



HOME IN TACOMA HEALTH IMPACT ASSESSMENT

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Executive Summary

What is a Health Impact Assessment?

The way we build our communities impacts our physical, social, and mental health. It is widely recognized that the conditions in which we live, or Social Determinants of Health (SDoH) – including exposure to pollution, stable and quality housing, education, access to nutritious foods, and safe places to walk and roll – have a far greater impact on our health than traditional medical practices and dollars spent on healthcare. Consequently, improvements in public health can only occur if SDoH are incorporated into development projects, planning policies, and other government programs in non-health related sectors.⁴

Health Impact Assessments (HIA) serve as a tool to inform decision-makers, and the public, of the potentially significant impacts – both beneficial and harmful – of a proposed project, policy, or program. Many technical definitions of HIAs exist, but Tacoma-Pierce County Health Department (Department) uses the definition from the Committee on Health Impact Assessment of the National Research Council:

*HIA is a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.*⁴

Home in Tacoma Health Impact Assessment

This HIA was commissioned to provide a tool to discuss health impacts of [Home in Tacoma](#) (HIT) Phase 2, part of City of Tacoma's [Affordable Housing Action Strategy](#) (AHAS). Implementation of Phase 2 is intended to increase housing supply, affordability, and choice for current and future residents through zoning changes, design standards, affordability options, and anti-displacement strategies.

The City determined that HIT would likely cause significant, adverse environmental impacts, so they were required to assess these impacts through an Environmental Impact Statement. The [draft Environmental Impact Statement](#) (DEIS) assessed three alternatives defined primarily by the number of new housing units likely to be developed under the new zoning rules, as well as associated development standards establishing new density, building size, parking, landscaping, and other requirements.

This HIA examined the DEIS and associated changes to the [Municipal Code](#) to understand the health impacts associated with increased density, changes in the transportation network, and changes in tree canopy. Within each change category, the HIA team looked at health impacts associated with two to three topic areas. The topic areas for each change category are illustrated in Figure 1. Because HIT is complex and nuanced, this HIA could have focused on any number of topic areas. The scope of this HIA was narrowed to fit a rapid HIA format, time available, and goals of the HIA Team.

Changes in density	Changes in the transportation network	Changes in tree canopy cover
<ul style="list-style-type: none"> •Impacts associated with increased physical activity •Impacts on housing stability and habitability 	<ul style="list-style-type: none"> •Impacts associated with changes in air quality •Impacts associated with increased connection to opportunities 	<ul style="list-style-type: none"> •Impacts associated with the urban heat island effect •Impacts associated with respiratory disease •Impacts on mental health

Figure 1. Change Categories and Topic Areas

Key Assessment Findings

In a rapid HIA, assessment consists of refining the literature review and discussing how conclusions can be applied to the decision under consideration. This includes an analysis of potential positive and negative health impacts of the three alternatives identified in the DEIS. This HIA does not evaluate each alternative separately but rather, outlines the relative severity and scale of impacts for residents across the three alternatives.

Changes in Density

Density, the number of developed units in a specific area of land, is a significant component of neighborhood design. The design of our neighborhoods—including the types and quantity of housing available and how far it is from amenities—determines much of our quality of life.⁶

Higher density zoning will result in the development of middle housing options across a large area of the city. Middle housing options like du-tri-quadplexes, detached accessory dwelling units, and multi-family apartment buildings are significantly more affordable than single-family homes. An influx of middle housing options will increase affordable home ownership and rental opportunities citywide, while decreasing displacement risk in the long-term. Near-term displacement risk may increase as property owners remodel existing housing to accommodate more units.

Habitability standards for new, repurposed, or remodeled housing will also be key to improved health by eliminating environmental and safety hazards, reducing the spread of communicable diseases, and ensuring housing is built for our changing climate. Examples of these standards include mold prevention and remediation strategies, and filtration and ventilation systems to reduce disease spread and exposure to airborne particulates.

Zoning that allows for more dense neighborhoods will encourage the development of health-promoting destinations such as grocery stores, childcare centers, and medical facilities, closer to housing. With more desirable destinations nearby, the likelihood of residents walking, rolling, and biking increases. This type of physical activity is known to prevent heart disease, hypertension, stroke, diabetes, osteoporosis, some types of cancer and depression. However, these outcomes depend on the City’s sidewalk and trail network having capacity to support these new users.

Changes in the Transportation Network

Under HIT, new density will be located near arterial roadways with ready access to transit, making active transportation modes like walking, rolling, cycling, and public transit for everyday transportation needs more accessible. When more people use these transit modes, respiratory health outcomes improve as

local air quality gets better. Providing transportation options also increases connectivity to jobs, healthy and culturally relevant foods, and social connections for residents who do not own a car, creating new opportunities for health and well-being. The City's public transportation system must be invested in and maintained for residents to enjoy ready access to public transit and other modes of active transportation and to achieve the subsequent improvements in respiratory health and connection to opportunities.

Changes in Tree Canopy Cover

Trees serve as essential components of public health infrastructure, offering multiple health benefits including reduced respiratory and cardiovascular disease, reduced urban heat and heat-related illnesses, and improved mental health. As housing development pressure increases and urban tree canopy is reduced, these positive health outcomes will be diminished. Enhanced urban tree canopy protections, adopted along with HIT, can help lessen or mitigate the negative public health impacts that may arise from the removal of trees as more housing is built.

Highlighted Recommendations

After an assessment of the health impacts of each topic area was completed, recommendations were drafted to maximize positive health impacts and minimize negative impacts. Detailed recommendations for each topic area can be found in the full report, and align under the following public health themes:

Housing Stability

- Maximize density. An influx of middle housing options will increase affordable home ownership and rental opportunities citywide, while decreasing displacement risk in the long-term.
- Prioritize and accelerate funding and implementation of key [Anti-Displacement Strategy](#) (ADS) objectives to mitigate the negative health impacts associated with near-term displacement from the remodeling and repurposing of existing housing stock, and the potential short-term increase in housing costs.

