



Kansas City, Missouri
CLIMATE RISK AND VULNERABILITY
ASSESSMENT

HOW IS CLIMATE CHANGE AFFECTING US?

Kansas Citians are already experiencing flooding, extreme heat, and other climate impacts. While we work to fight climate change, we also need to adapt to the changes that have already happened. As part of this process, the project team and community members identified which climate hazards pose the greatest risk for Kansas City, where they are happening, and our ability to cope with or recover from these hazards.

WHAT ARE OUR BIGGEST CLIMATE RISKS?

Climate change increases the frequency and intensity of natural events in weather cycles, which we call “climate hazards.” Examples of climate hazards in Kansas City include flooding, drought, extreme heat, severe storms, and tornadoes. Flooding and extreme heat pose the greatest risks. In addition, the region faces cascading climate risks that result from these climate hazards. For instance, standing water associated with flooding leads to mold and mildew in homes, which causes serious health issues, and emphasizes the connection between climate justice and health equity. Cascading climate risks include air pollution and respiratory health, vector born disease, and forced migration – migrants will either travel to Kansas City or Kansas City residents will migrate to a safer location (Figure 1). While Kansas City is vulnerable to heat, flooding, and other climate hazards, it also receives climate migrants, such as victims of Hurricane Katrina 2005.

WHERE ARE WE EXPOSED TO CLIMATE HAZARDS?

While exposure to some climate hazards is unpredictable, some hazards will impact certain neighborhoods more severely than others. For example, Figure 2 shows areas located in or near floodplains and Figure 3 shows how different neighborhoods are likely to experience extreme heat.

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Crossroads is basically a huge heat island. [We need] More trees and green roofs.

– Anonymous Community Member

Southwest Boulevard is one of the worst spots that get flooded. When there is heavy rain it can get near 1 foot high of water.

