Responsible Local Cannabis Policy & Licensing

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What is **weedmaps**® ?

- Founded in 2008, Weedmaps is the oldest and largest cannabis technology company in the world and has been the leading innovator in developing software and platforms that drive the cannabis industry.

- Our core platform connects people with local dispensaries, delivery services, doctors, deals, brands, lab data and real-time menus. Weedmaps' full suite of business-to-business and business-to-consumer software includes lab data integration, point-of-sale and medical practice management. We are also developing a suite of SaaS tools for the industry.

- Beyond providing the software and advertising solutions that underpin the industry, Weedmaps has been advocating for measured growth and responsible policy to guide the modernization of the industry for nearly a decade.

- Weedmaps is working collaboratively with all levels of government and stakeholder organizations to encourage reforms to medical and recreational cannabis laws and to establish regulatory frameworks capable of ensuring safe and reliable patient access.

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weedmaps® **Products and Services**
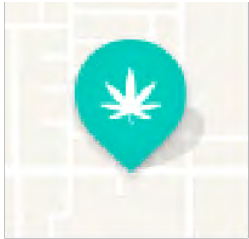
Business Listings: Connect patients to dispensaries, delivery services, doctors, deals, brands, lab data and real-time menus.

Software: Point-of-sale and medical practice management which helps track sales, account for inventory, and manage patient information.

Brands Platform: Helps patients and consumers find their preferred medicine by connecting brands to points of sale. Helps to reduce fraud by allowing verification of various products.

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weedmaps® **Products and Services**

Data Integration:

Enables all menu information – from inventory, price, weights, lab testing, etc. – to automatically update in real-time on Weedmaps apps and website.

Arms patients and consumers with the most trustworthy, reliable, up-to-date menu, pricing, and testing information available.

GOLDEN LEMON

SATIVA |

THC: **24.20** % | CBD: **0.00** % | CBN: **0.00** %

GRAM	2G	1/8	1/4	1/2	OZ
20.00	**30**.00	**40**.00	**80**.00	**160**.00	**310**.00

SATIVA DOMINANT HYBRID, SLIGHT BODY BUZZ, UPLIFTING, GREAT FOR MODERATE HEADACHES, ANXIETY, CALMING EFFECT.

Lab Analysis   CB LABS
EXPIRES IN 53 DAYS

Cannabinoids
TOTAL CONCENTRATION:
18.86 % | mg/g

Cannabinoids are chemical compounds which act on endocannabinoid (ECS) receptors in the human body; THC and CBD are 2 well known cannabinoids.

- THC **17.95** %
- CBD **0.00** %
- CBN **0.04** %
- CBDV **0.00** %

Total THC

THC is the main psychoactive component, and generally the most abundant cannabinoid in cannabis.

Tetrahydrocannabinol	THC	0.04 %
Tetrahydrocannabinol Acid	THCA	17.91 %
Total THC	**THC + THCA**	**17.95 %**

Total CBD

CBD is non-psychoactive and holds the richest medicinal pharmacopeia of any compound found in the cannabis plant.

Cannabidiol	CBD	0.00 %
Cannabidiol Acid	CBDA	0.00 %
Total CBD	**CBD + CBDA**	**0.00 %**

Total CBN

This mild psychoactive is produced when CBNa is heated or exposed to UV light.

Cannabinol	CBN	0.04 %
Cannabinol Acid	CBNA	0.00 %
Total CBN	**CBN + CBNA**	**0.04 %**

Cannabidivarin

Found in trace amounts in cannabis sativa; CBDv has powerful anti-epileptic properties.

What is **wm** | POLICY ?

- Semi-autonomous policy arm of Weedmaps

- Advocating for consumer safety improvements and illegal market reduction

- Key planks of our policy platform include:

➢ Minimizing the illegal market in legal states	➢ Organizing sound state/local tax policy to ensure communities hosting licenses see economic benefit
➢ Ensuring safe and convenient access	
➢ Robust lab testing standards	➢ Developing strategies to foster local licensee jobs and develop new technology solutions
➢ Monitoring/safety regs that balance community safety with cost to operators	➢ Enforcement strategies that are flexible enough to meet varying illegal market challenges
➢ Development of cannabis IP and licensing policy	

- Working collaboratively with all levels of government:

  - ➢ **National-Level:** United States, Canada, and several European countries

  - ➢ **State-Level:** California, Massachusetts, Michigan, New York and New Jersey—among others

