

# INTRODUCTION

The Supplemental Nutrition Assistance Program (SNAP) provides households with incomes below 185% of federal poverty level with up to \$668 per month in food purchasing assistance. Electronic Benefits Transfer (EBT) is an electronic system that allows a recipient to authorize transfer of their SNAP benefits to a retailer account to pay for products received. Farmers' markets accepting EBT are acting as an important source for low-income families to get access to healthy food and fresh produce that they cannot afford otherwise. This could help the obesity epidemic because one of the causes for obesity in low-income families is poor diet quality, including insufficient intakes of fruits and vegetables, due to lack of access and low affordability.

The number of households on SNAP in Boston has been increasing these years. In 2009, more than 35,000 (14%) of Boston households received SNAP, increasing from about 25,000 (12%) in 2006. ¹It's imperative to know whether households on SNAP in Boston have access to redeem EBT benefits for fresh produce in farmers' markets.

Therefore, this project aimed to assess whether farmers' markets in Boston are meeting the need of households on SNAP to redeem EBT benefits for fresh produce, and identify the suitable locations for new farmers' markets.

#### **EVALUATION OF EXISTING FARMERS' MARKETS**

#### **Location and Categorization of Existing Farmers' Markets**

All existing farmers' markets registered in Massachusetts Department of Agricultural Resources (DAR) database were mapped. The status of accepting EBT benefits was indicated.

#### Identification of households on SNAP

In the American Community Survey, respondents were asked, "In the past 12 months, did you or any member of this household receive benefits from the Food Stamp Program or SNAP?" Those answered "yes" were identified as on SNAP for that survey cycle.

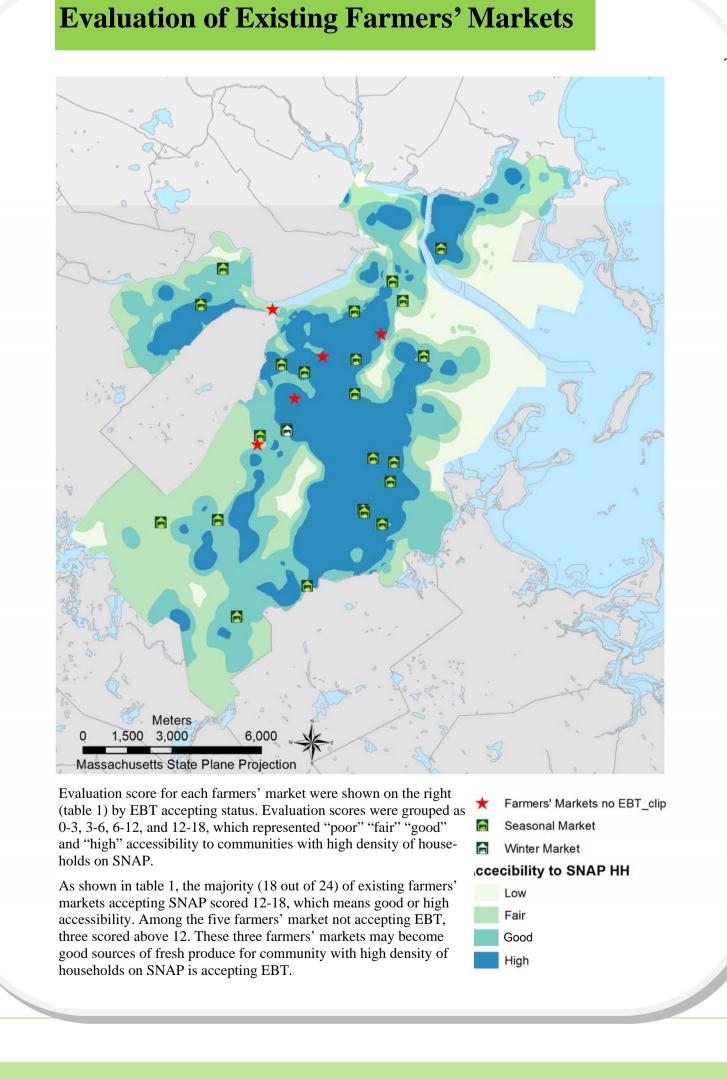
## **Evaluation of Existing Farmers' Markets**

To evaluate the accessibility of existing farmers' markets to communities with high density of households on SNAP, an Evaluation Score was created based on three components, 1) density of households on SNAP in each census group, named as Need Score, 2) proximity to residential areas, named as Residential Score, and 3) distance to MBTA rapid transit stations, named as Transit Score.

