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Green Acres:
Cannabis Legalization & San Mateo County

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ABSTRACT

A brief overview of cannabis startups operating in San Francisco, an analysis of the market forces that affect those startups, what the State and other jurisdictions are doing to regulate this sector today, and a discussion of the opportunities, challenges, and policy options that will fall to San Mateo County with the full legalization of cannabis in California.

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Introduction

Cannabis legalization for recreational use appears to be imminent in California. When it comes, a shift in policy and regulation at the local level must occur to address the challenges and opportunities the cannabis industry will present. While the Federal government struggles to construct an aligned and coherent cannabis policy, California has taken tentative steps provide a framework for a legalized cannabis sector. However, it is local jurisdictions that must address legalization directly ... and relatively quickly.

To date, law enforcement has acted as the primary tool of cannabis policy and regulation, treating non-medical production and use as a criminal activity. In addition, restrictions have been adopted on where medical dispensaries may locate, the number allowed in communities, and how they may conduct business.

With legalization, the focus among policy makers is now on the potential tax revenue from cannabis, along with new guidelines to regulate the sector, and evolving a new role for law enforcement with respect to cannabis.

Because of San Mateo County's agricultural infrastructure, fully legalized cannabis presents both unforeseen risk and a unique opportunity. This dichotomy sets it apart from other communities in the Bay Area. **SMC is a highly attractive location for the cultivation of legalized cannabis**.

Cannabis startups are a new industry, driven by a new set of rules. Before wise policy, regulation, and taxation is possible, we must understand what was, what is, and what is coming.

Some of the right questions to ask are:

- What are cannabis startup businesses like?
- How is cannabis currently produced, and how will this change with legalization?
- How do cannabis businesses build infrastructure, attract finance, and manage labor?
- Are these businesses sustainable in the long-term in their current forms?
- How are other jurisdictions attempting to monitor and regulate legalized cannabis?
- How will legalization of the cannabis industry affect San Mateo County?

Answering these questions, and explaining why SMC's decision-makers should craft new cannabis policy and regulation now, is the focus of this document.

Case Study

A Cannabis Startup in San Francisco -

Photo 1: Maturation Room

I recently toured a cannabis startup in San Francisco, and took the time to examine its business operations (and the industry) in detail. With legalization in California on the near horizon, I considered it as a potential investment. I rejected the opportunity for reasons that will become clear later in this document. However, cannabis legalization will trigger several serious challenges and opportunities for San Mateo County. What follows is what I've learned, and what I believe our County decision-makers should be considering well in advance of legalization.

This particular cannabis startup is representative of the hundreds now operating in the Bay Area. These firms supply the public with medical marijuana through licensed dispensaries. Preparing for future recreational usage is also in the mix (but not advertised). Startup growers are building extra capacity into their infrastructure and operations to scale up for full State legalization.

Photo 2: Bud Nearing Harvest

Today, roughly 30 medical marijuana dispensaries operate in San Francisco. Cannabis is supplied by grow-houses: a commercial building with its interiors modified to grow cannabis. A retrofitted urban grow-house can typically have anywhere from 5,000 to 10,000 square feet of space devoted to crop production.

On average, there are 2-4 grow-houses supplying each dispensary. By ordinance, each San Francisco grow-house must be linked to at least one dispensary. A percentage of these grow-house crops not slated for direct dispensary sale goes into cannabis oil and hashish production. Those byproducts are sold to vendors of other dispensary items (topical, edibles, etc.).

This startup has two grow-houses that are not yet finished (construction retrofits are at 40% complete). They are ramping up production for a possible November legalization. Their first building was formerly used as a meat packing business, and the second was an old electrical supply warehouse. Both are two-story structures together totaling roughly 18,000 square feet. They currently supply cannabis to other dispensaries, but are finishing their own dispensary for direct sales to the public.

Photo 3: Seedlings

Photo 4: Growth Room

The founder estimated the total value of his current crop as roughly $650,000. His plants were at various stages of their growth cycles, in rooms modified to support each stage (seedlings, growth, maturation). Customized LED lighting at specific wavelengths, along with temperature, atmosphere, nutrients, and other factors are all tightly controlled and monitored to maximize crop yields.

To ensure consistency (and potency) the firm cloned a unique plant with a set of desired characteristics. Their entire production depends on continually reproducing that one specific plant. The majority of grow-houses in the Bay Area use cloning to grow their crops; the technique is common industry practice. Customers who demand a particular variety with consistent characteristics must purchase cloned cannabis. Some of these consumers may be ignorant that they are ingesting a cloned product.

Cloning is why enclosed grow-houses are necessary; a grow-house creates an isolated, controlled environment that prevents cross contamination with other strains. Growing multiple crops of clones won't work in an open field where female plants could be fertilized by random strains from any passing insect. Open land farming degrades the unique strain of a cloned crop quickly, damaging its market value.

The labor this firm uses is largely made up of people who have years of experience growing illegal cannabis. Some have criminal records that reflect past arrests and prosecutions. New employees have recently joined the grow-house and are being trained. While all staff members may not have criminal records, I suspect that the majority of these employees also use cannabis somewhat regularly for recreation.

A wealthy prime investor from the Pacific Rim backs this grow-house, along with a number of local secondary investors. The founder actively seeks additional investors to finance their ramp-up phase. With full legalization, the founder's plan is to eventually cash out most of his secondary participants from cannabis profits, and eventually through bank refinancing when that becomes an option. His goal is to retain a permanent majority equity stake in the enterprise.

Investors are motivated by high profit, and wish to leverage the opportunities legalization may bring. There is no shortage of investors, so for the moment the speculative cash will continue to flow. This model of cannabis startup finance and growth is typical.

This firm's rate of capital expenditure (the startup burn rate) is high. Spending on business operations is reactive, pushed by the need get to full production rapidly, with most planning focused on the current crop cycle. These entrepreneurs understand how to grow cannabis quickly, but they do not have experienced professionals in accounting, construction, or business operations on their team. Instead, they leverage cashflow sales and investment capital to address operational problems themselves. Conservatively, the costs of the facility I toured are over $10 per square foot *per month* to rent their buildings, retrofit them for cannabis production, and operate them as grow-houses.

Grow-house operators are not thrifty. They tend to fire hose money at challenges. From what I have observed, this grow-house startup is burning through investor capital way too quickly. Fixed costs (3 building leases, labor, taxes, etc.) are in excess of $150,000 per month, and startup costs (construction, legal, cost of money, etc.) are in the $100,000 per month range. This rate of spending will continue while they transition from startup, to full production, and then to dispensary point of sale.

In the meantime, cash and resources are wasted in inefficient operation. For example, I saw a newly installed copper plumbing system in a grow room that had to be entirely replaced. The grow-house crew neglected to tell the installing contractor that a plastic pipe system was necessary to transport the chemical nutrients used. That alone was a $24,000 mistake.

However the operation's sales to dispensaries are still strong, and investors remain confident, so the team hopes to reach full profitability once their own dispensary is finished. They predict at that point investors may see some of their profits and can cash out.

Based on what I observed I doubt that will happen, so I chose not to invest in this business, or the sector, at this time. For reasons that I outline in following sections, the short-term fundamentals regarding the current production and distribution models for cannabis are poor.

Analysis of Operational Facilities & Business Costs –

A number of challenges face this particular startup, and by extension, all other Bay Area grow-houses:

- $100K+ a month in leases for 2 grow houses and 1 dispensary
- Construction retrofit costs – (unknown, but high in SF's current construction environment)
- Construction permitting process (delays)
- $75K in one-time, upfront "impact fees"
- Power & water (high)
- Ongoing taxation/regulation costs in SF (undetermined)
- Facility retrofit, R&D costs to support clone production (ongoing)
- Dispensary fit up & opening costs (unknown)
- Labor/training costs prior to regular sales, and after (unknown)
- Security, Operations, & Legal costs (unknown)
- ROI to investors?
- Founder/executive compensation?

