Vulnerability Index of Expected Childhood Asthma Prevalence in Somerville, MA

A Guideline for Further Study of factors potentially contributing to childhood asthma

Background

Somerville, Massachusetts is a densely populated city, located in the metro-Boston area. The city is approximately 4.2 square miles in size and home to an estimated 76,000 people. In recent decades, Somerville has undergone significant changes in regard to housing renovations, brownfield remedia-

This report is to serve as a guideline for conducting a more in-depth analysis of the incidence of childhood asthma in Somerville, MA. What we would expect to find is a correlation between increased likelihood of childhood asthma in relation to increased number of children living in older housing units (or un-renovated units), within close proximity of major roads and/or brownfield sites.

Methods

Several criteria were examined and serve as a starting point for deeper analysis of this issue. Criteria included in this study:

* Age of home structures
* Presence of children
* Proximity to major roads
* Proximity to polluting facilities

Age of housing stock: According to 2009 parcel data of the city, there are 11,594 existing housing structures in Somerville. Of the existing HU’s, 89% were built between the years 1890-1930, correlating with the great wave of immigration to the US prior to, and during, that time period.

Present condition of these existing HU’s varies considerably throughout the city. As the existing housing stock ages, those homes which have not undergone renovations may have poorer indoor air quality, contributing to increased likelihood of asthma in the children residing there.

Conclusions

Somerville has a vast majority of older housing stock, which may or may not have been reno-

The areas showing potentially greatest vulnerability to incidence of childhood asthma, based on proximity to brownfield sites and major routes are Tens Hills, East Somerville, Prospect Hill and Ward Two/Cobble Hill neighborhoods. Since the majority of homes are originally dat-
ed between 1890-1930, it is not possible at this level of analysis to draw conclusions as to which areas of housing units present greater vulnerability for childhood asthma.