Healthy Housing

- Study the feasibility of adopting a residential habitability standard into the Building and Development code. Partner with the Health Department to identify appropriate elements of the standard, such as air conditioning in all newly licensed units and ventilation/filtration to help prevent the spread of communicable disease and reduce exposure to other airborne contaminants. This will have the added benefit of improving residents' climate related health outcomes from extreme heat and wildfire smoke events.

Physical Activity

- Bolster and prioritize investments in the City's sidewalk and active transportation networks to ensure residents who live in or move to densifying neighborhoods enjoy the benefits of a complete neighborhood and the health, social, and economic opportunities that come with it.

Respiratory and Cardiovascular Health

- Increase funding for public transportation services and infrastructure to increase ridership and improve air quality.
- Enhance and clarify tree planting and retention protections, including increased funding for Urban Forestry staffing and programs.

Social Connection

- Ensure density results in complete neighborhoods, with sidewalks, active transportation, and access to goods and services so residents can fully benefit from the improved social determinants of health.

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Background

According to the Affordable Housing Action Strategy, the City of Tacoma is in a housing affordability crisis.¹ The American Community Survey shows that 46% of renters and approximately 37% of homeowners were cost burdened in Tacoma. This means they paid 30% or more of their household income toward rent in 2021 (US Census Bureau, 2021)².

To address affordable housing statewide, the state legislature adopted E2SHB 1110 in 2023. E2SHB 1110 directs certain cities to allow for more middle housing. Middle housing refers to a range of multiunit or clustered housing types, such as duplexes, fourplexes, courtyard housing and multiplexes, which are compatible in scale with single-family homes.

The Home in Tacoma (HIT) Project is part of the city's action plan to address the provision of affordable housing over the next 30 years and complies with the new state law. Home in Tacoma unifies the city's growth strategy, zoning and land use regulations, and affordable housing development incentives into a concerted effort to:

- Increase housing supply.
- Create more affordable housing options.
- Expand the choice of housing types throughout Tacoma's neighborhoods.

Home in Tacoma consists of two phases to date. Phase One was completed in December 2021 and included:

- Amendments to the [One Tacoma Comprehensive Plan \(One Tacoma Plan\)](#).
- Changes to the housing growth strategy, policies, and programs.
- Near-term code and programmatic actions.

A key component of Phase One was to adopt a new Future Land Use Map. This replaced all Single-Family and Multifamily Low Density land use designations with Low-Scale and Mid-Scale Residential. View additional information about Phase One in [City of Tacoma Ordinance No. 28793](#).

In Phase Two, the City proposes to implement Ordinance 28793, in part by adopting new zoning designations, development standards, and other actions to increase housing supply, affordability, and choice for current and future residents. Phase Two will implement Tacoma's adopted policies regarding housing growth and development to:

- Enable middle housing in Tacoma's neighborhoods.
- Ensure Tacoma gets housing growth right.
- Take actions to make housing more affordable.³

By creating more types of housing in existing neighborhoods, it is assumed that more units will be available for rent and purchase, with some new affordable units and more existing units available at different price points. With more units, the price pressure will alleviate and make housing more plentiful and reasonably priced.

Phase Two’s overall objectives serve to improve the social determinants of health because they support economic stability, equitable access, and a health promoting built environment. By increasing housing supply, affordability, and choice for current and future residents, HIT will affect the most impactful social determinant of health: having a safe, affordable place to live, dream, and grow.

Home in Tacoma is expected to promote housing equity and address displacement in the long term. HIT seeks to direct new housing units to areas in the city already served by transit or on major roadways, which will connect residents to economic opportunities, healthcare services, and healthy food options.

The HIT draft Environmental Impact Statement (DEIS) studied three alternatives defined primarily by the number of new housing units likely to be developed under new zoning designations, as well as associated development standards. These standards will establish new density, building size, parking, landscaping, and other requirements. Figure 2 below shows the total number of new housing units projected for each alternative.³

Alternative	Number of Units
Baseline	3,840
Low Zoning Alternative (LZA)	25,660
High Zoning Alternative (HZA)	53,620

Figure 2. Number of Units per Alternative predicted to be built over a 30-year time horizon.
Adapted from the Draft Environmental Impact Statement, (City of Tacoma, 2024)

In collaboration with City of Tacoma, Tacoma-Pierce County Health Department (Health Department) commissioned a Health Impact Assessment (HIA) to understand the health impacts associated with these proposed changes. An HIA is a structured process that uses scientific data, professional expertise, and input from the affected community to identify and evaluate public health consequences of proposals and suggests actions to minimize adverse health impacts and optimize beneficial effects.⁴

This HIA was conducted by the HIA team, which included the consultant Sandra Whitehead, the Healthy Community Planner from the Health Department, and two Senior Planners from the City of Tacoma. Health Department staff were the main point of contact for the HIA consultant. City of Tacoma Planning staff provided data, reviewed documents, and provided feedback on the feasibility of draft recommendations.

This report follows the phases of HIA as defined in the Minimum Elements and Practice Standards for Health Impact Assessment.⁵ While the sections follow a linear path through the phases, the process itself was much more iterative than is reflected here.

Screening

The screening phase results in a decision about whether to conduct an HIA and, if moving forward, a rationale for why an HIA is an appropriate approach for the context. The HIA team also chooses the type and scale of HIA to perform. During Screening, the Health Department decided that a rapid HIA was the appropriate tool to examine the health impacts of HiT in the Spring of 2023. This decision was based on the timeline of policy adoption and resources available.