This startup is not in a position to offer profit sharing at this time, nor an equity stake backed by sufficient tangible assets. Their cash burn rate is simply too high, and their only assets are the current crop and installed building fixtures. For example, if $100K were invested today, it would be exhausted in weeks. Because of the overall market forces discussed in the following sections, there will be chronic and increasing downward pressure on product price as the legalized cannabis market matures.

All Bay Area cannabis startups face a similar problem: costly infrastructure in a competitive real estate market. They are attempting to build a new manufacturing infrastructure in one of the priciest places on Earth. They retrofit and operate old buildings that were designed for other uses, and were never intended for high-volume indoor agriculture. This strategy is expensive, generates waste, and requires a permanently high-energy footprint.

A converted grow-house locks in excessive operating costs forever, no matter how customized or efficient those operations eventually become. This model of cannabis production hobbles the long-term survival and growth of these businesses. Higher projected future sales of cannabis, in a market that would support high prices indefinitely, are necessary for these startups to profit and thrive long-term. That is not likely to happen.

The mature stages of the cannabis market are coming. With legalization, high production costs and competition will force startups to cut costs dramatically as product prices slide. Those conditions will bring both opportunities and challenges for San Mateo County.

Cash Management in a Cannabis Business –

By Federal law, the growth, possession, or use of cannabis is illegal. This means that cannabis profits are tainted and subject to potential seizure. To avoid the risk of seizure, cannabis startups don't use banks. They cannot leverage the kinds of bank services that other businesses typically use such as checking, insured deposits, debit & credit cards, and payroll services.

With no access to banking, cannabis enterprises operate on a cash-only basis. They must keep sufficient cash on hand to pay for supplies, expenses, and payroll. Their money is usually retained on site, or informally moved to discreet locations in an effort to enhance security.

Operating an illegal, or a quasi-illegal, cash-only business entails risk. Robbery, theft, embezzlement, and fraud are among those risks. The temptation to under-report sales income to avoid taxation is also a risk to jurisdictions that seek cannabis tax revenue.

The problem of mitigating risk is compounded by a long culture of secrecy, and by operational methods carried over from the earlier illegal stages of the cannabis market.

Full legalization alone will not transform the cannabis business culture. On the contrary, a flood of new investment into the sector will trigger increased risk. Only comprehensive regulation and oversight to govern the marketplace in its early stages will normalize the sector for investors, consumers, taxing jurisdictions, and the businesses themselves.

The challenges of regulation are to:

1) Quickly normalize these businesses after legalization
2) Ensure a stream of verifiable tax revenue from cannabis

To do meet these challenges, the cannabis startups must migrate their cash-only business models into banking mechanisms that can track the cashflow, verify transactions, provide lines of affordable credit, and regularize business operations.

Banking services alone will not normalize how cannabis startups operate. But it can contribute to a culture shift by integrating the industry into the larger economy … and reducing the risk of a cash-only industry for all involved.

Cannabis Startup Oversight

California's "Medical Marijuana Regulation Safety Act" -

The **Medical Marijuana Regulation Safety Act** was passed into law in January of 2016. This new law provides initial guidelines for the State's cannabis industry in advance of full decriminalization/legalization. It outlines State regulatory responsibilities, and some of the powers ceded to local jurisdictions to regulate cannabis. While not detailing regulation in all areas, it does provide a framework for a legal rollout. In the future, the intention of lawmakers is to pass additional law and regulations to govern the industry.

The Act covers a variety of essential government systems and regulations that will be put into place, including:

Licensing -

- The establishment of **regulatory agencies**, including the Bureau of Medical Regulation under the Department of Consumer Affairs
- The **defining various license types**, including those for cultivation, manufacture, testing, dispensary, distribution, and transporter
- Fees and funding of each licensing authority will vary based on the size of each entity. Various government agencies will contribute to the funding of the new licensing authorities.
- **Licensed distributors are now required**, in order to regulate the flow of products and control quality
- **Grandfathering is allowed**, so if a facility was lawfully operating before Jan. 1, 2018, it may continue to operate until its license is approved or denied
- **Manufacturers will be licensed by the Department of Public Health**, which will issue a limited number of licenses.
- **New application qualifications** that must be followed to be approved for licenses

Business Regulation -

- Restrictions on **vertical integration** of cannabis businesses are specified
- **Local permits** are required, in addition to new state permits, for cannabis firms
- **For-profit entities are now allowed**, making these businesses a more attractive investment opportunity
- **School zone regulations** indicate limits on how far away cultivation and dispensary facilities must be from schools
- **Only licensed transporters** can transport cannabis and cannabis products between licensees
- **Counties may tax the various cultivation, dispensary, production, processing, distribution, etc.** entities of medical marijuana, pending voter approval requirements
- Labor peace agreements are required for facilities with 20+ employees

Cultivation Regulation & Testing -

- **State cultivation licensing applies to all areas of California**, including communities where there aren't any cannabis regulations currently in place (this represents a *minimum licensing standard* that may be augmented by additional licensing at the local and county levels)

- **A track and trace program will be implemented**, so the origin of all cannabis plants will be able to be easily identified (functionally, this duplicates Colorado's system of barcode tracking of individual plants)
- **Plot size limits** for the cultivation of cannabis (restricting the size of any particular firm's grow-house, greenhouse, or outdoor crop production)
- **Testing of cannabis** will include checking for cannabinoids, contaminants, microbiological impurities, and other harmful compounds (guidelines for potency testing, a potency certification, or determining limits on a cannabis product's potency are not part of this legislation)
- Country of Origin labeling may be introduced at some point in the future
- Packaging of cannabis and cannabis products will also be regulated under this Act
- A patient exemption is still in effect, so that patients who cultivate cannabis for personal use will be able to cultivate 100 square feet or less for personal medical use
- New pesticide standards will now be in effect
- Organic certification will now occur through the DFA by Jan. 1, 2020

Medical Regulation -

- Deliveries of medical cannabis may occur in any county in California
- Physician recommendations are clarified in this Act, though they don't interfere with or severely limit patients' access to current medical recommendations for cannabis treatment
- Patient privacy must be honored at all times

Unfortunately, the Act specifies some of its licensing and regulatory deadlines years into the future (2018, 2020, 2022, 2023, 2026). This means that market forces will determine the shape of the cannabis industry at its inception, with any well-considered State and local regulation to follow after the fact.

While many of California's decision-makers hope cannabis will provide a taxable windfall, it is still unclear exactly how the transactions of a cash-only industry can be accurately monitored and assessed.

San Francisco's Regulation of Cannabis Startups –

The focus of San Francisco's cannabis policy has been on licensing medical dispensaries, and generating additional tax revenue. But the City has done virtually no serious planning for full legalization, nor prepared for recreational cannabis sales. They have no comprehensive regulation in place for these startups. The Mayor and Supervisors are in a reactive posture, and playing policy catch-up on this issue.

In December 2015 a taskforce was appointed by the City to study the issue, and propose new policy and regulation for the Board of Supervisors to consider. The stated goal of industry advocates, and perhaps for the majority of taskforce members as well, is to figure out how to expand the cannabis business within San Francisco:

> *"Erich Pearson, founder of SPARC, one of San Francisco's largest dispensaries, said the biggest issue facing the task force, which he will serve on, is changes to land use controls to allow for more pot businesses. "We need to determine how many cannabis users we are going to have in San Francisco and how many stores that's going to take to distribute that cannabis once it's legal," Pearson said. "*

(http://www.sfexaminer.com/san-francisco-prepares-for-legalization-of-recreational-marijuana-use/)

San Francisco has no experience formulating agricultural policy, or regulating agricultural businesses. In their view, dispensaries and the cannabis grow-houses that supply them are simply another variety of tech startup. Based on taskforce member comments, they don't know the market, its size, are ignorant of its social impacts, and are trying to figure out land use policy as they go.

