

CANOPY AND SUPPLY AND DEMAND REPORT

Maryland Cannabis Administration

December 2024

Report on Canopy and Supply and Demand



EXECUTIVE SUMMARY

The Maryland Cannabis Administration (“MCA” or “Administration”) respectfully submits the following report pertaining to the canopy, and supply and demand of cannabis in the Maryland market pursuant to the following provisions of the Cannabis Reform Act (“CRA”) of 2023 (Chapters 254/255):

- An annual report on the amount of canopy area reported to the Administration by licensed growers (Alc. Bev. & Cannabis Article, Sec. 36-402(D)(1)(iv)); and
- An annual report on the amount of cannabis cultivated, processed, and dispensed by standard and micro licensees; and whether the supply of cannabis is adequate to meet the demand for cannabis and cannabis products (Alc. Bev. & Cannabis Article, Sec 36-802).

Since these two subject matter areas are connected, MCA will present the report findings concurrently.

Section II of this report summarizes the total reported canopy of the licensed market in fiscal year 2024.

Section III of this report reviews the current state of demand at the production and retail levels. The analysis in Section III also outlines the MCA’s estimation that newly authorized licensees will not reach full authorized canopy capacity, but, rather, expects incoming micro and standard licensees to reach a half or quarter of their operating capacity, respectively. This section also highlights the most recent forecasting completed by the MCA.

Section IV summarizes the analyses and assumptions of Sections II-IV to determine whether the supply of cannabis

is adequate to meet the demand for cannabis and cannabis products of the Maryland cannabis market.

This report determines that the supply of cannabis is adequate to meet the current rate of demand. With additional licenses becoming operational in the near future, the MCA believes that the State is on track to likewise produce enough cannabis to meet market demand going forward. Presently, operators are producing approximately one-third of the total market demand, per the 2023 market demand study commissioned by the Maryland General Assembly. This places the State in a strong position as the Cannabis Reform Act roughly triples the number of businesses authorized to produce cannabis.

Introduction

The Maryland Cannabis Administration currently licenses cannabis business operators who cultivate, process, and dispense cannabis and cannabis products. As of September 2024, the MCA has 137 current operators and 211 selected applications that the MCA has been in the process of reviewing for the purposes of issuing conditional licenses. As of October 7, 2024 over 89% of authorized conditional licenses, or 188, have been issued as shown in **Exhibit 1** on the following page. Of the combined 347 authorized cannabis business licenses, 68 grow cannabis, while another 93 process usable cannabis into another form (edibles, vaporizers, tinctures, lotions, etc.) and 186 operate retail outlets for usable and processed cannabis products.

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Exhibit 1: Number of Cannabis Business Operators in Maryland

License Type		Number of Operators				
		Current	Preapproved Awards Prior to July 1, 2023	Awards Since July 1, 2023 ¹	Total Authorized	Conditional Licenses Awarded ²
Grower	Standard	18	4	21	43	21
	Micro	0		30	30	29
Processor	Standard	23	5	40	68	32
	Micro	0		30	30	26
Dispensary	Standard	98	2	80	180	73
	Micro	0		10	10	7
Total		139	11	211	361	188

Source: Maryland Cannabis Administration

For operational businesses with grower licenses issued before December 31, 2022, the Alcoholic Beverages and Cannabis Article §36–402 limits the expansion of canopy until January 1, 2026. These businesses may expand the canopy of their operations as it existed on December 31, 2022, and based on facility square footage of indoor canopy space or its equivalent, as follows:

- If the canopy is under 25,000 square feet, to 25,000 square feet or by 20%, whichever is greater;
- If the canopy is at or above 25,000 square feet, by 20%; or
- If the cannabis licensee has a square footage expansion that was preapproved before December 31, 2022, the preapproved expansion or 20%, whichever is greater.

Similarly, micro growers are limited in their canopy square footage, not to exceed 10,000 square feet.

As the incoming 55 grower licensees (25 standard and 30 micro) become operational, and the existing 18 grow operators expand their canopy square footage, the Maryland

cannabis market can expect additional cannabis production to (1) increase the volume of cannabis biomass distributed to licensed processors for processing into other cannabis products or (2) be sold directly to medical patients and adult-use consumers from retail establishments, further capturing unreached market participants.

