalities reported spending more than \$143.6 million on these activities. Local expenditures in Baltimore City and Montgomery and Worcester counties represented more than 54.6% of total local spending. At the county level, spending in Baltimore City and Montgomery and Prince George's counties represented 63.4% of total county spending. Much of this spending was for capital projects. Hagerstown economic development spending (\$3.9 million), Gaithersburg economic development spending (\$0.9 million), and Ocean City economic development spending (\$12.9 million, principally related to its convention center) accounted for more than 79% of municipal expenditures. Exhibit 13.4 shows, by county, the fiscal 2013 spending for economic development.

Grants from the State and federal governments may account for as much as \$50.7 million in local spending for economic development in fiscal 2013. Some counties also provide grants to municipalities (another \$2.5 million in county grants was reported). Assuming that such grants are spent in the year they are received, net local spending from own-source revenues for economic development totaled about \$90.4 million in fiscal 2013. Baltimore City and several of the State's other large jurisdictions, including Howard, Montgomery, and Prince George's counties, receive Community Development Block Grant funds directly from the U.S. Department of Housing and Urban Development. A portion of these funds is directed to economic development activities.

Exhibit 13.4
Local Economic Development Expenditures
Fiscal 2013

<u>County</u>	<u>County Spending</u>	<u>Municipal Spending</u>	<u>Total Spending Reported</u>
Allegany	\$1,690,366	\$107,638	\$1,798,004
Anne Arundel	5,625,630	-	5,625,630
Baltimore City	56,604,074	-	56,604,074
Baltimore	8,076,174	-	8,076,174
Calvert	1,135,921	222,436	1,358,357
Caroline	257,051	14,640	271,691
Carroll	4,946,095	137,401	5,083,496
Cecil	1,799,264	-	1,799,264
Charles	1,164,813	-	1,164,813
Dorchester	1,740,749	162,809	1,903,558
Frederick	2,544,336	518,914	3,063,250
Garrett	2,233,668	448,178	2,681,846
Harford	3,592,318	744,127	4,336,445
Howard	2,192,268	-	2,192,268
Kent	755,310	77,173	832,483
Montgomery	10,433,285	910,658	11,343,943
Prince George's	9,868,321	607,556	10,475,877
Queen Anne's	414,404	21,561	435,965
St. Mary's	2,133,503	45,741	2,179,244
Somerset	208,683	360,927	569,610
Talbot	728,427	408,248	1,136,675
Washington	906,067	4,376,986	5,283,053
Wicomico	540,780	-	540,780
Worcester	1,630,934	13,248,067	14,879,001
Total	121,222,441	22,413,060	143,635,501
Minus Federal Grants	(36,241,905)	(2,873,243)	(39,115,148)
Minus State Grants	(7,688,505)	(3,895,295)	(11,583,800)
Minus County Grants		(2,497,349)	(2,497,349)
Net Local Spending	\$77,292,031	\$13,147,173	\$90,439,204

Note: For purposes of this exhibit, the federal, State, and, as appropriate, county economic development grant revenues reported by the local jurisdictions are assumed to have been expended in the same year they were received. Such grants may include training and community action components. Expenditures exclude those reported for training and community action which are discussed in other chapters of this volume of the legislative handbook series. County expenditures in Allegany, Montgomery, and Prince George's counties include those reported by certain regional agencies. As 8 municipalities did not report their expenditures for fiscal 2013, municipal expenditures reflect those reported by the other 148 municipalities as well as expenditures reported by the 11 extant special taxing districts in Allegany and Montgomery counties. There are no municipalities in Baltimore and Howard counties.

Source: *Uniform Financial Reports*; Department of Legislative Services

Appendix G

Facts and Indicators

Appendix Exhibit G-1

Maryland and United States Businesses Demographic Information

Calendar Year 2012 Estimates

	<u>Maryland</u>	<u>U.S.</u>
Population	5,884,868	313,873,685
Persons Under 5 Years	6.2%	6.4%
Persons Under 18 Years	22.8%	23.5%
Persons 25 and Older	67.5%	66.1%
Persons 65 and Under	13%	13.7%
Female Persons	51.6%	50.8%
White	60.8%	77.9%
Black or African American	30%	13.1%
American Indian and Alaskan Native	0.5%	1.2%
Native Hawaiian and other Pacific Islander	0.1%	0.2%
Two or More Races	2.5%	2.4%
Hispanic or Latino	8.7%	16.9%
White, not Hispanic or Latino	53.9%	63%
Private nonfarm establishments, 2012	134,305	7,431,808
Private nonfarm employment, 2012	2,152,458	115,938,468
Private nonfarm employment, percent change, 2011-2012	2.3%	2.2%
Nonemployer establishments, 2012	442,314	22,735,915

