

Potential Development Impacts of Cannabis Establishments

Note: None of the information in this tool constitutes a legal opinion. Towns should consult with their attorneys if they have questions about the framing and implementation of their zoning regulations. This document is a work in progress and we welcome your feedback.

License Type	Potential Development Impacts to Consider	Tips for Evaluating and Mitigating Impacts (Note: At this time, it's unclear whether Towns have legal authority to develop regulations specific to cannabis establishments. For the time being, any regulatory language should be more broadly applicable to other types of uses as well.)	Experts to Consider Consulting	Examples from other Communities	In Your Community: What regulations do you have in place to address these impacts?	In Your Community: What regulatory changes are needed to better address these potential impacts?
CULTIVATION	Greenhouse grow operation - light pollution at night (esp. in residential areas)	Check your nuisance standards - do they address lighting that extends beyond property boundaries? Pay particular attention to language covering mixed use areas, where a greenhouse might be near residential properties and interfere with resident's enjoyment of their own property, sleeping, etc.				
	Fertilizer, Fungicide, and Pesticide Use - impacts to natural resources (water, air, soil, biota)	Be aware of state regulations (CCB Rule 2.3.1). Consider outreach to potential or current establishments to point them to state regulations and remind them of any additional local requirements.	Be aware of state regulations pertaining to pesticide use (CCB Rule 2.3.1). Consult as needed with the state Agency of Agriculture, Food and Markets. If the wastewater or runoff from the facility might enter the municipal water or wastewater systems, consult the system operators about potential impacts and mitigation measures.	See Denver (CO) best practices recommendations for integrated pest management in indoor cultivation facilities: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	Waste processing	Consider all types of waste (including wastewater) to be produced and how disposal processes might impact the Town. Consider restricting or regulating impacts from burning plant waste, which has air quality impacts.	Be aware of state regulations (CCB Rule 2.2.8) Consult with local waste management professionals if projected volume of waste is a potential concern. If municipal wastewater system will be impacted, consult with the system operators.	See Denver (CO) best practices recommendations for waste management by indoor cultivation facilities: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	High energy usage / electricity demand for indoor grow facilities	Compare state regulations around energy usage with measures that are needed to meet your Town's energy and greenhouse gas emission goals	Town Energy Committee, Efficiency Vermont, Energy conservation and engineering professionals	See Denver (CO) best practices recommendations for energy management in indoor cultivation facilities: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	Fire risk from overloaded electrical circuits and high-wattage lighting		Fire Department, electrical engineering professionals			
	Odors - some strains of cannabis emit such a strong odor that it can be detected in surrounding neighborhoods. For indoor grow operations, installing air filter systems can help mitigate this impact.	Check your nuisance standards - do they cover noxious odors/odor discharge that extends beyond property boundaries? Are they specific enough to enable code enforcement to define the nuisance threshold? Consider requiring odor impact assessments or control plans during permitting process. Setbacks or landscaping/buffers can help mitigate odor impacts. Consider requiring annual maintenance and documentation of odor control equipment. Check health and safety standards for workers, if applicable		Aurora, CO City Code section 22-279.2 requires ventilation systems for cultivation facilities if they are creating odors/fumes/exhaust. Denver, CO requires cultivation facilities to create and implement an odor control plan: - https://www.denvergov.org/files/assets/public/public-health-and-environment/documents/eq/odorworkshoppresentation.pdf - https://www.denvergov.org/files/assets/public/public-health-and-environment/documents/eq/odorordinancefactsheet.pdf See Denver (CO) best practices recommendations for air quality management by indoor cultivation facilities: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	Intensive water demand. (Each marijuana plant requires up to 6 gallons per day.)		If municipal drinking water system will be impacted, consult with the operators about system capacity.	See Denver (CO) best practices recommendations for water use management by indoor cultivation facilities: https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	Traffic circulation may increase in rural areas.					