  - ➢ **Local-Level:** Los Angeles, Compton, San Diego, and Toronto—among others

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Commercial Cannabis Licensing Categories

	Growers: Indoor cultivation from small to large scale		**Provisioning Center**: Sells cannabis and cannabis products from a physical location open to the public
	Processors: Covers refined cannabis product creators and manufacturers		**Safety and Compliance Facilities**: Laboratories that perform product safety tests on cannabis products
			Secure Transporters: Delivers cannabis products between growers, safety and compliance facilities, processors and provisioning centers

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Cultivation Centers

Cultivation by the Numbers

Indoor Growers

- Total annual harvest amount is dependent on cultivar and canopy space
  - ➤ Each average harvest yields ½ - 1 gram of cannabis per watt of light used during flowering stage
  - ➤ Cultivators use 40 watts per sq ft of flowering space
- Harvests per year: 4.0-5.0
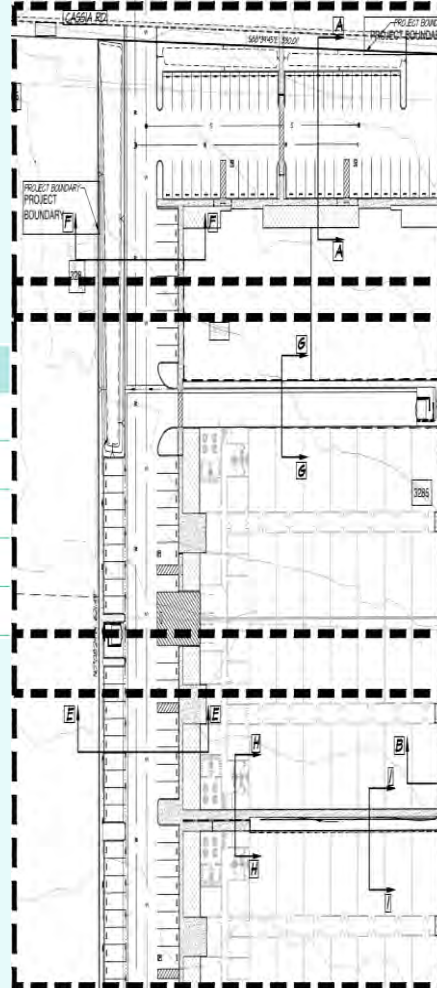- Wholesale value: $2,200- $3,000/lb

Michigan Licenses

- Class A - up to 500 plants
- Class B - up to 1,000 plants
- Class C - up to 1,500 plants
- Stacking multiple Class C licenses are available to the same licensee to allow for "mega growers"

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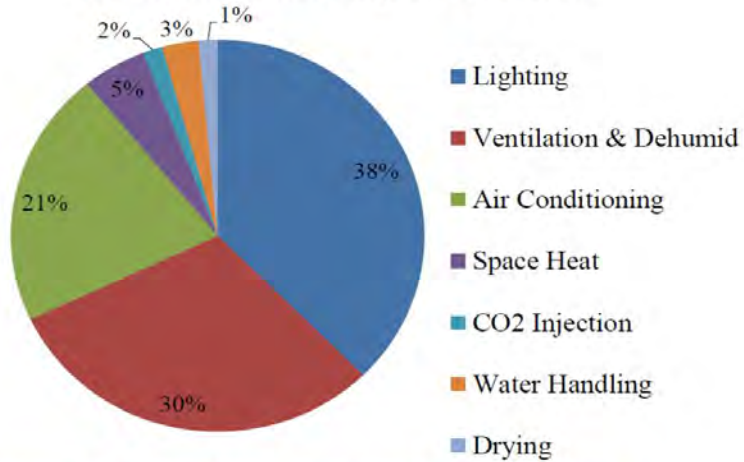# Cultivation: Spatial Requirements

TOTAL BUILDING SIZE	83,000	%
Flowering	44,000	53
Vegatative (Veg)	22,410	27
Drying & Curing	7,885	9.5
Clone & Early Veg	5,810	7
Trim & package	2,905	3.5

Cultivation: Energy Consumption

Indoor Energy Consumption by End Use

- Lighting — 38%
- Ventilation & Dehumid — 30%
- Air Conditioning — 21%
- Space Heat — 5%
- CO2 Injection — 2%
- Water Handling — 3%
- Drying — 1%

