

Maryland Procurement Playbook

A diagnosis of Maryland's public procurement economy and a set of areas of opportunity to better utilize public procurement as a vehicle for growing the state's economy.

June 6, 2024

Maryland Procurement Playbook: Executive Summary

- **Maryland's public procurement economy is substantial and has a strong federal presence.** In FY 2022, federal, state, and local agencies in Maryland awarded over \$68 billion. Additionally, over \$16 billion were awarded to Maryland-based firms by the federal government for performance in other states. This procurement spending represents 17.5% of Maryland's GDP (2022).
 - ◆ Federal spending accounts for 5 out of every 10 procurement dollars; DOD represents almost 40% of all the direct federal procurement in the state.
 - ◆ Maryland has a large federal presence, including military facilities, federal offices, federally-funded research centers and federally-funded business support entities.
 - ◆ The State also has a rich presence of federal vendors that have successfully grown their business with the federal government.
- **This economy is uniquely focused on Professional Services and IT.** This sector accounts for almost half of federal, state and local public procurement spending performed in Maryland. It is a significant sector for the state's economy, driving substantial employment and R&D investments.
- **Four out of ten dollars in this public procurement economy are not captured by Maryland-based firms.** It is also becoming increasingly difficult for smaller firms to access opportunities in the procurement economy due to contract sizes, procurement practices and requirements (such as master contract vehicles and evidence of past performance). Data and interviews also suggest the need for better support for MBEs to become primes.
- **We identified four challenges that Maryland firms face to break into Maryland's public procurement system:**
 - ◆ A federated system, with over 300 federal, state and local buyers operating in the state of Maryland. Each level has a different regulatory and policy framework for procurement, creating three distinct procurement markets that firms must navigate.
 - ◆ A fragmented ecosystem of support providers and buyers across levels of government. This hinders potential synergies and places a burden on firms, particularly those small firms and MBEs.
 - ◆ The current ecosystem of capacity-building efforts has a low proportion of procurement-relevant content for existing and emerging firms, generating a misalignment between the current ecosystem and business needs.
 - ◆ Untapped opportunities in IT and Professional Services, where about 6 out of 10 dollars go to non-Maryland-based firms.
- **We identified a set of actions that need to be present in Maryland's procurement economy to turn it into a driver of growth for local firms and MBEs.** These actions include: (1) Strengthen capacity-building programs for firms; (2) Develop a navigable and firm-centric ecosystem that connects buyers, support organizations, and MD firms; (3) Unlock opportunities for Maryland firms in Professional Services and IT; and (4) Mitigate barriers for local and diverse firms to win prime contracts at the state level.

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Maryland Procurement Playbook: Project Context

The **Maryland Procurement Playbook** is the first assessment of federal, state and local procurement activity in Maryland. It aims to size the state's public procurement economy, and evaluate contracting and growth opportunities for Maryland-based firms.

Goals

1. Size the public procurement economy in Maryland, and identify patterns from federal, state and local procurement.
2. Evaluate the entrepreneurial support ecosystem and procurement practices across levels of government, and how this landscape shapes successful growth trajectories for diverse firms.
3. Develop firm-centric* strategies to foster contracting and growth opportunities for Maryland-based and diverse firms.

Timeline



Research Team



Funders

ABELL FOUNDATION JPMORGAN CHASE & CO.






Produced For



Note: (*) By firm-centric strategies, we refer to strategies where processes and efforts are developed with consideration of firms' needs in their growth journeys. **Source:** Nowak Metro Finance Lab (2024).

Source: Nowak Metro Finance Lab (2024).

Maryland Procurement Playbook: Methodological Approach

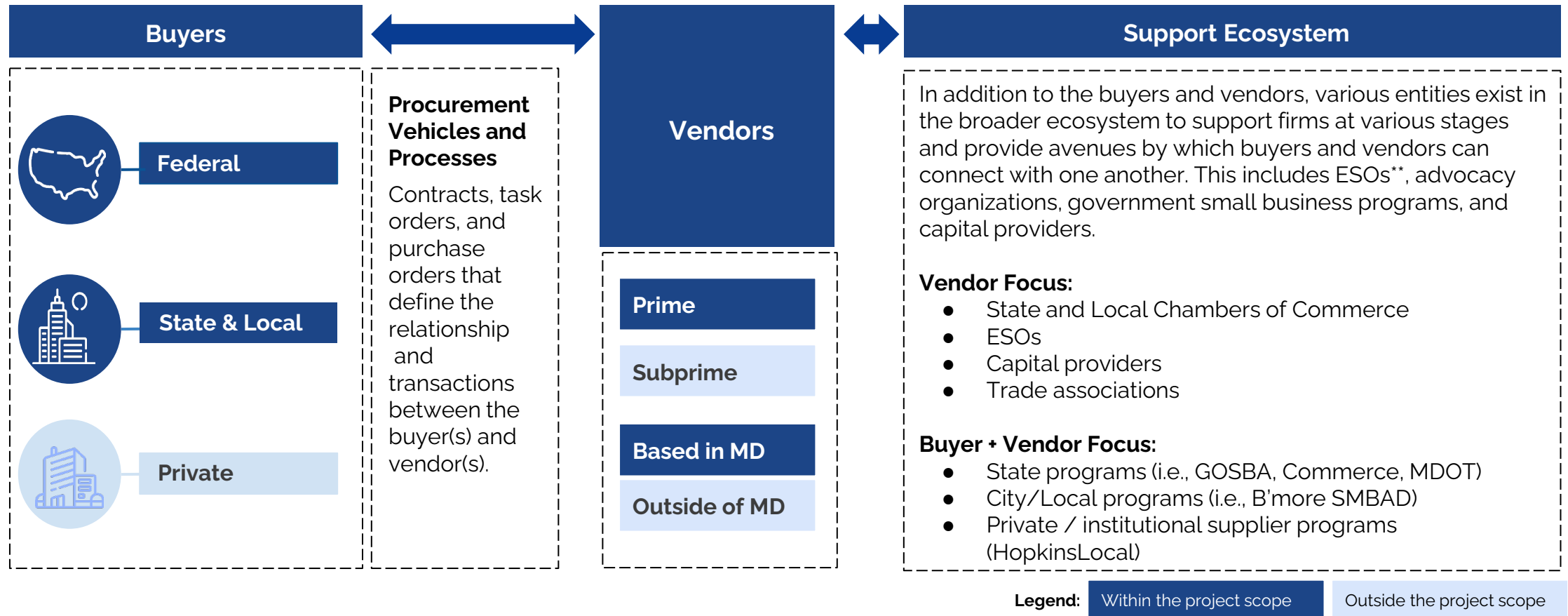
	Procurement spending	Procurement practices	Capacity-building programs
 Area	<p>We assessed the size of the public procurement economy in Maryland, identifying patterns from federal, state and local procurement spending*.</p>	<p>We dissected procurement practices adopted by federal, state and local agencies in Maryland to evaluate fragmentation across agencies, and identify effective and replicable practices.</p>	<p>We mapped Maryland's supplier development and capacity building programs to identify both successful practices and gaps in the ecosystem.</p>
 Stakeholder Engagement	<p>8 Datasets received from state and local agencies</p> <p>~14 Public and private datasets analyzed</p>	<p>13 Interviews with procurement officials from different government agencies (e.g. Maryland Department of General Services, City of Baltimore, Montgomery County).</p>	<p>10 Interviews with support providers (e.g. Maryland Black Chamber of Commerce, Prince George's County Economic Development Corporation)</p>
 Analytical Approach	<ul style="list-style-type: none"> Methodology to identify growing federal vendors with HQ or offices in Maryland Development of a master database combining federal, state and local contracts during CY 2023 	<ul style="list-style-type: none"> Semi-structured interviews Literature review (e.g. 2016 Report of the Commission to Modernize State Procurement, 2023 Procurement Advisor's Report, 2024 City of Baltimore Procurement Transformation Plan) 	<ul style="list-style-type: none"> Desk review Semi-structured interviews
	<p>18 Interviews with firms</p> <ul style="list-style-type: none"> Of the 18 firms analyzed, 11 belong to the Professional Services and IT sectors. These firms were primarily located in Baltimore County (4), Baltimore City (4), Montgomery County (3), and Prince George's County (3). All these firms are vendors for federal, state, and/or local entities. Our interviews included a diverse mix of firms: 30% are businesses with under 10 employees, 30% have 10 to 50 employees, and 40% have over 50 employees. Of these firms, 11 hold MDOT MBE certifications, 5 have WBE certifications from federal or state governments, 8 have or had 8(a) certifications, and at least 3 are registered in the SBR program. 		

[See more details in Appendix A](#)

Focus of This Analysis: Maryland's Public Procurement Ecosystem (I/II)

Maryland's Procurement Ecosystem*

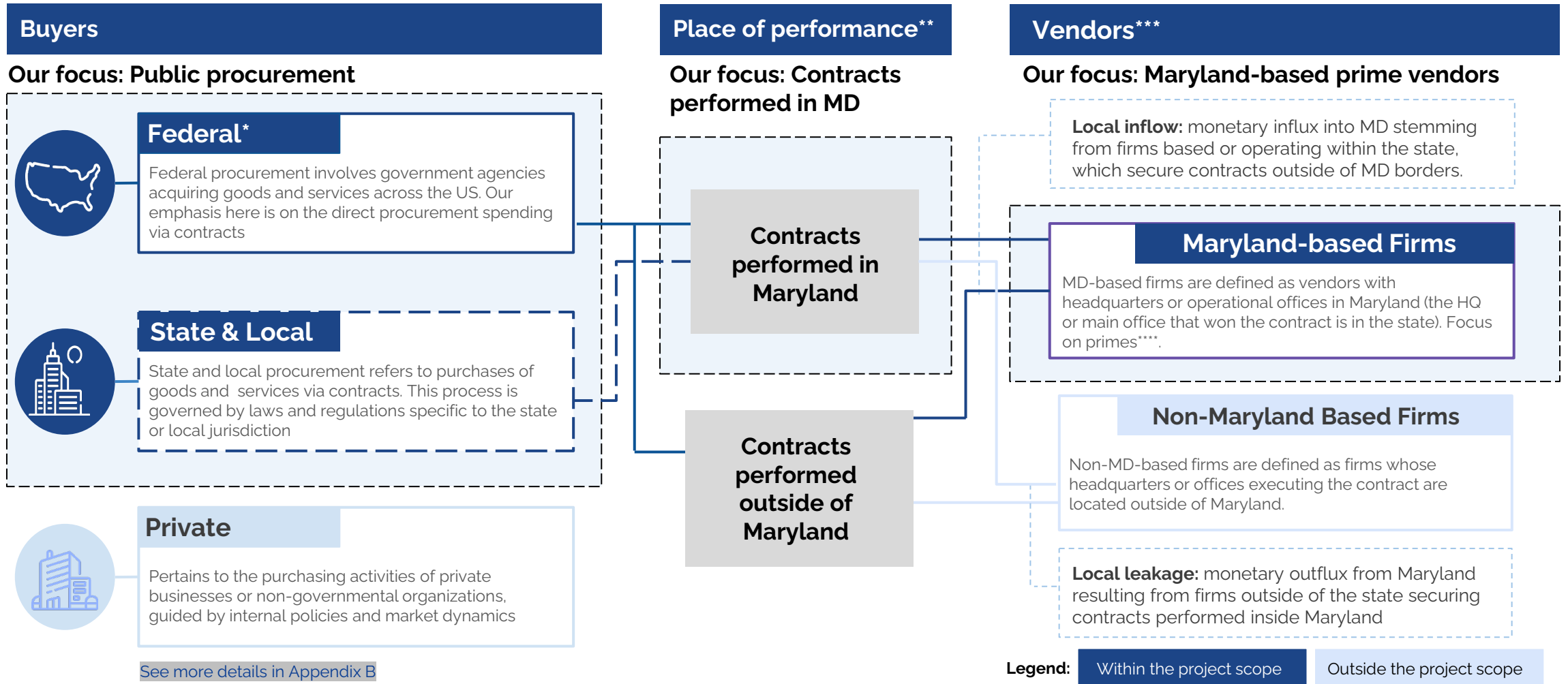
Maryland's procurement ecosystem includes a large group of stakeholders: buyers, vendors, and all the organizations that are part of the support ecosystem.



Note: (*) This study focused on those dimensions of the ecosystem that appear in dark blue. The next slide provides a more detailed explanation. (**) Entrepreneurial Support Organizations (ESOs). ESOs are organizations with a focus on supporting firms, this includes entities like the Veteran's Institute for Procurement and Apex Accelerator. **Source:** Nowak Metro Finance Lab (2024).

Focus of This Analysis: Maryland's Public Procurement Ecosystem (II/II)

This study analyzes Maryland's Public Procurement Economy - funds directly awarded by federal, state and local governments through contracts.



Note: (*) The federal government awards contracts through its different entities and agencies, where the main economic activities are performed in different states, or regions. For example, if Fort Meade awards a contract to perform an activity in Maryland, that is considered 'federal spending in the state of Maryland.' Conversely, if, for instance, Fort Bliss (a military base located in El Paso, Texas) awards a contract for an activity in Texas, such as maintenance of the base, that is considered 'federal spending in Texas'. (**) Distinction based on place of performance of the contract (where the main economic activity is conducted). (***) Distinction based on recipient location. (****) This study does not analyze subcontractors or subcontractors. **Source:** Nowak Metro Finance Lab (2024).

A Note on Procurement Spending

Focus of this report

- This report aims to assess the size of the public procurement economy in Maryland by evaluating federal, state and local procurement spending.
- We use the term "procurement spending" to refer to procurement dollars utilized via contracts, regardless of the amount being awarded, obligated, or spent.
- In most of cases, procurement spending refers to *dollars awarded*, which may be different to *dollars spent*.

Limitations

- Each level of government is tied to different regulations, has different procurement processes, and captures procurement data in different ways.
- This poses limitations for comparing procurement spending across levels of government.
- While reconciling the periods of analyses is possible in most cases, there are challenges in capturing the same type of procurement spending across different levels of government.