Total Canopy in Fiscal 2024

Annually, the Administration is required to report to the General Assembly the amount of canopy area reported to the Administration by licensed growers, as outlined in Alcoholic Beverages and Cannabis Article §36–402. In fiscal year 2024, cannabis growers reported a collective 730,082 square feet of flowering canopy, as shown on the following page in **Exhibit 2**. This square footage of operational canopy resulted in roughly 489,349 pounds of total weight harvested, which equates to over 168,212 pounds sold.

¹ 205 applicants were selected through lottery events on March 14, 2024 and June 28, 2024. The remaining 6 awards were made via Section 11 and Section 15 of the Cannabis Reform Act (1 grower and 5 dispensaries, respectively).

² Updated as of October 8, 2024. Conditional licenses are updated monthly on the MCA's [Data Dashboard](#)

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Exhibit 2: Canopy and Estimated Production Source: Maryland Cannabis Administration

	Flowering Canopy Square Footage ³			Est. Production ⁴ (Weight Harvested) (Lbs)	Est. Production (Weight Sold) (Lbs)
	Indoor	Outdoor	Calculated Indoor Equivalence		
	Actuals			730,082	489,349
2023 Total Capacity	727,868	618,011	882,371	591,423	203,300
Total Authorized through Jan. 2027	910,385	1,041,613	1,170,788	784,739	269,752

Source: Maryland Cannabis Administration

Additionally, **Exhibit 2** considers the total amount of canopy authorized for the currently operating licensees. Assuming the same production efficiency on expanded canopy capacity, the MCA estimates that currently operating licensees would be able to harvest over 700,000 pounds of wet flower weight, or nearly 270,000 pounds to be sold downstream to the market. The cannabis plant loses weight from harvest to drying, which accounts for the significant difference between the two values.

Importantly, current production only minimally exceeds current demand. As shown in **Exhibit 3**, Maryland patients and consumers purchased over 165,000 pounds of flower products alone in the first fiscal year of adult-use sales, while over 168,000 pounds were sold over the same period. All other products go through some amount of processing from raw flower. In fiscal 2024, processors received over 300,000 pounds of flower from growers. **Exhibit 3** further shows the amount of products sold under other product categories in the State and the total sales revenues attributed to each category.

Exhibit 3: Products Sold in Maryland Market by Unit of Measure, Quantity, and Price, Fiscal 2024

Product Category Name	Unit of Measure	Quantity Sold	Total Price
Flower	g / lbs	75,101,182 / 165,569	\$667,135,780
Vape Cart	ea	7,416,145	\$258,856,101
Edibles	ea	6,213,899	\$137,540,470
Other	ea	1,010,623	\$34,018,910
Concentrates	g	306,806	\$6,134,152
Other	ea	19,611	\$374,312
Infused Liquid	oz	8,412	\$45,175
Edible	ml	32,000	\$2,192
Total Market			\$1,104,107,092

Source: Maryland Cannabis Administration

³ Square footage is reported as an indoor equivalent. Alc. Beverages & Cannabis Article 36-402(D)(1)(iv) specifies that each square footage of indoor canopy is equivalent to four outdoor square feet. The remainder of this report estimates canopy under a hybrid indoor equivalent for ease of analysis.

⁴ Estimates for production in terms of weight sold and weight harvested apply the same production efficiency on fiscal 2024 actuals to the additional authorized square footage. In fiscal 2024, each square foot of canopy produced 0.67 pounds harvested (~300 grams), or 0.23 pounds sold (~105 grams).

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Considering total flower sales and the amount of cannabis transferred to processors during the previous fiscal year, the MCA estimates that approximately 550,000 pounds of cannabis sold would meet demand. This is roughly half of what the State could reasonably expect the current operators to meet in the near term, as shown in **Exhibit 4**⁵. Further, this assumes that demand will remain constant, and does not factor in any market growth from new operators or changing consumer behavior. Assuming production efficiency remains constant (0.23 pounds sold per square foot), the MCA estimates that 1.2 million square feet of canopy must be added to meet *current* market demand alone.

Production Estimates

In January 2023, Cannabis Public Policy Consulting (“CPPC”) provided the Administration with a predictive report⁶ (“demand study”) detailing future adult-use cannabis demand and growth modeling. The demand study estimated total market demand in the State at 1.8 million pounds or 824 million grams,⁷ with roughly 22% estimated to be made up from tourists. Following the first year of adult-use sales, Maryland produced roughly 27% of the estimated demand, harvesting approximately 489,000 pounds of cannabis in fiscal year 2024. Under the assumption that any additional canopy would be as productive as the current operators, the MCA estimates that an additional 2.25 million square feet of indoor canopy or its equivalent needs to be added to meet total market demand. **Exhibit 5** uses CPPC’s estimates for total market demand in pounds, and canopy⁸ to estimate needed canopy production to meet total supply.