Source: Evan Mills, 2012, presented by Lincus Energy

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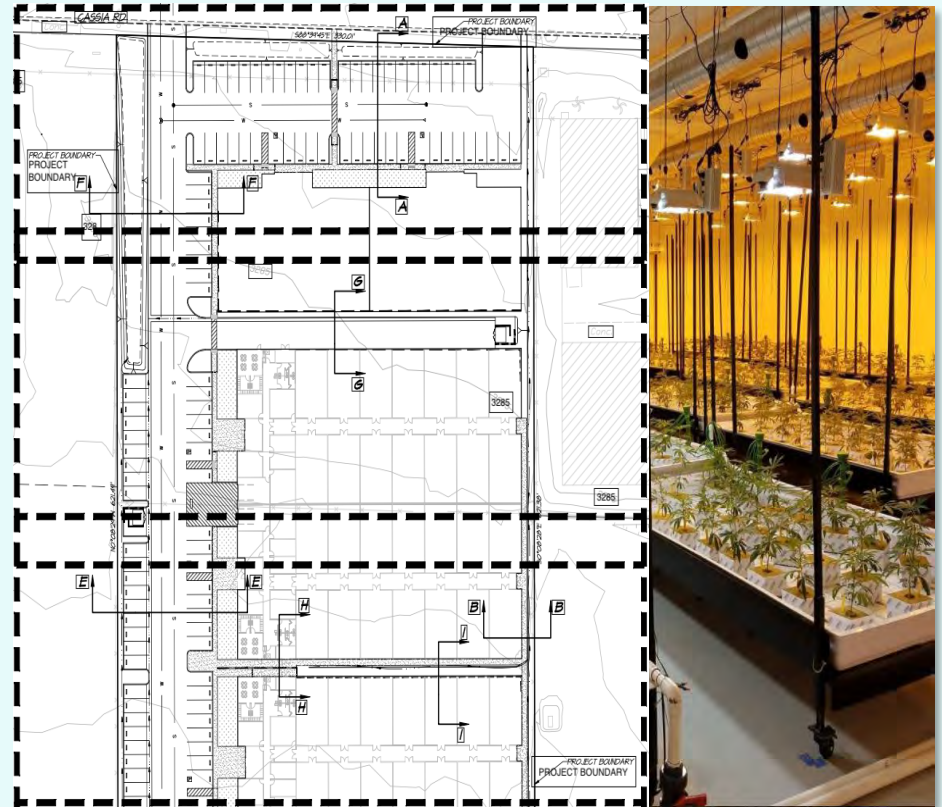
Processing Centers

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Manufacturing & Extracts by the Numbers

- Revenue dependent on (1) starting material value; (2) desired final product

  ➢ Material Value: Flower Vs. Trimmed Leaves & Biomass

  ➢ Final Product: Specialty Concentrate Vs. Distillate

- Total Wholesale revenue:

  ➢ Specialty Concentrate Facility that produces 3,000 lbs/yr will generate $27M in Gross Revenue

  ➢ Distillate Facility that produces 3,000 pounds per year will generate $13M

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What are Concentrates?

DRY SIFT

ROSIN

SHATTER

DISTILLATE

A cannabis CONCENTRATE is an accumulation of desirable compounds (i.e. Trichomes) that is achieved through *mechanical or chemical* means.

- Tier 6 License – Nonvolatile Solvents

A cannabis EXTRACT is a concentrate made by dissolving the trichomes from the plant using a *liquid solvent (chemical)*.

- Volatile solvents = a solvent that is or produces a flammable gas or vapor that, when present in the air in sufficient quantities, will create explosive or ignitable mixtures

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Concentrates

**DRY SIFT**

ROSIN

SHATTER

Distillate

- Made by sieving the plant through a series of screens
- Whole trichome glands break off the plant

- Made by applying pressure and heat to plant

- An oleoresin with a glass like consistency
- High cannabinoid content ranging from 40-70%