Interpreting data & comparisons

- When presenting procurement spending for a certain level of government, we specify the type of procurement spending (e.g., awards, obligations, dollars spent) and the period of analysis.
- When doing comparative analyses, since it is not fully possible to capture the same type of procurement spending for all levels of government, we add clarifications to interpret the information and the biases that may exist.
- We avoid presenting comparisons where biases could change the insights extracted.

A Note on Federal Procurement Spending

This study analyzes, alongside state and local procurement spending in Maryland, federal contracts performed in the state.

What Is Considered Federal Procurement Spending in MD

- **Type of award:** Contract
- **Primary Place of Performance:** Bethesda, MD
- **Value(**):** \$18,695,731.00
- **NAICS Code:** 541715 (Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology))
- **Agency:** Department of Defense (DoD)
- **Agency HQ:** Virginia
- **Awardee:** The Johns Hopkins University Applied Physics Laboratory LLC
- **Awardee's office location*:** Maryland

Description: Air Warfare Systems

Why are we including it?:

The place of performance and type of award fit our criteria. This contract's primary place of performance is in Maryland, so it is included in total federal spending in Maryland. Since the recipient's legal business address is also in Maryland, it is not considered part of local inflow or leakage.

What Is Not Considered Federal Procurement Spending in MD

- **Type of award:** Contract
- **Primary Place of Performance:** Austin, Texas
- **Value(**):** \$684,337.00
- **NAICS Code:** 541712 (Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology))
- **Agency:** Department of Defense (DoD)
- **Agency HQ:** Virginia
- **Awardee:** The Johns Hopkins University Applied Physics Laboratory LLC
- **Awardee's office location*:** Maryland

Description: R&D for Tomahawk missile systems, specifically flight testing and depot maintenance

Why are we NOT including it?:

The type of award meets our criteria, but the primary place of performance doesn't. This contract is by a Maryland-based vendor, so it is included in our inflow calculation. However, since its primary place of performance is Austin, Texas, it is not counted as Maryland's procurement spending.

What Is Not Considered Federal Procurement Spending in MD

- **Type of award:** Grant
- **Primary Place of Performance:** Maryland
- **Value(**):** \$4,344,138.00
- **NAICS Code:** -
- **Agency:** Department of Defense (DoD)
- **Agency HQ:** Virginia
- **Awardee:** The Johns Hopkins University Applied Physics Laboratory LLC
- **Awardee's office location*:** Maryland

Description: This grant focuses on developing advanced eye protection and treatment systems for combat healing, enhancing recovery and operational capabilities of military personnel.

Why are we NOT including it?:

The primary place of performance meets our criteria, but not the type of award: This award has Maryland as the primary place of performance. However, since it is a grant, it is not included in our federal procurement or inflow/leakage calculations.

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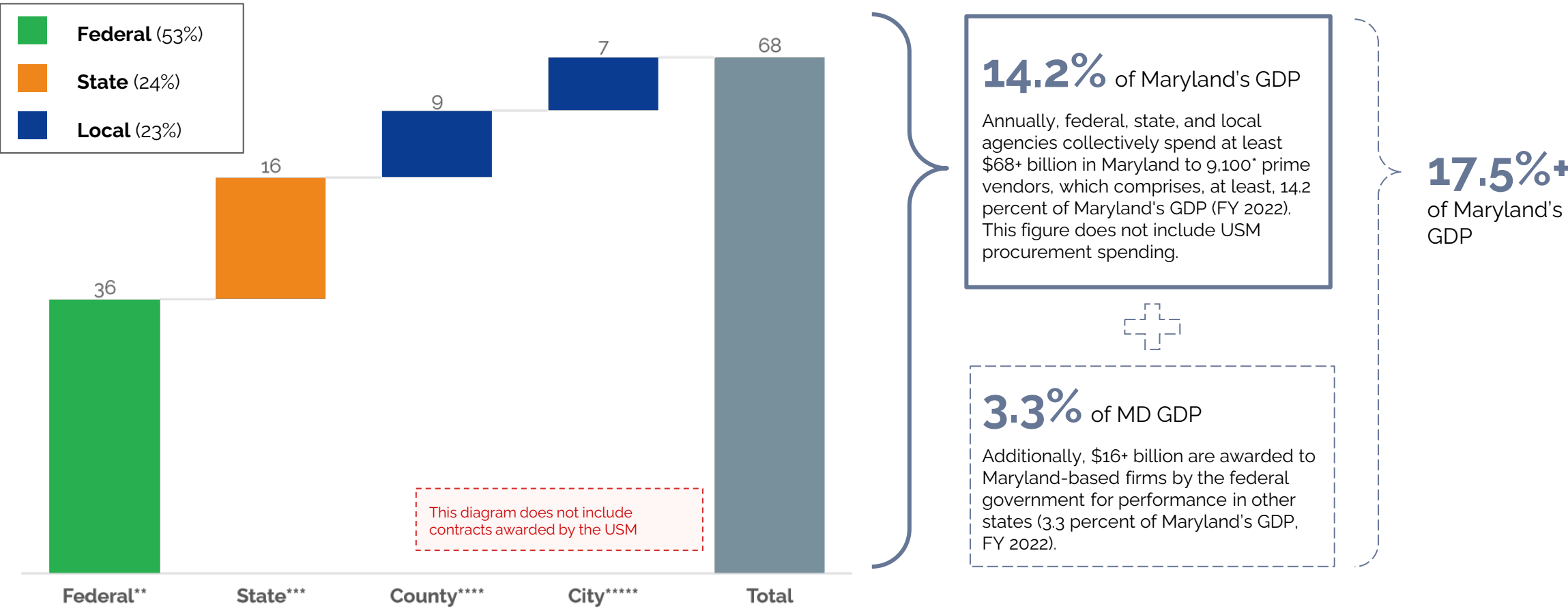
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The public procurement economy in Maryland accounts for at least 17.5% of Maryland's GDP, signifying its importance in the state economy

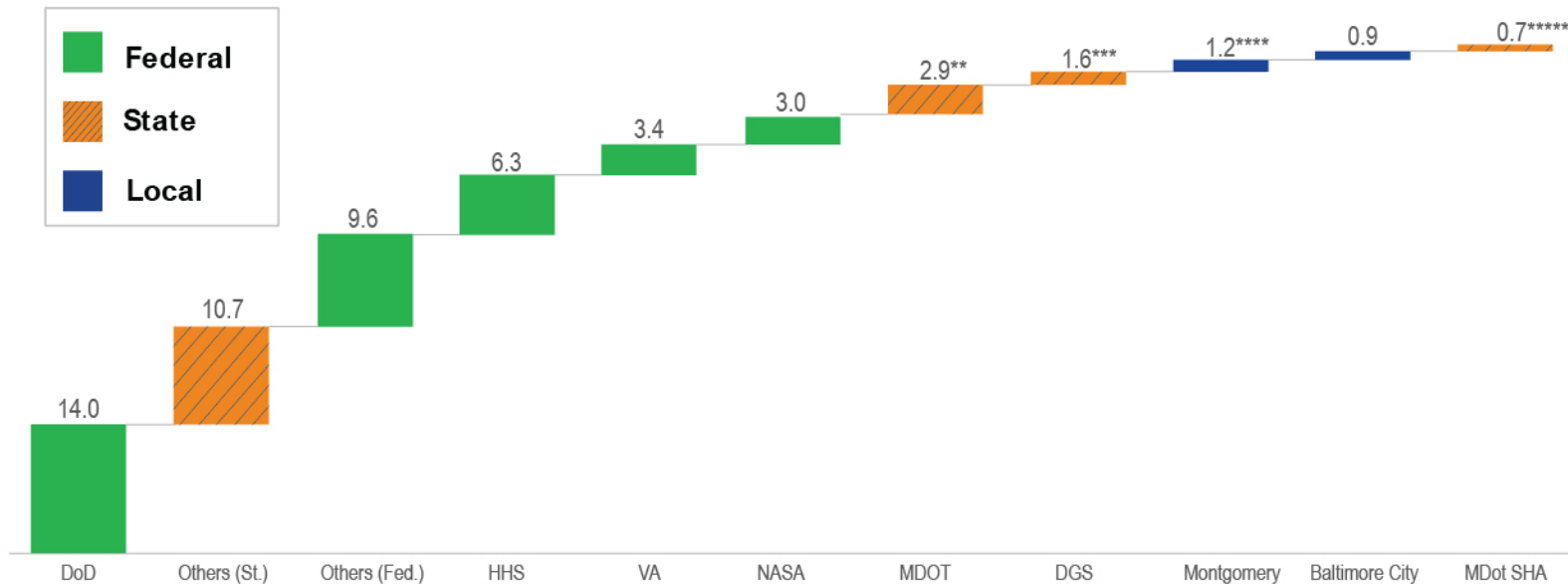
Public sector procurement spending performed in the state of Maryland. Estimates of dollars awarded by government level, \$B (FY 2022*).



Notes: (*) Data from July 2021 to June 2022. (**) To prevent analytical distortion, a contract from the FBI valued at \$978 billion, with an obligated amount of only \$5.2 million, was excluded from the analysis. (***) Data extracted from the FY 2022 Procurement Advisor's Report. This figure does not include obligations by the USM, Morgan State U. and At Mary's U., among other small contracts. (****) Own estimate based on procurement data (dollars awarded) for Baltimore City, Montgomery County, and Anne Arundel County, coupled with GDP data for each respective county. (*****) Own estimate based on procurement data in Hagerstown City, and Rockville City, alongside population data for each local jurisdiction. **Source:** [USASpending](#); [FY 2022 Procurement Advisor's Report](#), data received from government agencies, desk review.

The federal government is super sized, accounting for half of total procurement in Maryland; major federal purchasers in the state include DoD, HHS, and VA

Public sector procurement spending in Maryland. Estimates of dollars awarded. \$B (FY 2022*),



DoD Procurement Spending (obligations, FY 2022)	MD	VA	DC	PA	US*****
DoD spending (\$)	\$10.8B	\$27.3B	\$4.4B	\$8.3B	\$195B
DoD share of federal procurement in the state (%)	37%	49%	20%	75%	62%
DoD spending as share of GDP (%)	2.3%	4.1%	2.7%	0.9%	0.7%

The procurement economy in Maryland is super size, mostly due to:



Federal presence

Federal procurement in Maryland represents half of the total procurement in the state.



Proximity to the capital

Maryland, DC and Virginia represent ~7.5% of total federal procurement.



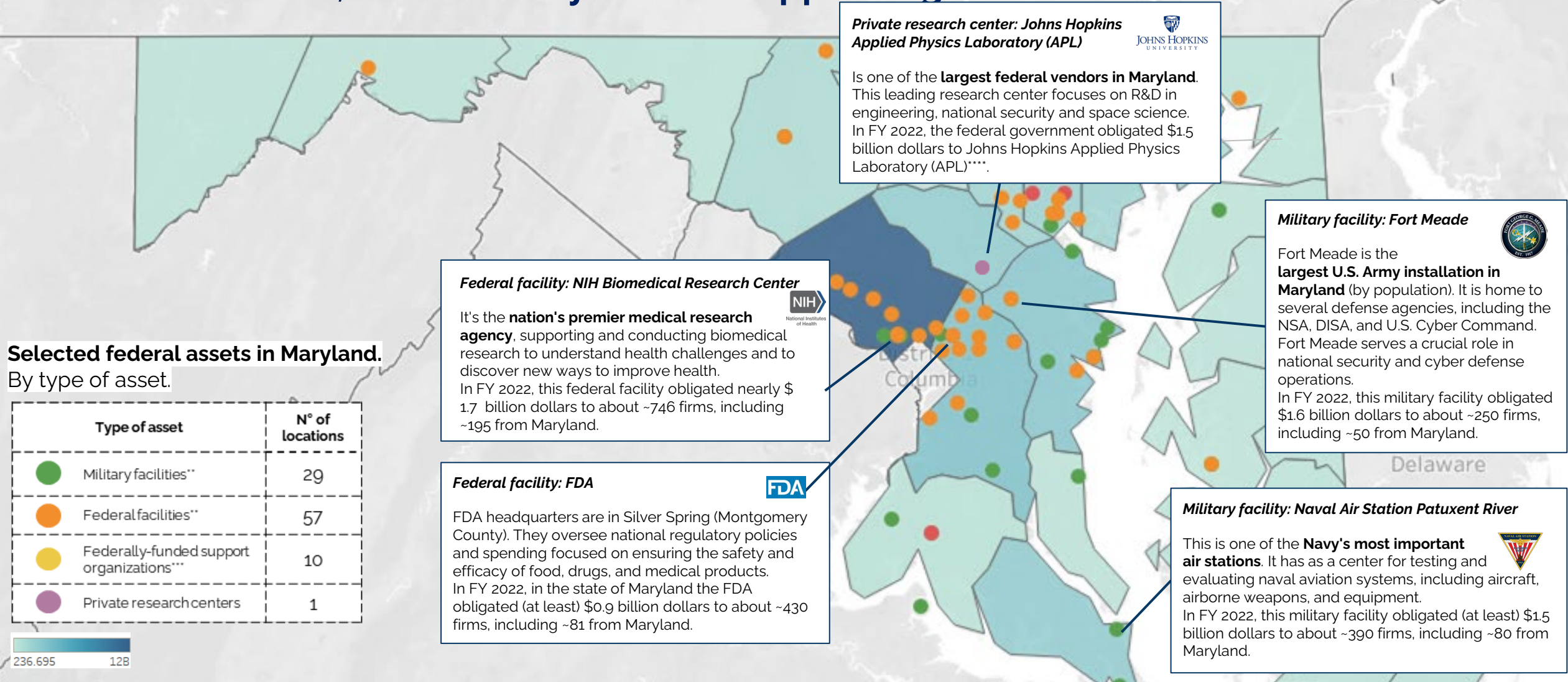
DOD presence in MD

DoD represents almost 40% of federal procurement performed in the state of Maryland.