The Board of Supervisors is attempting to craft regulation in advance of a fully legalized market, and public opinion:

> *"Supervisor Scott Wiener, who created the task force, said it was important to create "smart local regulation" ahead of time to prevent a "fire drill" post-legalization."*

As the public face of the industry, locating pot dispensaries within the City is the focus of local concern, planning and regulation:

> *"Members of the Board of Supervisors already face a litany of complaints from residents when marijuana dispensaries look to open under existing city law. Current rules restrict pot businesses to only a small portion of The City, known as the "green zone," which results in clustering. There are 28 dispensaries in operation today."*

City decision-makers see legalization as an economic opportunity similar to the technology boom. Advocates boost the cannabis business as an economy builder, while everyone involved seems to have plans to spend its promised windfall of tax revenues:

> *"Laura Thomas, with the Drug Policy Alliance, said legalization would create a strong job market and The City should focus efforts on job training. She added that task force would examine funding ideas with expected tax revenues. Legal marijuana sales increased by 74 percent last year to $2.7 billion, according to marijuana investment and research firm The ArcView Group."*

With the policy focus on dispensaries, San Francisco's grow-houses go largely unnoticed. They operate in a regulatory vacuum. The S.F. Building Department functions as the City's lead agency for grow-houses, looking for construction code violations while startups retrofit commercial spaces to produce crops. Once construction retrofits are completed, business license renewal and occasional fire department walkthroughs are all that's required for a grow-house to stay in business.

In the last decade, San Francisco offered technology firms generous tax moratoriums to relocate there. The strategy was successful, but revenues have suffered while the tech sector has grown tax-free. City planners now highlight the potential revenues that legal cannabis will generate. Cannabis startups will be offered none of the tax breaks given to the tech sector, and will be taxed aggressively. Those higher taxes will contribute to driving cannabis startup costs upwards.

Advocate pressure, and the hope of revenue, are behind the City's support of cannabis expansion. Revenues have not materialized because regulation is absent, and tax policy is yet to be determined.

The Colorado Legalization Experience –

It's been over two years since Colorado legalized the sale of cannabis for both medical and recreational uses. Their market experiment is still in early stages, but these are the highlights:

- Colorado legalization was passed by amendment to the State Constitution
- Dispensaries are licensed, regulated and taxed by the State
- Over 200 dispensaries operate in Denver alone

- Dispensaries must grow at least 70% of their own product, by law
- Individual plants are tracked by barcodes in a database
- The entire cannabis supply chain is monitored by the State, from initial grow to final sale
- Federal law prohibits traditional bank financing of cannabis startups; operational credit and financing is generated through other sources (friends & family, investors, venture capital)

Growing and selling cannabis is still against Federal law. The Colorado market manages to thrive in an absence of prosecution, as long as sales do not cross State boundaries. Prosecution guidelines are triggered by interstate sales activity, and that happens rarely in Colorado. This may be changing.

Colorado is a leader in creating comprehensive regulation and monitoring mechanisms for its cannabis industry. For example, all plants are bar-coded and tracked from seedling to sale. The focus has been on compliance, product tracking, and taxing both dispensaries and grow-house operations.

Colorado's decision-makers appear uninterested in using policy to shape the cannabis industry itself. They are content to let market forces alone shape this economy, adopting an entirely hands off approach to expanding the sector. The Colorado cannabis market will succeed or fail without any kind of State planning or support.

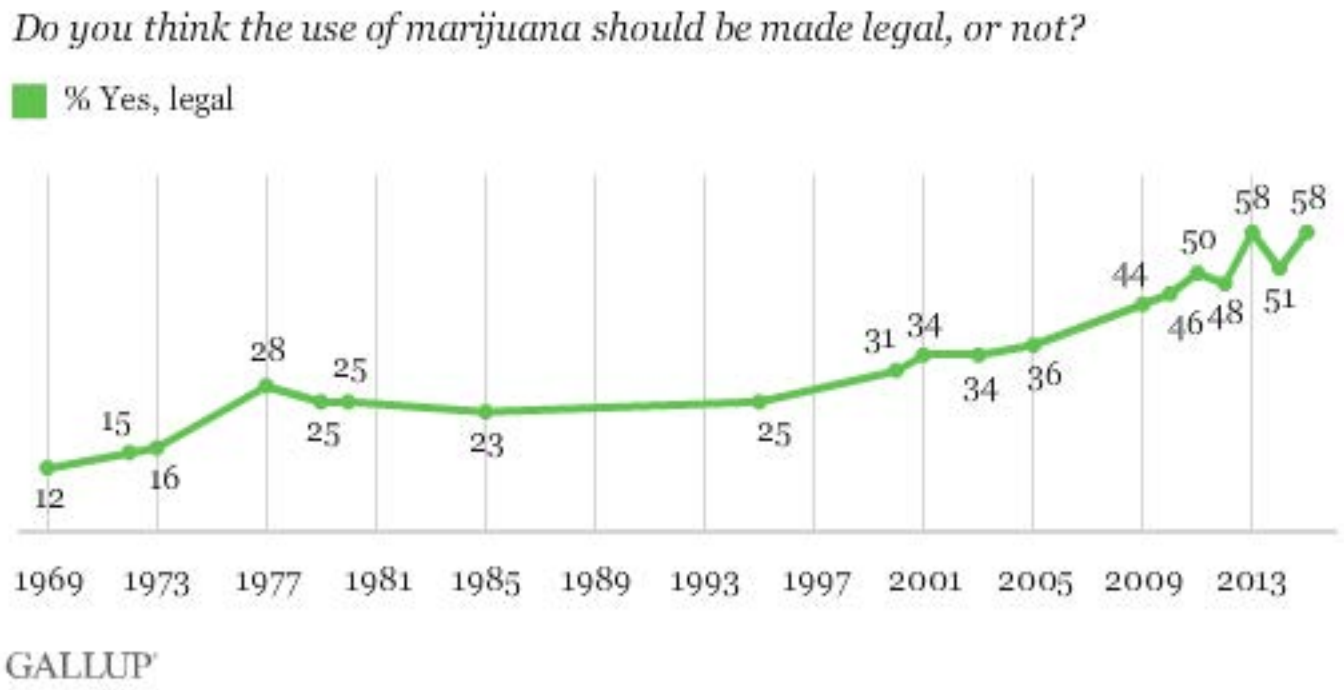
Cannabis in Colorado is a new sector that attracts speculative investment, but it's not tied directly to other sectors in their economy. There are no critical interdependencies with other sectors such as health care, agriculture, or banking. Economically, the industry is vulnerable because it stands alone.

Colorado cannabis is also in an unsustainable boom, with a correcting market shakeout now in process. There were too many startups operating in an environment of insufficient demand. When the market corrects due to over supply and competition, its effects should localize within the cannabis sector as prices drop, investors lose money, firms consolidate, and many startups go out of business.

(http://www.cbsnews.com/news/medical-marijuana-colorado-green-rush/)

The Current Political Environment

There is a push for cannabis legalization in California. Briefly, this is what public opinion now looks like:



Graph 3. 2015 California Opinion Poll on Legalizing Marijuana (Source: http://420intel.com/articles/2016/02/29/vermont-could-become-first-state-legalize-marijuana-through-legislature)

Cannabis legalization may pass in California in November of 2016; several initiative sponsors are now gathering support for it. The majority of voters appear to be in favor of it.

However, the outcome of approval for this year is still uncertain. The dynamics of an unpredictable (and for many, a distasteful) presidential election year could affect the votes needed to pass such an initiative. There are also serious constituencies that will fight legalization for ideological, strategic business, or political reasons.

So, for the purposes of strategic planning, betting on a 1-2 year time span for legalization is probably wiser. However, the trend in favor of change is clear; it's only a matter of when legalization will come. Given the coming volatility of a legalized cannabis market (described in the following sections), local jurisdictions would be wise to be prepared for it. This is especially so if public expenditures become dependent on projected cannabis tax revenues.

For San Mateo County, these preparations should have already begun. But before one can prepare, one must first understand the forces behind a changing market. That's what I'll outline in the next section.