- Molecular Distillation
- Cannabinoid content ranging from 70-95+%

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How Are Extracts Made?
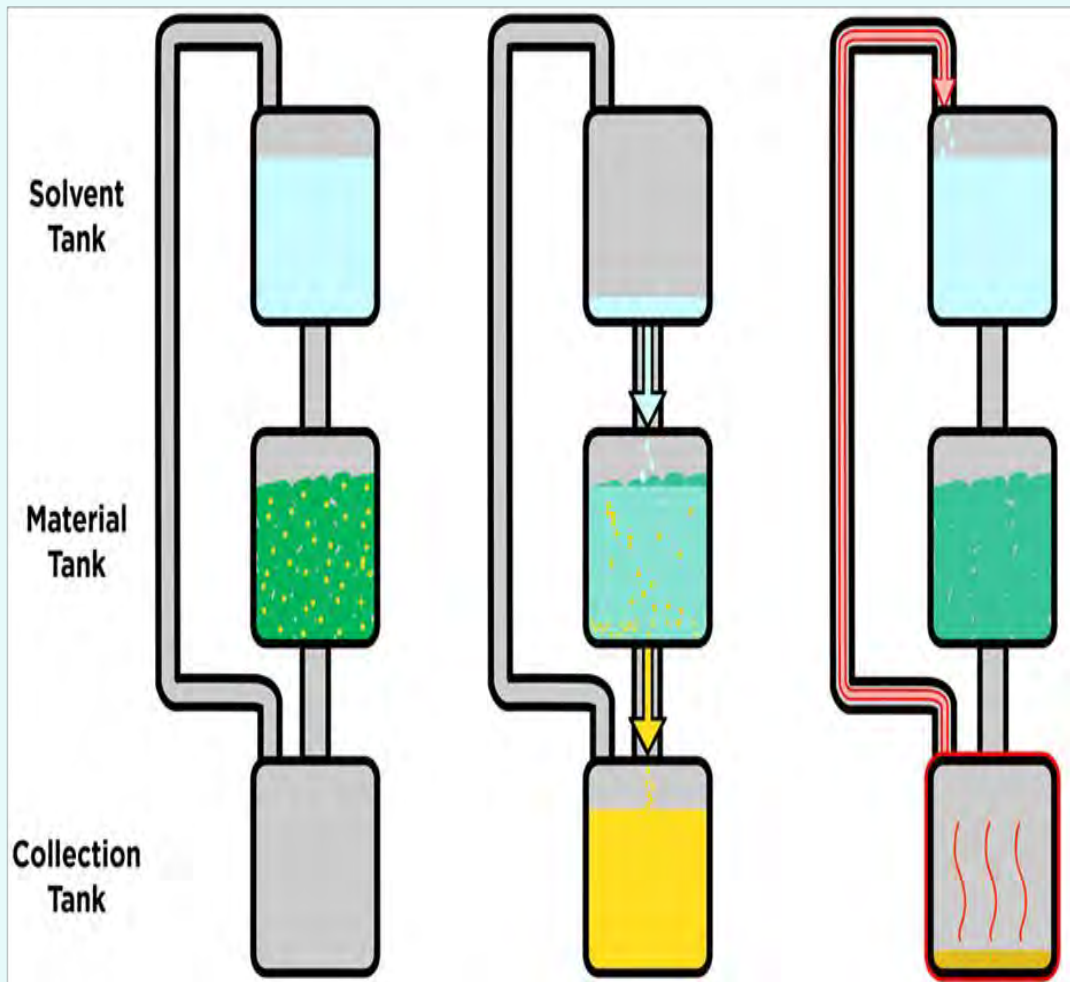

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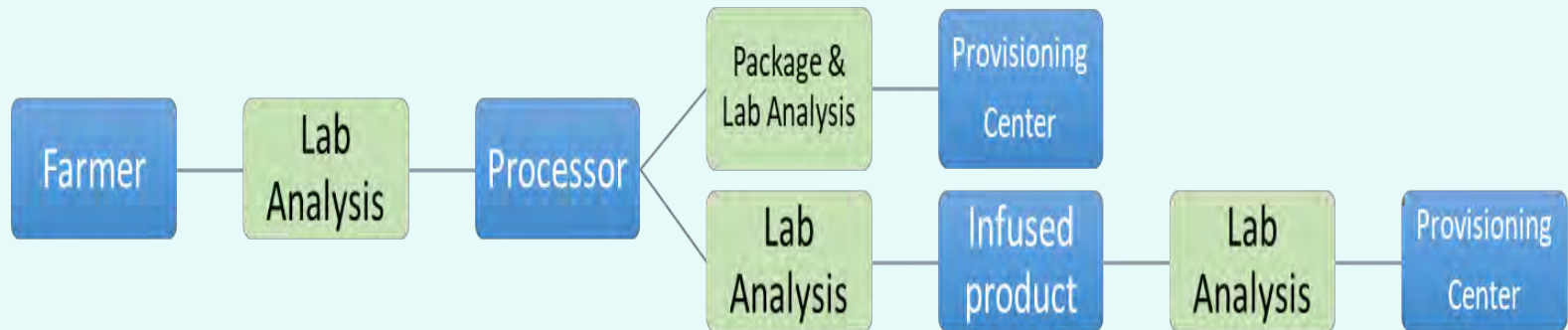
How Are Extracts Made?-Processing