Exhibit 4: Estimated Supply and Demand of Current Operators, Pounds Sold



Source: Maryland Cannabis Administration

⁵ In advance of market launch, growers in the State were able to prepare for increased demand by increasing production and flash freezing excess product to account for this difference. The MCA anticipates that in the near term, demand will outpace current supply.

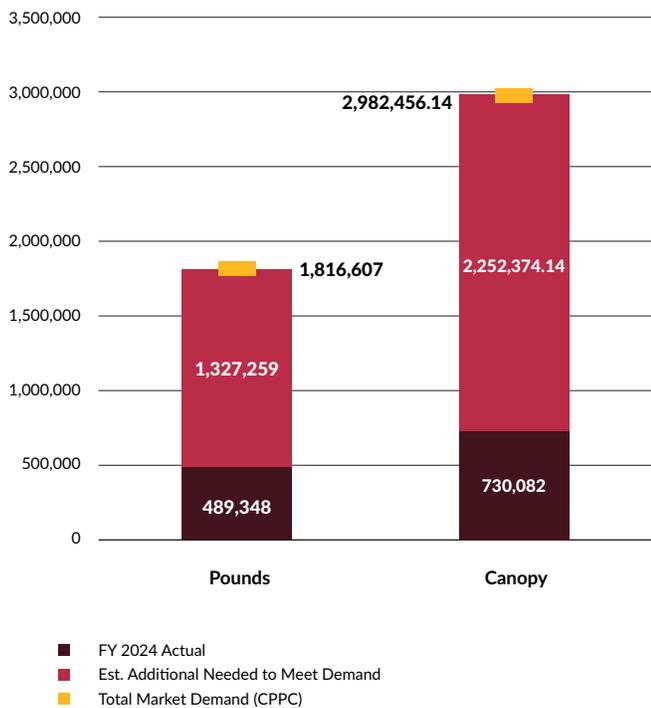
⁶ Cannabis Public Policy Consulting, “Future Adult Use Cannabis Demand & Predictive Modeling”, January 5, 2023

⁷ Total demand, per the CPPC study, considers all sources of cannabis demand, including medical, adult-use, and illicit demand.

⁸ CPPC’s canopy estimate rate assumes slightly less productive plants than currently shown in the State. If applying the State’s current production rate of 0.67 to the amount of pounds required, the canopy estimates are reduced to 2.7 million square feet.

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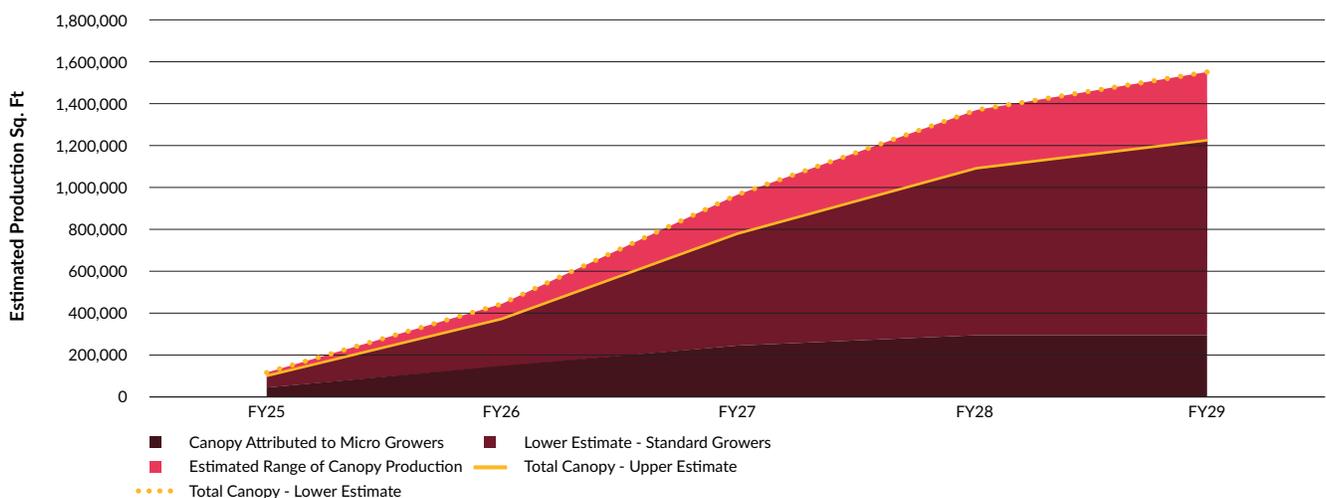
Exhibit 5: Total Demand and Estimated Canopy Needs, Pounds Sold.