The Cannabis Market Today, and Tomorrow

Alcohol Prohibition, and the Transition from Illegal to Legal Markets -

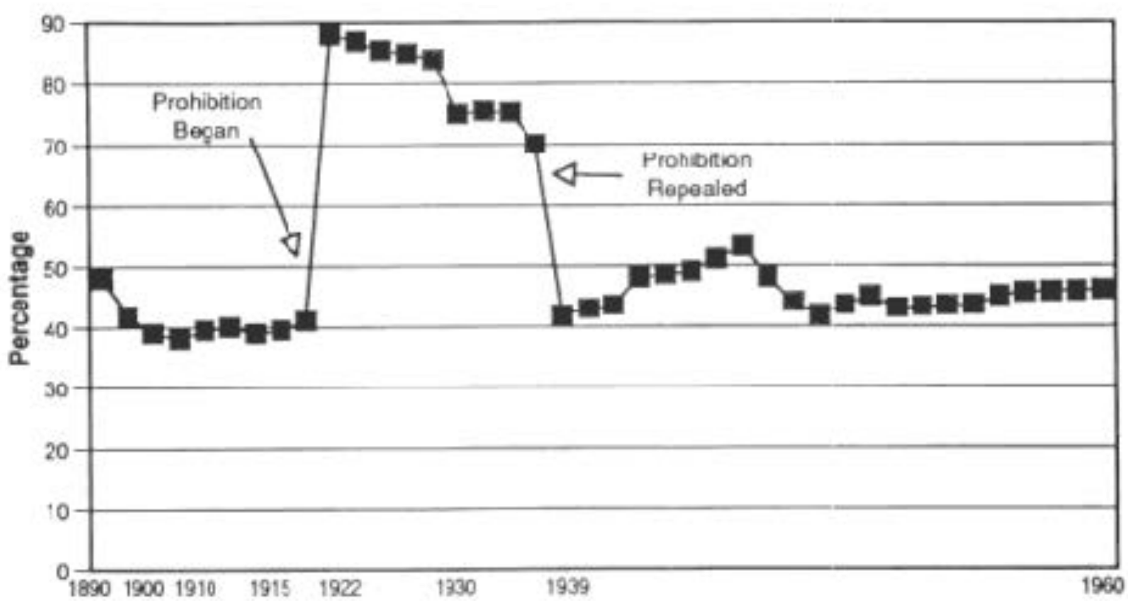
The market behavior of banned or controlled products is well documented, and applies directly to the illegal cannabis industry. From the perspective of history, much of what has happened before shall probably happen again.

There are other examples I could site, but for the sake of modern parallels, the period during and after the Prohibition of alcohol is probably the best match. The data from that era shows the factors that govern new entrants into the market, and the trends that shape the market over time. Those key factors are:

- Product demand by the public
- Producer competition for market share (established & new entrants)
- Operational scale of the producers
- Price volatility in the face of demand & supply
- Government regulation (or ban)
- Taxation policy after legalization

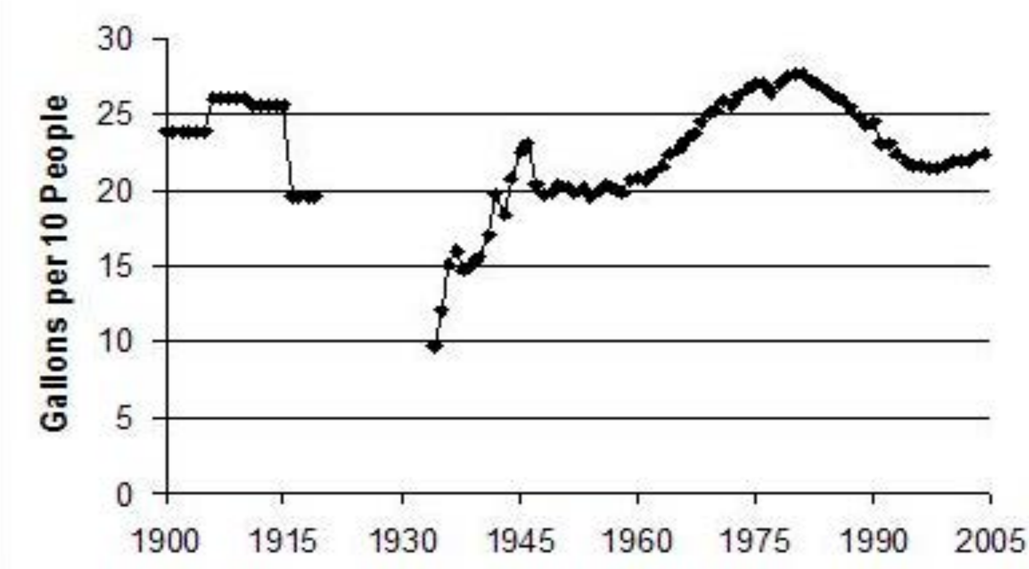
Illegal to Legal: Historical Market Analysis -

The following graphs give an overview of how legalization changes illegal market conditions.



Graph 1. U.S. Expenditures on distilled spirits as a % of total alcohol sales.

Note: Beer & wine expenditure graphs are nearly opposite, indicating that consumers favored beverages with higher alcoholic content during the period of Prohibition. After Prohibition, the trend corrected to more balanced consumption of a range of high and lower alcoholic beverages.



Graph 2. Total U.S. Consumption of Alcohol over time.

The alcohol market during Prohibition reflects high expenditures (scarcity + logistics costs). After legalization the data shows the following pattern in sequence –

1. New producers enter the market
2. Investment capital increases
3. Additional capacity is brought online
4. Production increases
5. Competition for consumers intensifies
6. An imbalance of supply vs. demand
7. Market corrects to lower price points
8. Fewer producers remain in the market

Prices dropped even as the total consumption of alcohol increased after legalization. This was because even as more consumers chose to buy newly legal alcoholic beverages, the rate of product supply grew greater than consumer demand.

Together, these graphs show 4 clear trends after legalization:

1) A manifold increase in production of the alcoholic products post-legalization
2) A net increase in alcoholic beverage consumption by consumers post-legalization
3) A shift of consumer demand to beverages with lower alcohol content
4) Severe downward price pressures due to increased competition outstripping demand

With full legalization, this sequence is what's going to happen to the cannabis market.

Note also that there was an increased demand for beer and wine (with lower alcohol content) over distilled spirits in the post-Prohibition period. This is in contrast to the greater demand for high alcohol-content beverages during Prohibition. It appears that a banned substance can create a demand for greater potency per dose in an illegal market. Faced with a plentiful supply in a legal and well-regulated marketplace, consumers tended to switch to a lower potency per volume.

The higher hallucinogenic potency that has been bred into modern cannabis is a direct result of illegal market pressures and demand. With legalization, consumer demand and taste will change. It is reasonable to project that the post-legalization cannabis market will create lower potency products as it diversifies to satisfy new consumers. For example, the grow-house startup I toured in San Francisco is now developing lower potency strains in anticipation of future consumer demand for it.

Illegal to Legal: The 4 Stages to Market Maturity -

There are 4 distinct stages of transition when illegal businesses move into a newly legalized market. These stages are driven by the need to adapt to changing conditions in an evolving environment -

1) *The Illegal Stage (where we were)…*

- Business is seen as a wholly illegal activity by all levels of government
- Business operations are conducted clandestinely
- Entrepreneurs, investors, and labor function as criminals, subject to aggressive prosecution, confiscation of assets, and destruction of product
- Labor is often casual in nature, with uneven reliability, skills, and training
- Sources of investment and reinvestment capital are tainted as illegal
- Capital and reinvestment costs are often higher, reflecting high risk
- Production and distribution is also high risk, irregular, and prone to disruptions
- The competitive environment can trigger violence and business disruptions
- Customers are criminalized

Nationally, legalization is progressing at the state level, and counties like San Francisco are actively encouraging cannabis businesses as a taxable revenue source, so we are transitioning out of this stage.