Equipment Necessary

1. Closed Loop System
2. Cannabis (Live Resin, Nug, Trim)

Process

1. Plant material is placed into material column
2. Liquid Solvent passes over material and dissolves the trichomes to create a *Solution*
3. Liquid Solvent must be removed from the *Solution*

Solvent Tank

Material Tank

Collection Tank

Primary Hazards & Engineering Controls

Primary Hazards:

- Chemical exposure to the solvents

- Fire and explosion

- Oxygen Deficiency

- Electrical Hazards

- Noise

Engineering Controls:

- Flammable Solvent Storage Cabinets
- Personal Protective Clothing
- Outside Gas Storage
- Ventilation Controls
- Suppression Systems
- Combustible Gas Indicator
- Oxygen Meter
- Class I Division I electrical systems
- Emergency Action Plans
- Hygiene-sanitation programs

Codes & Standards

The following codes and standards are relevant to the lab design and construction of cannabis extraction facilities:

- National Fire Protection Association (**NFPA**) – NFPA 58, Currently developing the language for a new chapter in the 2018 edition of NFPA 1
- International Fire Code (**IFC**) – Chapters 34-37,61
- International Building Code (**IBC**) – 307
- National Electric Code (**NEC**) – Chapter 5
- International Mechanical Code (**IMC**) – 506,507,510
- International Plumbing Code (**IPC**) – 1008.1.8.3
- Occupational Safety and Health Standards (**OSHA**) - Specifically Standards 29 CFR 1910.137 & CFR 1910.95 Table G-16
- Generally Recognized as Safe (**GRAS**) – U.S. Food and Drug Administrations list of safe solvents
- American Conference of Governmental Industrial Hygienist (**ACGIH**) Industrial Ventilation Handbook

Cannabis Concentrates

LPG Operation Description		LPG Production Spatial Requirements (sq ft.)	
		Worfklow	sq. Ft.
Processing Capacity (Kilo per Day)	700	Product Intake & Column Loading	672
Output (Kilo per Day)	56	Raw Material Processing & Column Loading	300
Product	Concretes/ Absolute Hybrid	Column Unloading & Spent Material Storage	980
	Liquid Petroleum	Walk-In Fume Hoods	980
Solvent	Gas	Residual Solvent Removal	1,680
	Precision Extraction:	Packaging	4,200
Extractor	Model PXP	Secure Cold Storage	96
		Ancillary Storage	500
		Total	**9,410**

Note: Does not account for office space or bulk solvent storage.

SFCO2 Operation Description		SFCO2 Production Spatial Requirements (sq ft.)	
		Workflow	sq. Ft
Processing Capacity (Kilo per Day)	700	Product Intake & Column Loading	672
Output (Kilo per Day)	56	Raw Material Processing & Column Loading	200
Product	Distillate	Spent Material Storage	672
Solvent	CO2 & Ethanol	Extraction System	800
	Apeks: Model	Winterization	80
Extractor	5000-40Lx40L	Distillation	400
Short Path	Roots Science:	Packaging Area	100
Distillation Plant	Model VKL 70-5	Secure Cold Storage	96
		Ancillary Storage	500
		Total	**3,520**

Note: Does not account for office space or bulk solvent storage.

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Provisioning Centers

Cannabis Retail –By the Numbers

Provisioning Centers

- Consumer volume is largely dependent on retail density and state consumer count.

- Tax rate and product quality also have strong influence.

- Assumptions:

  - ➤ 600 consumers per day

  - ➤ Patients purchase $120 every two weeks (average ticket price = $60)

- Revenue of $10 - $26M per year

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Provisioning Center

Cannabis Retailer Example (Population 200,000)		
Dispensaries per population	7,500	15,000
Number of Licenses	27	13
Employees per License	17	17
Total Employees	459	221
Patients Per Day	180	200
Average Sale Per Customer	$ 60	$ 60
Gross Monthly Sales	$ 8,760,000	$ 4,867,000
Annual Gross Revenue	$ 105,120,000	$ 58,404,000
Monthly Net Tax	$ 262,800	$ 146,010
Annual Tax (3%)	$ 3,153,600	$ 1,752,120
Estimated Illegal Market Rate	10%	50%
Total Market Value	$ 115,632,000	$ 87,606,000
Total Illegal Market Value	$ 10,512,000	$ 29,202,000

Employees include 2 security guards, 2 receptionists and intake personnel, 7 budtenders, 2 vendor and inventory managers, 1 staff manager, 1 marketing and social media director, 1 accountant/controller, and 1 executive director.