Scoping

The scoping phase is defined by its tasks shown in Figure 2.

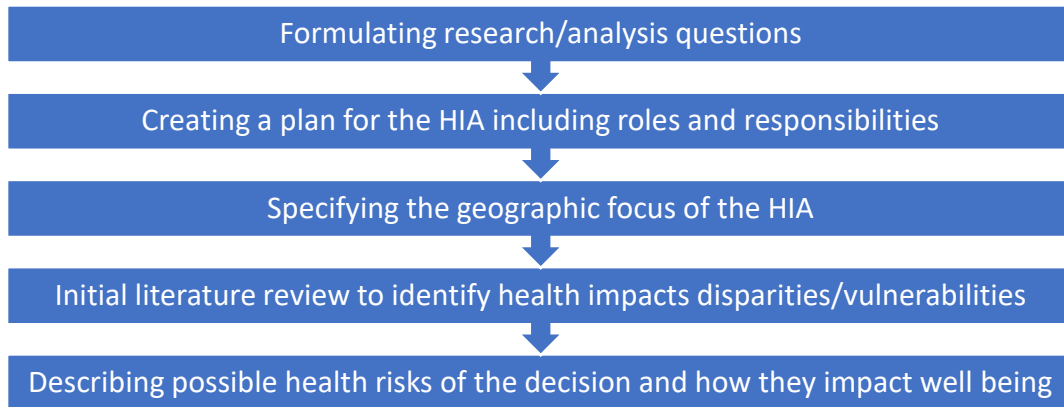


Figure 3. Scoping Tasks

The HIA Team selected these research and analysis questions for the scale and scope of this HIA:

1. What are the most severe or immediate health impacts associated with HiT?
2. Which of these can be addressed through adjusting the policy parameters?
3. Which alternative(s) produces fewer negative impacts/more beneficial health impacts?

Using these questions as a guide, the team formulated the HIA to include:

- Research literature to provide background and evidence for HiT policies and actions.
- Identify opportunities to maximize potential health benefits of HiT.
- Elevate public health considerations related to housing policy and land use changes.
- Recommendations to mitigate risks and unintended consequences.

Because this is a rapid HIA, the HIA Team accessed information online or through data available from the Health Department and City. The HIT Team met regularly to discuss the progress of the HIA's assessment and development of recommendations. Additionally, the Health Department's Climate Justice Coordinator and Housing Policy Coordinator provided comments and input on the HIA document.

While community engagement was not conducted specifically for the HIA process, City of Tacoma staff have completed three phases of engagement to inform the development of the HIT policy. The Health Department will use the HIA findings in discussions with the public and City staff about HIT during policy formulation and to monitor the adoption of the HIA recommendations.

Range of Impacts Considered

The HIA team used the DEIS report and the associated draft changes to the Tacoma Municipal Code to analyze how changes in density, transportation network, and tree canopy coverage will impact residents' health. Within each of these change areas, the team looked at health impacts associated with two to three topic areas.

Figure 3 below shows the topic areas for each change category. Because HIT is complex and nuanced, this HIA could have focused on any number of topic areas, but it had to be narrowed to fit both the format of a rapid HIA, time available, and goals of the HIA Team.

Changes in density	Changes in the transportation network	Changes in tree canopy cover
<ul style="list-style-type: none">•Impacts associated with increased physical activity•Impacts on housing stability and habitability	<ul style="list-style-type: none">•Impacts associated with changes in air quality•Impacts associated with increased connection to opportunities	<ul style="list-style-type: none">•Impacts associated with the urban heat island effect•Impacts associated with respiratory disease•Impacts on mental health

Figure 4. Change Categories and Topic Areas

This HIA does not evaluate each alternative separately but rather, outlines the relative severity and scale of impacts for residents across the three alternatives.

Assessment

In a rapid HIA, assessment consists of refining the literature review and discussing how conclusions can be applied to the decision under consideration. This includes an analysis of potential positive and negative health impacts. The assessment section consists of an introduction on each topic area, and a discussion of potential health impacts associated with each topic area, across the three alternatives.

To identify health impacts associated with each topic area, a literature review was conducted using the following databases: PubMed, Google Scholar and JSTOR. Key words included public health, health outcomes, health impacts, and the name of each change category (increased density, transportation, urban tree canopy). Systematic reviews and epidemiologic studies were prioritized to provide the broadest range of results.

Changes in Density

Density, the number of developed units in a specific area of land, is a significant component of neighborhood design. The design of our neighborhoods—including the types and quantity of housing available and how far it is from amenities—determines much of our quality of life.⁶ Density around centers and corridors can increase access to healthcare services, employment, and grocery stores. Density brings more destinations and a mix of activities like restaurants, retail, and recreation closer to residential areas which can encourage more physical activity because more routine destinations are within walking or rolling distance.^{6,7}

This mix of uses also adds more places to gather and opportunities to interact with friends and neighbors which can boost mental health. However, increasing density can also affect mental health when current residents worry about and experience displacement, the effects of gentrification, and loss of community.

Increased density can also impact resident health through increased noise, light, and air pollution, if not properly mitigated. Communicable diseases may spread more readily in dense neighborhoods. However, when more residents are housed rather than in congregate shelters or unsanctioned encampments increased density may reduce the spread of communicable disease in a community.

The following sections discuss the health impacts of increasing density associated with physical activity and housing stability and habitability in relation to the HIT alternatives.