Source: U.S. Census Bureau

Appendix Exhibit G-2
Projected Demographic Information
Maryland and United States
Calendar Years 2020, 2030, and 2040 Estimates

	<u>2020</u>		<u>2030</u>		<u>2040</u>	
	<u>Maryland</u>	<u>U.S.</u>	<u>Maryland</u>	<u>U.S.</u>	<u>Maryland</u>	<u>U.S.</u>
Population	6,282,303	335,605,444	6,763,178	360,978,449	7,165,262	382,152,234
Persons 4 and Younger	6.1%	6.3%	6.2%	6.3%	6.1%	6.2%
Persons 19 and Younger	25.1%	25.9%	25.2%	25.7%	25.4%	25.8%
Persons 25 and Older	68.5%	67.4%	68.5%	67.7%	68.4%	67.6%
Persons 65 and Older	15%	15.6%	17.9%	18.4%	17.4%	18.1%
Female Persons	51.7%	51.0%	51.9%	51.1%	52.0%	51.1%
White	55.5%	69.6%	53.1%	66.8%	50.7%	63.9%
Black or African American	29.8%	12.9%	30.1%	13.1%	30.2%	13.3%
Asian	6.6%	5.6%	7.4%	6.3%	7.9%	6.6%
Other	8.1%	11.9%	9.5%	13.8%	11.2%	16.2%
Hispanic or Latino	10.5%	20.2%	12.8%	24.0%	15.3%	27.8%

Source: University of Virginia Demographics Research Group

Appendix Exhibit G-3
Business Climate and Best States for Business
Rankings by Year

	<u>Maryland</u>	<u>Pennsylvania</u>	<u>Virginia</u>	<u>Delaware</u>
Forbes Best States for Business (2014)	20	30	4	11
Business Costs	41	42	24	2
Labor Supply	5	33	2	8
Regulatory Environment	36	21	1	26
Economic Climate	16	20	12	31
Growth Prospects	32	38	33	27
Quality of Life	8	7	5	36
Forbes Best States for Business (2013)	18	27	1	20
Forbes Best States for Business (2012)	16	26	2	21
Forbes Best States for Business (2011)	19	26	2	33
CNBC Top States for Business (2014)	35	44	8	38
Cost of Doing Business	45	42	30	36
Economy	24	37	29	32
Infrastructure	39	37	19	44
Workforce	20	48	10	34
Quality of Life	26	35	22	29
Technology & Innovation	7	8	10	23
Business Friendliness	42	39	5	1
Education	7	6	9	24
Cost of Living	41	35	32	36
Access to Capital	27	17	19	44
CNBC Top States for Business (2013)	40	39	5	31
CNBC Top States for Business (2012)	31	30	3	43

Note: Forbes' ranking methodology can be found at:
<http://www.forbes.com/sites/kurtbadenhausen/2013/09/25/best-states-for-business-2013-behind-the-numbers>.

Note: CNBC's ranking methodology can be found at: <http://www.cnbc.com/id/101723185>

Source: Forbes, CNBC

Appendix Exhibit G-4
Educational Attainment for Persons 25 and Older
Calendar Year 2012 Estimates

<u>Educational Attainment</u>	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>	
	<u>% of Population</u>	<u>Rank</u>	<u>% of Population</u>	<u>Rank</u>	<u>% of Population</u>	<u>Rank</u>	<u>% of Population</u>	<u>Rank</u>	<u>% of Population</u>	<u>Rank</u>
Less Than 9th Grade	4.4%	24	3.6%	39	5.0%	21	4.1%	29	5.8%	
9th to 12th, No Diploma	6.6%	29	7.5%	23	7.1%	26	7.4%	25	7.9%	
High School Graduate (incl. equiv.)	26.1%	41	36.8%	2	25.3%	43	31.5%	15	28.0%	
Some College, No Degree	19.8%	40	16.5%	48	20.0%	39	20.3%	38	21.3%	
Associate Degree	6.3%	46	7.9%	31	7.2%	39	7.2%	39	8.0%	
Bachelor's Degree	20.0%	13	17.0%	35	20.6%	8	18.1%	23	18.2%	
Graduate Degree or Higher	16.9%	3	10.9%	18	14.9%	5	11.4%	13	10.9%	
Total Receiving a High School Diploma or More	89.1%	23	88.9%	24	87.9%	30	88.5%	27	86.4%	
Total Completing a Bachelor's Degree or More	36.9%	5	27.8%	27	35.5%	8	29.5%	20	29.1%	

Note: States are ranked from highest percentage to lowest percentage.