– Eman, Community Member

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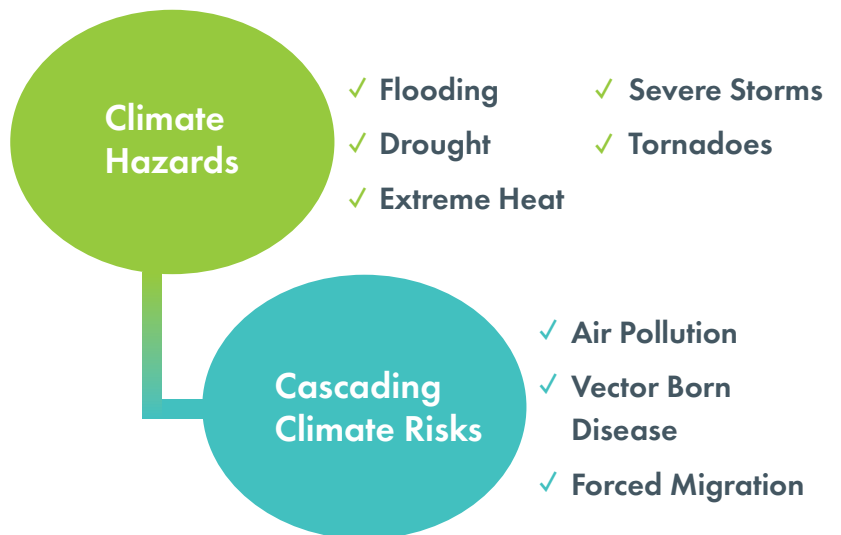
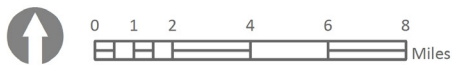
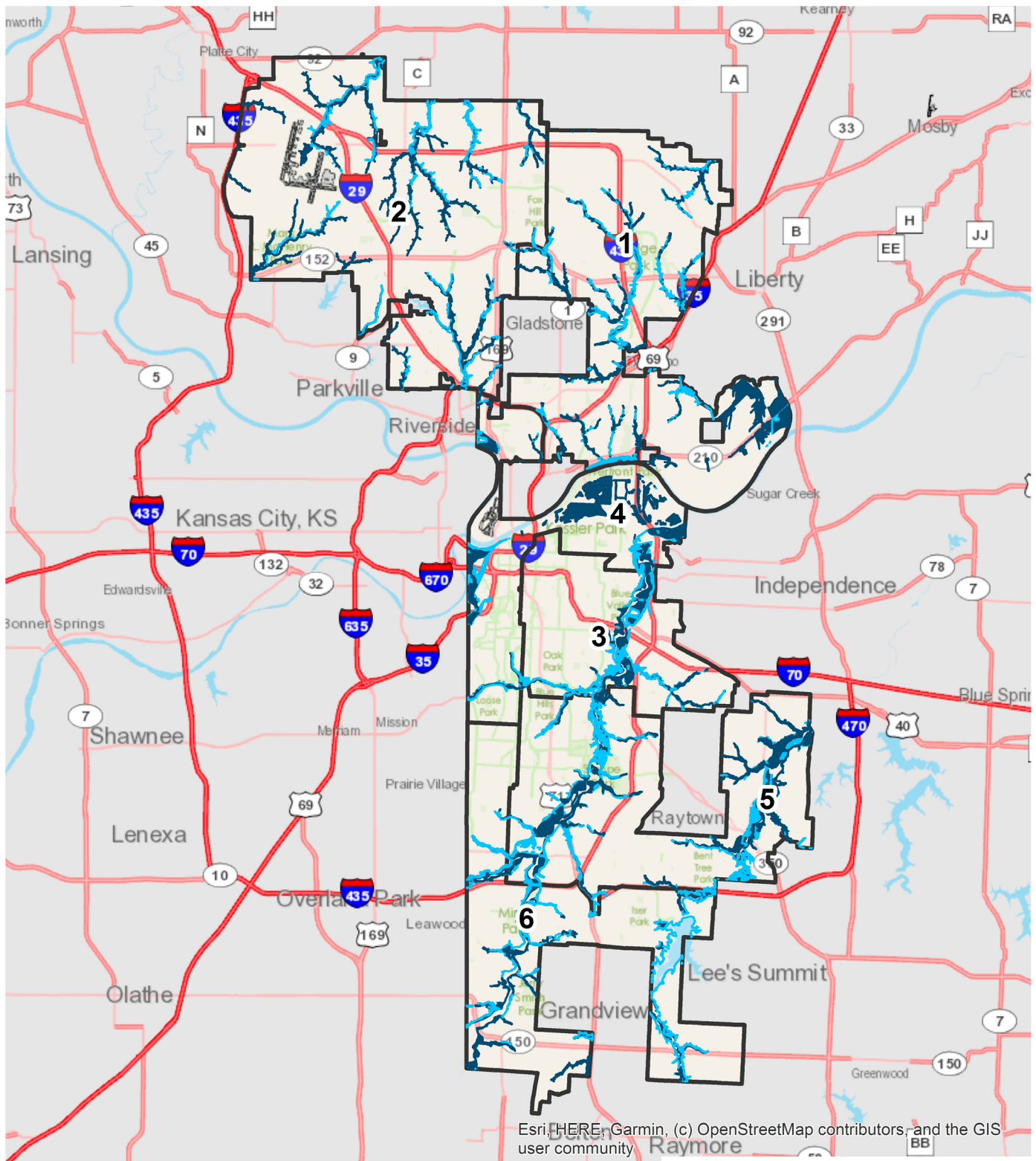


