

# night market @ boston

a model exploring locations to host a night market using a suitability score

## Background

With the rising consumer demand for local services, there have been a growth of night markets in major cities such as San Francisco, New York, and Washington DC. These markets host live local musicians, food vendors, as well as other businesses all in one location. There has yet to be such a concert venue in Boston, MA. This model will explore the various possible locations to host this hub in Boston.

## Logistics

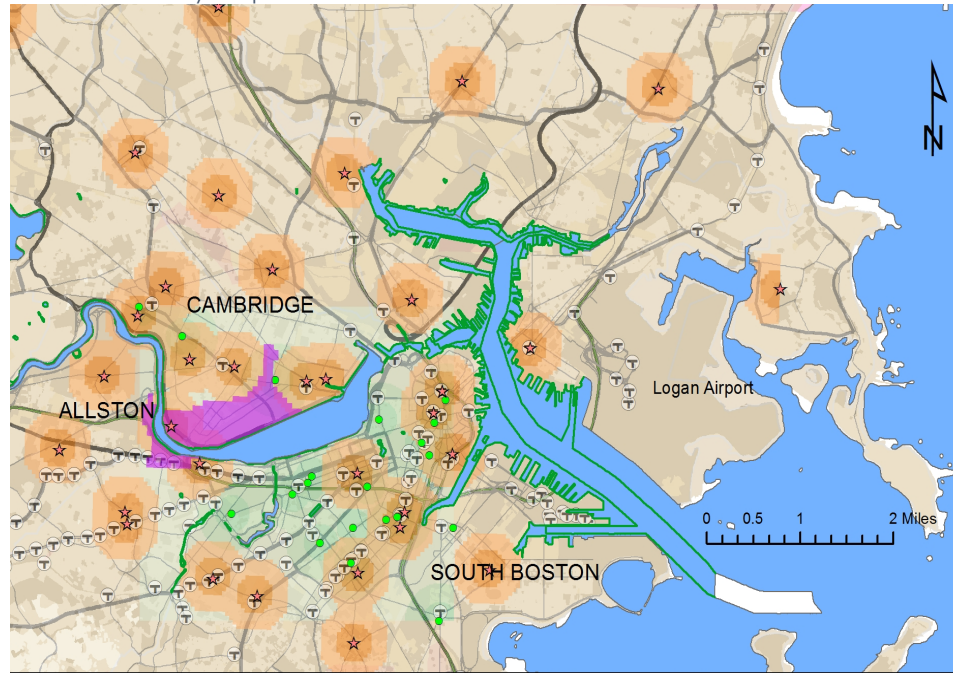
The market suitability score is calculated with the weighted average of the 5 different subcategories: proximity of MBTA subway stations, 2005 land use classifications, residential populations, 20 restaurant locations, and farmers market locations. The land use data, was pulled from the Commonwealth of MA. The 39 different land use classifications were re-categorized into 3 meaningful scores emphasizing empty warehouses and lots to host the venue. The residential density was captured by using the US Census' American Community Survey (ACS) data by block. The block data offers the best granularity available. The blocks were transformed into rasters to find the sum of residents within 500 meter radii. To consider market locations away from highly residential area to account for potential noise.

Restaurant locations were selected based on popularity. The geographic coordinates were found according to the UTM MA state plane projection (NAD 83).

The Euclidean distance tool was used on restaurant locations, farmer's market locations, and for T-stop locations to calculate proximity walkable within 500 meters.

## Results

Market Suitability Map

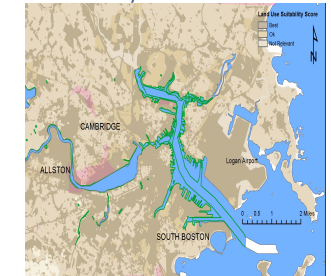


## Conclusion

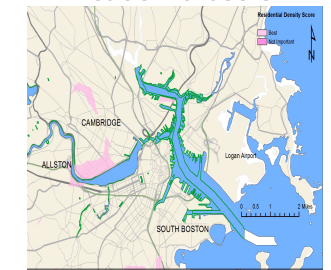
This model showcases two suitable locations highlighted in purple. The two highlighted locations are in Allston (Paradise Rock Club and Agganis Arena) and in Cambridgeport (258 Albany Street).

The ACS data is from 2010, so the residential data may not be accurate today, however, it is substantial enough to conduct an initial test to observe where to place a night market. The 2005 Land Use classifications set a base standard for us to begin to explore the various potential market locations, however, as the area of interest is a metropolitan city, there is constant restructuring of land with new additions of buildings and small parks. Google Map's Earth View was used to double-check these two locations for accuracy. Interestingly, 258 Albany Street is an empty demolished lot. For the purpose of this project, either hosting the Night Market @ Boston in the Agganis Arena or 258 Albany Street would be suitable. For further exploration on this project, logistics on parking near the concert venue and consumer demographics would be considered (assessing where young adults tend to live).

Land Use Model (dark accentuates best fit locations)



Residential Score



Map Data Sources: MassDOT Roads, June 2014, Mass Department of Transportation; published by MassGIS, accessed Dec 2016 at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/eotroads.html> Town boundaries, February 2014, Mass Department of Public Works, published by MassGIS, accessed Dec 2016 at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/towns.html> MassDEP Hydrography: March 2010, US Geological Survey; published by MassGIS, accessed April 2016 at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/hd.html> National Elevation Dataset: May 2015, US Geological Survey; accessed April 2016 at <http://nationalmap.gov/elevation.html> Farmers' markets: June 2015, Mass Department of Agricultural Resources, published by MassGIS, accessed April 2016 at <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/farmers-markets.html> Census blocks/population: US Census Bureau, 2010, accessed April 2016 at <http://www.census.gov/geo/maps-data/data/tiger.html> Land use 2005: June 2014, Mass EOE, published by MassGIS, accessed Nov 2016