Source: StatsAmerica, U.S. Census Bureau: American Community Survey: 5-year estimates

Appendix Exhibit G-5
K-12 Education Quality Indicators
Maryland Compared to United States and Neighboring States
By State and Indicator
Calendar Years 2009 to 2012

<u>Indicator</u>	<u>Year</u>	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
		<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Value</u>
% of Three- and Four-year-olds Enrolled in Preschool	2012	49.2%	15	48.5%	18	48.5%	19	51.4%	9	47.7%
	2011	50.4%	12	48.2%	22	49.1%	18	52.7%	10	47.9%
	2010	51.7%	11	49.2%	21	49.4%	20	51.4%	13	48.3%
% of Eligible Children enrolled in Kindergarten Programs	2012	76.9%	27	75.1%	37	75.8%	35	80.0%	6	77.9%
	2011	77.8%	27	75.2%	39	76.0%	36	81.5%	7	78.0%
	2010	78.6%	15	73.6%	46	75.8%	38	82.2%	1	77.6%
4th Grade Reading – % of Students Proficient	2013	44.7%	2	40.1%	10	43.2%	4	38.0%	14	34.0%
	2011	43.0%	4	41.4%	6	39.1%	8	36.1%	11	32.4%
	2009	37.1%	9	36.6%	10	38.5%	7	35.1%	18	31.5%
8th Grade Math – % of Students Proficient	2013	37.4%	20	41.9%	7	38.1%	16	32.7%	31	34.4%
	2011	40.4%	13	38.9%	16	39.7%	15	31.9%	31	33.5%
	2009	40.1%	9	39.8%	10	35.6%	21	31.7%	32	32.6%
Education Spending Per Pupil	2011	\$ 13,060	16	\$ 13,741	12	\$ 9,573	37	\$ 12,258	20	\$ 11,864
	2010	\$ 12,953	16	\$ 13,356	14	\$ 9,786	36	\$ 12,017	20	\$ 11,824
	2009	\$ 12,703	16	\$ 12,906	13	\$ 10,095	36	\$ 11,905	21	\$ 11,665
% of Students in Districts with Per Pupil Expenditures Above the U.S. Average	2011	100%	1(5)	75.8%	15	65.2%	17	91.7%	10	46.0%
	2010	100%	1(5)	70.6%	15(2)	70.6%	15(2)	87.5%	12	43.7%
	2009	100%	1(6)	57.7%	16	73.4%	13	87.9%	11	40.5%

Note: Numbers in parenthesis indicate the number of states which share the ranking.
Source: Education Counts Research Center

Appendix Exhibit G-6
High School On-time Graduation Rates and Ranking
Maryland Compared to United States and Neighboring States
School Years 2010 to 2012

	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
<u>School Year</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>
2011-2012	0.84	16	0.84	16	0.83	20	0.80	25	0.8
2010-2011	0.83	12	0.83	12	0.82	19	0.78	26	0.79

Note: Excludes Idaho, Kentucky, and Oklahoma.

Source: National Center for Education Statistics

Appendix Exhibit G-7
Average Annual Tuition Rates (Current Dollars) and Rankings
Maryland Compared to United States and Neighboring States