2*) The Quasi-Legal Stage (where we are now)…*

- Business is considered illegal by some jurisdictions, and not by others
- Business operations are conducted either clandestinely, quietly, or openly
- Entrepreneurs and labor may be prosecuted, depending on the jurisdiction
- Labor is still casual in nature, and often with a criminal history; however, new pools of workers begin to become available
- Capital and reinvestment costs remain high, reflecting major transition and growth challenges in a newly evolving market
- Taxation, regulation, and compliance costs begin to be added to the bottom-line
- Production and distribution of product in a more open market trigger additional costs
- The competitive environment becomes more challenging with formerly illegal competitors, and new entrants backed by new money, competing for market share
- Customers see a relaxation of criminal penalties, increased supply, a change in quality, and fluctuating prices

The grow-house startups in San Francisco are at this stage now, and functionally identical to hundreds of other sector entrants and competitors throughout the Bay Area. These startups all grow hydroponic crops in retrofitted commercial buildings (grow-houses). Production is expensive and unsustainable; I'll discuss the implications of this in following sections.

3) *The Newly Legal Stage (where we are headed)…*

- Business is now legal in all jurisdictions (adding taxation costs)
- Business operations are conducted openly (adding marketing costs)
- Entrepreneurs & available labor are subject to business & labor laws (adding costs)
- Industry specific labor is skilled and compensated to attract (adding costs)
- Startups compete for market capital and reinvestment by offering greater ROI
- Compliance with new regulation (adding costs)

- Production adapts by lowering costs, while distribution attempts to capture market share
- Firms experiment with new uses for their product to exploit new market niches
- Higher numbers of entrants increase supply, disrupt the market, and the number of competitors thins dramatically as firms consolidate or go out of business
- Customers begin to discriminate between brands as supply increases and novelty diminishes, creating downward price pressure

In the 3rd Stage, full legalization will signal a shift in the market and a shakeout of startup firms. Planning for this stage is an opportunity for San Mateo County that I discuss in the following sections.

4) The Mature Market Stage (where we will end up)...

Fewer firms will operate in a mature, highly regulated and taxed sector. Those companies and entrepreneurs who plan ahead will survive in this new market environment by changing their operational approach. That means cutting costs ahead of competitors, adjusting their product to suit the market, mastering their supply chain from production to sale, and building strategic partnerships in the industry and with government.

Advanced planning for 4th Stage could create jobs, generate revenue for San Mateo County, and assure its preeminence in a normalized and legalized cannabis industry sector. The County might eventually create a successful model of industry management for the State and Nation to emulate.

Small Cannabis Producers Dominate the Market's Early Stages -

The customers who patronize medical dispensaries tend to favor specific strains. After trying different varieties and consumption options (smoking, edible, topical application), most users choose a variety and stay with it. Preference and habit makes the consumer's behavior regular and predictable.

At this stage in the cannabis market, small producers cater to these regular customers with a variety of cloned strains. Strong consumer demand ensures all crops are quickly harvested, shipped and sold. With full legalization, the challenge for these small producers is to increase crop yields without triggering the higher infrastructure costs that erode profit. As prices drop, startup growers will try to do more of the same with greater efficiency ... in an increasingly competitive market.

In the longer term, industrial open-air farming of cannabis by agri-business will enter the market. Large-scale production in factory farms will grow crops, greatly increasing supply. However, because of cloned strain contamination, these methods will not produce products aligned with present consumer taste. By its nature, factory-farm cannabis is unsuited for sale in dispensaries that depend on cloned product. Instead, those open-air crops will go to produce cannabis oils and distillations used in other consumer products.

Industrial mega farming will ultimately produce a lower cost crop for mass markets, turning it into a commodity. But the scale and resources it requires are ill suited to San Mateo County's agricultural infrastructure. Most of the land here does not favor the massive factory farm.

The County's land does favor small and moderate to large farming operations. The cloned strain producers are beginning to see this, and will seek cost effective opportunities to grow and expand in SMC. The focus of these startups will be on maintaining high quality at lower operational cost, with an increase in production per square foot, to serve their expanding base of dispensary customers.

Cannabis in San Mateo County

The Current Status of San Mateo Agriculture -

In 2014, the County Agriculture, Weights & Measures Department commissioned a study entitled "Economic Contributions of San Mateo County Agriculture" by the firm Agricultural Impact Associates LLC (www.ag-impact.com). The report details the industry's contributions to the County's economy, how it has changed, and market trends backed by data.

In addition, the Department produces annual reports on recent food production statistics. Their most recent report for 2015, and previous reports from the last 10 years, detail another year in the long-term decline of SMC's farming sector:

FLORAL/NURSERY CROPS INDOOR GROWN

Crop	Year	Square Feet	Total Value
Potted Plants[1]			
Flowering & Foliage	2015	6,682,000	$71,121,000
	2014	7,220,000	94,495,000
Cut Flowers[2]	2015	996,000	3,694,000
	2014	1,123,000	4,105,000
Bedding Plants, Cuttings and Liners[3]	2015	163,000	451,000
	2014	122,000	479,000
TOTAL	2015	7,841,000	$75,266,000
	2014	8,465,000	99,079,000

1 Includes Ferns, Hydrangeas, Ivy, Lilies, Orchids, Succulents, etc.
2 Includes Alstroemeria, Lilies, Roses, Tulips, etc.
3 Includes Grasses, Ivy, Vegetables, etc.

Table 1: 2015-2014 Decline of Indoor Crop Values

(http://agwm.smcgov.org/sites/agwm.smcgov.org/files/documents/files/crop_rpt_2015_opt.pdf

While the entire sector is challenged, it is the crops dependent on indoor grow facilities (greenhouses) that have been particularly hard-hit. They produce a mix of floral and nursery crops, and have been particularly vulnerable to competition and changing markets. To quote from the report –

> " ... This year's report reflects an estimated agricultural production value of $132 million, a decrease of $19.7 million from the previous year.
>
> Commodity values for individual crops were mostly up; however, Indoor Grown Floral and Nursery Crops, had an estimated value of $75.3M, a decline of $23.8M. This is due to cutbacks in the production of indoor floral and nursery crops in response to a shrinking agricultural workforce. Federal immigration policy and economics have influenced the availability of migrant farm labor in all agricultural regions and San Mateo County having a smaller, more isolated industry, is particularly vulnerable."

The report states that finding sufficient agricultural labor is problematic in this economy. However, cutbacks due to labor shortages alone do not fully explain the sector's decade long decline in sales and production. Competition, lower wages in comparison to other businesses, market changes, and shifting demand are the other significant contributors to the industry's decline.

No matter what the cause, the trends are clear. Agriculture in San Mateo County is experiencing a long slow death. Economic survival for our small farms is not simply a matter of economizing, or making their processes more efficient. Shifting buying patterns, distribution challenges, and cheap imports are making their traditional business model unviable.

These growers would benefit from a change in the mix of crops they produce to service new, profitable markets. Sufficient profitability, accompanied by higher wages to attract labor, would boost the sector. Greenhouse grown cannabis would be such a crop.

Future of Commercial Cannabis Production -

There are 3 ways to grow commercial cannabis crops:

- Farming on open land
- Converting warehouses or industrial buildings into grow-houses
- Utilizing greenhouses

As explained previously, open land farming of cloned crops is undesirable because it degrades the integrity of a cloned strain, and its value to dispensary customers.

The retrofitted grow-house model in San Francisco does produce cloned crops under controlled conditions. However, these startup facilities are expensive, inefficient, and this grow method is economically unsustainable as the market evolves over the long-term. Those poor dynamics apply to every industrial grow-house facility now operating, or being built, in the Bay Area today.

High operating costs may not drive grow-houses out of business in San Francisco, but diminishing market prices for cannabis certainly will. With lower prices, they will seek to cut operating costs per square foot. As they do, the startups will turn to cheaper alternatives to grow cloned cannabis.

Photo 5: Pescadero Greenhouse Panorama
(265,000 Square Feet Facility)

Greenhouses are the logical alternative to grow-houses for a number of reasons. They offer enclosed space, controlled growing conditions, a favorable infrastructure, low operational costs, and isolation from other contaminating strains. These structures are designed for agriculture, and may be modified cheaply for cannabis production. San Mateo County's greenhouses are usually located near plentiful sources of water and other agricultural resources.

Greenhouses are also very visible structures. In the past, these buildings haven't been widely used by cannabis growers because the industry has operated illegally and in the shadows. That changes with legalization, and the cost-cutting pressures of increased competition. In short order, the hundreds of greenhouses in San Mateo County could be converted to grow cannabis.