The incoming micro and standard grower licensees are authorized to grow up to 10,000 square feet and between 10,000–300,000 square feet of canopy once they become operational, respectively. The MCA notes that the current median value of authorized canopy per licensee is 37,000 square feet, and 50,000 is the average across all current standard growers. The incoming grower licensees will become operational over the next 18 months, but are not expected to reach full authorized flowering canopy capacity in the near-term. Rather, the MCA estimates that roughly half of micro licensees and less than a fourth of the standard licensees will become operational and reach full capacity in fiscal 2025. **Exhibit 6** estimates the amount of canopy that the State could reasonably expect to become operational over the near term from the first round of cannabis licensees under the CRA.

Exhibit 6 displays two assumptions to create a range of canopy capacity for the new standard grower licensees. First, projections either attribute a standard licensee to reach the median square footage of the current operators (37,000

Exhibit 6: Estimated Additional Canopy, First Round of Licensees



Source: Maryland Cannabis Administration⁹

⁹ Note: All canopy is simplified to indoor equivalent for the purposes of this analysis.

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square feet) or the average (50,000 square feet) of current operators. This creates the range of capacity displayed above. Second, the standard licensees are assumed to take three fiscal years to reach that given capacity. In either assumption, micro grower licensees are estimated to reach their statutory maximum capacity of 10,000 square feet within two years of operations. In both instances, the MCA anticipates that certain licensees will begin operations sooner than others, further phasing in the amount of canopy available in the State.

As discussed in the prior sections, the MCA estimates that between 1.2 to 2.25 million square feet of flowering canopy is required to meet the *total* market demand.¹⁰ The CPPC study estimated that by year 5, the Maryland market should be able to capture 72.9% of total market demand through either the adult-use (57.0%) or medical (15.9%) markets. Under the assumption that total market capture will be difficult in the near term, the MCA uses the target market capture of 73% to anticipate the remaining canopy needed to achieve this level of production. The likely production capacity of the new social equity licensees will be able to meet some of this demand in the medium term. However, as discussed below, Maryland’s market has exceeded many initial estimates, suggesting there may be a need for further grower authorizations in subsequent licensing rounds.

Demand Estimates

Another integral driver of demand is the availability of retail outlets. The demand study, which surveyed 2,147 Maryland residents, suggests that increasing the number of cannabis dispensaries would reduce an individual’s driving time to purchase cannabis, subsequently increasing overall demand. As noted above, the MCA has been able to award 80 new standard dispensary licenses, and an additional 10 micro licenses, which are required to be operational within 18 months of the conditional award.

On average, during the first year of adult-use implementation, each dispensary averaged \$11 million of total market participation. In the MCA’s analysis of other markets at various stages of maturity, this average number of revenue per retail outlet is higher than any other State’s market, shown below in **Exhibit 7**.

Prior to the introduction of the Cannabis Reform Act, the CPPC demand study estimated that within the adult-use market’s first year, total adult-use sales would be roughly \$450 million. In actuality, the State meaningfully outperformed this estimate, with over \$700 million in the first year for adult-use sales alone. This was, in part, driven by the market launching at a much higher rate than estimated (first month of sales eclipsed \$50 million, compared to the \$15 million estimated).

Exhibit 7: State by State Comparison of Retailers to Total Market Sales¹¹

State	Adult Use			Total Market			Population Estimate (100,000)	Retailers per 100,000
	Retailers	Market (FY24), \$ in Millions	\$/Retailer	Retailers	Market (FY24), \$ in Millions	\$/Retailer		
CA	1102	\$4,502.82	\$4,086,043.56	1111	\$4,797.13	\$4,317,848.78	390.3	2.85
CO	673	\$1,271.95	\$1,889,967.83	830	\$1,450.11	\$1,747,124.15	58.4	14.21
CT	43	\$183.81	\$4,274,698.72	45	\$297.81	\$6,618,104.53	36.26	1.24
IL	221	\$1,837.56	\$8,314,746.72	221	\$2,170.84	\$9,822,799.05	125.8	1.76
ME	155	\$234.74	\$1,514,460.75	221	\$505.55	\$2,287,550.90	13.85	15.96
MA	368	\$1,612.00	\$4,380,434.78	368	\$1,837.60	\$4,993,478.26	69.81	5.27
MD	96	\$708.76	\$7,382,885.29	96	\$1,083.60	\$11,287,476.69	61.65	1.56
MO	208	\$728.02	\$3,500,096.15	208	\$834.74	\$4,013,173.08	-	-