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CULTIVATION (continued)	Aesthetic impacts	Review your site plan and/or conditional use standards to make sure they are reflective of community preferences. Consider prohibiting the outdoor storage of processing or production equipment. State regulations require screening to prohibit visibility from a public road. Consider requiring screening to prevent visibility from nearby structures or places frequented by sensitive populations (e.g. schools, parks)				
	Security impacts	Coordinate with law enforcement and/or neighborhood watch groups as needed.				
	High indoor humidity in indoor grow operations can lead to mold growth, which endangers worker health and building's structural integrity.	Ventilation systems can help reduce mold growth. Consider requiring annual maintenance and documentation of ventilation equipment. Check health and safety standards for workers, if applicable				
TESTING LAB	Odors	Check your nuisance standards - do they cover noxious odors/odor discharge that extends beyond property boundaries? Consider requiring annual maintenance and documentation of odor control equipment. Check health and safety standards for workers, if applicable		Aurora, CO, Retail Marijuana Establishment Rule 108: Requires that for testing facilities, the odor of marijuana must not be perceptible at the exterior of the building at the licensed premises or at any adjoining use of the property Aurora, CO City Code section 22-279.2 requires ventilation systems for testing labs if they are creating odors/fumes/exhaust.		
MANUFACTURING	Noxious odors from processing. These odors can come from the plant material or the solvents used to extract essential oils.	Check your nuisance standards - do they cover noxious odors/odor discharge that extends beyond property boundaries? Are they specific enough to enable code enforcement to define the nuisance threshold? Consider requiring odor impact assessments or control plans during permitting process. Setbacks or landscaping/buffers can help mitigate odor impacts. Consider requiring annual maintenance and documentation of odor control equipment. Check health and safety standards for workers, if applicable		Aurora, CO City Code section 22-279.2 requires ventilation systems for cultivation facilities if they are creating odors/fumes/exhaust. Denver, CO requires facilities that produce marijuana-infused products to create and implement an odor control plan: https://www.denvergov.org/files/assets/public/public-health-and-environment/documents/eq/odorworkshoppresentation.pdf Denver, CO published a best practices guide for managing air quality impacts of manufacturing facilities (p.52): https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf		
	Waste processing	Consider all types of waste to be produced, including hazardous materials and wastewater, and how disposal processes might impact the Town.				
	These types of buildings can change the aesthetics/feel of the neighborhood.	Review your site plan and/or conditional use standards to make sure they are reflective of community preferences. Consider prohibiting the outdoor storage of processing or production equipment.			Denver	
	If commercial-zoned land is in short supply, the demand for land for warehouses can further drive up the cost of land.				Denver	
	Security impacts	Coordinate with law enforcement and/or neighborhood watch groups as needed.	Be aware of state regulations focused on manufacturing establishment security. (Vermont CCB Rule 2, Section 2.5.1)			

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MANUFACTURING (continued)	Extracting cannabis oil may require butane, a hazardous material that is explosive at ordinary temperatures. Other dangerous solvents may also be used for producing concentrates.	Make sure that first responders are prepared to manage hash oil explosions and extraction burn injuries. Make sure that electrical equipment storage is compatible with flammable solvents.				
WHOLESALE	These types of buildings can change the aesthetics/feel of the neighborhood.	Review your site plan and/or conditional use standards to make sure they are reflective of community preferences.		Denver		
	Security impacts, especially if cash-based business	Consider earmarking a percentage of local option sales tax (currently in place or in the future) for activities to counteract the costs to the town resulting from issues relating to cannabis retail sales (law enforcement, substance misuse treatment and recovery) or to support prevention activities for youth and vulnerable populations. Coordinate with law enforcement and/or neighborhood watch groups as needed.	Be aware of state regulations focused on wholesale establishment security. (Vermont CCB Rule 2, Section 2.5.1)			
	If commercial-zoned land is in short supply, the demand for land for warehouses can further drive up the cost of land.			Denver		
RETAIL	Traffic counts may increase or traffic patterns may change.	Some communities have observed that retail marijuana trip generation is similar to fast food establishments.				
	Security impacts, especially if cash-based business and if ATM is onsite	Consider earmarking a percentage of local option sales tax (currently in place or in the future) for activities to counteract the costs to the town resulting from issues relating to cannabis retail sales (law enforcement, substance misuse treatment and recovery) or to support prevention activities for youth and vulnerable populations. Coordinate with law enforcement and/or neighborhood watch groups as needed.	Be aware of state regulations focused on retail establishment security. (Vermont CCB Rule 2, Section 2.8.2)	Denver's City Code forbids cannabis retail outlets to transfer, sell, or otherwise distribute cannabis between the hours of 12:00 a.m. and 8:00 a.m. (Chapter 6, Section 6-209(a)(1)) The Cities of Fort Collins (CO) and Juno (AK) assign staff to help businesses implement best practices and maintain compliance with regulatory requirements, rather than taking a punitive approach.		
	Parking demand may increase.					
	Loitering or lines outside retail establishments impeding sidewalk traffic, access to adjoining businesses or residential (esp. where apartments are located above retail businesses)	Check nuisance standards				
Proliferation of numerous cannabis retail outlets in close proximity to one another	Consider specifying distances between retailers of all age-restricted substances (so as not to single out cannabis). Be sure to specify: -When calculating distances, will all licensed facilities be counted, or only those currently in operation? -How exactly will the distance be measured, from which points of reference? -How will variances work?		Los Angeles, Denver, Colorado Springs Denver's City Code requires at least 1,000 feet of separation between cannabis retailers. (Chapter 6, Section 6-209(b)(3)) See Location Guide: https://www.denvergov.org/files/assets/public/business-licensing/documents/marijuana_facility_location_guide.pdf			