Type of Institution
School Years 2012 to 2014

<u>Type of Institution</u>	<u>School Year</u>	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
		<u>Tuition & Fees</u>	<u>Rank</u>	<u>Tuition & Fees</u>	<u>Rank</u>	<u>Tuition & Fees</u>	<u>Rank</u>	<u>Tuition & Fees</u>	<u>Rank</u>	<u>Tuition & Fees</u>
Public Two-year (In-state)	2013-2014	\$3,988	30	\$4,407	41	\$4,394	38	\$3,274	17	\$3,264
Public Two-year (In-state)	2012-2013	\$3,886	29	\$4,200	37	\$4,192	36	\$3,113	18	\$3,154
Public Four-year (In-state)	2013-2014	\$8,475	23	\$12,802	47	\$10,366	37	\$11,261	43	\$8,893
Public Four-year (In-state)	2012-2013	\$8,210	23	\$12,377	46	\$9,901	37	\$10,908	42	\$8,646
Private Nonprofit Four-year	2013-2014	\$36,802	46	\$35,189	42	\$27,642	20	\$14,407	3	\$30,094
Private Nonprofit Four-year	2012-2013	\$35,512	46	\$33,897	41	\$26,540	20	\$13,848	4	\$30,094

Note: States are ranked from lowest tuition rate to highest tuition rank.

Note: Average tuition and fee prices are weighted by full-time enrollment.

Source: CollegeBoard

Maryland Compared to Neighboring States Calendar Years 2010 to 2013

Source: U.S. Bureau of Economic Analysis

Appendix Exhibit G-9
Real Gross Domestic Product Per Capita
Maryland Compared to Neighboring States
Calendar Years 2010 to 2013

	<u>Chained (2009) Dollars</u>				<u>2013 Rank</u> (Dollars)	<u>Percent Change</u>				<u>2013 Rank</u> (% Change)
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>		<u>2009-2010</u>	<u>2010-2011</u>	<u>2011-2012</u>	<u>2012-2013</u>	
United States	\$47,328	\$47,720	\$48,567	\$49,115		1.3%	0.8%	1.8%	1.1%	
Delaware	62,994	62,534	62,294	58,028	6	0.2	-0.7	-0.4	0.6	40
District of Columbia	172,577	172,021	167,618	163,145		0.3	-0.3	-2.6	-2.7	
Maryland	54,080	54,497	54,751	54,351	10	1.8	0.8	0.5	-0.7	48
New York	60,974	61,399	62,212	62,420	7	2.2	0.7	1.3	0.3	43
Pennsylvania	45,976	46,503	46,972	47,274	25	1.9	1.2	1.0	0.6	39
Virginia	52,084	51,923	52,057	51,623	18	1.7	-0.3	0.3	-0.8	49

Source: U.S. Bureau of Economic Analysis

Appendix Exhibit G-10
Economic Characteristics Rankings
Maryland Compared to United States and Neighboring States
Calendar 2012 and 2013

	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
	<u>Amount</u>	<u>Rank</u>	<u>Amount</u>	<u>Rank</u>	<u>Amount</u>	<u>Rank</u>	<u>Amount</u>	<u>Rank</u>	<u>Amount</u>
Per Capita Income (2013)	\$54,259.00	6	\$45,926.00	19	\$48,773.00	11	\$45,092.00	24	\$44,557.00
Median Household Income (2012)	\$71,122.00	1	\$51,230.00	21	\$61,741.00	8	\$58,415.00	10	\$51,371.00

Source: U.S. Bureau of Economic Analysis; U.S. Census Bureau's American Community Survey, 5-year estimates

Appendix Exhibit G-11
Personal Income and Corporate Tax Rates
Maryland Compared to Neighboring States
Calendar 2014

<u>State</u>	<u>Personal Income Tax Rate Range</u>		<u>Number of Brackets</u>	<u>Income Brackets</u>		<u>Personal Exemptions</u>		
	<u>Low</u>	<u>High</u>		<u>Lowest</u>	<u>Highest</u>	<u>Single</u>	<u>Married</u>	<u>Dependents</u>
Maryland	2.00%	5.75%	8	\$1,000	\$250,000	\$3,200	\$6,400	\$3,200
Pennsylvania	3.07%	3.07%	1	---Flat Rate---			---None---	
Virginia	2.00%	5.75%	4	\$3,000	\$17,001	\$930	\$1,860	\$930
Delaware	2.20%	6.60%	6	\$5,000	\$60,001	\$110	\$220	\$110

<u>State</u>	<u>Corporate Tax Rate Range</u>		<u>Number of Brackets</u>	<u>Income Brackets</u>	
	<u>Low</u>	<u>High</u>		<u>Lowest</u>	<u>Highest</u>
Maryland	8.25%	8.25%	1	---Flat Rate---	
Pennsylvania	9.99%	9.99%	1	---Flat Rate---	
Virginia	6.00%	6.00%	1	---Flat Rate---	
Delaware	8.70%	8.70%	1	---Flat Rate---	

Note: The personal income brackets for Maryland are for individuals; for married couples filing jointly, the same tax rates apply to brackets ranging from \$1,000 to \$300,000.

