



City of Phoenix
PUBLIC TRANSIT DEPARTMENT

NWEI Transit Oriented Community (TOC) Who We Are

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Jacobs



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Community Profile

The residents, neighborhoods, businesses, and organizations that make up the Northwest Extension Phase II (NWEII) Study Area are the foundation of a vibrant, diverse, and cohesive community on which the district plan will build. The Community Profile introduces the study area and the concept of Transit-Oriented Communities (TOC), and examines the community’s current state through the lens of five interrelated and interdependent factors (equity, diversity, authenticity, prosperity, and resiliency).

Transit Oriented Community Development

TOC is broadly defined as compact, pedestrian-scaled, mixed-use development located within a short walk of high-capacity transit stations. The intent of TOC is to make walking, bicycling, and using transit convenient, safe, and enjoyable for daily life. The economic, social, and physical health of the community is intimately linked to the surrounding natural and built environment. The City of Phoenix uses a holistic and multidisciplinary approach to urban planning by guiding the integration of economic, social, and environmental systems to meet the needs of the current residents without compromising the ability to meet the needs of future generations.

Transit-Oriented Developments vs. Communities

At the site-specific level, transit-oriented development (TOD) can effectively answer important questions such as “How can this development best...:

- ...serve nearby communities by providing new destinations and greater connections to amenities?
- ...utilize limited land resources to house and serve the city’s growing population most efficiently without exacerbating known issues such as pollution and congestion?

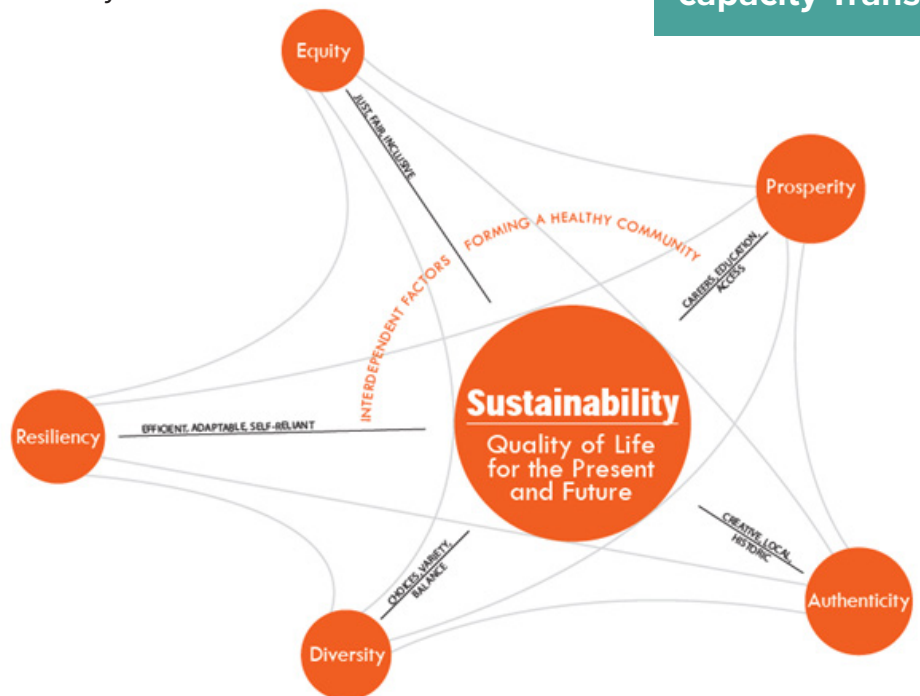
However, the term TOD falls short of its transformative potential by overemphasizing individual sites. **Transit Oriented Communities (TOC)** takes a step back geographically and asks, “how can this place best benefit from high capacity transit.”

It acknowledges the importance of individual sites, but also considers the challenges and opportunities facing the existing neighborhoods. This re-framing supports a more holistic conversation about the future that not only addresses what may be appropriate from new development, but also what is necessary to help support and reposition the community to realize the benefits of the transit investment long-term.

TOC asks “How can this place best benefit from high-capacity Transit?”

Planning Framework & Approach

The five interrelated and interdependent factors described in the following sections will permeate planning and decision-making processes to help ensure sustainability.



Planning Framework & Approach (Continued...)



An equitable community is just, fair, & inclusive.

Equity

People of all ages, income levels, races, ethnicities, and abilities should have fair access to the benefits provided by the community's investment in light rail and civic amenities such as parks, libraries, and cultural facilities. The cost of living and health impacts of urban development disproportionately affect middle- and lower-income families. Improving these conditions increase residents' ability to save, invest in education, improve their homes, use fewer public assistance resources, and participate more fully in the local economy. Equitable communities enhance the quality of life for everyone.



A diverse community provides choices, variety, and balance.

Diversity

TOC districts should have a rich mix of housing, businesses, building ages, and transportation choices. Day-to-day retail, such as day-care services and grocery stores, are needed along with interesting boutiques and cafes. Streets should be retrofitted to add safe, convenient, and comfortable walking and bicycling options. A variety of housing types for both singles and families should be supplied at a range of prices that enable continued residency in the district throughout changes in one's income, family size, or physical ability.



An authentic community is creative, local, & embraces its history.

Authenticity

A sense of place is a unique characteristic that contributes to an area's vitality. The distinctive and authentic character of each TOC district should be recognized and respected. Historic preservation, locally owned businesses, innovative and adaptive building reuse, distinctive open spaces, neighborhood block parties and festivals, and public art create a sense of place. The city benefits from businesses owned by people who live in the community because a greater share of revenue is retained within the local economy. Tourists are attracted to interesting destinations that are different than what they have available at home. Neighborhoods are strengthened when residents take pride and identify themselves with the places in which they live.