Impacts Associated with Physical Activity

Home in Tacoma proposes to primarily cluster new units under the LZA and HZA, along arterial corridors where multimodal transportation options are more likely to be available.³ HIT explicitly calls out walkability as a goal and calls for supporting policies like mixed use designations that would support the creation of businesses, restaurants and entertainment, grocery stores, and childcare centers near housing. Public health literature strongly supports links between increased density, walking, rolling, and health.⁸ Because increased density creates opportunities for more walking, providing supportive infrastructure, such as sidewalks and curb cuts is important to encourage physical activity.⁹

Investing in supportive infrastructure will save lives by encouraging health promoting behaviors. Transportation investments that make walking, biking, and transit more convenient than driving increase those activities.⁹ According to the Community Health Assessment for Pierce County, only 22.1% of adults get the recommended 30 minutes of exercise per day.¹⁰

When a person gets at least 30 minutes of physical activity more than twice a week, it can help prevent heart disease, hypertension, stroke, diabetes, osteoporosis, some types of cancer and depression.⁶ Building out the active transportation network can encourage physical activity and reduce the risk and prevalence of these diseases.

Choosing transportation options that involve physical activity, like walking, rolling, or cycling, can also have positive effects on mental health by reducing stress, anxiety, and depression. Physical activity stimulates the release of endorphins and neurotransmitters that promote feelings of well-being and happiness.¹¹

Walking and cycling in green spaces, or along scenic routes, can further enhance mental well-being by providing opportunities for relaxation and connection with nature. Walking is associated with healthier populations since it contributes to lower blood pressure, and lower incidences of diabetes and cardiovascular disease.¹²⁻¹⁶ Neighborhood walkability is also associated with lower respiratory diseases rates like asthma in children.¹⁷

Based on the DEIS, it is anticipated that both the LZA and HZA will spur more physical activity, which will vary based on the amount of increased density and the number of people impacted. Since the HZA will impact more current and future residents' physical activity levels by increasing density even more than the LZA, the HZA will promote health most by enabling more physical activity.

The HZA and its associated zoning changes will encourage development of more destinations relative to each other and to housing, increasing the likelihood of residents using active transportation. However, these outcomes depend on the active transportation network having safe and accessible connections to support these new users.

According to a 2022 active transportation inventory, the city does not have a complete sidewalk network which would make it safe, easy, or convenient to walk. The city has approximately 969 miles of existing sidewalk and an estimated 408 linear miles of missing sidewalk, but only builds, on average, less than one mile of new sidewalk per year. The same inventory found that Tacoma has completed approximately 25% of needed curb ramps, and approximately 29% of its planned bikeway network.³

Using this rate of building and funding, it will take 136 years to complete Tacoma's active transportation network.¹⁸ The areas of Tacoma with the most linear miles of missing sidewalk were Eastside, South End, South Tacoma, and West End Neighborhood Council Districts. Further, the City's active transportation network—walking trails and bike lanes—is only at 70.4% coverage.¹⁸

The lack of complete active transportation and sidewalk network, residents may be less likely to get the recommended 30 minutes of physical activity more than twice a week. Less exercise can result in a greater risk of diseases associated with a sedentary lifestyle like cardiovascular disease, high blood pressure, and certain types of cancer.¹⁹ Because of this significant gap in bike and pedestrian infrastructure, estimating the amount of increased physical activity will depend on the city's ability to catch up to current needs and to create the capacity for new residents.

Impacts on Housing Stability and Habitability

Home in Tacoma will allow higher density housing across the city, not just in lower opportunity neighborhoods, which had been a common practice in neighborhood rezoning in the past. The DEIS assumes that housing costs will be tempered by development of a large area of the city with middle housing options, which are significantly more affordable than single-family homes. This can result in a significant increase in affordable ownership and rental opportunities citywide, and a decrease in displacement risk.

However, some areas in Tacoma could experience an increased displacement risk, and racially based disparities in housing—especially as experienced by Tacoma's Black and Hispanic residents—are likely to persist under all alternatives. Low-income people and renters are also at a higher risk for displacement.³

Displacement is occurring now due to current development pressure – and results in increases in rent and property taxes, and a lack of affordable homes for residents to move into within their communities. Seniors may be unable to remain in Tacoma, and young adults may be unable to start their independent lives in the community they grew up in. Displacement can also occur when a housing unit is unfit for habitability, or when a landlord remodels a property, and tenants cannot stay in the unit during the remodel. After remodels, landlords may choose to not participate in formal affordability agreements and may increase rent to cover the cost of construction. This displaces the occupant who will need to find less expensive housing, which may not be within their established community.

According to Mapping Race in Tacoma, the neighborhoods at highest risk of displacement are those that have been most subjected to historic housing discrimination. In 2020, Hilltop and parts of East Tacoma—neighborhoods with the highest percentages of residents of color—had the highest risk of displacement.²⁰ The Puget Sound Regional Council also identified South End and Downtown residents as being at high risk of displacement.²¹

The consequences of displacement are severe. By forcing long-term residents and communities out of their neighborhoods, it can alter the foundations of their lives, from jobs and housing to social connections.²² Displacement can trigger the loss of community anchors like neighbors, churches, and small businesses, which create the fabric of a neighborhood. These losses can result in the erasure of community history, culture, and opportunities.²³ Children’s lives are also disrupted as they are forced to change schools by moving.²⁴ Displacement also increases homelessness, especially in circumstances when alternative housing is unavailable or the cost of moving to less expensive areas is prohibitive.²⁵ Displacement affects mental health, including increased depression, anxiety, and post-traumatic stress disorder, leaving an impactful toll on those who are forced to experience it.²⁶ Displaced residents face exacerbated food insecurity. Those most vulnerable to displacement are more likely to have diabetes, cardiovascular disease, and higher cancer rates.²⁷

While no displacement is ideal, when families are able to move within their existing community, displacement has much better health outcomes. This is because of the mental health benefits associated with maintaining a sense of community and belonging.²⁸

People with stronger social relationships had a reduced risk of dying than those with weaker social relationships.²⁹ Residents with stronger community ties and feelings of belonging and trust have lower hypertension and diabetes rates.³⁰ These findings indicate that when more housing is available nearby during displacement scenarios, the negative impacts of displacement on social and community connections can be mitigated.