FIGURE 1: Kansas City Climate Hazards and Risks



Climate Hazard: Flooding

□ Council Districts

Flood Hazard Zones

■ 1% Annual Chance

■ 0.2% Annual Chance

FIGURE 2: Flooding Exposure Map

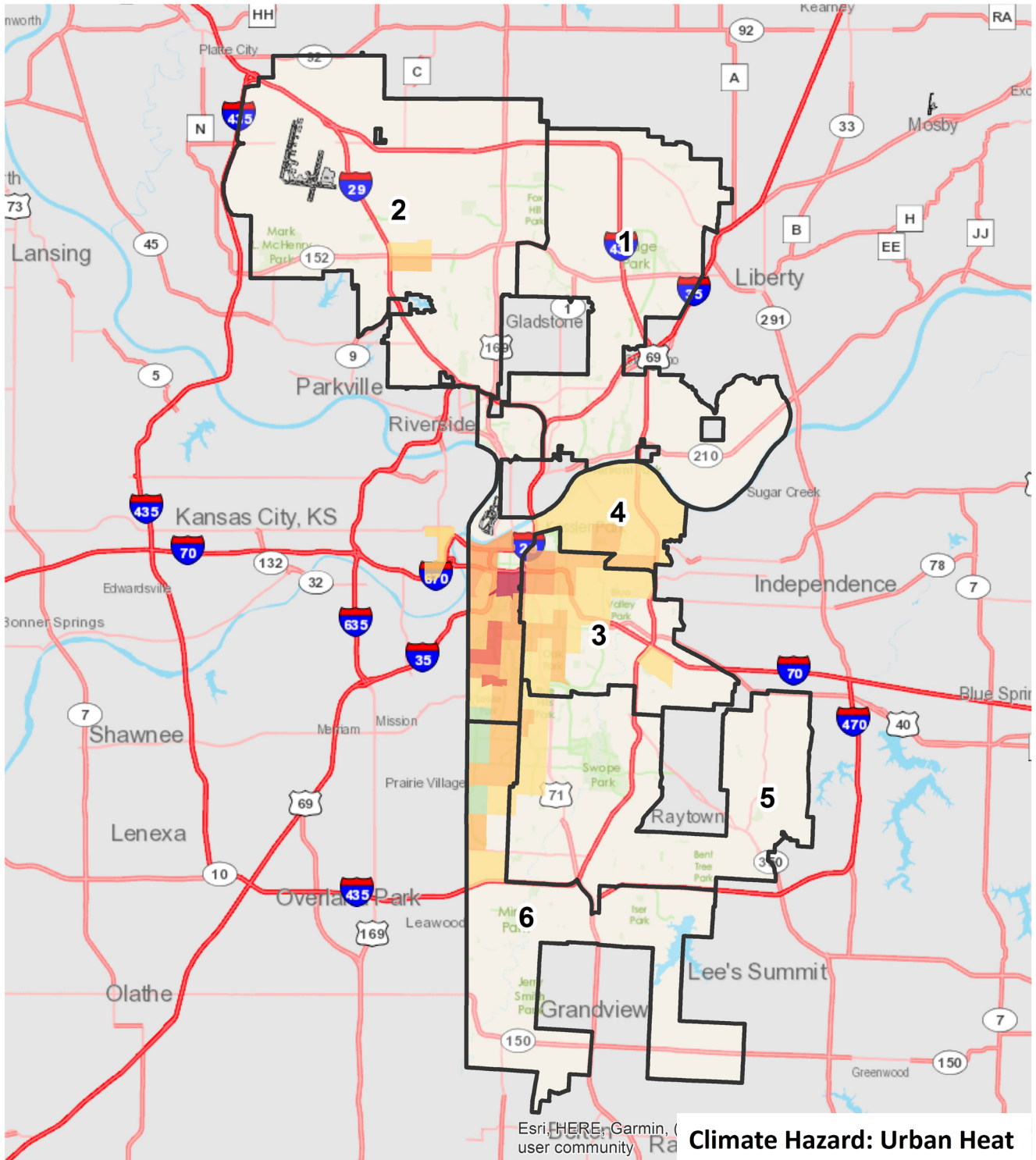


FIGURE 3: Urban Heat Exposure Map

ARE WE READY TO FACE CLIMATE HAZARDS?

Many factors, including race, age, disability status, income, access to a vehicle, English proficiency, age of your home, and housing type, influence our ability to respond to or cope with the impacts of climate hazards. These factors are referred to as the “Socioeconomic Stress Index.” Identified in Figure 4, they vary across the city and some neighborhoods face greater risk to climate-related impacts than others.

“The people who need the trolley most do not have access to the trolley. – Maria, Community Member

Electrification and weatherization is too expensive for the per capita incomes of inner city census tracts. – Imani, Community Member