Source: The Federation of Tax Administrators

Appendix Exhibit G-12
Labor Demographics Rankings
Maryland Compared to Selected States
Calendar Year 2013

<u>Type of Occupation</u>	<u>Maryland</u>			<u>North Carolina</u>			<u>South Carolina</u>			<u>Georgia</u>			<u>U.S.</u>		
	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>Rank %</u>	<u>Rank %</u>
All Occupations	2,534,480	100%		3,947,030	100%		1,826,120	100%		3,879,660	100%		132,588,810	100%	
Management	145,790	5.8%	7	170,990	4.3%	39	75,740	4.1%	45	212,080	5.5%	11	6,542,950	4.9%	
Business and Financial Operations	164,940	6.5%	4	175,150	4.4%	28	65,250	3.6%	41	213,340	5.5%	11	6,658,090	5.0%	
Computer and Mathematical	114,480	4.5%	4	106,570	2.7%	19	32,170	1.8%	34	114,220	2.9%	12	3,696,180	2.8%	
Architecture and Engineering	58,480	2.3%	6	54,990	1.4%	36	36,170	2.0%	16	55,530	1.4%	36	2,380,840	1.8%	
Life, Physical, and Social Science	41,810	1.6%	5	34,840	0.9%	17	8,410	0.5%	46	18,470	0.5%	46	1,135,030	0.9%	
Community and Social Services	38,260	1.5%	19	49,760	1.3%	32	21,960	1.2%	39	41,600	1.1%	43	1,901,730	1.4%	
Legal	23,590	0.9%	6	24,430	0.6%	31	11,750	0.6%	31	28,230	0.7%	18	1,041,700	0.8%	
Education, Training, and Library Arts, Design, Entertainment, Sports, and Media	169,260	6.7%	14	259,310	6.6%	17	110,530	6.1%	31	257,600	6.6%	17	8,400,640	6.3%	
Healthcare Practitioners and Technical	32,000	1.3%	14	38,920	1.0%	38	16,860	0.9%	44	42,890	1.1%	29	1,758,310	1.3%	
Healthcare Support	153,240	6.0%	25	248,150	6.3%	19	113,520	6.2%	21	217,120	5.6%	32	7,755,810	5.8%	
Protective Service	69,120	2.7%	31	146,520	3.7%	3	51,120	2.8%	28	91,350	2.4%	43	3,924,390	3.0%	
Food Preparation and Serving Related	71,220	2.8%	10	99,860	2.5%	16	448,840	24.6%	16	101,860	2.6%	12	3,257,690	2.5%	
Building and Grounds Cleaning and Maintenance	210,690	8.3%	41	376,620	9.5%	10	178,640	9.8%	6	351,590	9.1%	22	11,914,590	9.0%	
Personal Care and Service	81,700	3.2%	23	124,450	3.2%	23	66,370	3.6%	7	111,370	2.9%	45	4,291,410	3.2%	
Sales and Related	73,600	2.9%	29	92,110	2.3%	47	44,400	2.4%	42	85,110	2.2%	48	3,986,740	3.0%	
Office and Admin. Support	252,720	10.0%	37	433,220	11.0%	12	207,460	11.4%	5	422,810	10.9%	13	14,068,190	10.6%	
Farming, Fishing, and Forestry	403,780	15.9%	22	602,210	15.3%	36	289,380	15.8%	27	632,300	16.3%	17	21,442,800	16.2%	
	1,840	0.1%	32	7,370	0.2%	21	4,620	0.3%	15	10,010	0.3%	15	435,250	0.3%	

	<u>Maryland</u>			<u>North Carolina</u>			<u>South Carolina</u>			<u>Georgia</u>			<u>U.S.</u>	
	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>% of All Jobs</u>	<u>Rank (%)</u>	<u>Number of Jobs</u>	<u>Rank %</u>
<u>Type of Occupation</u>														
Construction and Extraction	106,920	4.2%	19	131,540	3.3%	37	61,010	3.3%	37	120,950	3.1%	44	5,088,030	3.8%
Installation, Maintenance, and Repair	97,800	3.9%	31	162,860	4.1%	24	83,230	4.6%	8	163,410	4.2%	19	5,138,130	3.9%
Production	80,950	3.2%	49	325,890	8.3%	13	177,630	9.7%	8	276,360	7.1%	20	8,765,180	6.6%
Transportation and Material Moving	142,290	5.6%	42	281,270	7.1%	22	125,070	6.8%	27	311,460	8.0%	10	9,005,120	6.8%