Strategically, this presents an advantage to the County. Other nearby communities like San Francisco struggle with regulating both dispensaries and converted grow-houses. When the boom market in cannabis eventually corrects, the bulk of those grow-houses now operating will restructure or close. Economic pressures and increased competition will help to drive those closures, or force them to relocate crop production to someplace cheaper.

Photo 6: Interior Greenhouse Detail

Focusing on fostering a sustainable, lower-cost production alternative would give SMC a near monopoly on the Bay Area cannabis crop supply. For the County, dominating the cannabis market's production side creates an opportunity not only for tax revenue, but also to shape, guide, and grow the industry with a combination of incentives and regulation.

Cannabis Production in a Strategic Sector -

With a few exceptions, San Mateo County's many green houses are often found on small local farms. They are located in District 3, in the coastal central and southern areas of the County. The agricultural infrastructure there is over 150 years old, often run by families who have been farming for generations. These owners have proven to be responsible stewards of the land, wise custodians of the resource, and key partners in the County's conservation efforts.

However, as detailed previously, our County Ag sector has been seriously challenged in recent decades. Competition from industrial farms in the central valley, and cheaper imports from overseas, have eroded profits. Established farmers now face pressure to sell their holdings to new owners, especially to cannabis startups now backed with investment capital. For example, the S.F. cannabis startup that I saw has recently toured such a property, and is considering the purchase of farmland and greenhouses in Pescadero (refer to the end of this document).

Economics and market disruptions will push grow-house operators throughout the Bay Area to become greenhouse and farm owners in San Mateo County. When cannabis growers turn to SMC in mass, the County could chose to attract these firms, constructively work with them, and regulate startups seeking to grow in a cheaper, more favorable production environment. The County's existing agricultural infrastructure is an advantage that could dominate legalized cannabis production throughout the Bay Area, and serve as an example of well-managed sector growth for all of California.

Towards businesses within its boundaries, the County often demonstrates leadership as an engaged policy partner. With legalized cannabis, the County has an opportunity to show leadership again.

Through engaged local regulation and oversight, it could ensure a substantial cannabis tax revenue stream for the long-term. If we are smart in managing the evolution of the industry, we shall enhance San Mateo County's reputation as a thoughtful, world-class innovator. We could demonstrate a model for successful, sustainable legalization across the Nation.

Cannabis could contribute to a well-diversified County economy, creating a recession-proof source of jobs. By revitalizing our challenged agriculture industry, it can offset some of the overwhelming dominance of our technology sector ... and blunt our dependence on tech as an economic driver.

Unfortunately, many advocates who boost legalizing cannabis, or aggressively promote it as beneficial, have financial or ideological goals that supersede other considerations. Wise policy should not be based on these agendas. Nor should decisions be driven exclusively by the desire to enhance tax revenues from cannabis. Instead, the impacts of imminent legalization must be considered and addressed ... in advance of events.

Or we could do more of what's been done in the past: impose a highly restrictive set of policies that hobble cannabis businesses in the County. In my view, that direction is a mistake. Continuing to persecute and limit the industry to the exclusion of constructive engagement would be a lost opportunity to create local jobs, generate revenue, and show leadership.

It is in the County's interest to normalize the cannabis industry through active engagement. With legalization, the County could adopt policies that work to quickly change the illegal mindsets behind the current culture of cannabis cultivators. Aside from increasing tax revenues, the goal of policy should be to normalize the industry and its culture, and integrate it into the County's economy, as rapidly as possible.

The business of cannabis, and the cannabis culture as we know it, is going to change. Forward-thinking policy and intelligent regulation would speed up that process, and drive the coming changes in this industry to work in our favor.

Legalization presents us with both challenges and opportunities. If the County gets this right, the San Mateo coast might one day become known as the "Napa Valley of Grass". In time, that will become a desirable reputation to have.

The Issues & Policy Recommendations

While California has recently provided a framework for statewide regulation, SMC has the opportunity and responsibility to shape its local industry. What follows are a list of legalization issues, and policy recommendations to address them.

Organizationally, these recommendations would require an interdepartmental approach. The County departments involved would include:

- Agriculture, Weights & Measures Department
- County Manager's Office
- Assessor's Office
- County Controller
- Planning & Building
- County Counsel
- District Attorney's Office
- Sheriff's Department
- Information Systems
- Health System
- Resource Conservation District

The following list of Issues & Recommendations is not comprehensive, nor is it presented in any strict order of priority.

Issue 1: SMC's Policy, Oversight, & Enforcement of Cannabis Startups

With legalization, cannabis startups will begin to conduct business in the County. The economics of over supply and high operating costs will drive more startups to grow their crops in the greenhouses and farms of District 3. With increased cannabis investment and relocation to SMC, it is highly likely that county planners will see in a rapidly growing industry within its existing agricultural sector.

As these startups become agricultural producers in SMC, there should be a local framework already in place to provide specific regulation and enforcement of new cannabis-specific policy. Legalized cannabis presents special regulatory challenges; it is wiser to manage those challenges in one place.

Policy Recommendation 1:

Create a Cannabis Division within the Agriculture Department, with an appropriate increase in staff. Charge it with exercising local oversight of cannabis production facilities, information gathering, and policy enforcement. Specifically, these duties would include –

- License cannabis production facilities (Grow-houses, greenhouses, & open farming)
- Conduct periodic inspections of cannabis facilities
- Within State guidelines, monitor (and augment) the tracking of cannabis through its local supply chain, from seedling to sale
- Create a mechanism for the review and reporting of Ag land use for cannabis crops
- Based on the data, continue to develop initiatives to support a healthy mix of agricultural production (food and flower crops, as well as cannabis crops)
- Encourage sustainability, increased local employment in the Ag sector, and best farming practices among cannabis growers. These practices may include regular crop rotation, systems for nutrient

capture and reuse, efficient energy management, and a percentage of loss-leader crops grown as part of a cannabis facility's total Ag production.
- Survey the cannabis regulation successes of other jurisdictions, determine best practices, and produce an annual report of findings to the Board of Supervisors for policy consideration & action.
- Work to integrate legal cannabis growers into the greater SMC agricultural community

Issue 2: Land Ownership

With cannabis legalization, the ownership of agricultural lands in San Mateo County could rapidly change. Currently, many stressed local farmers would be willing to sell to cannabis growers. Backed by speculative capital flooding into the sector from a variety of sources, and the need to cut their production costs, cannabis startups could buy any agricultural property they wish.

When that happens, these startups might constitute a majority of County agricultural property owners within a few years. This level of disruptive change in the mix of ownership entails risk.

Policy Recommendation 2:

As urban grow-house operators transition into rural greenhouse growers, SMC can act to monitor, moderate, and slow the sale of County farms to new cannabis startups:

- Write new policy guidelines for SMC's Agriculture Department (in conjunction with County Planning and the Assessor's Office) to oversee agricultural property sales, and possibly intervene when transactions appear to be non-conforming or problematic. These guidelines might specify -
    - Provisions to ensure that new cannabis facilities may easily convert back to other types of crop production
    - Encourage the leasing of agricultural facilities from existing owners over outright property sales
- The County's Local Coastal Plan (LCP) is the document that governs permitted land uses in the coastal zone, and affects the majority of Ag infrastructure in District 3. The LCP would be modified to specify a new category of agricultural use with respect to cannabis production. The goal of this category would be to ensure that cannabis operations conform to the letter and spirit of the LCP. The category would contain guidelines that would encourage greenhouse use, placement, wiser greenhouse construction/retrofit, and sustainability.
- Work to coordinate the County's LCP changes with the City of Half Moon Bay's LCP, as needed.

Issue 3: Care for the Agricultural Infrastructure

Cannabis startups function similar to technology startups in several ways. They focus on getting short-term results quickly. Without rapid success and growth, a startup will not survive. To generate success and growth, startups exhaust investor cash rapidly, can generate high waste, often operate inefficiently, and have a disregard for building and maintaining infrastructure for the long-term.