[See more details in Appendix C](#)


Notes: (*) The chart presents data from July 2021 to June 2022, except for MDOT SHA and Montgomery County, due to data limitations. For federal agencies, the chart presents dollars obligated. For other agencies, the chart presents dollars awarded. (**) The State Highway Administration (MDot SHA) was excluded from this figure, and it is presented separately. This figure was obtained from the FY 2022 Procurement's Advisor's report. (***) Extracted from Maryland Department of General Services Annual Report. (****) Estimate based on CY 2022 and CY 2023 award data. (***** Data for CY 2022. (***** Due to the high volume of data, figures for the US were estimated. **Source:** [USASpending](#); [FY 2022 Procurement's Advisor's report](#); [DGS Annual Report 2022](#); data received from government agencies.

Maryland has a large federal presence, including military facilities, federal offices, research centers, and federally-funded support organizations*



Private research center: Johns Hopkins Applied Physics Laboratory (APL) 


Is one of the **largest federal vendors in Maryland**. This leading research center focuses on R&D in engineering, national security and space science. In FY 2022, the federal government obligated \$1.5 billion dollars to Johns Hopkins Applied Physics Laboratory (APL)****.

Federal facility: NIH Biomedical Research Center 


It's the **nation's premier medical research agency**, supporting and conducting biomedical research to understand health challenges and to discover new ways to improve health. In FY 2022, this federal facility obligated nearly \$ 1.7 billion dollars to about ~746 firms, including ~195 from Maryland.

Military facility: Fort Meade 

Fort Meade is the **largest U.S. Army installation in Maryland** (by population). It is home to several defense agencies, including the NSA, DISA, and U.S. Cyber Command. Fort Meade serves a crucial role in national security and cyber defense operations. In FY 2022, this military facility obligated \$1.6 billion dollars to about ~250 firms, including ~50 from Maryland.

Federal facility: FDA 

FDA headquarters are in Silver Spring (Montgomery County). They oversee national regulatory policies and spending focused on ensuring the safety and efficacy of food, drugs, and medical products. In FY 2022, in the state of Maryland the FDA obligated (at least) \$0.9 billion dollars to about ~430 firms, including ~81 from Maryland.

Military facility: Naval Air Station Patuxent River 

This is one of the **Navy's most important air stations**. It has as a center for testing and evaluating naval aviation systems, including aircraft, airborne weapons, and equipment. In FY 2022, this military facility obligated (at least) \$1.5 billion dollars to about ~390 firms, including ~80 from Maryland.

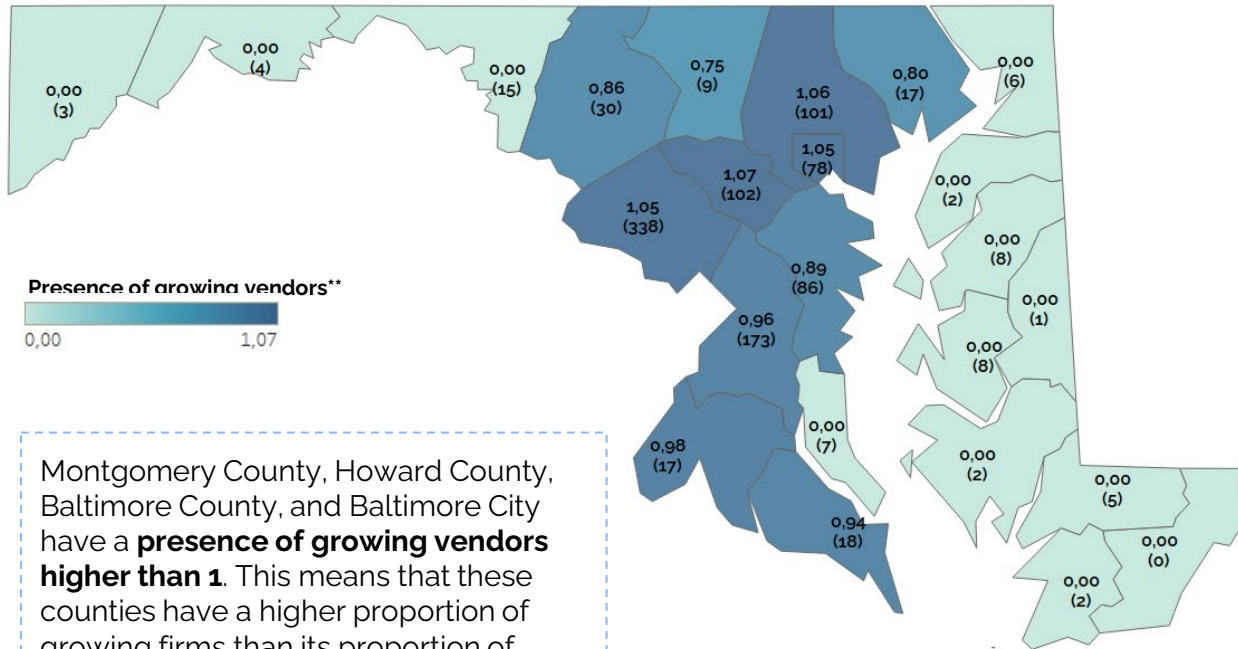
Selected federal assets in Maryland.
By type of asset.

Notes: (*) Color code of the map represents the dollars obligated by the federal government in federal FY 2022 (which encompass October 2021-September 2022). Only selected examples are displayed, which are not representative of the whole landscape. (**) The location and number of military and federal facilities in the state of Maryland was extracted from DoIT data catalog, which is publicly available. (***) Encompasses agencies such as APEX Accelerator, MBDA, and business centers, among others. (****) 82% of the dollars obligated were allocated to R&D. As a result, despite being a private institution, Johns Hopkins Applied Physics Laboratory receives substantial funding from the federal government for research purposes. According to the HERD Survey by the NSF, half of Johns Hopkins University's funding comes from the federal government.
Source: USASpending; DOIT (1); DOIT (2); data received from government agencies, research.

Maryland boasts a substantial federal vendor presence, with over 1,000 Maryland-based firms having successfully grown their business with the federal government

We created a methodology* to identify Maryland-based vendors that grew their contracts with the federal government in the last 15 years (including contracts performed in Maryland and outside of Maryland):

Presence of growing vendors**. By county, FY 2023.



Montgomery County, Howard County, Baltimore County, and Baltimore City have a **presence of growing vendors higher than 1**. This means that these counties have a higher proportion of growing firms than its proportion of federal vendors.

[See more details in Appendix D](#)

The state boasts a rich presence of federal vendors, with nearly 3,300 Maryland-based firms benefiting from increased payments through federal contracts in FY 2023***. Among these firms, **we identified 1,032 federal vendors in Maryland that have managed to grow the size of their contracts with the federal government (contracts performed in and outside of Maryland). For 717 of these 1,032 vendors, Maryland was their primary state of business.**

Distribution of growing vendors in Maryland. FY 2023.

Sectors	Counties****			Self-Certified		
	Top 5	#	%	Top 5	#	%
Computer Systems Svcs.	Montgomery	338	33%	Minority	338	33%
Consulting services	Prince George's	173	17%	Woman	282	27%
Other prof. services	Howard	102	10%	Black	153	15%
A&E	Baltimore	101	10%	Veteran	142	14%
Scientific R&D services	Anne Arundel	86	8%	Hispanic	49	5%

Note: (*) In this slide, we consider transactions (related to procurement spending) from the federal government in FY 2023, that goes from October 2022 to September 2023. We defined growing vendors as those that present a positive variation between the avg. performance in the first 3 years of operations and the avg. performance in the last 3 years of operation.; were active in the last five years; have more than 3 years of operation; and never went more than four years without securing a contract. (**) This metric is determined by calculating the ratio of the number of growing firms in a specific county to the total number of growing firms in Maryland, and then dividing it by the ratio of all firms in that county to the total number of firms statewide. (***) This figure considers all active federal vendors based in Maryland that received at least one payment from the federal government in FY 2023. (****) These five counties accounts for 77% of the growing federal vendors in the state of Maryland. **Source:** [USA Spending](#).

This procurement economy is uniquely focused on Professional Services and IT: half of all the federal and state procurement dollars in Maryland goes to these two sectors



Size of the opportunity

Maryland has significant spending concentrated in Professional Services and IT, **allocating almost half of the federal and state procurement dollars every year***.

Federal

\$ 16.5 B (CY 2023, dollars awarded)

1,719 vendors (CY 2023)

State**

\$ 9.2 B (CY 2023, dollars awarded)

369 vendors (CY 2023)



Primary subsectors

At both the federal and state level, over half of the spending goes to **Computer systems design, A&E services, and management consulting.**



Computer systems design: **\$ 5.3 B**



R&D: **\$ 5.1 B**



Architectural & Engineering: **\$ 2.4 B**



Computer systems design: **\$ 5.1 B**



Architectural & Engineering: **\$ 2.6 B**



Mgmt. & technical consulting: **\$ 1.4 B**



Key assets

Maryland's IT and Professional Services sector is strong, bolstered by significant **R&D investments from universities, extensive contracts from federal and state agencies with local and out of state firms, and a sophisticated pool of educated workers***.**

Higher education institutions****



Federal agencies



Maryland's firms (examples)



Higher education institutions



State agencies



Maryland's firms (examples)



[See more details in Appendix E](#)

Notes: (*) At the local level, although we do not have general estimates, we calculated that for both Baltimore City and Montgomery County, spending on Professional Services & IT accounted for \$ 1.7 B out of \$ 4.1 B of 2023 (dollars awarded, 43%). (**) Data was estimated using BPW Agendas, DGS, SHA, and MDTA data for CY 2023. (***) Maryland ranks #3rd among states in Professional and technical workers in the US (~290k employees, representing 12% of the total employment in the US). (****) In FY 2023, the Johns Hopkins Applied Physics Laboratory received over \$1.7 billion via federal contracts related to R&D. That same year, according to the HERD Survey by the NSF, Johns Hopkins ranked #1st in the US for Higher Education R&D, allocating \$3.4 billion to R&D expenditures. More than half of their funding came from the federal government.

Source: [USASpending](#), [National Science Foundation \(NSF\)](#) Statistics of U.S. businesses (SUSB), Comptroller of Maryland, Board of Public Works, DGS, SHA, and MDTA data.

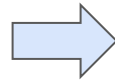
Similar and significant portions (roughly 46%) of state and federal procurement spending are going to out of state firms

Local leakage (CY 2023)

We define local leakage as the amount of federal procurement spending designated to be performed in the state of Maryland that is not captured by Maryland-based firms (performing as prime contractors).

In FY 2023, federal leakage size was \$11.6 billion (46% of federal procurement spending designated to be performed in the state of Maryland).

In FY 2023, at both the state* level and federal level, we estimated that 4 out of 10 dollars went to out of state firms.



Deep dive **: Federal leakage size by sector and agencies. Dollars awarded. CY 2023.

Sectors	Leakage Size	Leakage %	Top 3 Vendors (outside of MD)
Information Technology	\$3.5 B	55%	-Guidehouse Inc. (VA) -Dell Marketing L.P (TX) -Minburn Tech Group (VA)
Professional Services	\$3.9 B	38%	-Booz Allen Hamilton (VA) -Deloitte Consulting (VA) -True North Communications (NY)
Construction	\$681 M	39%	-Hensel Phelps Construction (VA) -Olgoonik Gral Inc (Alaska) -Cashman Dredging & Marine Contracting (MA)
Manufacturing	\$1.0 B	44%	-Northrop Grumman Systems (FL) -Dell Federal Systems (TX) -The Boeing Co. (DC)
Support Services****	\$503 M	46%	-Hydrogeologic (VA) Vectrus J&J facility Support (CL) -Ace Maintenance (TX)
Other sectors	\$1.9 B	62%	Amentum Services, Inc. (VA) Walsh Federal LLC (IL) Crowley Government Svcs (FL)
Total Leakage	\$11.6 B	46%	

Notes: (*) Data has been estimated using BPW Agendas for CY 2023. At the state level, we could only identify the location of 47% of the vendors. In those cases where we identified the location of the vendor, approximately \$2 billion out of approximately \$5.2 billion went to firms outside of Maryland. (**) This analysis considers federal procurement dollars (obligated) performed in Maryland by primes in FY 2023 (from October 2022 to September 2023). Due to data limitations, we couldn't disaggregate the information by sector at the state level. (***) Encompasses Administrative and Support and Waste Management and Remediation Services. **Sources:** [USA spending](#), [Comptroller of Maryland](#), Maryland Governor's Office of Small, Minority, and Women's Business Affairs, FY 2022 Annual Report, [Prince George's County Procurement Forecast 2022](#), Baltimore City [Current Contracts \(2023\)](#)

Data and interviews suggest the need for better support for minority-owned businesses, with a particular focus on their journeys to become primes

MBE* participation by top sectors and levels of government. CY 2023.

Data is not directly comparable.

Level	MBE definition	Type of Spending	Professional Services	IT	Construction	Manufacturing / Supplies	Support Services***	All sectors
Federal	This refers to businesses that have been self-certified by the registrant as minority-owned in SAM.gov.	Prime Dollars awarded in FY 2023. We cannot account for subprime spending.	18%	25%	37%	9%	52%	21%
State**	This refers to firms that participate in GOSBA's MBE program and fall under one of the following categories: African American, Asian American, Hispanic American, Disabled, Disadvantaged, Native American, or Women-owned.	Prime Dollars awarded in FY 2023. Subprime awards to MBE are deducted.	2%	11%	5%	3%	6%	6%
		Subprime Dollars awarded in FY 2023.	27%	7%	19%	6%	7%	12%
		Total Dollars awarded in FY 2023.	28%	18%	24%	10%	13%	18%

MBE Spending

In MD, 51% of the population is of color, and 26% of employer firms are owned by people of color.****

21% of federal procurement spending performed in MD goes to prime vendors self-certified as MBEs.

18% of state procurement spending goes to certified MBEs (primes and subs).

While federal and state figures are not directly comparable, they suggest the need for better support for MBEs to become primes, especially at the state level.

Firms interviewed also pointed out the lack of mechanisms to support their growth journeys in procurement.