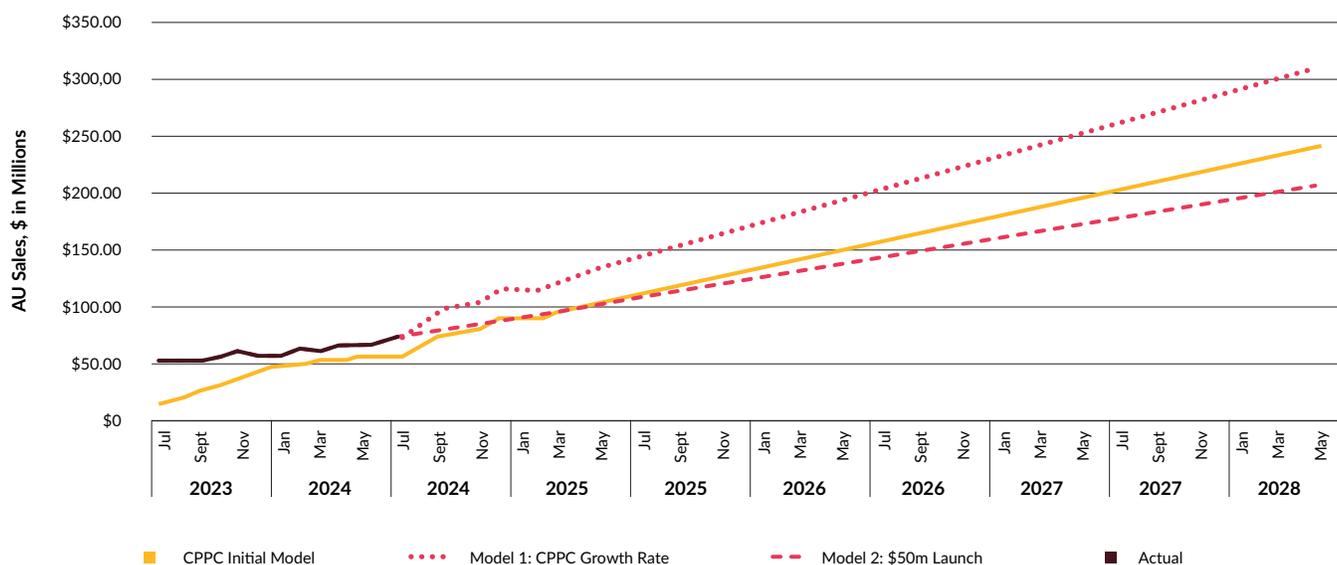
Source: Maryland Cannabis Administration

¹⁰ Includes illicit market

¹¹ The total market sums include medical cannabis-specific sales

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Exhibit 8: Estimated and Actual Monthly Adult-Use Sales, First Five Years of Program



Source: Maryland Cannabis Administration

Given the sizable initial market launch, the MCA has conducted two additional forecast models on adult-use market demand, using the initial CPPC study as a starting point. The MCA believes that the CPPC study still reflects relevant and the most rigorous methodology available at this time for estimating future market demand. These two additional forecasts, along with the initial actual data, are shown in **Exhibit 8**, above.

The above models differ from the CPPC model in two ways: First, the actual programmatic data through August 2024 is used as a starting point for this analysis. Following August 2024, the MCA applied CPPC’s month-over-month growth rate for the out-months. The first model maintains the estimated growth rate for the given month since the launch of the program. Using these assumptions, Maryland’s market is estimated to eclipse \$3 billion prior to fiscal 2029. The second acknowledges that the Maryland market launched in a much more mature position (\$50 million in the first month) than assumed. In the initial model, Maryland was not expected to reach the \$50 million per month mark until the 10th month following implementation. In the second model, the MCA starts employing CPPC’s growth rates from the 10th month, shifting forward the growth curve. This presents a slightly more conservative outlook, with the adult-use market reaching \$2 billion through fiscal 2028. The initial

model suggested that Maryland’s market would approach \$2.5 billion over the same period. The fiscal year estimates under each of these models are shown in **Exhibit 9**.