The risk of near-term displacement will be greatest under the HZA because there will be more opportunities to remodel existing housing to accommodate more units – meaning residents will need to move while the unit they were residing in is remodeled. However, the net increase in new housing, particularly in new more affordable housing should moderate displacement in time. Under the HZA, more housing units should become available in the same neighborhoods where residents may be displaced, mitigating the negative impacts associated with displacement outside of one’s community.³¹

While residents of color may experience less displacement under the LZA and the HZA than they would under the baseline alternative, HIT can still be considered a race-neutral policy because it does not specifically seek to undo racially based housing disparities.³² Because displacement will occur across all alternatives, the HZA is most likely to reduce long-term displacement for residents of color because it will create more housing that is more affordable than the other alternatives.

Increased density can also impact the habitability of housing by bringing increased noise, light, and air pollution, and increased pest and rodent populations. Additionally, dense multi-unit housing must be built with sufficient ventilation and filtration to reduce the potential for mold and moisture concerns and

the spread of communicable disease. The National Healthy Housing Standard provides health-based measures to fill gaps where no property maintenance policy exists and serves as a complement to the International Property Maintenance Code and other housing policies already in use in the City. The National Healthy Housing Standard includes sample code and policy language to improve the habitability of housing. This includes sections on moisture and mold, ventilation, integrated pest management, lighting, thermal comfort and more. As housing density increases, it becomes even more important to ensure that housing is healthy and safe.⁶⁷

Recommendations: Changes in Density

- Maximize density. An influx of middle housing options will increase affordable home ownership and rental opportunities citywide, while decreasing displacement risk in the long-term.
- Study the feasibility of adopting a residential habitability standard into the Building and Development code. Partner with the Health Department to identify appropriate elements of the standard, such as air conditioning in all newly licensed units and ventilation/filtration to help prevent the spread of communicable disease and reduce exposure to other airborne contaminants. This will have the added benefit of improving residents' climate related health outcomes from extreme heat and wildfire smoke events. Review and adoption of select National Healthy Housing Standards will be critical.
- Prioritize and accelerate funding and implementation of the following [Anti-Displacement Strategy](#) (ADS) objectives to mitigate the negative health impacts associated with near-term displacement caused by the remodeling and repurposing of existing housing stock, and possible short-term housing cost increases:³³
 - Community Prioritization (ADS 4.1)
 - This can prevent the trauma and mental health impacts for families who have been through multiple displacements, suffer from loss of community, and the resulting physical impacts of displacement.
 - Preservation Ordinance (ADS 2.1)
 - This objective will help reduce the likelihood and impacts of displacement that will occur when landlords/property owners remodel their property to take advantage of the new density allowances.
 - Right of First Refusal Policy (ADS 2.2)
 - This objective will help ensure both naturally occurring and formal affordable housing remains affordable if the property changes ownership.
 - Down payment homebuyer assistance (ADS 1.3)
 - Expand education and funding for the program targeting current residents of color and tailoring it to their needs.
 - Land Banking (ADS 1.6)
 - To catalyze affordable housing production and rehabilitation of existing units, the city should identify city owned land appropriate for affordable housing and opportunities to purchase vacant lots or homes. Work with non-profit developers to leverage funding and ensure units go to those most at risk for displacement.
 - Housing Preservation Fund (ADS 2.4)

- Set up this fund as soon as possible to keep rents stable, make property improvements, and extend or attach affordability periods to units in densifying neighborhoods.
 - Improve the livability of existing owner-occupied homes (ADS 2.5)
 - Continue and expand support for the City’s contracts with community partners to provide home repair and weatherization services to low-income homeowners.
 - Tenant Relocation Fund (ADS 3.2)
 - This program should receive expanded funding, as its current provisions are not adequate to assist tenants with current rental prices. The fund currently provides \$2,000 in relocation assistance to eligible tenant households. This money assists with moving costs when they are displaced due to demolition, substantial rehabilitation, or a change in use of their rented residence. However, the average monthly rent for a two-bedroom apartment is \$1,790. A family will need a minimum of \$3,580 just for first and last month’s rent, not including utility deposit, pet deposits, and moving expenses.³⁵
- Complete sidewalk and active transportation networks to ensure that HIT meets physical activity goals and residents who live in or move to densifying neighborhoods enjoy the benefits of a complete neighborhood and the social and economic opportunities that come with it.
 - Investments made to support the sidewalk and active transportation networks should be prioritized in Eastside, South End, South Tacoma, where residents face disproportionately worse health outcomes compared to the rest of Tacoma.
- Bolster and prioritize investments in the sidewalk and active transportation networks through [developer impact fees](#) in areas identified for more density.

Changes in the Transportation Network

The DEIS assumes new density will be located near arterial roadways with ready access to transit and that more residents will use active transportation modes like walking, cycling, and public transit for everyday transportation needs. If this assumption is true, per capita single occupancy vehicle miles traveled (VMT) will decrease, resulting in reduced air pollution. However, the DEIS also shows that overall VMT will increase across all three alternatives, as the population increases.³

Providing transportation options also increases connectivity to jobs, healthy and culturally relevant foods, and social connections for residents who do not own a car, creating new opportunities for health and well-being. This section examines the health risks and benefits of changes in the transportation network associated with changes in air quality and connection to opportunities.