Notes: (*) Minority Business Enterprise (MBE). (**) Based on GOSBA Annual Report (FY 2023). To compare federal and state data, procurement categories within the GOSBA report were standardized based on federal categories. For this analysis, Corporate Credit Card, Direct Voucher, and Human, Cultural, Social, and Educational Services categories were not assigned to a procurement category, although they are included in the total for all sectors. (***) Encompasses Administrative and Support and Waste Management and Remediation Services. (†) US Census Bureau (2020) and Annual Business Survey (2021, which covers the reference year 2020). **Sources:** Maryland Governor's Office of Small, Minority, and Women's Business Affairs and USA Spending.

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Challenges: We identified four challenges that Maryland firms face to break into Maryland's public procurement system

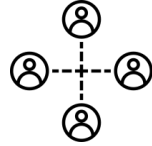


(1) A federated system

With over 300 buyers across the federal, state, and local levels of government, Maryland's procurement economy is highly federated. Each level has a different regulatory and policy framework for procurement, creating three distinct procurement markets that firms must navigate.

"Prince George's County has a lot of requirements in building codes that other counties do not. [...] USM has a different procurement process, and it can be challenging"

- MBE firm in construction sector



(2) A fragmented ecosystem

The procurement ecosystem - inclusive of buyers, vendors and support organizations - is fragmented with limited coordination, particularly in identifying and addressing resource needs of firms.

This hinders potential synergies and places a burden on firms, particularly those small firms and MBEs.

"The people want to understand the opportunities ...They are creating curriculum that we did not ask for"

- WOSB in professional services



(3) Lack of targeted capacity building

Support for Maryland vendors focuses on smaller firms, with only a few programs designed to build capacity and scale Maryland-based, mid-size firms.

"Firms need back office support and assistance to build capacity and continue growing. The main need is to help them build capacity"

- Prince George's County-based business development consulting firm



(4) Untapped opportunities

In Maryland's substantial Professional Services and IT sector, mid-sized vendors noted significant challenges in breaking into state procurement (due to master contracting practices and the complexity of the state market), as well as seeing limited support in connecting to federal opportunities in this sector.

"We're like most companies and think these vehicles [CATS+ and COTS+] give a fair chance, but probably 10 companies get 80% of the work"

- Lanham-based MBE firm in IT sector

(1) A Federated System (I/II): This is a federated system, with over 300 federal, state and local buyers operating in the state of Maryland

Three public procurement markets are conducting business in the same geography and in similar sectors:



80+ federal agencies



70+ state agencies



180+ local agencies**

While different government levels often purchase similar items, vendors typically do not operate across markets freely (few vendors serve more than one level).

Overlap in federal, state and local procurement spending (prime awards above \$100k)*. Dollars awarded. By primary sectors and subsectors. CY 2023.

Sector	Share of overlap	Subsectors	Vendor overlap
IT <i>(26% of total spending)</i>	97%	<ul style="list-style-type: none"> Computer Systems Design Services Software Publishers Data Processing & Hosting 	3.0%
Professional Services <i>(29% of total spending)</i>	57%	<ul style="list-style-type: none"> A&E services Management Consulting 	3.5%
Construction <i>(20% of total spending)</i>	96%	<ul style="list-style-type: none"> Non-residential Highway, Street, and Bridge Utility System Construction Building Equipment 	3.9%
Administrative & Support Services <i>(5% of total spending)</i>	20%	<ul style="list-style-type: none"> Employment, Investigation & security, Buildings and Dwellings Remediation & Waste 	4.8%
Manufacturing <i>(5% of total spending)</i>	2%	<ul style="list-style-type: none"> Medical Equipment 	1.7%
Overall	74%		2.8%

These vendors concentrate 16% of the total spending in Maryland.

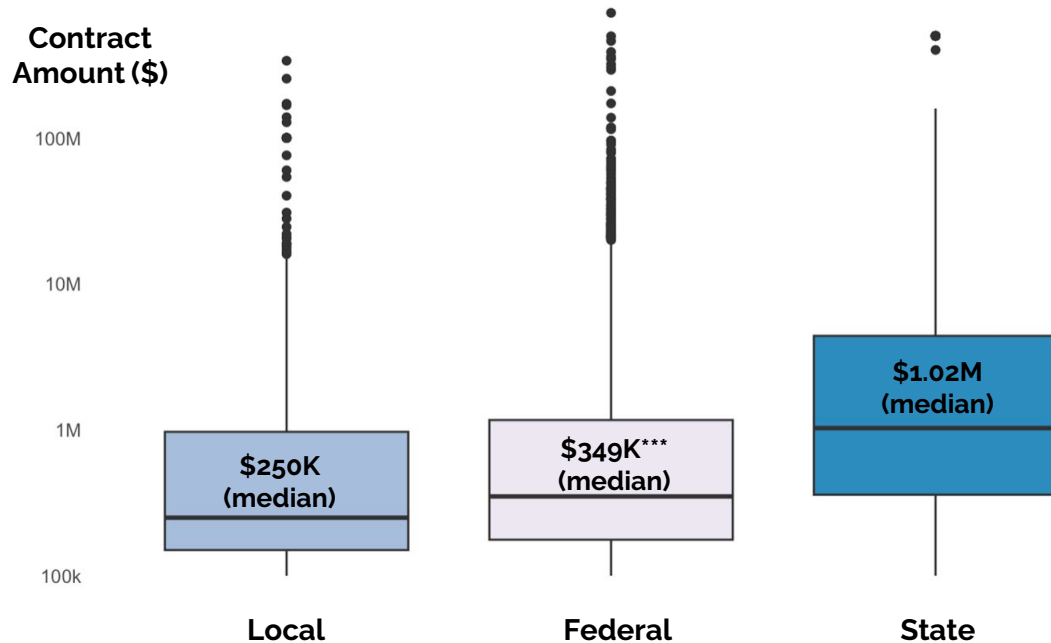
[See more details in Appendix F](#)

Notes: (*) The term "Overlap" denotes the portion of total spending within a sector where activities (or subsectors) hold similarities across all three government levels. For vendor overlap it represent the share of vendors within each sector that contract with more than one level of govt. (**) Includes Baltimore City. **Sources:** [USA spending](#), [Comptroller of Maryland](#), BPW, DGS, SHA, MDTA, Baltimore City and Montgomery County data.

(1) A Federated System (II/II): Different procurement processes and practices create different barriers to entry for smaller firms

Contract's distribution by government level.

Prime awards (above \$100k), CY 2023.



Note: While award information is included for all government levels and contracts are filtered to exceed \$100,000 to better align with state award thresholds, there may still be discrepancies in the captured data due to variations in procurement practices across agencies and the challenges to manually develop a state-level database*.

State level:

- The median contract amount for state contracts is nearly three times that of federal contracts and around four times that of local contracts.
- Competition is also limited due to the rise in master contract vehicles, which limit bidding to a select group of vendors in secondary competitions.**

Federal level:

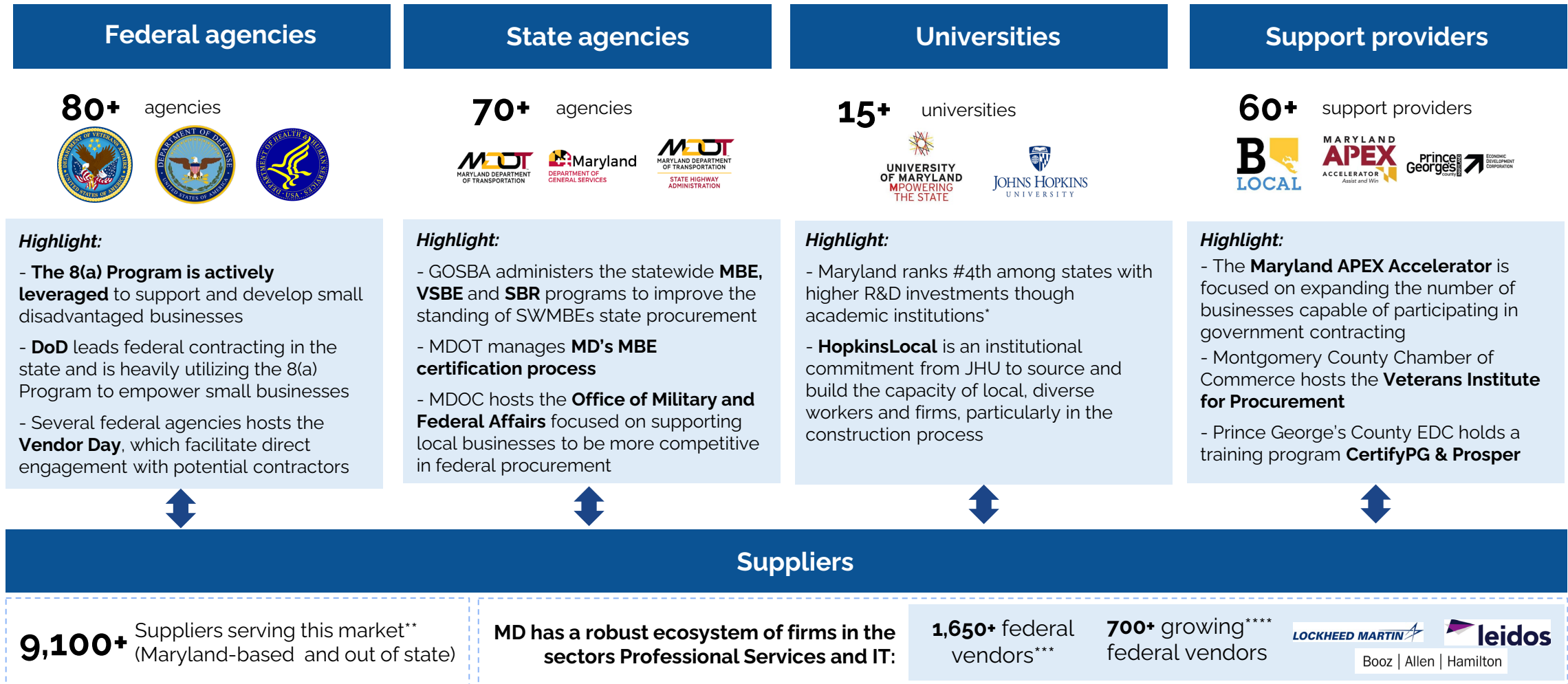
- Over the last decade, the average size of federal contracts in Maryland has increased by 59%, while the number of Maryland firms contracting with the federal government decreased from 5,500 in 2014 to 3,500 in 2023.

It is becoming increasingly difficult for smaller firms to access opportunities in the procurement economy due to contract sizes that necessitate evidence of past performance and additional resources (i.e., working capital).

[See more details in Appendix G](#)

Note: (*) Own calculations based on our analysis of award data for CY 2023 from federal procurement data (USA spending), state procurement data (BPW, DGS, SHA, MDTA), and local procurement data (Baltimore City and Montgomery County). Data displayed only includes contracts exceeding \$100k. Top sectors were defined as described in the previous slides. (**) A master contract is a form of an indefinite delivery, indefinite quantity (IDIQ) contract vehicle whereby a vendor can bid to become a master contractor based on their qualifications. Then, task and purchase order RFPs are issued in a secondary competition where only those approved as master contractors can submit bids for the actual task or purchase order. Prior to state procurement reforms during the 2017-2019 period, master contracting was limited to only MDolT, however changes to the state procurement law and regulations have enabled the procurement vehicle to be used in all areas. The FY 2023 Procurement Advisor's Report discusses the increase in master contracting and its implications for competition. (***) The median contract at the federal level won by Maryland-based vendors was \$329K in CY 2023. **Source:** Nowak Metro Finance Lab (2024).

(2) A Fragmented Ecosystem: Buyers across levels of government and the Maryland support ecosystem are working separately



Note: (*) In 2022, \$5.2 billion were invested on R&D efforts (66% of those investments came from John Hopkins University). (**) Estimates from USA spending, BPW, DGS, SHA, MDTA, Baltimore City and Montgomery County award data for CY 2023. (***) Accounts for active Maryland-based firms that transacted with the federal government in CY 2023. (****) We defined growing firms as those firms that between 2008 and 2023 presented a positive variation between the avg. performance in the first 3 years of operations and the avg. performance in the last 3 years of operation; were active between 2019-2023; have more than 3 years of operations; and never went more than four years without securing a contract.
Source: [USASpending](#), Nowak Metro Finance Lab (2024).

(3) Lack of Targeted Capacity-Building: The current ecosystem of capacity-building efforts has a low proportion of procurement-relevant content for mid-size firms



The small business support ecosystem in Maryland has a **broad range of services and programs**, with some sector focus on high-growth industries.



We mapped 60+ support providers*; **only about a third have procurement-related curriculum content or services** (see the list in the Appendix).



Few firms reported using these resources. Half of the firms interviewed reported not using any local or federally-funded resources; one-third of firms interviewed reported using non-federally funded and local programs to grow their business; half of the firms interviewed reported using the APEX Accelerator or SBDC.



Misalignment between the current ecosystem and business needs.

“Many businesses don’t know how to get certified. Those that became certified do not know how to navigate procurement”

-Chamber of Commerce

“We had challenges in getting capital in the scaling and development of the software...we were denied from TEDCO and other Maryland Commerce programs”

-Business interview

[See more details in Appendix H & I](#)

Maryland public procurement system requires new, targeted capacity-building efforts for firms to increase participation in the state’s procurement economy*.**



Business needs: Support to navigate the fragmented system, (end-to-end) certification coaching, support on bid application, one-on-one counseling and growth capital (especially revolving credit).



Growth focus: Better support for those mid-size firms that can serve existing contracting opportunities. The median contract amount for state contracts is nearly 3x that of federal contracts, and nearly 4x that of local contracts (CY 2023). This difference is even bigger for contracts in the Professional Services sector.




Sectoral focus: Help Maryland firms, particularly those in the sectors that concentrates most of the procurement spending (e.g., IT and Professional Services), to become state primes and tap into more federal procurement opportunities.


Note: (*) This research was conducted primarily through desk research and stakeholder referrals and may not be exhaustive. (**) According to the CDFI Treasury program (as of 2021, last certifying year), MD has 15 certified CDFIs headquartered in the state, slightly under the national median, the state has some banking institutions that invest in ESOs and programming, such as FSC First and M&T Bank, in addition to several capital programs from the MDoC. (***) The state procurement economy refers to public procurement led by federal, state, and local agencies in the state of Maryland. **Sources:** Nowak Lab desk research including lists from Buy Local Baltimore, The Maryland Entrepreneur Hub, The Maryland Department of Commerce and the Baltimore Small Business Resource Center.