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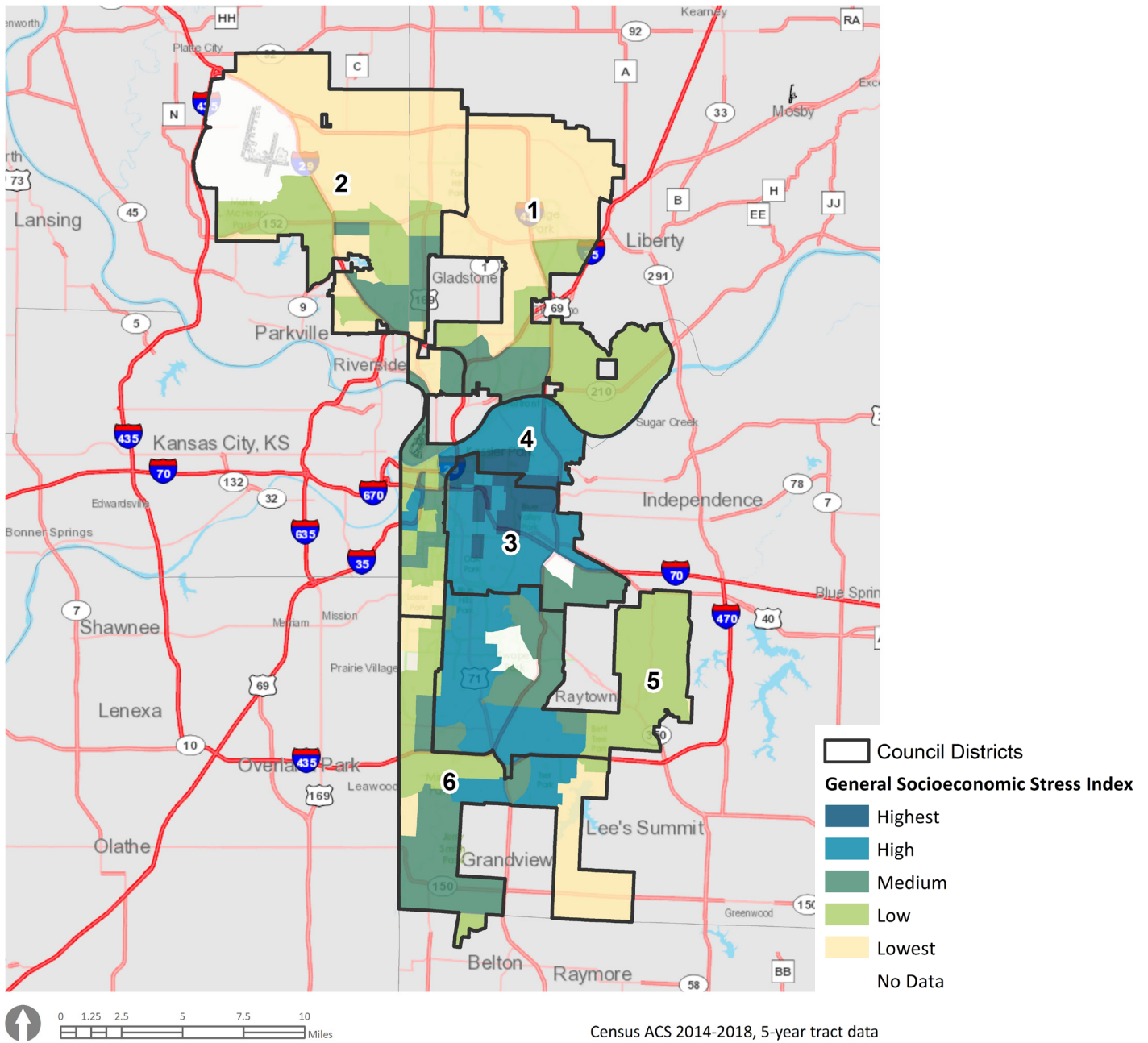


FIGURE 4: General Ability to Adapt
Communities with highest socioeconomic stress are least able to adapt

HOW DOES CLIMATE CHANGE AFFECT OUR HEALTH?

Climate change impacts our health through flooding, extreme heat, air pollution, severe storms, and the spread of disease. These climate hazards directly affect our quality of life and life expectancy, especially for those with lower incomes or limited access to clean air and water, nature, and nutritious food. As illustrated in Figure 5, life expectancy in Kansas City ranges from 69 to 85 years, depending on where you live (Kansas City, Missouri Health Commission, 2022). These geographic disparities are closely tied to race, with the highest life expectancy in a majority white community and the lowest life expectancy in a majority Black community.

