WHERE IS THE GRASS GREENER?

A pilot to model regulations and equity related to retail cannabis in Massachusetts

INTRODUCTION

In 2017, Massachusetts voters passed a ballot measure legalizing recreational cannabis in the Commonwealth. The purpose of this project is to model how the creation of retail cannabis shops could affect neighborhoods. This pilot model attempts to provide methodology to demonstrate where retail cannabis shops can open based on local and state regulations in Cambridge, Revere, and Lynn. These municipalities will all adhere to spatial mechanisms created by the Cannabis Control Commission which allows cannabis shops in commercially zoned areas at least 500 ft. from existing schools. In addition to these regulations, Revere and Lynn have proposed spatial mechanisms such as locating 500 ft. from parks or places of worship that will be modeled. This project also explores potential social justice implications of retail cannabis shops. It has been suggested that cannabis shops, similar to liquor stores, would exist disproportionately in marginalized communities and could negative affect access to minors, crime and addiction in these neighborhoods.

METHODS

To estimate the land permissible to develop retail cannabis, each city has to be evaluated by two criteria (1) zoned commercially (2) not within distance of regulations set by the city and state. Land use serves as a proxy for zoning regulation, commercial being the only permissible land use. To estimate the distance of regulations, buffers were created around schools, parks, places of worship and residential lands according to each city’s set of regulations. Commercial land use and the buffers were rastorated and combined, land that was outside of the buffers and in commercial land was deemed permissible to develop retail cannabis.

To estimate what portion of land permissible to develop retail cannabis is in marginalized communities, each city is evaluated by a socioeconomically disadvantaged (SED) index. This index was adapted from a similar project done by Nemeth et al. The primary limitation is the granularity of the SED index. It is at the neighborhood level and does not account for how the density of households across communities.

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RESULTS

The following shows that 59% of land permissible for retail cannabis development in Revere lies within land with at least one SED indicator. More than half, 59%, lies within land with at least four of the five SED indicators.

DISCUSSION

This model has the potential to serve as a decision making tool when municipalities begin to regulate retail cannabis shops in their jurisdictions. This model however is imperfect in predicting precisely where cannabis shops can open and predicting how this will affect social, environmental and economic justice in neighborhoods.

The primary limitation is the granularity of the SED index. It is at the block group level because that is what was available through the American Community Survey. However this arbitrarily cuts neighborhoods into the constructed block groups and does not account for how the density of households across block groups. Additionally the SED index only takes five indicators into account though in the real world there are many more factors that contribute to the marginalization of communities.

There are other limitations that influence the model to consider. The age of the some of the data is of concern, for example the land use is over 10 years old so there may be inaccuracies. It is also important to remember that data used here does not always reflect what currently exists in the world. For instance, in Revere when using photo imagery as a base map there is a recreational space that can be viewed but was not identified by the protected and recreational space data obtained from MassGIS.

Despite these limitations, I believe this model still has utility in deciding where to locate cannabis shops.

SOURCES


USA institutions. February 2018. Eat on line link, accessed April 24, 2018. http://www.urban.org/content/1040078

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Danielle DiCenzo, May 2018