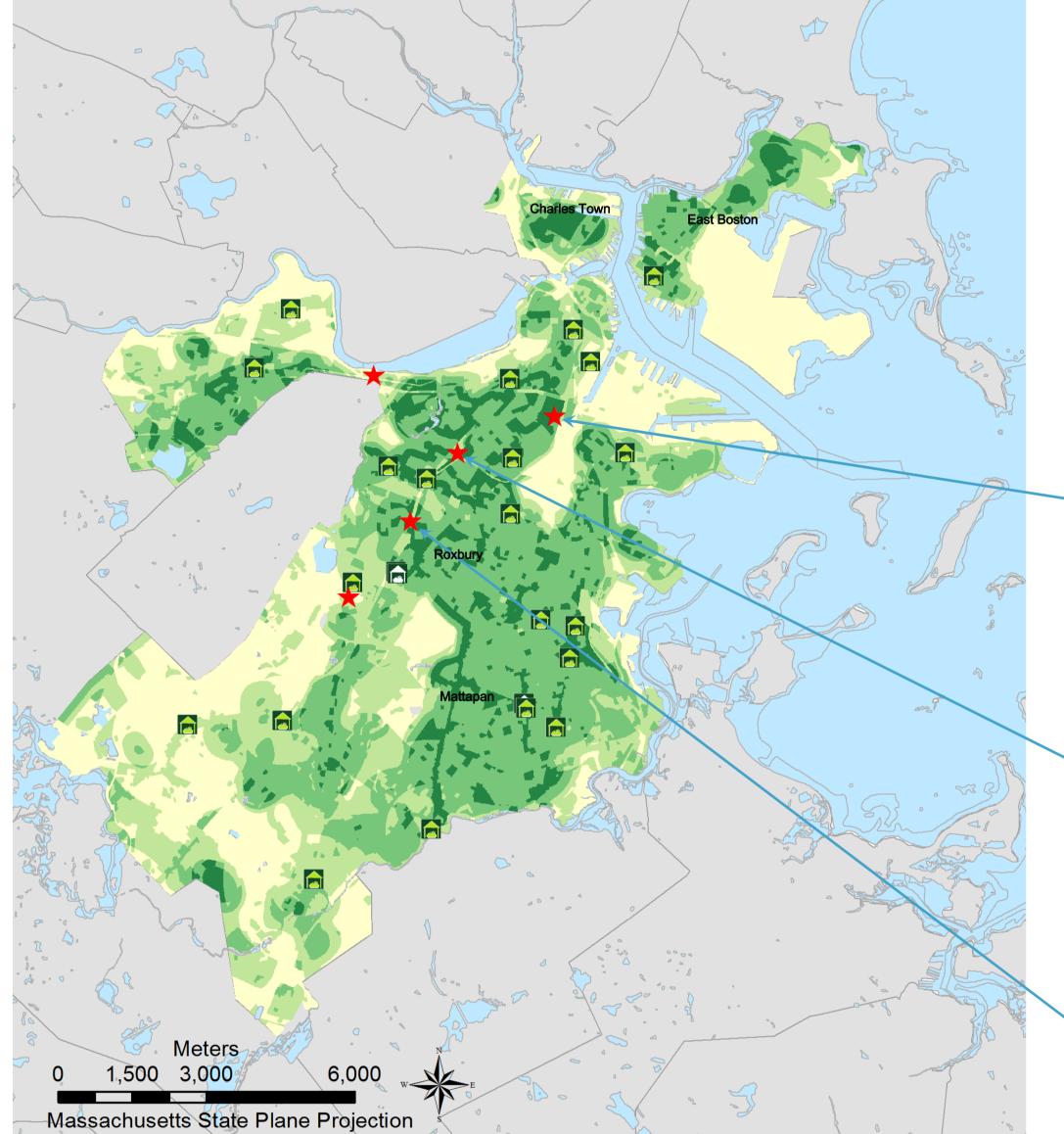
Three components are weighted using the following formula:

Each component ranges 0-3, evaluation score ranges 0-18.