Impacts Associated with Changes in Air Quality

Air quality significantly impacts human health. Poor air quality can lead to respiratory issues like asthma, chronic obstructive pulmonary disease (COPD), and bronchitis.³⁶ Poor air quality can also increase the risk of cardiovascular diseases like heart attacks, strokes, and hypertension.^{37, 38} Emerging evidence also links air pollution to adverse effects on mental health, including depression, anxiety, and cognitive decline.³⁹

Encouraging the use of public transit, walking, and cycling can reduce the reliance on personal vehicles, thereby decreasing air pollution from vehicle emissions. Lowering per capita VMT and number of vehicle trips is associated with lower levels of several air pollutants that have adverse respiratory health impacts, including fine particulates, carbon monoxide, nitrogen oxides, and volatile organic compounds.^{37, 40} Conversely, when air quality changes for the worse, due to increased traffic and fewer trees, fewer residents tend to choose active modes of transportation.⁴¹

Each of the HIT alternatives will generate more vehicle trips. Figure 4 shows the increase in vehicle trips under each of the alternatives.

Alternative	Vehicle Trips PM Increase at afternoon rush hour	Vehicle Trips Increased Citywide
Baseline	2,500	29,000
LZA	8,500	120,200
HZA	17,000	171,600

Figure 5. Vehicle Trips Generated by Alternative³

According to the DEIS, VMT will increase under all three of the scenarios, causing increases in air pollution. Under the LZA vehicle trips would increase and could result in greater VMT on an average compared to the baseline alternative, although per capita VMT would be lower, due to reduced reliance on personal vehicles associated with increased density. Under the HZA, vehicle trips would increase and could result in greater VMT on an average compared to the baseline and LZA, although per capita VMT would be the lowest.³

The assumption that VMT will decrease due to residents becoming less reliant on personal vehicles because they will use public transit more is flawed because our public transit system is not currently set up to support this increase in ridership, nor reliably meet the needs of potential riders. Public transit driver shortages and service reductions have been issues in Pierce County and Tacoma for years.⁴² If public transit investments and services do not pace with the expected scale of population increase, there could be an increase in per capita VMT, and an increase in traffic-related air pollutants.

This increase in traffic-related air pollutants may be localized to the areas where the zoning is proposed as Urban Residential 3, i.e., the most density. Conversely, an increase in population density and associated economic opportunities, and thereby an increase public transit ridership, could advance more investment in public transportation services, creating an environment where the assumption that per capita VMT decreases is true.^{43, 44}

Impacts Associated with Connection to Opportunity

A well-connected transportation network can improve access to more destinations for people who may not have access to a personal vehicle. Reliable and affordable transportation options enable people to reach jobs, social services, and more types of retail. This includes healthy and culturally relevant food options. Providing these types of transportation choices promotes social equity by ensuring that all members of society, regardless of income or mobility status, have access to opportunities.⁴⁵

Improved access to transportation also facilitates participation in social activities, community events, and employment opportunities, fostering social inclusion and reducing disparities in health outcomes. People with stronger social relationships had a reduced risk of dying than those with weaker social relationships.²⁹ Residents with stronger community ties and feelings of belonging and trust have lower hypertension and diabetes rates.³⁰

Because grocery stores tend to be located on arterial roads and at transit nodes, expanding transit connections in more dense areas can also help people access grocery stores and healthy food retailers within walking or biking distance of their homes. People in more walkable neighborhoods are more likely to walk to work or a grocery store than those in less walkable neighborhoods.^{46, 47} As population density increases, more businesses and services like nutrition classes, farmer's markets, community gardens, and mobile markets also become more available.

An increase in population density and associated economic opportunities, and thereby an increase in public transit ridership, could advance more investment in public transportation services, connecting residents to more opportunities.⁹ Following this assumption, the LZA will have more benefits than the baseline alternative, and the HZA will have the most benefits for residents in terms of connections to opportunities.

Recommendations: Changes to the Transportation Network

- Increase funding to build out the City's public transportation system:
 - City of Tacoma should accelerate the adoption of the [Transportation Impact Fee program](#). This includes any required municipal action, like the adoption of an ordinance or resolution.
 - Pierce Transit and Sound Transit should perform a gap analysis to understand the level of infrastructure and service investments needed to keep up with anticipated density.
 - Pierce Transit should consider advocating for a ballot measure to maximize the sales and use tax.
- The City will need to mitigate for worsened air quality during the interim period when population density may increase without a corresponding increase in public transportation service. This is especially needed in the localized areas that will experience the most density and related traffic emissions:
 - Strongly support the DEIS Mitigation Measure; "Expand tree preservation regulations on private property and in the right-of-way." The City's Urban Forestry Department should have a much more active role in the control and responsibility for tree planting and maintenance in the rights-of-way. Street trees will mitigate some of the air quality impacts from the near-term increase in localized vehicle traffic.
 - Clarify and expand urban tree infrastructure protections in the draft Landscaping Code to ensure existing tree canopy disparities do not worsen, especially for significantly lower tree canopy in neighborhoods with the lowest opportunities and highest environmental health disparities.
- Encourage use of public transportation through reduced parking minimums, which will also improve local air quality.

Impacts Associated with Changes to Tree Canopy

Trees serve as essential components of public health infrastructure, offering multiple public health benefits.⁴⁸ The city's goal for tree canopy cover, established in the 2010 comprehensive plan, is to have 30% across the city by 2030. However, tree canopy is not distributed evenly in the city, ranging from 3% in some census block groups to more than 60% in others.

Tree canopy coverage is also not distributed equitably across Tacoma. Based on the Equity Index map, the average canopy cover in areas classified as very low opportunity was approximately 15%, while the average canopy cover in areas classified as very high opportunity was more than 26%.⁴⁹ This indicates the health impacts and protections associated with tree canopy are also not equally or equitably distributed.