Source: StatsAmerica, U.S. Bureau of Labor Statistics

Appendix Exhibit G-13
Transportation Metrics Rankings
Maryland Compared to United States and Neighboring States
Calendar Year 2012

	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Value</u>	<u>Rank</u>	<u>Amount</u>
Mean Commute Time (minutes)	31.8	1	25.8	11	27.5	5	24.8	20	25.4
Public Road Length (miles)	32,372	41	119,846	11	74,591	29	6,377	49	4,092,730
Vehicle Miles Traveled (VMT) on All Roads (billions of miles)	56.5	21	98.9	9	94.5	11	9.2	46	2,969
Motor Vehicle Collision Fatality Rate Per 100 Million VMT	0.9	10	1.32	33	0.96	13	1.26	30	1.14 (average)
Gasoline Tax Rate per Gallon (As of July 2013)	23.5	22	31.2	6	17.5	42	23	23	21.63 (average)
Structurally Deficient Bridges (% of all bridges)	7.0%	39	24.4%	1	9.1%	31	6.1%	41	10.8%

Source: U.S. Census Bureau's American Community Survey, 5-Year Estimates; Federal Highway Administration - Highway Statistics Series;
Insurance Institute for Highway Safety

Appendix Exhibit G-14
Crime Rates per 100,000 Individuals Rates and Rankings
Maryland Compared to United States and Neighboring States
Calendar Year 2012

	<u>Maryland</u>		<u>Pennsylvania</u>		<u>Virginia</u>		<u>Delaware</u>		<u>U.S.</u>
	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>	<u>Rank</u>	<u>Rate</u>
Violent Crime Total	476.8	42	348.7	27	190.1	4	547.4	45	353.8
Murder/Non-negligent Manslaughter	6.3	44	5.4	35	3.8	21	6.2	43	4.3
Forcible Rape	21	8	26.1	17	17.7	3	26.5	18	30.8
Robbery	172.3	49	122.8	39	57.5	13	162.7	48	86.3
Aggravated Assault	277.2	37	194.4	21	111.1	4	352	46	232.5
Property Crime Total	2,753.5	25	2,166.3	9	2,162.1	8	3,340.9	38	2,814.2
Burglary	573.2	25	445.5	10	360.5	3	803.7	37	646.2
Larceny-Theft	1,924.9	24	1,603.1	9	1,690.7	14	2,380.6	44	1,969.5
Motor Vehicle Theft	255.3	39	117.7	8	110.9	7	156.6	17	198.5

Note: States are ranked from smallest crime rate to largest.
Source: Federal Bureau of Investigation: Uniform Crime Report