Evaluation Score = 3 x Need Score + 2 x Residential Score + Transit Score



#### Suitability for New Farmers' Markets Accepting EBT in Boston



Evaluation scores were grouped as 0-10, 10-15, 15-20, and 20-30, which represented "poor" "fair" "good" and "excellent" suitability for new farmers' market accepting EBT

to provide fresh produce communities with high density of households on SNAP. The recommended areas for new farmers' markets are those with excellent suitability and with few existing farmers' markets nearby. The implication is the households on SNAP in these communities are likely to be underserved. Such suitable areas are concentrated in mid- south Boston, including **Roxbury** and **Mattapan**, as well as in the north end of Boston, including **Charles Town** and **northern East Boston**.

There are some areas with excellent suitability near existing farmers' markets accepting EBT, likely due to very high density of households on SNAP in these areas. However, instead of opening new farmers' markets in these areas, the recommendation would be expanding the existing farmers' markets or relocating them so that communities around can share the access to them.

★ Farmers' Markets no EBT\_clip

Seasonal MarketWinter Market

Excellent

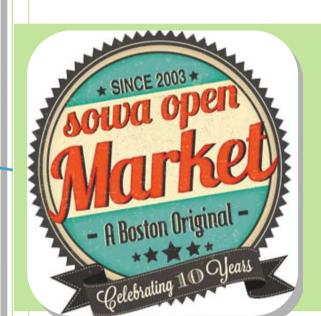
**Suitability Level** 

Poor

Fair Good

## CONCLUSION

Most of the existing farmers' markets accepting EBT in Boston are accessible to communities with high densities of SNAP households.. But there are still areas that are underserved and suitable for opening new farmers' markets accepting EBT. Three farmers' markets that do not accept EBT are identified as good candidates to accept EBT to better serve communities with high densities of households on SNAP, which are



# Farmers' Market at SOWA

Sun 10 am -4 pm, May - Oct

Thayer Street, off Harrison

Avenue,

Boston, MA 02118



Orleans Winter Farmers' Market

1 st &3 rd Sat 9-12 am, Dec 70 Route 28, Nauset Regional
Middle School,
Orleans, MA 02653



Zoning Districts: BostonGIS, 2015

Jackson Hole
Farmers Market
on Town Square
Fri 12-5 pm, Jul - Oct
225 Centre Street,
Boston, MA 02130

## DEEEDENCES

Citation: Boston Indicator Project. The Measure of Poverty: A Boston Indicators Project Special Report. 2011.

Data Sources:
MassGIS (Farmers' Markets, MassDOT Roads, Protected and Recreational OpenSpace, MassDEP Hydrography, Community Boundaries (Towns))
American Community Survey: U.S. Census Bureau, 2008-2012



te to Existing Farmers' Market Accepting EBT

Distance to EBT FM

meter

Distance to Existing Farmers' Market Accepting EBT

Existing farmers' markets registered in Massachusetts Department of Agricultural Resources (DAR) database were mapped. The status of accepting EBT benefits was indicated. Euclidian distance from farmers' market accepting EBT was calculated to estimate walking distance. Longer distance was assigned higher EBT Score. Distance categorizations are 0-150, 150-300, 300-600, and >600 m, assigned 0-3 points respectively.

