

# Why Roosevelt Park Should be Redesigned to Better the Community

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**Vision:** In 3 years, we envision Roosevelt Park as a safer, cooler, and more beautiful space with more trees, a community garden, and a heat-resistant playground. Surrounding community members will come here to spend leisure time comfortably, build community connections, and support community members in need with fresh produce from the garden. Children will be able to play outside and get needed exercise without getting too hot. The park will see at least a 50% increase in visitation, and the length of time visitors spend at the park will also increase. Thanks to the increased number of trees, people living in the community will be less at risk of heat-related health impacts.



Urban heat islands are areas with many buildings and pavements that absorb heat rather than reflect it. They also lack green spaces, which are important for releasing heat back into the atmosphere and away from the surface of the Earth. Additionally, they lack areas with higher reflective-quality surfaces, or surfaces with a high albedo. Urban heat islands can negatively impact the local population's health.

Extreme heat can be the cause of illness, hospitalization, and death. The CDC recorded an average of 702 heat-related deaths in the United States annually from 2004 to 2018.<sup>1</sup> Children, in particular, are very vulnerable to the negative effects of extreme heat. According to the U.S. Environmental Protection Agency, children lose fluid faster than adults in high temperatures. Therefore, children are more at risk of dehydration and heat-related mortality due to their smaller body mass to surface area ratio.<sup>2</sup> This means it is dangerous for children to play outside in high temperatures, even if they drink plenty of water. They could fall victim to heat stroke, which can be fatal.<sup>3</sup> A key focus of our goal is to help keep the children in South Framingham, a heat island, healthy by allowing them to play outside with a lower risk of heat-related health impacts.

Our vision is for Roosevelt Park, located in the Tripoli community of Framingham, to be safer, cooler, and more beautiful, primarily through increased vegetation. A canopy of trees will shade the walkways, and there will be a garden filled with beautiful, colorful plants, both floral and edible.

To make our vision a reality, we propose that Roosevelt Park gets redesigned with additional trees, a community garden, and a better playground with eco-friendly and heat-resistant equipment. Adding more trees to the park is the most crucial part of the redesign. Trees perform evapotranspiration, which cools the surrounding area by using the heat from the air to evaporate water. The water vapor then carries the energy back into the atmosphere. A study has shown that suburban areas with mature trees can be 4 to 6°F cooler than new suburban areas without trees.<sup>6</sup> This temperature decrease shows what more trees can do to mitigate the urban heat island effect around Roosevelt Park. Community members can then build connections by working in the garden or bringing their children together to play. The garden will brighten the community in more ways than one by providing produce to assist people experiencing food insecurity. Heat-resistant playground equipment keeps temperatures cool for children and protects them from thermal burns.<sup>4</sup> The park will see at least a 50% increase in visitors. Additionally, the time visitors spend at the park will increase.

Roosevelt Park is the perfect canvas for new vegetation and a beautiful community building space. Our primary recommendation is for the City of Framingham to focus on adding more vegetation, especially trees, to Roosevelt Park and to take community guidance on other ways the space can be improved. This redesign should significantly improve the mental and physical health of the community surrounding Roosevelt Park, as well the sense of connection between the people that visit. Most importantly, it allows the City of Framingham to mitigate the urban heat island effect that is currently occurring in South Framingham. Green spaces, especially with trees, are crucial to preventing too much heat absorption and keeping areas cool.

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## References

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## Details of the Proposed Redesign



Roosevelt Park and the Suggested Layout

To decrease disruptions to the current uses of the park, the new additions are best implemented around the walking paths that encircle and bisect the park. There is already more-than-a-decade-old playground equipment in the center of the park, so once upgraded equipment is obtained, the old structures can be removed and replaced. As for the community garden, there is a flat area next to the playground where the garden would fit. We recommend that the City of Framingham provide plants for the garden, as well as planting and maintenance guidelines. At the same time, the city could provide trees that can be planted around the park. A volunteer program should be formed where community members are responsible for the vegetation. This program would continue following the initial redesign work because of needed maintenance. In terms of funding, the City of Framingham should apply for grants from organizations such as the Arbor Day Foundation for help purchasing the trees to plant.<sup>89</sup>



Recommended Community Garden Area