Greening Research in Tacoma

(G.R.I.T.)

The Nature Conservancy Washington

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As a result of input and advocacy, the City of Tacoma, Tacoma Tree Foundation, and The Nature Conservancy have collaborated with the community in South Tacoma to invest in greening initiatives such as tree plantings, green stormwater infrastructure, and art installations in the neighborhood. Greening Research in Tacoma, or G.R.I.T., is a research collaboration that additionally brings in partnership with the Environment & Well-Being Lab at the University of Washington to dig deeper into the impacts of city greening efforts on community and environmental health and well-being.

Trees planted in our cities and towns provide many benefits such as cooling temperatures on hot days, and reducing the impacts of pollution in our water. More dense tree canopies are also associated with better health and well-being outcomes, including reduced cases of asthma, strokes, and cardiac arrests. An ongoing challenge for many cities is that tree canopy—and the many benefits associated with it—is not distributed equitably. Community-centered greening efforts can help address these inequities.

Community-Focused Research

G.R.I.T. researchers conducted interviews with South Tacoma residents to learn about their experiences and provide opportunities for them to share perspectives on urban greening, environmental surroundings, and related challenges and priorities, as well as their visions for the future. Learnings from this work informed ongoing and emerging research, which will capture a broader range of perspectives and contribute to understanding about relationships between greening and the local environment, community experience, and resident well-being. The research team is pairing these stories capturing lived experiences with environmental data by installing air temperature and quality monitors. For example, from air temperature data collected in South Tacoma, researchers have learned that summer temperature decreases linearly as tree canopy cover increases, meaning that each additional tree contributes to a local cooling on hot days.

Expanding the impact of GRIT

As greening projects occur in South Tacoma, the G.R.I.T. collaboration is growing into a new phase by working with the Asia Pacific Cultural Center (APCC) and other community members to increase air quality monitoring across Tacoma, in addition to continuing to monitor temperatures and provide opportunities for residents to share their experiences and feedback. APCC has partnered with community residents and community-based organizations to collect real-time air quality data in Tacoma neighborhoods; this community monitoring seeks to increase community awareness in environmental health concerns, track air pollution trends, and develop community solutions. G.R.I.T. stands as an example of collaborative, on-the-ground research and community engagement to build more resilient climate futures together. G.R.I.T.'s impact expands beyond the boundaries of Tacoma, with its novel research, lessons learned, and communication materials providing resources for the many urban communities experiencing similar challenges.

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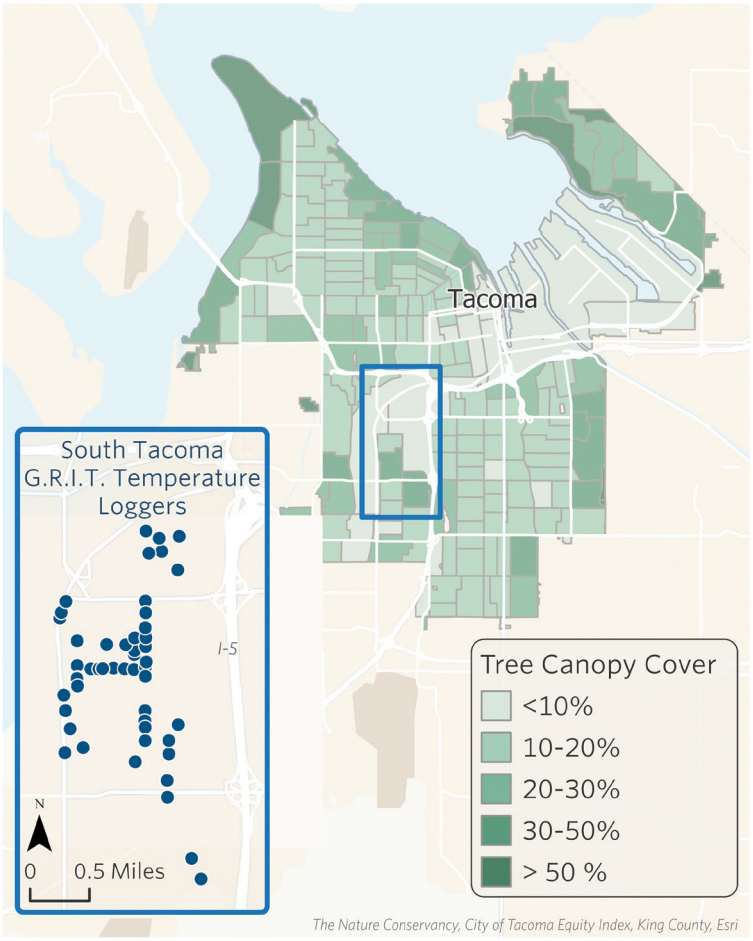

BY THE NUMBERS

964

TREES PLANTED IN 2020–2023

through the Tacoma Mall Neighborhood Greening project

4.6°F

(2.6° C) AVERAGE VARIATION IN SUMMER AIR TEMPERATURE

within the 2.5 square mile area of South Tacoma where GRIT is focused; locations spanned areas with no tree cover to 100% tree cover and temperatures decreased linearly with increasing tree cover[1]

5X

MORE LIKELY

that daytime temperatures will exceed regulated high temperature thresholds in locations with no canopy cover versus those under 100% tree cover

4/5

COMMUNITY MEMBERS INTERVIEWED

suggested planting more trees when asked what could be done to reduce heat and related effects in the area[2]

1 *Ettinger AK, Bratman GN, Carey M, Hebert R, Hill O, Kett H, Levin P, Murphy-Williams M, Wyse L. Street trees provide an opportunity to mitigate urban heat and reduce risk of high heat exposure. Scientific Reports. 2024 Feb 13;14(1):3266.*

2 *From a qualitative research study led by Olivia Hill of the Environment & Well-being Lab at UW, focused in and around the Tacoma Mall Regional Growth Center. Research included in-depth interviews with community members (N=20) and professionals with relevant experience (e.g., involved in work related to urban forestry/greening, or with a focus in/on the Mall area and community)(N=9).*

G.R.I.T. is only possible with the knowledge and support of community members.

Tacoma Tree Foundation is a foundational partner in community outreach with G.R.I.T., and has organized free tree distributions, planting events, and outreach campaigns in support of their mission to grow greener, healthier, and more connected communities.

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ASIA PACIFIC CULTURAL CENTER

Tacoma Tree Foundation

City of Tacoma

The Nature Conservancy Washington

UNIVERSITY of WASHINGTON

Learn more at tacomatreefoundation.org/grit