(4) Untapped Opportunities: at least \$27 B were awarded in CY 2023 to firms in Professional Svcs. and IT, yet almost 6 out of every 10 dollars went to out-of-state firms

 In CY 2023, federal, state and local entities awarded **\$27 billion** to firms in the sectors **Professional Services and IT**.

 Over **2,500 vendors** served this demand.

 We estimated that **6 out of 10 dollars in the sector went to out of state firms** (at both the federal and state levels).

 Mid-sized vendors mentioned that breaking into state procurement could be more challenging than entering federal procurement and reported limited support to connect to more federal opportunities.

 At the state level, **increases in master contracting and contract sizes*** reduce competition and opportunities for new firms.

Procurement spending and vendors by level of government.
Estimates by primary sectors. Awards above \$100k. CY 2023.

Sector	Federal	State	Local	TOTAL
IT	\$6.3B <i>758 vendors</i>	\$5.2B <i>174 vendors</i>	\$1.5B <i>187 vendors</i>	\$13.1B <i>1,117 vendors</i>
Professional Services	\$10.2B <i>1,052 vendors</i>	\$4.0B <i>200 vendors</i>	\$256M <i>233 vendors</i>	\$14.5B <i>1,484 vendors</i>
Construction	\$2.2B <i>760 vendors</i>	\$8.0B <i>250 vendors</i>	\$489M <i>81 vendors</i>	\$10.2B <i>567 vendors</i>
Administrative Services	\$1.0B <i>270 vendors</i>	\$1.2B <i>278 vendors</i>	\$68M <i>36 vendors</i>	\$2.3B <i>582 vendors</i>
Manufacturing	\$2.2B <i>760 vendors</i>	\$12.8M <i>10 vendors</i>	\$52M <i>45 vendors</i>	\$2.3B <i>815 vendors</i>

“Many MBE in the region do federal procurement, and don’t attempt state level procurements given the complexity in their procurement processes”

Regional Chamber

“The state needs to increase competition. There’s not enough competitive procurements”

Maryland based IT firm

Notes: (*) First, we found that the median contract amount for state contracts in this sector is almost 5x that of local and federal contracts; larger contracts can preempt smaller firms from participating. Additionally, the increasing utilization of master contracts, as noted in the FY 2023 Procurement Advisor’s Report, appears to be most prominent in IT and Professional Services. **Source:** Nowak Metro Finance Lab (2024).

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The path forward

The path forward: We identified a set of functions that need to be present in Maryland to turn the procurement economy into a driver of growth for local and diverse firms

Challenges	Lack of targeted capacity building	A fragmented ecosystem	Untapped opportunities in Professional Svcs. and IT	A federated system
	The path forward			
Actions	Strengthen capacity building programs for firms	Develop a navigable and firm-centric** ecosystem	Unlock opportunities for MD firms in Professional Services & IT	Mitigate barriers for local and diverse firms to win prime contracts at the state level
Description	<ul style="list-style-type: none"> Facilitate the development of relevant content and capital programs tailored to the needs of businesses. Support existing and emerging state-based firms in Maryland's procurement economy. 	<ul style="list-style-type: none"> Connect buyers, support organizations, and MD firms. Empower top buyers to strengthen their network and the pipeline of local firms. 	<ul style="list-style-type: none"> Tackle regulatory, policy and ecosystem barriers for MD firms in Professional Services & IT Evaluate procurement practices that are leading to reduced competition 	<ul style="list-style-type: none"> Ensure vendor perspectives and meaningful engagement with local and diverse firms. Evaluate practices that are leading to reduced competition.
Examples of Initiatives	<ul style="list-style-type: none"> A state-supported grant resource to strengthen the capacity of business support providers and increase targeted business advisory services to local MBEs entering and growing in Maryland's procurement economy (with a focus on mid-size firms)*. A state-supported grant resource that increases the availability and accessibility of low-cost, low-collateral revolving credit lines and performance bonds. Invest in the APEX Accelerator to expand outreach and operations. 	<ul style="list-style-type: none"> Form a cross sectoral coalition or working group of support and capital providers that serves as an intermediary to coordinate actions and investments of MD support organizations and buyers. 	<ul style="list-style-type: none"> Form a Professional Services & IT consortium of buyers, support providers and Maryland-based firms focused on identifying and tackling regulatory, policy and ecosystem barriers for Maryland firms and MBEs in Professional Services and IT. 	<ul style="list-style-type: none"> Incorporate firm perspectives directly in ongoing discussions of procurement reform to address causes of complexity in state procurement, particularly relative to local, federal, and peer procurement markets.

Note: (*) Successful models mentioned in firm interviews include the SBA 8(a) program, John Hopkins BLocal, and the APEX Accelerator. (**) By a firm-centric support ecosystem, we attempt to describe an ecosystem of buyers, support providers, and capital providers where processes and efforts are developed with consideration of firms' needs in their growth journeys. **Source:** Nowak Metro Finance Lab (2024).

Example of initiative: A state-supported grant resource to help increase the frequency and coverage of procurement-related content throughout the state

Description		
A state-supported grant fund and resource pool that ensures that all Maryland counties have accessible and relevant business development programming related to procurement.		
Problem Statement	Key Participants	
Firms interviewed in our research reported a lack of knowledge and transparency in state practices, lack of mature content for the growth stage and a general lack of awareness of certification and other capacity-building programs. Additionally, few ESOs reported having explicit modules on procurement in their content or curriculums.	<ul style="list-style-type: none"> - Maryland Legislative Caucuses - Maryland Governor's Office of Small Business Affairs - Maryland Department of Commerce - Maryland's ESOs - Corporate Philanthropic Partners 	
Goal	Conditions for success	
Develop a centralized funding resource and core content to strengthen the capacity of chambers and ESOs to assist small, local and diverse firms at every stage to enter and succeed in Maryland's procurement economy, with particular focus on increased services for mid-sized firms.	<ul style="list-style-type: none"> - Community-connected ESOs with expertise - Organized intergovernmental relations 	
Governance	What it does	Areas of opportunity
<ul style="list-style-type: none"> - Maryland Comptroller, Maryland Department of Commerce, GOSBA an MDOT - ESO ecosystem 	<ul style="list-style-type: none"> - A competitive grant program for counties, cities and ESOs - Incentives tiered services and programming around certification and navigation, procurement acceleration and one-to-one business advisory services 	<ul style="list-style-type: none"> - Distill best elements of programmatic frameworks to develop core, evidence-based, more uniform content - Opportunity to lean into the strengths of ESOs who reach diverse business owners and various different stages - Increase the capacity and visibility of the APEX Accelerator in Baltimore City and other target areas - Explore the the introduction of more localized mentor-protege program - Assess the the capacity of CDFIs to offer more LoCs to early stage businesses

Example of initiative: A multi-sector entity to coordinate the actions of the Maryland's procurement ecosystem and positions the state to localize procurement spending

Description <p>A multi-sector entity to coordinate MD support organizations and purchasers to develop a focused ecosystem, empowering top buyers to strengthen networks and the state pipeline of firms.</p>		
Problem Statement <p>MD has a fragmented ecosystem of buyers and support providers that are working separately. MD firms encounter difficulties in getting the right support and connecting with major buyers, constraining their ability to bid and secure contracts. The distance between these actors also limits potential synergies and collaborative opportunities.</p>	Key Participants <ul style="list-style-type: none"> - Lead state unit - Largest buyers (DoD, state primary procurement units, UMS) - State and diverse chambers and associations (e.g. MD Hispanic Chamber of Commerce, MD Black Chamber of Commerce, MD Washington Minority Companies Association) 	
Goal <p>Establish the multi-sector entity with a focus on supporting Maryland firms, particularly those small and minority-owned, to access opportunities in Maryland's public procurement economy.</p>	Conditions for success <ul style="list-style-type: none"> - Leadership buy-in - Strong multi-sector coordination (public-private) - An Accountability Council can help this effort stay on track, evaluate its performance, and secure learning and improvement. <i>[Best practice: San Antonio Accountability Council].</i> 	
Governance <ul style="list-style-type: none"> - The state needs to act as a mobilizer - It's critical to engage top buyers (DoD, MDoT, DGS, universities), state and diverse chambers and their leadership 	What it does <ul style="list-style-type: none"> - Meets every 3 or 4 months - Secures alignment and coordination between MD support organizations and purchasers - Drive the implementation of prioritized initiatives 	Areas of opportunity <ul style="list-style-type: none"> - Empower top buyers in reinforcing their network and the state's pipeline of firms by hosting of regular events* where Maryland businesses can present their goods and services to several potential buyers. This would create a structured environment for building valuable connections between businesses and major buyers. <i>[Best practice: DC Community Anchor Partnership]</i> - Alignment of procurement-related support with areas of opportunity in this procurement marketplace: <ul style="list-style-type: none"> o Support organizations with procurement-related services include: Contractor's associations, Chambers. o Sectoral focus: Professional Services & IT.

Note: (*) Some events, such as [Ready Set Grow](#) by MDOT and [MBE Night](#) in Annapolis, have good reviews, but may lack the right frequency and appropriate follow-up from purchaser entities.

Source: Nowak Metro Finance Lab (2024).

Example of initiative: A Professional Services & IT Consortium to help foster collaboration and growth by connecting firms with opportunities in the state's sector

Description		
A consortium of buyers, support providers and trade associations/firms focused on identifying/tackling regulatory, policy and ecosystem barriers for MD firms in Professional Svcs, and IT.		
Problem Statement	Key Participants	
Almost half of federal, state and local procurement spending in Maryland goes to this sector; yet 5 out of 10 dollars go to out of state firms. The regulatory practices in the sector lead to incumbency advantages, and support providers in MD lack focus at scale for Professional Services and IT. This places small and mid-size, Maryland-based firms in the sector at a disadvantage.	<ul style="list-style-type: none"> - Support organizations (e.g., Urban Business Innovation Initiative - TEDCO) - Trade unions (e.g., Maryland Tech Council) - Mature* and mid-size firms in Professional Services and IT (consider conflicts of interest) - State Chief Procurement Officers (CPOs) in DGS, MDoIT and key agencies**, and Office of Military and Federal Affairs (MDoC)*** 	
Goal	Conditions for success	
The consortium's goal is to expand the pool of MD vendors in Professional Services & IT capable of performing as prime contractors in public procurement.	<ul style="list-style-type: none"> - Willingness for policy adoption - Multi-stakeholder coordination 	
Governance	What it does	Areas of opportunity
<ul style="list-style-type: none"> - Lead: Maryland Small Business Council or entity within the state - Convener: Trade unions - Key participants: Support organizations and state CPOs 	<ul style="list-style-type: none"> - A biannual working group with smaller committees that map opportunities and challenges for public procurement in the Professional Services & IT sectors. - Provide actionable policy recommendations and coordinate with key actors. 	<ul style="list-style-type: none"> - <u>Targeted support</u>. Maryland hosts several accelerators focused on high growth industries. Consider adding coaching and capital for firms in the sector as they become prime contractors or teaming partners for large contracts. - <u>Procurement practices</u>. Identify best practices for master contracting in the mid-atlantic region to improve competitiveness, and explore reforms to master contracting processes to enable more frequent expansion windows and/or shorter contract terms to allow for more vendors. - <u>Networking</u>. Establish a formal gathering place for MD firms in Professional Services & It and procurement officers. This should serve as a structured environment for building valuable connections between MD firms and large buyers.

Note: (*) Serving as advisors and/or mentors. (**) Based on our analysis of award data for CY 2023 from BPW, DGS, SHA, MDTA, the top 5 agencies at the state level with more spending in Professional Services & IT are DoIT, OSP, DGS, and DOT. (***) Since DoD is the largest federal purchaser in the state, and a significant share of this spending goes to Professional Services & IT (including R&D). The Office of Military and Federal Affairs is already collaborating with TEDCO on [The Maryland Defense Technology Commercialization Center](#). **Source:** Nowak Metro Finance Lab (2024).

Example of initiative: Incorporate vendor perspectives directly in ongoing discussions of state-level procurement reform

Description		
Incorporate firms perspectives directly in ongoing discussions of procurement reform to address complexity in state procurement, particularly relative to peer procurement markets.		
Problem Statement	Key Participants	
The federated procurement system in Maryland creates artificial barriers to entry and mobility for state-based firms. Despite having access to local, state, and federal procurement markets, the vast majority of vendors in MD (84%) contract with only one level of government. Many vendors noted that the state's procurement market is particularly difficult to navigate. The state's Procurement Improvement Council (PIC) focuses on improving state procurement, however their membership includes limited vendor representation.	<ul style="list-style-type: none"> - State Procurement Advisor and/or BPW representative - State primary procurement units (MDOT, DGS, STO, MPC) - University System of Maryland/Rep for exempt institutions - MBE Ombudsman (and/or a representative of vendor community) - Member(s) of General Assembly 	
Goal	Conditions for success	
Identify and develop strategies to mitigate barriers to entry and mobility for firms operating within Maryland's federated procurement economy.	<ul style="list-style-type: none"> - Commitment from stakeholders to balance accessibility for firms with administrative efficiency - Understanding and representation of the supplier perspective in state procurement 	
Governance	What it does	Areas of opportunity
<ul style="list-style-type: none"> - Stakeholders on the buy and supply sides must be engaged to develop procurement reforms that serve both state purchasers and state-based enterprises - Can be situated as an initiative within the PIC 	<ul style="list-style-type: none"> - Define the areas of the state procurement law causing the most impactful burdens for buyers and vendors - Identify strategies to address burdens, and appropriate policy levers for solutions 	<ul style="list-style-type: none"> - Identify and align best practices to support vendors selling to multiple buyers/levels of gov't - Evaluate existing regulatory and policy framework for delegation of procurement authority in state procurement and requisite oversight, as well as for informal procurement processes - Review master contracting vehicles in IT and professional services, assessing costs and benefits for both buyers and vendors - Assess utilization and impacts of MBE and SBR programs, particularly in growing and high-wage sectors like professional services and IT

Thank you!