Today, new cannabis startups have no track record or culture of wise resource management. As operated, grow-house startups exist to rapidly produce a monoculture crop. When they shift their production to greenhouse facilities in San Mateo County, the incentive to produce crops quickly might lead them to use practices that harm farmlands. These startup operations could contaminate the water table with pollutants and burn farmland soils, damaging the Ag infrastructure. These kinds of practices would be the agricultural equivalent of "fracking" in San Mateo County; destroying infrastructure for short-term profit.

Historically, farmers in SMC have managed their farmlands well. Will new cannabis startups demonstrate the same level of wise stewardship of the agricultural infrastructure? How might the County encourage good farming practice among new producers who are completely unfamiliar with how to manage and operate farms for sustainability?

Policy Recommendation 3:

Policy should reflect that SMC agricultural lands are a strategic resource. That resource must remain viable, productive and protected for future generations. To do this –

- Discourage outright property sales of agriculturally zoned property to new cannabis startups
- As an alternative to outright property purchases, encourage startups to enter into facility leases from current property owners. Coupled with County inspections, this ensures continuing sustainable stewardship of agricultural infrastructure by those who know it best. This policy could be accomplished through –

    - Triggering new land use rules (under the LCP) to govern cannabis production whenever a property changes hands
    - Specifying a moratorium period of several years before any cannabis production may begin on a newly purchased property, subject to an approval process
    - Cannabis crop production might be allowed to begin more rapidly on leased facilities, within policy guidelines to be determined
    - Requiring a modified form of impact study, or the filing of a business plan detailing the startup team's level of agriculture experience, along with goals and projected milestones for the enterprise

However, Ag property sales will still occur. At a minimum, require that any cannabis startup intending to purchase productive land must first demonstrate prior to license approval –

- A track record of farming experience
- A track record of good resource management
- Sustainability experience in the cannabis industry

Issue 4: Sound Environmental Policy

San Mateo County desires to promote sound environmental policy and practice. However, producing cannabis in a commercial building that has been converted into a grow-house is inefficient and wastes a great deal of energy. Cannabis startup operations that use resource intensive grow-houses represent the highest carbon footprint in agriculture. In contrast, the lowest carbon footprint in agriculture is open land farming, the next most efficient is a greenhouse.

It is in both the public and the County's interest to promote greenhouse production as the sustainable standard for growing cloned cannabis today and in the future.

Policy Recommendation 4:

Industrial grow-houses must be denied operating licenses in San Mateo County. Because of its ecological costs, grow-house farming of cannabis in retrofitted buildings must be discouraged. For the sake of the environment, cannabis growers who use these inefficient production methods need to change or prevented from coming to SMC.

In contrast to Colorado's approach, encouraging a physical separation between dispensary operations and crop production also makes sense for San Mateo County. Dispensaries here are located in urban areas near consumers, while greenhouse crops are grown in rural areas. The location of our farming lands makes a physical and supply-chain separation logical, and promotes production efficiency.

Cannabis startups may still want to control their entire supply chain from seedling to retail sale. But to utilize the cost-saving advantages of a greenhouse in the County, a distance must separate dispensaries and crops.

Issue 5: Normalizing the Cannabis Business Culture

Many of the founders and operators of cannabis startups have previous criminal records. If they are already experienced in the industry, by definition they have conducted illegal activities prior to legalization. The cash-only nature of all cannabis transactions reinforces this mindset.

While full legalization may decriminalize cannabis and forgive past sins, it cannot change a business culture that defaults towards evasion, secrecy, and breaking the law.

A legalized industry will eventually mature. Time may normalize the culture of the cannabis startup founders now at the forefront of this industry. This culture must be encouraged to change as growers operate in the open, within the bounds of law and regulation.

Policy Recommendation 5:

To modify the culture of cannabis production, a variety of different policies may be employed–

- Under new State guidelines, work to track cannabis through the supply chain to from greenhouse to final sale
- Require regular drug testing for those working in the production of cannabis
- Encouraging cannabis growers to join and become active in the local Farm Bureau
- Utilize the Farm Bureau, with an advisory board at the County level (possibly the RCD), as points of contact with input on the creation of new policy to regulate the industry locally
- Work with local cannabis producers, property owners, and the Farm Bureau to develop a set of best practices specific to the industry. As the industry grows, these best practices would promote the conservation of the County's existing agricultural infrastructure for future generations.

Issue 6: Fraud & Scams

Legalization will trigger massive speculation and fresh investment in the sector. Funding from individual investors, venture capital and crowd funding sources will finance many of these new startups. There will be a boom, and following soon after a bust, as a hyper-growth market transitions into a regular-growth market.

Not all of these new investment opportunities will be legitimate. Many ventures will not have a track record of successful cannabis production, or even vetted business plans. The newly legal cannabis industry is ripe for fraud; without regulation and monitoring, scams will become commonplace.

Policy Recommendation 6:

While law enforcement policy is not within my area of expertise, I can see the need for new policy initiatives and action in this area.

In the past, the focus of law enforcement with respect to cannabis has been on identifying and prosecuting producers and users. With legalization, this will change. Law enforcement is instrumental to ensure a market free of scams. Policy must aggressively focus on countering instances of fraud and other criminality, and visibly prosecuting any offenders. In addition, aggressively and publicly prosecute any who operate outside the regulated and legalized marketplace.

While the State has provided a legalization framework, it remains unclear what future law and regulation will add to address this kind of criminality. While the County has limited law enforcement resources, it falls to SMC to monitor the cannabis industry locally, to be alert for irregularities, and possibly initiate investigations as warranted.

Issue 7: Money Laundering

The primary investor behind the startup I observed is based overseas. With offshore investors, there is a real risk of conducting money laundering through the finance of new cannabis startups. Tainting legitimate investment money with laundered money is illegal, and poses risk for the small investor.

Policy Recommendation 7:

I believe that addressing this kind of crime is within the domain of the Federal government. While we may hope to address these risks, I'm uncertain that locally driven investigation and prosecution is entirely within the jurisdiction (or ability) of the County.

However, a thorough licensing and vetting process that documents the capital behind cannabis startups could be useful to address this issue. In addition, a multi-jurisdictional approach to money laundering activity is advisable and needed here.

Issue 8: Tax Revenue Policy

A stream of tax revenue from legalized cannabis is desirable. Unfortunately, the industry operates on a cash-only basis ... making the documentation and tracking of cannabis transactions difficult. The challenge for San Mateo County is threefold: to adequately regulate the industry, encourage sector growth, and increase tax revenues.

Unfortunately, land preservation policy has cut County tax revenues. The Williamson Act (passed in 1971) has substantially reduced the amount of tax income coming from the County's rural lands. Through conservation easements of farms and open space, purchases by land trusts, and transfers of land to the Mid-Peninsula Open Space District, overall tax assessments have gone down significantly in the rural areas of District 3. This is a trend that will likely continue into the future.

Taxes on an industry that produces a high-value crop (such as cannabis) might offset those revenues lost as a byproduct of the Williamson Act, and the property tax cuts that helped to serve land preservation. New revenues from cannabis could go a long way to pay for the many services and infrastructure costs in District 3 that are now subsidized by the rest of San Mateo County.

Policy Recommendation 8:

Ideally, the bulk of tax revenue from cannabis should come from the dispensaries at point of sale. As dispensaries supply the consumer directly, taxation at the point of sale correlates to other successful models of commodity taxation (sales taxes, gas taxes, hotel occupancy taxes, etc.).

However, if promoting the regulated growth of the cannabis industry becomes a policy priority, it would also make sense to avoid (or minimize) taxation of cannabis crop production. There are several reasons for this approach –

- With legalization, cannabis promises to be huge new industry in California. It may be in the interest of the County to dominate the production of cannabis in the Bay Area at inception. Initially heavy crop taxation at the farm or greenhouse works against a growing sector.
- Other jurisdictions are considering taxation at all levels of cannabis production and sale. The grow-houses are now facing increasing taxes that will add to their costs. Favorable tax policy for crop producers in SMC would be another inducement for them to relocate here.
- Minimal taxation of crop production in the County will offset the perception that additional local regulation of the industry is a barrier to relocation.
- Minimal taxation of cannabis crop farmers allows these startups to spend more on infrastructure upgrades and agricultural innovation.
- Minimal taxation of crop farmers promotes the hiring of experienced agricultural labor already working in the area, and attracts new workers. This helps to raise salaries, and creates new opportunity in a sector that has been challenged by competition, short of labor, and shrinking in recent decades.