Appendix Exhibit G-15

Maryland Compared to Selected States

Various Calendar Years

	<u>Maryland</u>		<u>Alabama</u>		<u>California</u>		<u>Delaware</u>		<u>Massachusetts</u>		<u>Minnesota</u>		<u>New Jersey</u>		<u>New York</u>		<u>North Carolina</u>		<u>Pennsylvania</u>		<u>Tennessee</u>		<u>Texas</u>		<u>Virginia</u>	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Income and Output																										
Gross Domestic Product, in millions (2013p)	\$342,382	15	\$193,566	26	\$2,202,678	1	\$62,703	42	\$446,323	12	\$312,081	17	\$543,071	8	\$1,310,712	3	\$471,365	9	\$644,915	6	\$287,633	19	\$1,532,623	2	\$452,585	11
Per Capita Personal Income (2013p)	\$54,259	6	\$36,501	43	\$47,401	13	\$45,092	24	\$56,923	4	\$47,856	12	\$55,993	5	\$54,063	7	\$38,457	40	\$45,926	19	\$39,324	35	\$43,552	26	\$48,773	11
No. in Top Ten	1		0			1	0		1		0		2		2		1		1		0		1		0	
Workforce																										
Unemployment Rate (2013)	6.6%	22	6.5%	18	8.9%	48	6.7%	23	7.1%	29	5.1%	9	8.2%	41	7.7%	36	8.0%	39	7.4%	31	8.2%	41	6.3%	17	5.5%	13
Labor Force Participation Rate (2013)	67.4%	15	56.8%	50	62.7%	33	60.8%	38	64.7%	22	70.4%	3	64.7%	22	61.5%	36	61.9%	35	63.5%	29	60.6%	40	65.2%	20	66.4%	16
Nonagricultural Employment (2013)	2,596,100	20	1,903,400	24	15,147,400	1	427,400	47	3,356,000	13	2,777,200	17	3,934,800	11	8,908,500	3	4,056,900	9	5,742,500	6	2,749,700	18	11,190,200	2	3,763,900	12
Manufacturing Employment (2013)	106,100	34	249,100	18	1,250,900	1	25,300	46	250,300	17	307,800	14	243,400	19	454,900	9	442,400	10	563,300	5	318,800	13	871,600	2	230,600	20
Professional and Business Services Employment (2013)	416,900	14	218,700	24	2,330,900	1	58,100	45	506,000	13	344,800	20	631,200	9	1,202,200	3	549,700	12	749,100	6	350,800	18	1,458,100	2	678,200	8
Tech Workers as a Percent of Private Workers, (2012)	8.6%	4	5.0%	23	7.8%	7	5.9%	14	9.1%	2	5.5%	16	6.2%	11	4.5%	26	5.0%	22	4.3%	29	2.9%	43	5.5%	17	9.8%	1
Right-to-Work Law (2014)	No		Yes		No		No		No		No		No		No		Yes		No		Yes		Yes		Yes	
Workers Covered by Unions (2013)	13.1%	30	11.7%	27	17.4%	46	11.0%	25	14.6%	38	15.0%	41	16.6%	44	25.8%	50	4.8%	4	13.7%	35	7.4%	16	6.0%	9	6.4%	12
Quality of Life Rankings - Forbes Best States for Business (2013)		6		49		22		38		1		5		3		11		32		8				30		4
No. in Top Ten	2		0			4	0		2		3		2		3		3		4		0				4	
Education																										
High School Diploma or More (2013)	89.1%	25	84.5%	44	81.7%	51	88.3%	30	89.9%	19	92.4%	4	88.5%	28	85.6%	38	85.7%	37	89.2%	24	85.6%	38	81.9%	50	88.4%	29
Bachelor's Degree or Higher (2013)	37.4%	4	23.5%	45	31.0%	18	29.8%	20	40.3%	2	33.5%	11	36.6%	6	34.1%	10	28.4%	24	28.7%	23	24.8%	42	27.5%	29	36.1%	7
Expenditures per Pupil in Public Schools (2010-2011)	\$14,123	10	\$8,726	42	\$9,146	37	\$12,467	14	\$14,285	9	\$10,674	24	\$16,855	3	\$18,834	2	\$8,267	46	\$13,096	12	\$8,484	44	\$8,685	43	\$10,363	26
Average Tuition and Fees; Public 4-year In State (2013-2014)	8475	23	9143	32	9037	29	11261	43	10792	39	10468	38	12715	46	6919	13	6514	9	12802	47	8036	21	8522	24	10366	37
No. in Top Ten	2		0			0	0		2		1		2		2		2		1		0		0		1	
Transportation																										
Mean Commute Times in Minutes (2012)	31.8	50	24.1	29	27.1	44	24.8	33	27.7	46	22.7	18	30.3	48	31.5	49	23.5	25	25.8	41	24.1	30	24.9	35	27.5	45
Gasoline Tax Rate per Gallon (As of July 2013)	23.5	30	18	11	36	49	23	28	21	24	28.5	41	10.5	3	25.85	36	35.25	48	31.2	45	20	20	20	21	17.5	10
Motor Vehicle Collision Fatality Rate Per 100 Million Vehicle Miles Traveled	0.9	10	1.33	34	0.89	9	1.26	30	0.64	1	0.7	2	0.81	5	0.91	11	1.25	29	1.32	33	1.43	39	1.43	40	0.96	13
Structurally Deficient Bridges - % of all bridges (2013)	0.063	11	0.087	21	0.111	30	0.065	12	0.095	24	0.083	16	0.095	25	0.119	34	0.127	35	0.23	50	0.058	9	0.024	3	0.086	20
No. in Top Ten	1		0			1	0		1		1		2		0		0		0				1		1	