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Local Government Responsibility

- **Opt-In:** On November 1, 2017, the Bureau of Medical Marihuana Regulation's (BMMR) announced provisional operating authority to Provisioning Centers that provide documents by the local municipal clerk affirming the facility may operate in the jurisdiction.

- Required documentation may include the local ordinance that permits the Provisioning Center to operate or new or amended local law permitting the facility to operate.

- An applicant that is located in a municipality without an authorizing ordinance is ineligible for state marihuana facility licensure.

- The Bureau is relying on the local municipality's authorizing ordinance to determine whether an applicant is in compliance with relevant provisions of the MMFLA.
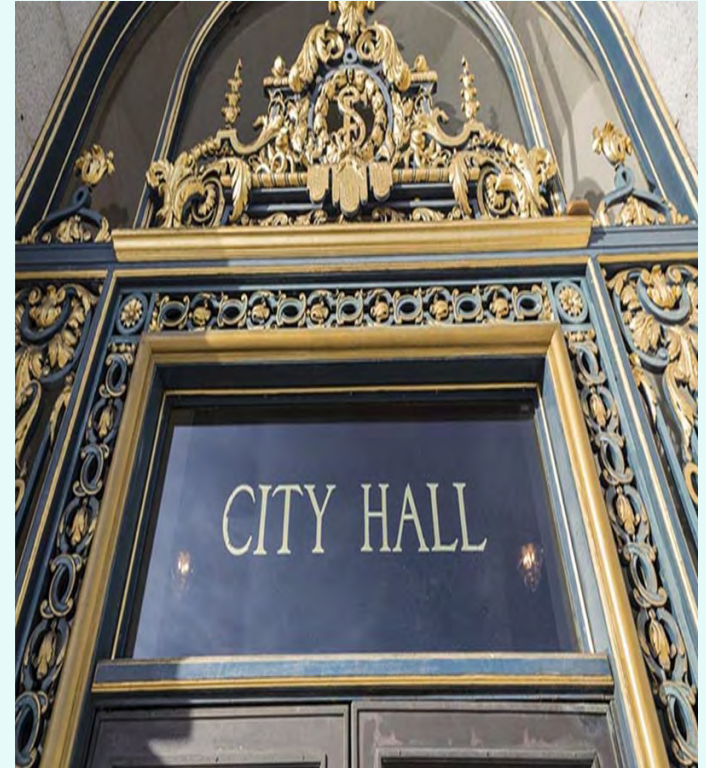
Why Opt-In?

- **Maintaining Medical Access is Critical:** Patients have come to rely on Provisioning Centers to access high quality medication in forms that are not easily or safely produced at home or by a Medical Marihuana Caregiver, such as vaporizers, tinctures, oils, waxes, and edibles.

- Raids and costly and often ineffective.

- The legal market has tested, safe product and knowledgeable staff.

- Tax Revenue is only shared with local governments that opt-in

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Responsible Opt-In Ordinances

- Model Ordinance that complies with Medical Marihuana Facilities Licensing Act, Michigan Medical Marihuana Act, and Marihuana Trafficking Act

- Options for all licensing categories

- Options to create a Marihuana Commission or use Town Manager to administer the licensing program

- Sets up the licensing application, fees, and award process

- Permits appropriate city departments to inspect facilities

- Establishes minimal operating standards

- Creates permissible uses under zoning code

- www.wmpolicy.com/white-papers scroll down to Michigan Model Ord.

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Other Policy Development Tools

Quick Opt-In Model Ordinance

- Opportunity to pass place-holder legislation so businesses can apply for state licenses

- Allows for a thoughtful and constructive public process

- Helps attract serious investors and business owners

- Shows a good faith effort to medical patients and business leaders

Personalized Support

- WM Policy testifies at public hearings and work sessions with staff that have local government and legislative drafting experience

- Zoning Legislation

- Appropriate Density Recommendations

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Regulating is the difference between this…And…

This, or ...

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