June 6, 2024

Appendix A: Literature Review

Title	Description	Date of publication
2016 Report of the Commission to Modernize State Procurement	The Commission to Modernize State Procurement, via an executive order from Governor Larry Hogan, was charged with undertaking a comprehensive review of Maryland's procurement statutes, regulations, policies, and procedures; the report details the Commission's recommendations.	December 2016
2017 State Disparity Study	The disparity study evaluates the extent to which minority- and women-owned businesses have fair opportunities to compete for prime contracts, purchases, and associated subcontracts in the state's market area.	February 2017
City of Baltimore 2022 Disparity Study	The City of Baltimore's disparity study analyzed whether a disparity exists between the number of available DBEs providing goods or services in specified categories and the number of those who are contracting with the City as a prime or subcontractor, within the city's market area.	August 2022
Baltimore County Commission on Procurement, Purchasing and Contracting: Final Report	As directed by an executive order from the County Executive, the County Commission undertook and completed undertaken and completed a comprehensive review and evaluation of the County's procurement processes, policies, and practices; the resulting contract and purchasing outcomes; and the trends in procurement and contracting that impact small, minority-owned, and women-owned business enterprises. The Report details their Final Report details their observations and recommendations.	January 2022
City of Baltimore Procurement Transformation Plan	Mayor Scott instructed the Chief Administrative Officer to collaborate with the Department of Finance to comprehensively evaluate Baltimore's procurement code, policies, systems, and administrative processes. Subsequently, the Department with the engaged internal experts, academic partners, and consultants to analyze the current state of procurement, conduct a gap analysis, and provide recommendations for streamlining the process, modernizing the system, and utilizing procurement strategically to advance equity goals.	February 2024
Maryland Procurement Manual	The Maryland Procurement Manual reviews the State Procurement Law, as set forth in Division II of the State Finance and Procurement Article and implemented by COMAR Title 21, and discusses best practices for meeting the requirements of the State Procurement Law.	December 2022
Maryland's Government Contracting Guide	Maryland's Government Contracting Guide, edited by the Department of Commerce, aids small business owners with contracting complexities, offering insights, acronyms, procurement guidance, and resource lists.	January 2021
Maryland 2023 State of the Economy	The Comptroller's inaugural State of the Economy Report examines economic indicators and trends to better understand the current economic climate, potential outlook for Maryland, as well as strengths and opportunities that can be leveraged for sustained, long-term economic growth.	January 2024
FY 2023 State Procurement Report	The FY 2023 State Procurement Report to BPW and the General Assembly, in accordance with State law, includes the Procurement Advisor's findings and recommendations for improvements to the State procurement system, identification of barriers to competition, and summary of procurement activities.	March 2024

Appendix B: Notes on Data (I/II)

For the data points included in slides 13, 14, 15,16, 19, 21, 22 and 38, we conducted a harmonization process on various datasets. The main steps and notes for this process are as follows (in all the other slides where we presented data, a note with the considered period was added):

- Data Collection:** We acquired datasets encompassing contracts for CY 2023(*) from local, state, and federal agencies in Maryland. These datasets were shared with us by the respective agencies. Additionally, we accessed publicly available federal data on contracts primarily performed in Maryland during 2023. Our focus was on gathering award data and new contracts. The period covered by each dataset can be found in the table below.
- Variables:** We cleaned and structured the datasets to include the same variables that we were interested in. The list of these variables and their availability in each dataset can be found below:

Dataset/Agency	Coverage Period	Variables Available	Variables not available
Board of Public Works	Jan 23 - Dec 23	ID, award_date, agency, department, sector, amount,description, vendor, md_hq,	certification, mbe, vet, naics_code
Department of General Services	Jan 23 - Dec 23	ID, award_date, agency, department, sector, amount,description, vendor, certification, mbe, vet	md_hq, naics_code
MDoT-Maryland Transportation Authority	Jan 23 - Dec 23	ID, award_date, amount,description, vendor, md_hq,	agency, department, sector, certification, mbe, vet, naics_code
MDoT- State Highway Administration	Jan 23 - Dec 23	ID, award_date,amount,description, vendor, md_hq,.	agency, department, sector,certification, mbe, vet, naics_code
Baltimore City	Mid 22 - Mid 23	ID,award_date, agency,amount,description, vendor.	department,sector,md_hq,certif ication,mbe, vet, naics_code
Montgomery	Jan 23 - Dec 23	ID,award_date,sector, amount,description, vendor, md_hq, certification	agency, department, mbe, vet, naics_code
Federal Data	Jan 23 - Dec 23	ID,award_date, agency, department, sector, naics_code, amount,description, vendor, md_hq, certification, mbe, vet	-

Variables description
<p>Contract information</p> <ul style="list-style-type: none"> ● ID: This is a unique identifier assigned to each contract. However, it may not be unique across all agencies, as the system for assigning IDs can vary by agency. ● Award_date: This variable contains date information related to the contract. It could represent the award date, execution date, or expiration date, depending on the dataset. ● Agency: This refers to the main agency that awarded the contract. ● Department: This indicates the department or sub-agency within the main agency that is responsible for the contract. ● Sector: This describes the sector, type, or main category of the contract. It's important to note that categorization may differ across agencies, so it may not be unique across all contracts. ● Amount: This represents the contract amount in dollars. ● Description: This provides a description of the contract. ● Naics_code: Contract's Naics code at 6 digits <p>Vendor information</p> <ul style="list-style-type: none"> ● Vendor: This is the name of the vendor or supplier. ● Md_hq: This is a dummy variable that takes the value of one if the vendor is headquartered in Maryland. ● Certification: This includes certification or ownership descriptions related to the vendor. ● MBE: This is a dummy variable that takes the value of one if the vendor is minority-owned. ● Vet: This is a dummy variable that takes the value of one if the vendor is veteran-owned

Appendix B: Notes on Data (II/II)

3. Harmonization:

- a. Duplicates: BPW, DGS, and MDOT have overlapping responsibilities or areas of operation within Maryland, such as infrastructure projects, construction, maintenance, or procurement activities. To address duplicated contracts between the BPW and DGS datasets, we employed artificial intelligence to identify and remove duplicates from the DGS dataset. Specifically, we removed contracts with identical descriptions and amounts that were present in both datasets
- b. Types: For BPW contracts, we filtered the dataset to include only those related to specific types of contracts, such as Architectural/Engineering (A&E), construction, equipment, general miscellaneous, Information Technology (IT), maintenance, and service, including modifications, options, and contracts. This way, we removed contracts with the following types: Loan, Landlord Lease, Open Space Project, Conservation Easement, Agricultural Cost Share, Wetlands License(s), Shore Erosion Control, Resource Sharing Agreement, Grant, Real Property, Bonds, Regulations, PAAR, Landlord Lease Modification, Tenant Lease, Tenant Lease Modification, Sale of Forest Products, and Grant and Loan. Additionally, contracts that were withdrawn were also excluded from the dataset.
- c. Amounts: We filtered all datasets to focus on contracts above \$100K to prevent biasing results, considering that BPW contracts only included those above \$200K.
- d. Sectors (NAICS codes). We employed artificial intelligence to impute NAICS codes into all contracts except federal ones, as they already included this information

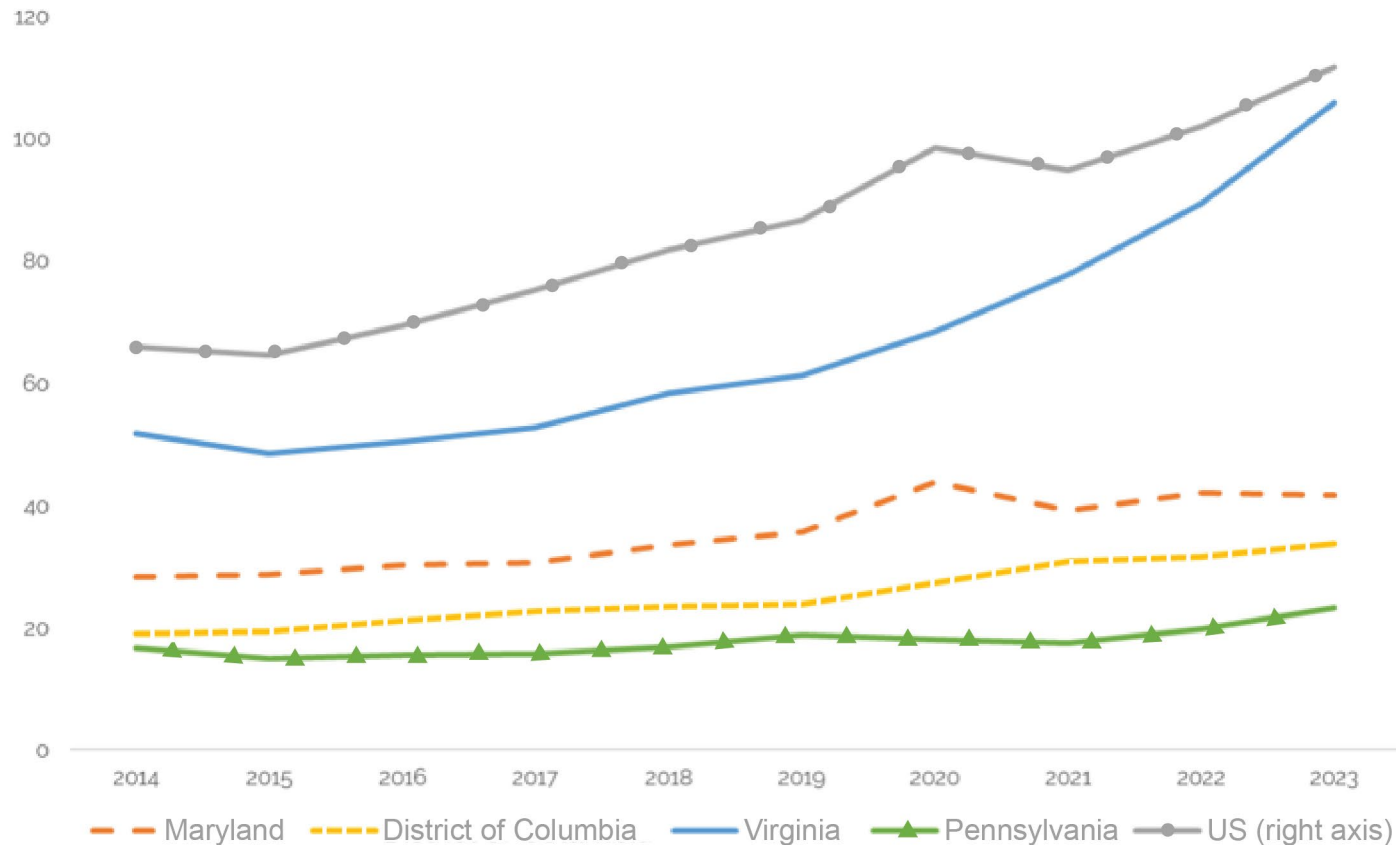
4. Overlap Analysis:

- a. Vendors: We harmonized the spelling of vendors to identify those present in the different datasets. Subsequently, we summarized the spending across various government levels, sectors, and certifications.
- b. Sectors: Initially, we determined the top 5 sectors (NAICS two digits) with the highest spending across state, local, and federal levels of government. Next, for each level of government, we identified the top 5 subsectors (NAICS at four digits) and identified those that were common across the levels of government. To assess the significance of these overlapping subsectors, we calculated the share of spending they represented from the total sector spending.

Appendix C: Evolution of federal spending

Evolution of the federal spending performed in selected areas*.

Selected states (left axis) and the US (right axis). In billions, FY 2014-2023.



Federal spending performed in Maryland has shown moderate growth, with a 47% increase in federal transactions between FY 2014 and FY 2023. This rate is relatively low compared to the 69% rise in federal procurement spending across the United States.

Among comparison states, **Virginia displayed the most significant growth, with its federal spending more than doubling that of Maryland at an increase of 105%.**

Federal spending performed in the **District of Columbia** also experienced growth above the US average, although less than Virginia, at 78%.

Pennsylvania, on the other hand, had the lowest growth rate, with a 40% increase in federal spending performed in the state in the last 10 years.

We've identified 1,032 Maryland-based vendors that grew their contracts with the federal government in the last 15 years

Comparison between Maryland-based growing and non-growing federal vendors. FY 2023.

How do we define "growing firms"?



Increasing procurement amounts

These firms present a positive variation between the avg. performance in the first 3 years of operations and the avg. performance in the last 3 years of operation.



Recently active

These firms have had contracts with the federal government at least once in the last 5 years of analysis (2019 and 2023).



+3 years of operation

Growing firms are characterized by presenting contracts in at least 3 years during our 15-year analysis.



Continuous procurement relationship

These firms have consistently won federal contracts, never going more than four years without securing a contract (throughout the 15-year period analyzed).

	Total firms	Growing firms	Non-growing firms
Number	3,294 (100%)	1,032 (31%)	2,262 (69%)
Average contracts	\$ 4.9 M	\$ 9.9 M	\$ 2.6 M
Top 3 sectors (% of amounts)	-Computer Systems Design and Related Svcs (20.5%) -Nonresidential Building Construction (14%) -Scientific Research and Development Svcs (13%)	-Computer Systems Svcs (23%) -Scientific Research and Development Svcs (17%) -Nonresidential Building Construction (14%)	-Computer Systems Svcs (17%) -Nonresidential Building Construction (14%) -Remediation and Other Waste Management Svcs (13.5%)
Certifications* % firms owned by:	-Minority 31% -Woman 25.5% -African Am. 15.5% -Veteran 12% -Hispanic 4%	-Minority 33% -Woman 27% -African Am. 15% -Veteran 14% -Hispanic 5%	-Minority 30% -Woman 25% -African Am. 16% -Veteran 11% -Hispanic 4%
County (% of amounts)	-Montgomery (44.5%) -Prince George's (11%) -Howard (11%)	-Montgomery (45%) -Howard (14%) -Prince George's (13%)	-Montgomery (44%) -Baltimore (17%) -Anne Arundel (13%)
Top 3 awarding agency (% of amounts)	-DoD (43%) -HHS (14%) -DoJ (6%)	-DoD (44%) -HHS (17%) -DoJ (6%)	-DoD (41%) -DoE (13.5%) -HHS (9%)
Top 3 states (% of amounts)	-Maryland (56%) -Columbia (9%) -Virginia (6%)	-Maryland (62%) -Columbia (8.5%) -Virginia (6%)	-Maryland (46%) -Tennessee (13%) -Columbia (10%)

Note: (*) Self-certified. Note that certification is a characteristic of the firm; sector, county, awarding agency and state of performance are characteristics of the contract. Source: [USA Spending](#).