Exhibit 9: Fiscal Year Estimate for Adult-Use Market

Fiscal Year	CPPC	Model 1	Model 2
2024	\$456.97	\$708.76*	\$708.76*
2025	\$958.97	\$1,263.34	\$1,034.44
2026	\$1,545.21	\$1,987.75	\$1,451.25
2027	\$2,094.39	\$2,694.22	\$1,868.24
2028	\$2,643.56	\$3,400.67	\$2,290.82

Note: Dollars in Millions. *Actual adult-use sales totals for fiscal 2024.
Source: Cannabis Public Policy Consulting; Maryland Cannabis Administration

Other Demand Considerations

The primary driver of demand in the CPPC model is an assumed number of retail outlets, and was developed based on other markets launching in other jurisdictions. Adult-use cannabis legalization continues to increase nationwide, but at present Maryland is surrounded by jurisdictions that do not have a legal commercial market for adult-use cannabis (Pennsylvania, Virginia, West Virginia, Delaware, and the District of Columbia). As previously discussed,

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CPPC estimated Maryland’s tourism market share at 22%. Absent significant changes, including legalization among neighboring states or federal rescheduling of cannabis, the MCA expects the tourism market share to remain around one-fifth of the market. Illinois is a similarly situated state, in terms of the only legal market in surrounding jurisdictions, and publishes data on share of out-of-state sales and their data shows a 20% share of out-of-state purchases. If other nearby states do launch an adult-use market, Maryland may see a negative demand shock.

On-site consumption and the diversification of cannabis products remains an expected area of growth for the State’s cannabis market. These facilities have the potential to provide a new business type for the Maryland cannabis market which would allow individuals who do not consume cannabis due to residential restrictions the ability to use cannabis products they may otherwise would not. Further, the diversification of cannabis products within Maryland’s industry may provide alternative products that may be attractive to consumers not currently participating in the market, such as the recent addition of single-serve beverages. These developments are also not considered in the above and may present positive demand shocks to the market.

Conclusion

Based on existing data, MCA still believes that the 2023 demand study represents a good benchmark for total market demand. With that under consideration, the demand study estimated that the *total* canopy needed to meet total market demand was 2.7–3.0 million square feet. Total market demand, as discussed above, includes cannabis from all sources, including the illicit market. The CPPC study further estimated that the State could achieve 73% of market capture between the medical and adult-use markets by the fifth year of implementation. When forecasting canopy needs in the near term, the MCA used the 73% rate to consider amounts of remaining canopy available. As discussed above, given the size of the market at launch, there is a likelihood that this *underestimates* the total canopy needed to be authorized in the State.

If the market continues to grow at the rate forecasted by CPPC, this would reflect a 30% increase over the baseline CPPC forecast. Applying this same rate of growth to the

canopy estimates would suggest that the State in fact needs up to 3.9 million square feet of canopy to meet total demand. Alternatively, the MCA’s more conservative estimate is only a 6% reduction from the CPPC forecast, or 162,000 fewer square feet (2.5 million square feet total). Exhibit 10 below summarizes these canopy estimates and combines them with estimates of the new licenses as well as the current operators. The time horizon for this analysis is through January 1, 2027, in which the current operators are subject to statutory canopy restrictions.

Exhibit 10: Estimates of Remaining Demand

	Lower Estimate	Upper Estimate
Total Canopy Need to Meet Total Demand	2,500,000	3,900,000
Adjusted for Target Market Capture (73% of Total Demand)	1,825,000	2,847,000
Current Operators Authorization	1,058,845	1,058,845
New Licensees Estimated Canopy by 1/1/2027	570,000	700,000
Additional Canopy Needed	196,155	1,088,155

Source: Maryland Cannabis Administration

While the new licensees are *authorized* to expand beyond the amounts shown in **Exhibit 10**, as discussed in Sections I and II, the MCA believes it will be unlikely that facilities are able to produce on that scale that quickly within their initial years of operations. Rather, it is more likely that they occupy 570,000-700,000 square feet in the near term, and no more than 1.5 million square footage in the long run, or until fiscal 2029. This leaves roughly 200,000 to 1 million square feet of flowering canopy to be grown and developed by a second round of licensees, in which the MCA is authorized to award up to 25 standard and 70 micro grower licenses. With all of these factors taken into consideration, the MCA believes that the market is well on its way to meet current demand, while still providing market share for the new conditional licensees, and forthcoming operators.