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RETAIL (continued)	Signage - size (out of character for the neighborhood), illumination - esp. blinking lights on signage (same), intrusion into public walkways	<p>A good signage ordinance that applies to all businesses covers:</p> <ul style="list-style-type: none"> -Placement (appropriate placement in relation to buildings, sidewalks, streets) -Size (size limitations to keep signs from being too large) -Height (height maximum to keep signs from being too tall) -Number (limit so there is not an excessive number of signs) -Brightness/Flashing (limiting these so they are not distracting or too attention-drawing) -Temporary Signage (rules for signs for temporary events or spaces) -Advertisements in window spaces (how much window space of a business can be taken up) -Off-premise Advertisement (allowed or not). <p>Sign ordinances can be adopted to help minimize the impact of messaging for age-restricted products by controlling aspects of types of signage allowed. The ordinance must be content-neutral, meaning the regulations cannot be based on the content of the sign, and the regulations will apply to all businesses. Minimized signage for age-restricted products is also a feature of recovery-friendly and sobriety-friendly communities. Consider prohibition on any age-restricted product advertising in locations accessed by kids (including routes for walking to and from school) OR Limit/Eliminate Window/Sidewalk/Street view advertisements.</p>				

FOR FURTHER INFORMATION

Resources

Environmental Impacts, 2018	michigan.gov/-/media/Project/Websites/egle/Documents/Reports/AQD/field-operations/white-paper-2018-09-17-environmental-impacts-marijuana-industry.pdf?rev=207a679b3db34f838e64c1dd84775225
Cannabis Cultivation Air Quality Impacts, 2022	https://pubs.acs.org/doi/pdf/10.1021/acs.est.1c06372
Municipal Regulation of Medical Marijuana Cultivation, 2016	http://venturacountylimits.org.s94613.gridserver.com/fckimages/MJ_Safeguarding2ndEd_FNL-011516_lo%281%29.pdf
Local Impacts of Commercial Cannabis, 2018	https://icma.org/sites/default/files/Local%20Impacts%20of%20Commercial%20Cannabis%20Final%20Report_0.pdf
Cannabis Environmental Best Management Practices Guide, 2018	https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/MJ%20Sustainability/Best%20Practices%20Management%20Guide%20web%20-%20final.pdf
Best Regulatory Practices for Minimizing Youth Harms	https://www.trorc.org/wp-content/uploads/2020/05/Marijuana-policy-decision-matrix.pdf
Electricity Use in Marijuana Production, 2016:	https://www.trorc.org/wp-content/uploads/2020/06/Electricity-Use-in-Marijuana-Production.pdf
Pesticide Use, 2014-2015	https://www.beyondpesticides.org/assets/media/documents/watchdog/documents/PesticideUseCannabisProduction.pdf
Content-Neutral Advertising, 2011	https://www.publichealthlawcenter.org/sites/default/files/resources/tclc-guide-contentneutralads-20111.pdf

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This document is a work in progress and we welcome your feedback. Please comments and suggestions to:

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