Appendix E: Professional Services & IT at the federal level

Federal spending in primary sectors. Selected peer states, FY 2023.

Sector	US	Maryland	District of Columbia	Virginia	Pennsylvania
<i>Professional services & IT</i>	35%	72%	80%	52%	28%
Manufacturing	37%	10%	3%	13%	49%
Construction	7%	7%	4%	2%	4%
Adm. and Waste Management	8%	3%	7%	3%	5%
Others	13%	8%	6%	30%**	14%
Total	100%	100%	100%	100%	100%






Maryland demonstrates a significant concentration of federal spending in the Professional Services & IT sectors, allocating over 70% of its annual transactions to these areas — more than double the U.S. average.

This trend is echoed by both DC and Virginia, where agencies in these states allocate over half of their spending to the Professional Services and IT sectors.

Appendix F: Sector overlap

Firms performing certain activities may have opportunities to do businesses across all levels of government

Overlap in federal, state and local procurement contracts. By primary sectors and subsectors*. Prime awards above \$100k. CY 2023.

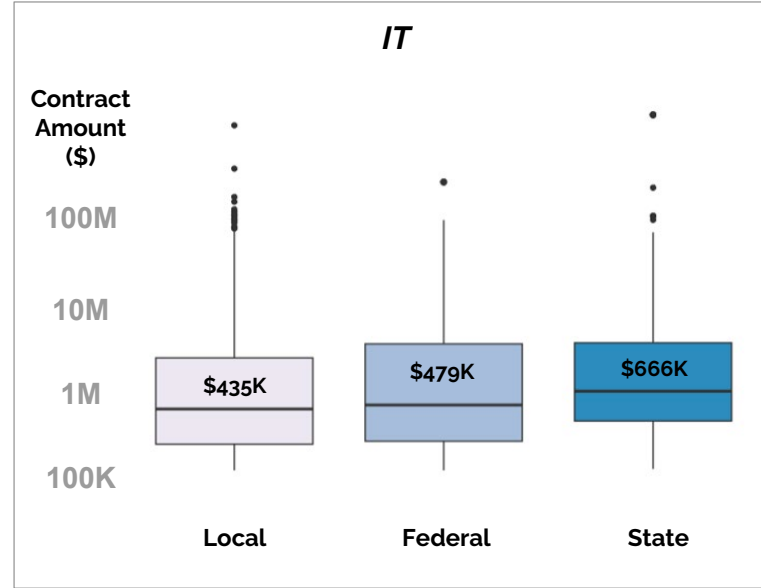
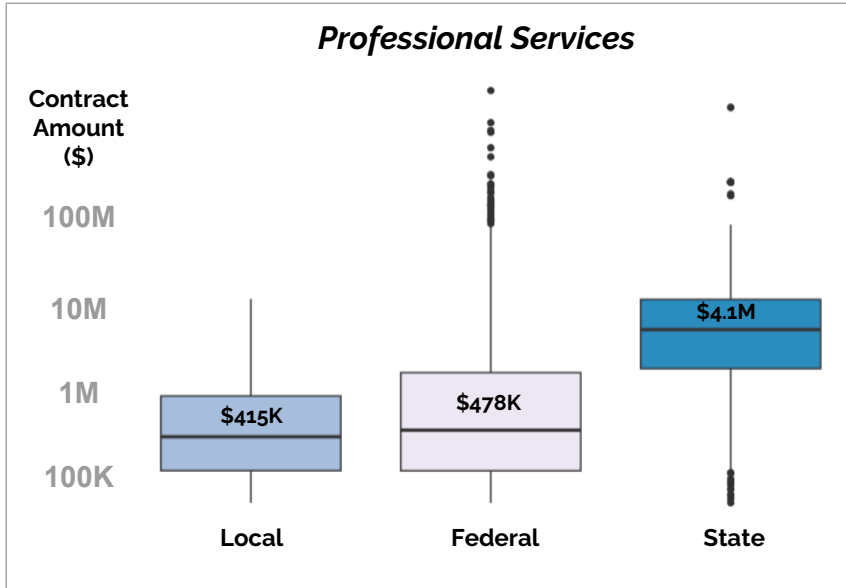
	Overlapping: Federal, State & Local	Only Local**	Only State***	Only Federal****
 IT	<ul style="list-style-type: none"> Computer Systems Design Services Software Publishers Data Processing & Hosting 	<ul style="list-style-type: none"> Wireless Telecommunications Carriers 		<ul style="list-style-type: none"> Wired & Wireless Telecom. Satellite Telecommunications
 Professional Services	<ul style="list-style-type: none"> A&E services Management Consulting 	<ul style="list-style-type: none"> Advertising & Public Relations Accounting, Tax Preparation 		<ul style="list-style-type: none"> Scientific R&D Services Other Professional Services
 Construction	<ul style="list-style-type: none"> Non-residential Highway, Street, and Bridge Utility System Construction Building Equipment 	<ul style="list-style-type: none"> Other Specialty Trade contractors 	<ul style="list-style-type: none"> Heavy Construction Foundation, Structure and Building Exterior 	<ul style="list-style-type: none"> Heavy Construction Foundation, Structure and Building Exterior
 Administrative and Support Services	<ul style="list-style-type: none"> Employment, Investigation & security, Buildings and Dwellings Remediation & Waste 	<ul style="list-style-type: none"> Waste Collection 	<ul style="list-style-type: none"> Other support services 	<ul style="list-style-type: none"> Facilities support services
 Manufacturing	<ul style="list-style-type: none"> Medical Equipment 	<ul style="list-style-type: none"> Motor Vehicle Petroleum Coal Products Printing and Related Support activities 	<ul style="list-style-type: none"> Electrical Equipment and Components Fabricated Metal Products 	<ul style="list-style-type: none"> Aerospace Product and parts Navigational, measuring and Control Instruments Communications Equipment Computer and Peripheral Equipment
Unique Prominent Sectors		<ul style="list-style-type: none"> Insurance Carriers 	<ul style="list-style-type: none"> Support Activities for Transportation 	

Notes: (*) Primary sectors are those with the highest spending across all three levels. To determine top activities, we identify the five top subsectors at each level based on total spending. (**) Local: contracts awarded in 2023 in Montgomery County and Baltimore City. (***) State: contracts awarded in CY 2023 by DGS, BPW, SHA and MDTA. (****) Federal: all awards performed in MD in CY 2023. **Sources:** [USA spending](#), [Comptroller of Maryland](#), BPW, DGS, SHA, MDTA, Baltimore City and Montgomery County data.

Appendix G: Contract's distribution by government level and top sectors

Contract's distribution by government level and top sectors.

Prime awards above \$100k, CY 2023. Values displayed in the boxes correspond to the medians.

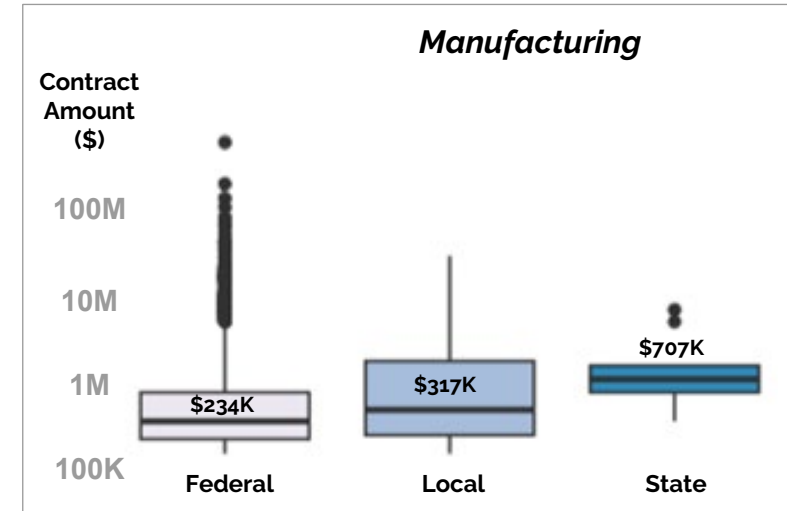
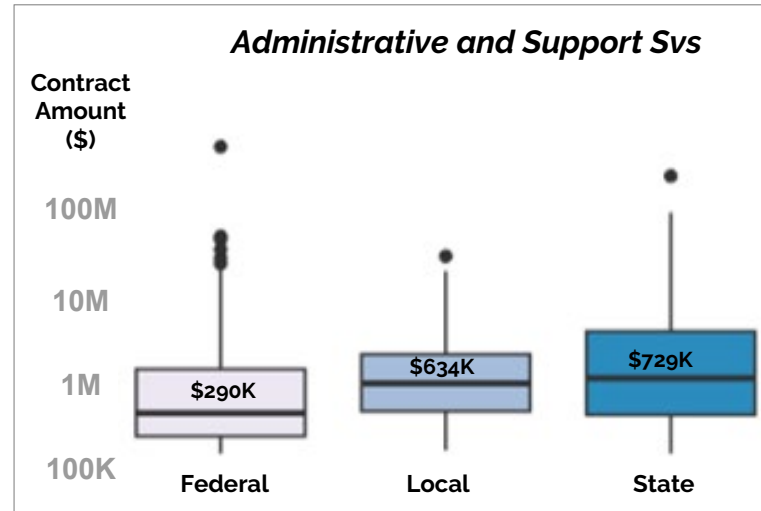
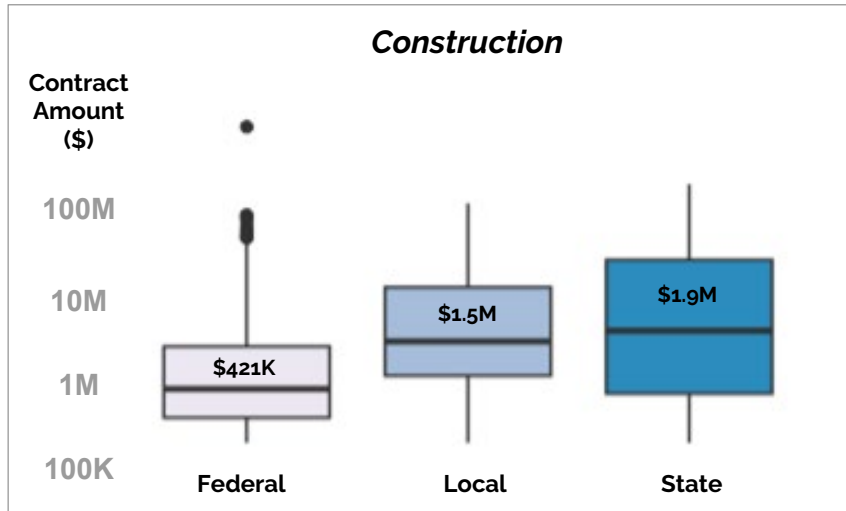


State contracts generally exhibit larger averages in all top sectors analyzed.

Professional Services and Construction notably displays a higher variance between state and local/federal contracts, with the former significantly higher.

In Maryland's leading sectors, Professional Services has the highest median contract value for federal and state contracts, compared to other sectors.

Construction leads in terms of median contract value for local contracts.



Appendix H: Ecosystem Mapping Definitions

Ecosystem Mapping Definitions

Term	Definition	Example
Procurement relevant content	Technical assistance and capacity-building content relevant to the procurement process.	E.g. Bid writing, growth planning, legal, project management, safety and compliance, bonding etc,
Procurement relevant programs	Accelerators or time-bound programs that focuses on procurement relevant content.	E.g. BLocal BUILD College, Certify PG & Prosper
Procurement relevant services	Scheduled or walk-in professional services that support firms with specific needs.	E.g. APEX Accelerator
Ecosystem Directories / Navigation Tools	These are online pages that list resources.	E.g. Maryland Entrepreneur Hub, Maryland Business Express
Support Organizations	Organizations whose function and mission supports firm growth through capacity-building and technical assistance. Some organizations listed may be private sector but have business development programs.	E..g. Maryland Washington Minority Companies Association, Maryland MBDA
Federally-funded support organizations	Support organizations that are funded through cooperative agreements with federal agencies.	E.g. Mid Atlantic Veterans Business Center

Attached is a table that includes the entire list of organizations map in our scan of the support organizations in addition to programs and services that have a procurement relevant content. Our scan was focused on Baltimore city/county, Prince George's County and Montgomery County.

Appendix I: Procurement-relevant business services and programs

Procurement-relevant business services and programs*

Type	Organizations	Key Program or Service
Government Agencies or Divisions	<ul style="list-style-type: none"> ● MDOT ● Maryland Dept. of Commerce ● Maryland GOSBA ● City of Baltimore (OSMBA, DPW, SBRC) 	DGS - eMMA MDOT - certifying body GOSBA - workshops, outreach, ombudsman MDoC - Maryland Business Express, City of Baltimore - Certifying body, contractor program, bid listing
Federally-funded organizations	<ul style="list-style-type: none"> ● APEX Accelerator ● Maryland MBDA ● Maryland Women's Business Center ● Mid Atlantic Veterans Business Center 	All federally-funded business centers provide bid and contract technical assistance.
Chambers	<ul style="list-style-type: none"> ● Montgomery County Chamber of Commerce ● Maryland Black Chamber of Commerce 	MCC - Veterans Institute for Procurement MBCC - virtual certification workshops
Universities	<ul style="list-style-type: none"> ● Johns Hopkins University ● Bowie State University 	JHU - BLocal - construction industry accelerator Bowie - SBA 8(a) Center of Excellence
Nonprofits / ESOs	<ul style="list-style-type: none"> ● Prince George's County EDC ● Meridian Management Group 	PGEDC - CertifyPG & Prosper MMG - bonding, consulting
Trade Associations	<ul style="list-style-type: none"> ● Maryland Washington Minority Companies Association (MWMCA) ● DC Metro Hispanic Contractors Association 	MWMCA - events, advocacy and consulting DC MHCA - contractor training
Private Supplier Programs	<ul style="list-style-type: none"> ● Clarke Construction 	Strategic Partnership Program

Note: (*) This research was conducted primarily through desk research, interviews and stakeholder referrals and may not be exhaustive. **Source:** Nowak Metro Finance Lab (2024).