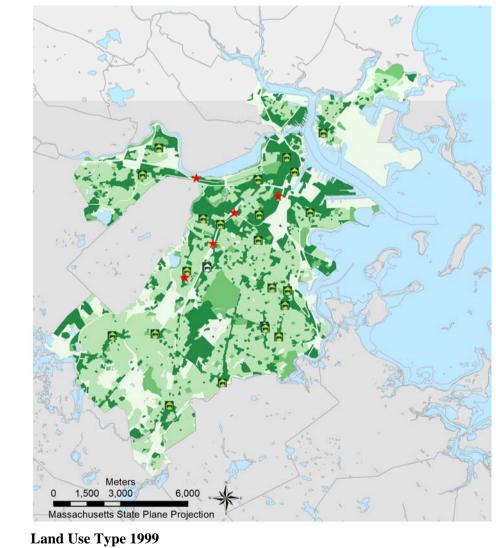
Distance to EBT FM meter

0-3000

3000-6000

6000-100000

to >100000



Land Use Type 1999

Land use type was classified using MassGIS

Land Use 1999, 21-category classification. Commercial and urban open areas were considered desirable land use types for new farmers market and scored 3. Participation recreation and spectator recreation scored 2. Residential areas scored 1. The other types scored 0.

★ Farmers' Markets no EBT\_clip
Seasonal Market
Winter Market

Type Group
Others
Residential
Recreations

Commercial&Urban Open

Density of Households on SNAP

Numbers of households on SNAP by census block group and land area were extracted from American Community Survey 2008-2012. Note that the unit in ACS is census block group. Density of households on SNAP was calculated as (number of households on SNAP) / land area (km²). Focal statistics was used to estimate number of households on SNAP within a circle neighborhood with radium equal to 1 km. Higher density was assigned higher Need Score. Density categorizations are 0-25, 25-50, 50-100, and >100/

circle neighborhood, assigned 0-3 points respectively.

Meters

0 1,500 3,000

Massachusetts State Plane Projection

Proximity to Residential Areas

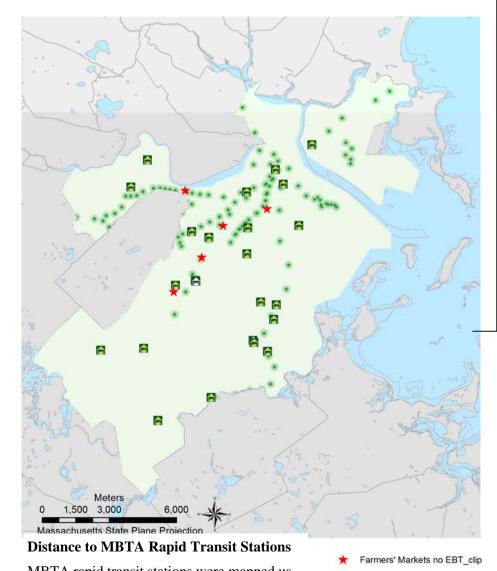
Proximity to Residential Areas

Residential areas were identified using
MassGIS Land Use 1999. Proximity was estimated by Euclidian distance to polygons.

Shorter distance was assigned higher Residential Score. Distance categorizations are >3000, 1000-3000, 300-1000, and 0-300 m, assigned 0-3 points respectively.

Farmers' Markets no EBT\_clip
Seasonal Market
Winter Market
meter
>3000
1500-3000
300-1500

0-300



Distance to MBTA Rapid Transit Stations
MBTA rapid transit stations were mapped using MBTA Rapid Transit layer developed by the Central Transportation Planning Staff (CTPS). Shorter distance was assigned higher Transit Score. Distance categorizations are >600, 300-600, 150-300, and 0-150 m, assigned 0-3 points respectively.

Farmers' Markets no EBT\_c
Seasonal Market
Winter Market

meti
>600
300-600
150-300
0-150
3

# SUITABILITY FOR NEW FARMERS' MARKETS

# Suitability for New Farmers' Markets To evaluate the suitability of opening now

To evaluate the suitability of opening new farmers' markets in terms of meeting the need of communities with high density of households on SNAP, a suitability score was created based on six components, including the three components of Evaluation Score, and two additional components, including 1) distance to existing farmers' markets accepting EBT, named as FM Score and 2) land use type, named as Land Use Score.

Five components are weighted using the following formula:

Suitability Score=3 x Need Score + 2 x Land Use Score + 2 x EBT Score + 2 x Residential Score + Transit Score

Fach component ranges 0-3 suitability score ranges 0-30

Each component ranges 0-3, suitability score ranges 0-30.

See maps on the left for information on how the component scores were created.