The DEIS assumes that both the LZA and HZA will reduce development pressures - and related tree canopy loss - outside of the city, creating a regional-scale protection of plants and animals. However, within the City, the amount of land available to support tree canopy will reduce, with the HZA having the most impact on tree canopy.

The DEIS also assumes that these negative impacts will be prevented or minimized because of the proposed mitigation measures and associated draft landscaping code. These include requirements for tree retention and planting, variance allowances, and an affordability bonus that would allow for less stringent requirements in certain situations.³

This section discusses the health impacts associated with the changes of tree canopy across the three alternatives in terms of the urban heat island effect, respiratory disease, and mental health.

Impacts Associated with the Urban Heat Island Effect

Fewer green spaces and more impervious surfaces like roads, parking lots, and buildings, etc. absorb and retain heat from the sun to create a heat island. Because of the way we have built infrastructure, many urban areas experience higher temperatures compared to their rural surroundings. This difference in temperature is what defines an urban heat island. Urban areas experience higher temperatures due to the urban heat island effect (UHI), which can exacerbate heat-related illnesses and heat stress.^{50, 51}

Planting trees and vegetation helps reduce UHI effects. Trees provide natural shade and evaporative cooling, helping to lower ambient temperatures and create more comfortable microclimates. By lowering temperatures, trees and vegetation help mitigate the health impacts of extreme heat, and mature trees provide these benefits on the largest scale.⁵²⁻⁵⁴

Tree-driven cooling alone significantly reduces summertime deaths. Recent modeling studies in urban areas across the country have shown cities that meet their 2030 urban tree canopy goals with more urban tree canopy coverage can avert hundreds of heat-related deaths.^{55, 56}

In Tacoma, UHI causes and effects are not distributed evenly, nor equitably. Lower opportunity neighborhoods have 19% more impervious surface than higher opportunity neighborhoods.⁴⁹ Some areas in North Tacoma saw temperatures that were up to 14 degrees cooler than Central, South, and Eastside Tacoma. Tacoma's historically redlined areas have about 15% less tree cover than areas that were not

subject to redlining. Further, in Tacoma, a strong correlation between household income and severe urban heat islands exists.^{57, 58}

Impacts Associated with Respiratory and Cardiovascular Disease

Many studies show a direct association between decreasing tree canopy and increasing respiratory disease, excess morbidity, and mortality.⁵⁹ The presence of a healthy urban forest reduces the risk of respiratory illnesses and cardiovascular diseases because trees mitigate air pollution by absorbing harmful pollutants known to cause these health conditions, including carbon dioxide, nitrogen oxides, sulfur dioxide, and particulate matter.^{51, 60}

The DEIS shows that land available for planting and retaining trees will be reduced as the density increases—with the least amount available under the HZA.³ While the DEIS assumes that net tree canopy loss will be prevented or minimized under the LZA and HZA due to the proposed mitigation measures, there is still a significant risk that during the construction of new units resulting in tree loss, residents may experience a rise in doctor's and emergency room visits. This would be especially true for children, elders, and those with underlying conditions like asthma and COPD.

The length and severity of these respiratory illnesses will vary based on the number and age of trees removed and the span of time over which buildout occurs under the LZA and HZA. Air quality will worsen during construction of new units due to increased land clearing, lot scraping, and loss of tree canopy.

Other impacts associated with construction that will negatively affect air quality include increased truck traffic emissions, increased particulate matter from construction materials, and dust. After construction, restoration of local air quality will be determined by the number and type of mature trees retained on-site, the number and type of new trees planted, and how fast they mature.

Across all the alternatives, development or redevelopment projects that increase housing density will not happen immediately or at the same time. Additionally, not every redeveloped parcel will be developed to the full extent of its allowable density because of other factors (like lot size or shape, or owner preference).

Impacts on Mental Health

Access to green spaces and natural environments are linked to improved mental health outcomes, including reduced stress, anxiety, and depression.⁶¹⁻⁶⁴ Trees and urban greenery provide opportunities for relaxation, recreation, and social interaction, enhancing overall psychological well-being and quality of life.⁶⁵

Urban trees also create aesthetically pleasing environments that promote positive mood and cognitive function, fostering a sense of connection to nature and community. The presence of trees and other greenery reduces stress and crime and increases perceptions of safety.⁶⁶

People will experience the mental health effects of changes in the urban tree canopy on a continuum. Urban tree canopy loss within City limits will be the lowest in the baseline alternative, however, trees outside of the city would continue to be removed due to more geographically widespread development.³

The negative mental health impacts of urban tree canopy loss will magnify, and the positive mental health impacts of a healthy urban tree canopy will diminish, as development pressure increases. These impacts can be lessened or mitigated if we adopt enhanced tree protections along with Home in Tacoma.

Recommendations: Changes in Urban Tree Canopy

- Expand funding and staff for existing programs that support tree planting and maintenance and coordinate these investments with implementation of policies in the City’s Urban Forest Management Plan (2019) and Climate Action Plan (2021).
 - Focus investments in areas of the City identified as UHIs.
 - Where possible, acquire or lease property identified as an UHI to replenish the Urban Tree Canopy.
- Clarify and expand urban tree infrastructure protections in the draft Landscaping Code to ensure existing tree canopy disparities do not worsen, especially in neighborhoods with significantly lower tree canopy that also have the lowest opportunities and highest environmental health disparities.
 - Clarify the fee-in-lieu language under TMC 13.05.10.B.1.(1) to ensure the City meets its Urban Tree Canopy goals equitably:
 - This section needs more precise language on what conditions must be met to demonstrate infeasibility of meeting the tree retention and/or planting and how one obtains a variance.
 - Expand funding to the City’s Urban Forestry Program to bring on additional staff to assist in the reviewing, conditioning, and granting of variances under the Landscaping code, and conduct periodic equity review of implementation.
 - Develop a protocol to ensure that tree planting/retention variances and the affordability bonus structure do not further exacerbate urban tree canopy disparities in Tacoma.