Appendix J: Best Practices

Throughout the research process, we identified several best practices and tools being utilized at the local level in Maryland as well as in peer state markets which could be adapted to and implemented in the state procurement framework in Maryland.

Practice/Tool	Description	Market
Vendor Innovation Portal	The Vendor Innovation Portal presents an easy mechanism by which new firms can proactively introduce themselves to prospective buyers, without having to wait for an open solicitation. This tool encourages innovation and better value in government purchasing by addressing challenges in the accessibility of decision-makers to vendors, particularly those that are new.	Montgomery County
Solicitation Tracker	Montgomery County's Solicitation tracker provides transparency for the county's procurement process, allowing vendors and the greater public to see the status of any solicitation - providing information on solicitations, contact information for the procurement specialist or manager, whether or not it's on schedule, and more. This also provides a means by which the procurement team can see where all county procurements stand via a dashboard.	Montgomery County
Delegation agreements	In Montana, the state's Bureau of Procurement enters into delegation agreements on a biannual basis with respective agencies that outline the delegated procurement authority and requisite provisions. The regular reviews and negotiations that this provides for creates a formal framework for reviewing delegated authority.	Montana
Data transparency and access	Results Delaware is a platform for open access to data on contract awards, utilization, outreach for contracts, number of proposals received per contract, and more. This transparency promotes accountability both internal and external, and provides an avenue for firms to learn more about contracts held by the state, which can be important for possible subcontractors and for firms preparing bids.	Delaware
Business support services	Montana's state DOT provides reimbursements for business support services and trainings. In-state, highway related businesses in Montana are eligible for up to \$2,500 per year for bonding, training, professional memberships, and/or travel costs associated with training. Additionally, certified SDBEs in Montana that have been unable to break into contracting with the state DOT as a prime, subcontractor, or consultant, are eligible for their Business Development Program (BDP). Participants of the BDP work with the agency's Supportive Services Specialist to assemble an individualized business plan laying out steps to succeed. This may include meeting with DOT staff to provide information on bidding, RFP scoring, testing standards, payroll requirements, etc. or technical training needed by the staff. Participants of the BDP are eligible for an additional \$1,000 in reimbursement funding.	Montana DOT

Appendix K: Baltimore City (I/III)

We did a deep dive into Baltimore City, identifying the unique spending characteristics of this marketplace: high presence of SSA spending in IT Management Services

Characterization of selected local jurisdictions.

	Baltimore City	Baltimore County	Montgomery County	Prince George's County
Population <i>(% of MD population, 2020)</i>	9%	14%	17%	16%
GDP <i>(% of MD GDP, 2022)</i>	12%	13%	22%	12%
Federal Spending <i>(% of federal \$ in MD, dollars awarded 2022)</i>	\$ 1.6 B <i>(5% of total)</i>	\$ 1.7 B <i>(6% of total)</i>	\$ 10.7 B <i>(37% of total)</i>	\$ 3.5 B <i>(12% of total)</i>
Local Spending	\$ 1.5 B	-	\$ 1.2 B**	-
Top 3 Sectors <i>(% of federal \$ in MD, dollars awarded 2022)</i>	- Professional Svcs (68%) - IT (8%) - Construction (6%)	- Professional Svcs (71%) - Manufacturing (23%) - Construction (3%)	- Professional Svcs (43%) - Finance/Insurance (27%***) - Construction (11%)	- Professional Svcs (75%) - Construction (7%) - Manufacturing (5%)
Top 3 Sectors** <i>(local spending)</i>	- Finance/Insurance (49%) - Professional Svcs (21%) - Construction (11%)	-	- Professional Svcs (55%) - Finance/Insurance (19%) - Construction (12%)	-
Top 3 Federal Agencies <i>performing contracts in the selected jurisdiction (% of federal \$ in MD, dollars awarded 2022)</i>	- SSA (70%) - DHS (8%) - VA (5%)	- HHS (55%) - DOD (27%) - VA (5%)	- HHS (42%) - VA (27%) - DOD (13%)	- DOD (24%) - Treasury (20%) - Commerce (16%)

Baltimore City is characterized by relatively low federal spending, which can be attributed to its limited federal presence. The area hosts only 10 federal facilities and one military installation, significantly fewer than counties such as Montgomery and Prince George's.

The SSA plays a major role in Baltimore City, distributing 70% of the total awards during FY 2022. Additionally, **nearly 60% of SSA's awards in US are placed in Baltimore City**. In BC, almost half of these funds were directed towards IT & Telecom, predominantly in IT Management Support Services.

Most of the spending from Veterans Affairs is focused on the **construction and maintenance of hospitals, reflecting the presence of the Baltimore Veterans Affairs Medical Center in Maryland**.

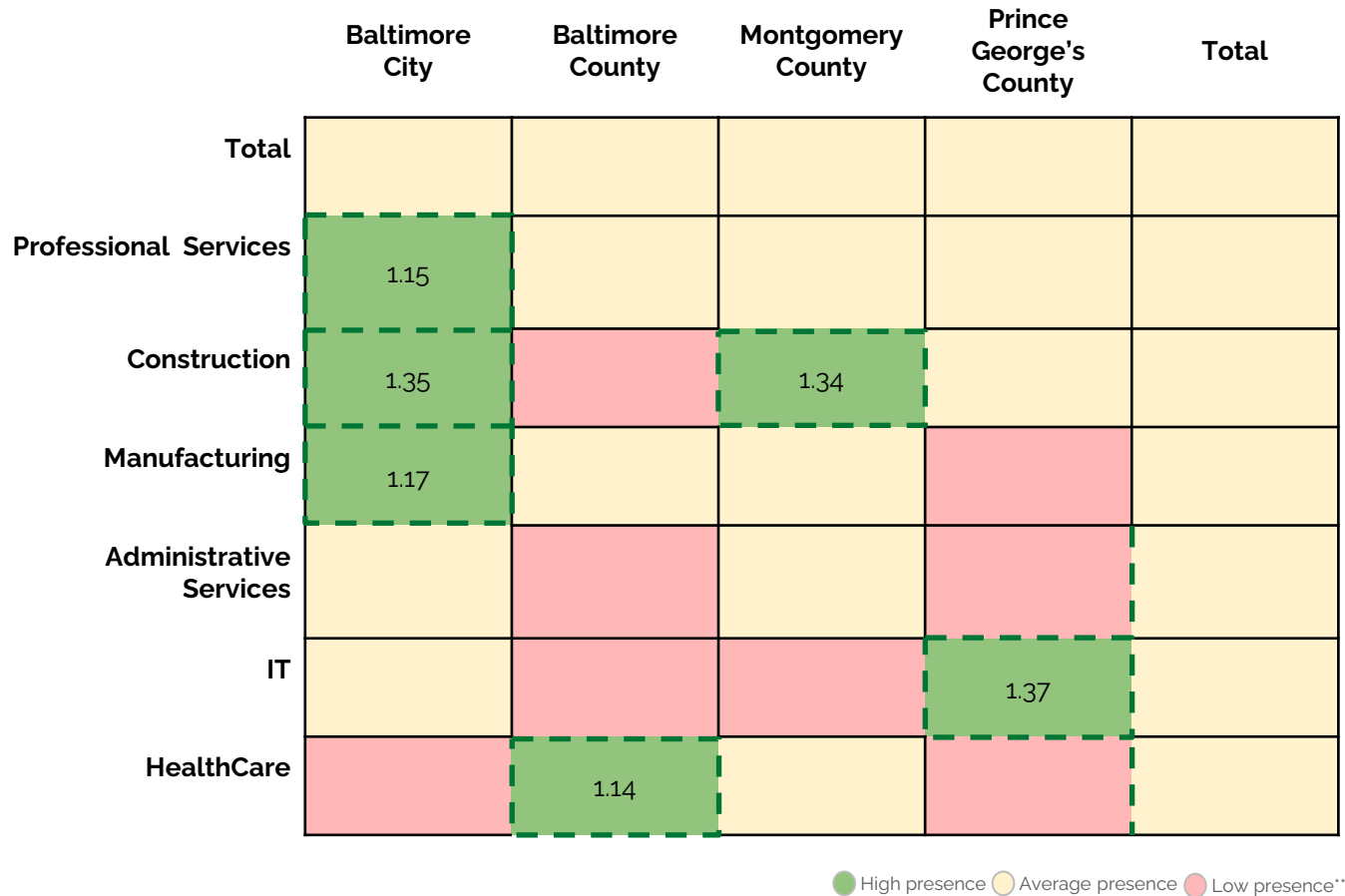
Notes: (*) Data at the federal level comprehends the period between July 2021 to June 2022. (†) Estimate based on 2022 and 2023 award data. (**) Estimates from data received from local government agencies. (***) 97% of the dollars awarded in the Finance & Insurance sector goes to a single vendor, called Optun Public Sector Solutions, which received \$2.7B in awards in the analyzed period.

Source: [US Census Bureau](#); [Bureau of Economic Analysis \(BEA\)](#); [USASpending](#); [DOIT \(1\)](#); [DOIT \(2\)](#); data received from government agencies.

Appendix K: Baltimore City (II/III)

In each local jurisdiction, we explored the presence of federal vendors, with a special emphasis on identifying growing firms

Presence of growing firms*. By county and sectors, CY 2023.



There are nearly ~250 federal vendors located in Baltimore City that transacted with the federal government in FY 2023, 3 out of 10 are minority-owned.

~80 of these federal vendors in Baltimore City have experienced growth in the last 15 years.

Federal vendors based in Baltimore City primarily contracts with DOD (31%), DHS (17%), and HHS (14%)***.

Characterization of firms in Baltimore City.






Federal vendors (FY 2023)			Growing federal vendors			Mentor Protégé Program	
Total	MBEs	VEs	Total	MBEs	VEs	Protégés	Mentors
256	73	19	78	18	8	12	3

Selected examples of growing vendors in BC



Notes: (*) We defined growing firms as those that present a positive variation between the avg. performance in the first 3 years of operations and the avg. performance in the last 3 years of operation; were active in the last five years; have more than 3 years of operation; and never went more than four years without securing a contract. (**) The presence of growing firms is determined by a metric that assess the representativeness of growing firms as the ratio between the share of growing firms in a specific county and sector related to the total number of growing firms in Maryland in that sector, and the share of all firms in that county in an specific center to the total number of firms statewide in the same sector. (***) Regardless of the place of performance of the contract. **Source:** Nowak Metro Finance Lab (2024).

Qualitative interviews from firms and ESOs headquartered in Baltimore City signal potential strategies for business development

Area	Firm Interview	ESO Interview	Strategy*
Capital Access	<p>"It took me seven years to get a line of credit." - Contracting firm</p> <p>"Having more lines of credit would be beneficial." - IT firm</p>	<p>"The city could initiate a program to provide lines of credit up to a million dollars" - Business center</p>	<p> (Green) Both ESOs and firms seemed aligned with the need more lines of credit instead of term debt. The Maryland Small Business Development Financing Authority works with Meridian Management Group currently, but consider a strategy for CDFIs in localities to develop specific programs for IT, professional services and contractors who are earlier stage.</p>
Workforce / HR	<p>"We need more workforce development" -Engineering firm</p>	N/A	<p> (Red) While most ESO's do not naturally focus on workforce development, there's an opportunity to include more targeted services or programs for HR and connections to workforce, as small businesses are always not as competitive with compensation as larger firms.</p>
Networking	<p>"Access to more buyers would help me to grow" - IT firm</p> <p>"Some of the events are good but they need better marketing." - Contracting firm</p>	<p>"Corporate culture starts with the CEO" - ESO</p>	<p> (Yellow) Firms report that the networking events are positive, but bemoan the lack of coordinated outreach, follow-up and marketing following the events. Additionally, many firms have evolved to consultative selling, where meeting and understanding the needs of the decision makers are paramount. ESOs report that purchaser culture varies. Consider developing intimate mixer where firms can develop organic business relationships with purchasers, and consider investing in digital communications to raise awareness of events and services.</p>
Training	<p>"Small business need equal access to non-union affiliated trainings for contractors" - General contracting firm</p>	<p>"Corporations should band together and have an accelerator program with a 8-9 week course...owning, managing, various cultures for bidding, market, finance, accounting, bookkeeping, legal representation, and bring in experts" -ESO</p>	<p> (Yellow) ESOs and firms both agree that more training with procurement-related content is helpful-even if the shape of that content is not quite aligned. Capacity building is noted, but specific technical expertise associated with bidding for and performing work is highlighted. Of note is the comment that several corporations should pool efforts to fund a core curriculum, particularly for contractors. Consider collaborative approach with Hopkins,Local, Turner and Clarke Construction, for contractors, and replicate that model for service-based firms.</p>
Practices	<p>"There's no real protection in the process" - Contracting firm</p>	<p>"One of the challenges in procurement realm - there are different ways to procure, some provide more discretion than others, some traditionally have been more challenging to diversify supplier base" - Business center</p>	<p> (Green) In interviews, ESOs and firms remarked at the lack of advocacy and protections for subcontractors through change orders, slow pay cycles and other issues. Potential accountability measures could build off the duties of the state's MBE ombudsman and local liaisons. Potential business development interventions could include targeted resources for service-level agreement training and reduced rate services/and or legal navigation.</p>

Notes: (*) Strategies are color coded from red to green, with green being the most synergistic and actionable and red being the least synergistic and actionable based off of qualitative interviews conducted. We recognize these view may not be comprehensive. Source: Nowak Metro Finance Lab (2024).