However, it is highly problematic to regulate and tax a cash-only sector. Cannabis cash transactions can be invisible. It is unrealistic to expect that an accurate accounting of revenues can be assured in this environment.

In the absence of Federal & State action, a County sponsored mechanism for holding, documenting, and converting cannabis cash is desirable. For example, cannabis cash might be deposited with the County Controller's office, and converted into accounts that would be used to conduct a variety of cannabis business transactions. This suggestion is highly controversial, and while perhaps worthy of further study and consideration, is beyond the scope of this paper's analysis.

Issue 9: Drug Abuse & Addiction

Drug abuse will not vanish with legalization, and it constitutes an ongoing cost to society. Despite the various claims of advocates, the use of cannabis products has been documented to impair mental and physical abilities. The full extent of its effects on its users over time is the subject of future studies that may be conducted post-legalization.

Policy Recommendation 9:

The County already has long experience with drug treatment programs. I defer to the experts in this area to suggest policy to effectively address the issues of abuse, addiction, and performance impairment.

At a minimum, a percentage of any new cannabis taxes at the dispensary level should go to fund anti-drug abuse initiatives, programs, education, and studies.

In addition, the State mandates that cannabis products shall include a medically accurate warning label on all products sold in the County. At this writing, the wording of the warning is still undetermined. This kind of labeling is already on tobacco products; smoked, ingested, or topically applied cannabis products should follow suit in a similar fashion.

As I postulated earlier, legalization and normalization of the business will trigger the production of less potent varieties. Lower potency may be of value in countering addiction and abuse behaviors, but that is just a guess. Only time will tell.

Issue 10: Product Quality & Scientific Study

Consistent potency and quality is what consumers require of their products. Unfortunately, depending on cannabis producers to self-report on their products (and business) creates the possibility of deception and fraud.

If SMC's new cannabis market is to normalize into a trusted and mature industry, then its products must be certified in some fashion. Product claims must be verified. In addition, unbiased scientific studies must be conducted to gather data over time to inform and guide future policy.

The State has chartered agencies to perform cannabis product testing functions. However, some of these responsibilities may eventually fall to the County.

Policy Recommendation 10:

In areas that State mandated testing is inadequate or not comprehensive, the County must have the capability to test, monitor, and certify a cannabis crop's safety, potency and quality. These costs would be borne by the industry locally through a per-crop or annual fee. There may be an opportunity to conduct State-mandated testing in a local facility, funded by revenues from the State.

Local cannabis testing might be performed by –

- A third party lab, under contract
- An existing lab operated by law enforcement
- Utilizing the resources within the County's Health Department
- Charging the Weights & Measures Department with the responsibility of testing

Legalization also presents an opportunity to gather valuable data for future policy and planning. The County might encourage and sponsor unbiased studies about the cannabis market, its crops, and its use by consumers. The County's Health Department and public hospital already participate in joint health studies with institutions such as Stanford University. New studies to gather data on cannabis through these kinds of partnerships could be conducted … at no cost to the County.

Issue 11: Agriculture as a Strategic Resource

An expanding, legalized cannabis industry would not necessarily threaten our food supply chain. However it will contribute to redirecting a portion of local agricultural production away from growing food. While cannabis growers in SMC quickly ramp up production to generate huge profits, total aggregate agricultural production could shift towards producing more cannabis. The change will affect the cost and availability of local food. These shifts have happened before, most recently with Federal incentives that encourage that corn crops be redirected to producing ethanol fuels.

It's unhealthy to skew Ag production towards a single crop; a mix of agricultural output is always desirable in a market. New policy can address this issue, as well as other risks in a strategically important sector.

The current supply chain that supplies us with food is now under stress. We have seen diminishing aquifers in the central valley, prolonged drought, growing urban populations, and farmland converted to non-agricultural uses. Our current system of mechanized agriculture also depends on diminishing oil and gas reserves. This set of circumstances has long-term implications for food production, prices, and availability.

SMC has an advantage here: it possesses much of the best agriculture infrastructure in the entire Bay Area. It is in the interest of the County to promote flexibility in agricultural production, while ensuring a vibrant food production infrastructure for the future. We may one day need to depend on it to help feed the entire Bay Area's population. This is a vital resource farmers and the County hold in trust for millions of people.

Policy Recommendation 11:

The mandate of preserving our local Ag infrastructure falls to the County. We must maintain the capacity to produce more food in the face of extraordinary supply chain disruptions. Agricultural policy in San Mateo County must recognize future risk and plan for mitigating it. As a long-term goal, policy should promote food production closer to population centers, and preserve that capacity in advance of need.

Historically, the County and State has supported the agricultural sector ... while the market governed the specific mix of crops produced and sold. I am not advocating introducing some new form of production controls or targets to change the way the market normally functions.

What I am suggesting is that agricultural policy now include strategic preparation for an emergency. The interruption of food production in a systemic fashion would be such an emergency. If the interruption were gradual, the market would likely adjust to compensate by increasing local food production. If an interruption is more rapid in nature, the County will need plans in place to promote increased food production in short order.

A plan to promote the rapid production of food over other crops should be a component of SMC agricultural policy. For example, such a plan might include –

- Identifying high-priority, productive farmlands in advance of need
- Interagency mechanisms in place for the quick conversion of formerly idle farmland now held in open space preserves and land trusts
- The issuance of emergency farm leases to experienced farmers
- Advanced planning by the Agriculture/Weights & Measures Department, in conjunction with Farm Bureau members and other farmers, to identify and leverage unused production capacity quickly when needed
- Identification in advance of supporting resources (fuel, equipment, seed stock, etc.) to be ready for use in the short-term

Some of this is already in place, some not. Advanced preparations such as these may never become necessary. But as policy, they contribute to the wise stewardship of the agricultural infrastructure in District 3.

The Author's Background:

Roy Salume is a technology professional who also invests in real estate and commercial ventures. He has startup experience, as well as 20 years of facilities design, construction, and management experience in the corporate sector. He has run two successful small businesses.

Over the last two decades much of his free time has been devoted to public service and local policy issues in San Mateo County.

The short list of Roy's public service -

San Mateo County Civil Grand Jury (2007-2008)
Cabrillo Unified School District – Governing Board (2002-2006)
San Mateo County Citizen's Academy (2002)
Citizen's Redistricting Commission – 18th alternate of 32,000 applicants (2010)
San Mateo County Elections - Inspector, Judge (2002-2016)

Roy's education -

Masters of Science - Information Systems (Data Security) – University of San Francisco (2011)
Bachelor of Science - Information Systems – USF (2009)
Heald Engineering College – Mechanical Systems Design

Author's Comment:

I do not use cannabis, nor have I been an enthusiastic proponent of this industry. As with the abuse of any pharmaceutical, I reject using a drug for the purpose of pleasure alone. The idea of consuming it in any form is distasteful to me, unless it is prescribed by a knowledgeable physician to relieve the suffering of an illness.

However, with the imminent legalization of recreation cannabis, I have come to understand that intelligent policy and regulation must be put in place in advance to guide and normalize the sector.

The goal of this document is to offer County decision-makers information about new cannabis startups, describe how the cannabis market will behave, the trends that drive it, and outline good policy options in advance of legalization. I urge our elected officials and managers to put advantageous, constructive cannabis policies in place now, ready for when they will be needed.

Appendix:

http://www.oregonlive.com/marijuana/index.ssf/2016/04/warm_springs_breaks_ground_on.html

http://www.oregonlive.com/marijuana/index.ssf/2016/04/colorado_marijuana_entrepreneu.html

https://www.cbinsights.com/blog/cannabis-funding-2015/

http://agwm.smcgov.org/agricultural-crop-report

Pescadero Greenhouses

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- 265,00 SF +/- of Greenhouses on 29 Acres
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