Reporting

The reporting phase is when the HIA team documents the findings and recommendations and shares these publicly. This report will serve as the primary reporting mechanism. Findings can also be shared via webinars and technical publications with the consent of the Health Department. The Health Department may also share these findings through their regular communication channels, prioritizing resident access to information.

Evaluation and Monitoring

Evaluation and Monitoring is the phase that considers sustainability beyond an initial project period. Evaluation includes evaluation of the HIA in terms of process to identify improvements in practice for the HIA team, and for the larger field of practice. Monitoring includes the development and implementation of a strategy to sustain the relevance of HIA recommendations and relationships over time and track the predicted potential impacts on health determinants and outcomes over time. This section contains the process evaluation and monitoring framework.

Process Evaluation

Because this is a rapid HIA, the evaluation phase is limited to an abbreviated process evaluation involving a review of the Minimum Elements and Practice Standards to determine if this HIA conforms to the definition and standards of HIA practice. Figure 6 on the following page summarizes this information.

Monitoring

The Health Department will monitor and evaluate the implementation of these recommendations through:

- Regular attendance at and participation in City of Tacoma Planning Commission and City Council meetings.
- Thorough evaluation of the final Environmental Impact Statement and adopted changes to the Municipal Code and One Tacoma Plan.

The Health Department will also monitor the implementation of key recommendations for Pierce Transit and Sound Transit review and evaluation of newly adopted policies, strategies, and budgets.

The Health Department will continue to monitor the prevalence of respiratory and cardiovascular disease, mental health, physical activity, extreme heat events, and their associated health outcomes. While many other health-promoting policies are occurring throughout Tacoma in conjunction with HiT, it can be assumed that if the recommendations made in this HIA are implemented, the health outcomes outlined above will improve over time.

Changes in some of the health outcomes and status that were evaluated in this assessment will be not readily observable in the near term, due in part to the nature of some chronic illnesses and the frequency at which they are measured. For example, if air quality in Tacoma improves over the next decade, we may only then begin to see reductions in the instances of respiratory and cardiovascular disease.

Housing stability, and its impacts on health, may be more readily observed in the near-term as more housing becomes available. The Health Department will continue to track local and regional analyses of housing availability and cost, cost-burden of residents, rates of homeownership, and displacement – all with an equity lens.

It can be assumed that if the recommendations made in this HIA are implemented, less displacement—especially among residents of color and residents with low-incomes—will occur. With less displacement, we should expect to see stronger community connections and improved mental health, less people experiencing homelessness, improved cardiovascular health, and higher rates of homeownership.

Criteria from the Minimum Elements and Practice Standards (2022)	How this HIA Meets the Minimum Elements and Practice Standards
HIA assesses the potential health and equity consequences of a proposed policy, plan, program, or project under consideration by decision-makers, and is conducted proactively, with sufficient time to inform the proposal in question. In some cases, HIAs are conducted concurrently with the decision-making process but are completed before the decision is made.	While most elements of the HiT project had been determined before the HIA was begun, the team worked with staff to identify elements of the project that would benefit from making connections to health impacts. The group prioritized three topic areas that that could still be influenced by the recommendations made in the HIA.
HIA involves and engages stakeholders affected by the proposal, particularly populations facing inequities and significant barriers to health and wellbeing who may be disproportionately affected by the proposal.	Because this is a rapid HIA, engagement with impacted communities was not conducted. This HIA an evaluation of how existing proposals could affect health.
HIA systematically considers a range of potential impacts of the proposal on multiple health determinants, indicators of health status, and dimensions of health equity.	This HIA considers a total of 5 impacts across 3 topic areas.
HIA provides a baseline summary of existing conditions relevant to the proposal, including the policy environment; relevant historical context; and relevant social, economic, environmental, and structural factors. HIA also catalogs baseline health outcomes for populations affected by the proposal, particularly populations that may be disproportionately impacted.	The Background section describes the policy context, baseline health conditions as outlined by the Health Department and economic inequities.
HIA characterizes the proposal’s potential impacts on health, health determinants, and health equity and documents the process followed.	The Assessment section describes the potential health impacts as well as the impact tables and describes the process used to generate them.
HIA provides feasible, evidence-based recommendations to promote potential positive health impacts and mitigate potential negative health impacts of the proposal, identifies responsible parties for implementing recommendations and, where appropriate, suggests alternatives or modifications to the proposal. Recommendations should be responsive to the results of the assessment.	Each recommendation can be traced back to findings in the assessment section. Each recommendation was reviewed for relevance and feasibility by HiT staff.
HIA produces a report (or comparable communication product) that includes, at a minimum, documentation of the HIA’s purpose, findings, and recommendations, and provides reasonable access to documentation of the processes, methods, and stakeholders involved.	This report serves this function.
The HIA report (or comparable communication product) should be publicly available and shared with decision-makers and other stakeholders including populations affected by the proposal.	The HIA report will be shared according to Health Department policies and regulations.
HIA proposes indicators, actions, and responsible parties to monitor and evaluate the implementation of recommendations.	The Monitoring section describes how Health Department staff will monitor and evaluate the implementation of recommendations.
HIA proposes indicators, actions, and responsible parties to evaluate the outcomes of the proposal, including changes to health determinants and health status.	The Monitoring section describes how Health Department staff will evaluate the outcomes of the proposal, including changes to health determinants and health status.

Figure 6. Process Evaluation Summary

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