Life Expectancy by ZIP Code

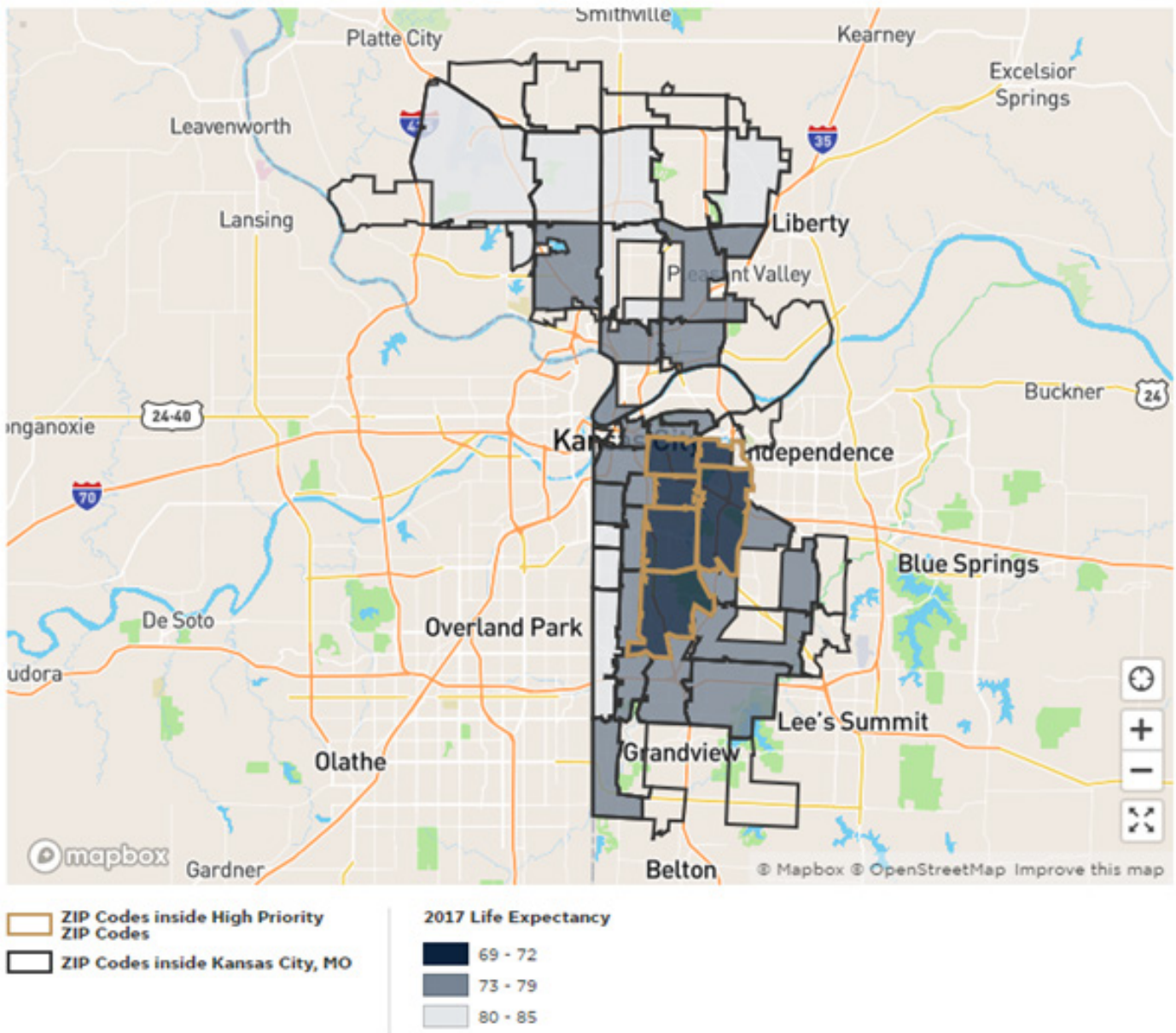


FIGURE 5: Life Expectancy by Zip Code, Kansas City, MO Community Health Improvement Plan 2016-2021

We must implement our climate action strategies in a way that prioritizes resources in communities who have been disproportionately impacted by climate change impacts due to historically racist policies and practices. Examples of improving health through climate action include:

- Improve air quality by promoting development patterns that support emissions free transportation. We should increase access to biking and electric buses through mobility strategies, especially in areas where pollution has historically impacted communities of color.
- Improve access to nutritious food. Transform underutilized urban spaces into food production areas. Land Bank vacant lots that would be good targets for this action are identified on this [map](#).
- Expand the tree canopy to combat the heat island effect. Reduce the impact of extreme heat in lower-income areas to alleviate high energy cost burden.

As we implement these solutions, we must be proactive in resisting green gentrification. Green gentrification is the process by which environmental or climate investments lead to higher property values and rents without also lifting up residents' incomes, resulting in vanishing community institutions and physical displacement. These considerations look different in each area and will be a critical part of climate plan implementation.





**KANSAS CITY
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