



The Boston City Council  
Committee on Planning, Development & Transportation

November 23, 2020

RE: *Docket # 0984 - Order for a hearing to review the Melnea Cass Blvd Design Project*

Dear Councilors,

I am a primary care physician at Brigham and Women's Hospital and a member of Climate Code Blue, a group of physicians and public health experts who believe that the climate crisis requires our urgent attention. We are extremely concerned about the City's proposal to cut down over 100 mature trees on Melnea Cass Boulevard. Trees have been associated with important health benefits and removing them would pose harm to the health of surrounding residents, who are already disproportionately affected by several health conditions.

**Extreme heat**

One important health risk in the community around Melnea Cass Boulevard relates to extreme heat, which is becoming increasingly common as the planet warms. (2020 is on track to be the hottest year ever recorded.) Communities like Roxbury are particularly likely to experience high temperatures, owing to what is known as the "urban heat island effect"—ie greater creation and absorption of heat from tall buildings, black asphalt streets, higher levels of air pollution (including from traffic), and a lack of vegetation. Roxbury has been noted to be on average 3 degrees hotter than surrounding communities within Boston. Meanwhile, a report last year predicted an increase in the number of days with temperatures averaging 90 degrees or higher in Massachusetts from 7 to 10 last year to about 30 by mid-century, without substantial reductions in greenhouse gas emissions.

Heatstroke is one potentially fatal complication of extreme heat, and is a particular risk in the elderly, children, and outdoor workers. Moreover, extreme heat is associated with increased risks for heart attacks and strokes, mental health problems, kidney dysfunction, and pregnancy complications. It also worsens levels of ground level ozone, leading to exacerbations of asthma and chronic obstructive lung disease.

Trees help protect us from high temperatures. A study performed during recent heat waves in Australia showed that area with tree cover/vegetation were as much as 5 to 6 degrees Celsius cooler than areas without. This temperature differential can substantially reduce risks of serious health complications of extreme heat.

**Air pollution and respiratory disease**

Children in Boston have high rates of asthma, and the rates of hospitalization and emergency department visits for asthma are substantially higher in Black and Hispanic children than white

children. Asthma results in many lost school days and lost workdays for parents. One reason for the high asthma rates is air pollution. A 2019 “State of the Air” report from the American Lung Association noted that ozone pollution worsened in Suffolk County in 2019, versus prior, and particulate air pollution failed to improve, contrary to findings in several other areas of the state. Air pollution has also been associated with increased risk of dying from Covid-19.

Trees absorb air pollutants and reduce local levels of pollution. Correspondingly, in areas with high levels of air pollution, the presence of trees has been associated with lower rates of asthma hospitalizations.

### **Mental health**

People living in low income urban communities like Roxbury have increased rates of mental health conditions such as depression and anxiety (which have worsened in the setting of increased job, housing and food insecurity associated with the Covid -19 pandemic.) While of course systemic changes are needed to appropriately address these issues, which disproportionately affect communities of color, it is worth noting that the presence of trees in urban areas has been associated with significant improvements in mental health. A cluster randomized trial comparing “greening” of vacant lots (including by planting of some trees) to no intervention showed significant reductions in feelings of depression and worthlessness among people living near greened lots, and in neighborhoods below the poverty line that were near greened lots, reductions in crime and gun violence.

### **Other health effects of climate change**

Climate change results largely from the burning of fossil fuels. Health effects of climate change include not just those mentioned above, but also more insect -and water-borne diseases, increased allergic diseases, and injuries and displacement from increasingly intense storms. Complications of climate change disproportionately affect poor communities and communities of color, such as Roxbury.

Trees take in carbon dioxide and thus reduce ambient carbon dioxide levels and slow climate change. Indeed deforestation has been a key factor exacerbating climate change.

Mayor Walsh, who has been appointed Chair of the Climate Mayors, has noted that "Our national recovery from COVID-19 must be rooted in green, equitable solutions that create opportunities for populations that have been hit hardest by the twin pandemics of COVID-19 and systemic racism." As physicians committed to health equity, my colleagues and I believe that removing trees from Melnea Cass Blvd would directly go against a mandate for “green, equitable solutions.” For reasons of health and equity, the trees should be left in place.

Sincerely,



Caren Solomon, MD, MPH  
on behalf of Climate Code Blue