A prosperous community provides careers, education, & access to opportunities.

Prosperity

Economic vitality should be continuously pursued in TOC districts. Incentives for high-quality employers, improvements to neighborhood schools, and other fundamental elements for building wealth and providing fair access to opportunity should be supported. Existing assets such as anchor institutions, entrepreneurial incubators, job training programs, and community support services should be strategically leveraged and cultivated to encourage growth and provide pathways to fulfilling careers.



A resilient community is efficient, adaptable, & self-reliant.

Resiliency

TOC districts should be designed to maximize resource efficiency and self-reliance to improve the community's ability to adapt to rising temperatures, water levels, and prices. Mixed-use development and enhanced walkability reduce dependence on fossil fuels. Green construction techniques and solar power help lower utility bills. Planting trees, constructing lush open spaces, and using heat-resistant building materials mitigate rising outdoor temperatures. A green infrastructure approach to stormwater management lessens pollutants. Community gardens and farmers markets increase the availability of locally grown food. These and other methods for reducing the community's vulnerability to climate change should be encouraged.

Northwest Extension Phase II – Study Area





In 2008, the largest light rail construction project in the nation’s history was completed in Phoenix. The infrastructure was designed to add high-quality transportation options and lay a foundation for reinventing the neighborhoods surrounding it, creating new urban living choices in a city planned almost entirely around the automobile.

The NWEI TOC Policy Plan is one of five policy plans building on the foundation of prior efforts to provide a robust plan, centered in community engagement and best practice, to deliver a tailored approach for implementing a renewed community vision for the study area.

The geographic focus of this report extends from Peoria Avenue on the north, 35th Avenue on the west, 19th Avenue on the east, and Butler Drive on the south. The study area excludes the area south of Dunlap Avenue and east of 23rd Avenue, which was included in the 19North TOC District Policy Plan. The study area comprises 2.73 square miles.

Demographic and Socioeconomic Snapshot

Compared to the City of Phoenix as a whole and the North Mountain Village neighborhood, the NWEI Study Area has:

 Lower household income	63% of households have an income of less than \$50k, compared to the City of Phoenix (38%) & the North Mountain Village (45.1%)	More individuals experiencing poverty in the past 12 months	25.6% of individuals have experienced poverty, compared to the City of Phoenix (15.4%) & the North Mountain Village (17.0%)
 Fewer cars per household	18% of households do not have access to a vehicle, & 66% have access to one car or fewer, compared to the City of Phoenix (42%) & the North Mountain Village (48%)	Higher share of workers commuting to work using alt. transportation	29% commute to work using alt. transportation, compared to the City of Phoenix (18%) & the North Mountain Village (18%). 18% of workers carpool (12%, 11%).
 Higher share of renter-occupied dwellings	72% of all housing units are renter-occupied, compared to the City of Phoenix (44%) & the North Mountain Village (47%)	Fewer individuals with limited English Proficiency	22% individuals with limited english proficiency, compared to the City of Phoenix (34%) & the North Mountain Village (36%).
 More workers employed in service occupations	22% employed in service occupations, compared to the City of Phoenix (18%) & the North Mountain Village (19%)	Fewer workers employed in major industries	23% employed in management, business, science, and arts occupations, compared to the City of Phoenix (37%) & the North Mountain Village (34%).

History of Community Initiatives and Plans

The NWEII Study Area has been the subject of several community efforts and initiatives that are relevant to the community’s current organizational capacity, its intentions, and its priorities.

Metrocenter Planned Unit Development (PUD)

The Metrocenter Planned Unit Development (PUD) was approved in June 2016 to establish the regulatory framework needed to facilitate the redevelopment of the Metrocenter Mall property in a manner that is transit-oriented, walkable, and appropriately dense for its location in the North Mountain primary core.

The development is formally stipulated to require a “shaded and segregated pedestrian circulation plan” that will, at minimum, provide connections to and between “existing and planned transit facilities, [the] Arizona Canal, [the] Cholla Library, and dedicated open space areas”.

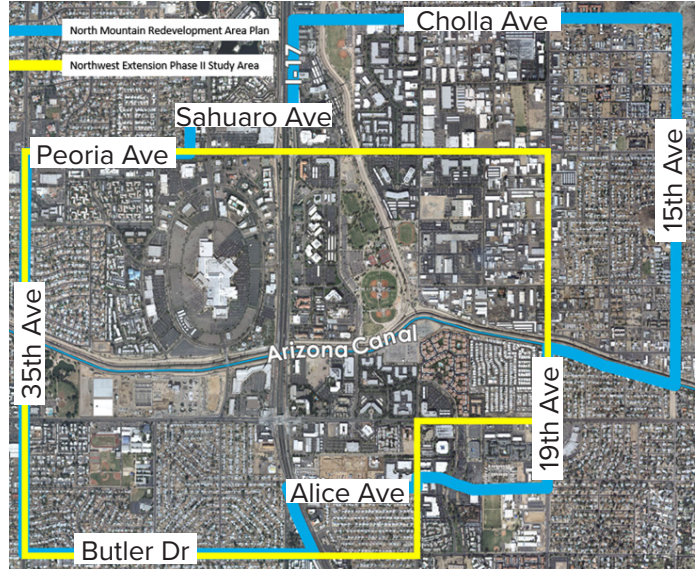
North Mountain Redevelopment Area Plan

The North Mountain Redevelopment Area (NMRDA) Plan, adopted in 2013, examined an area that generally follows the NWEII Study Area on the west but extends up to Cholla Avenue on the north and 15th Avenue on the east. The NWEII Study Area is fully contained within the boundary of the NMRDA and accounts for 64.76% of the total NMRDA land area.

27th Avenue Corridor Community Safety and Crime Prevention Plan (27ACCSCPP)

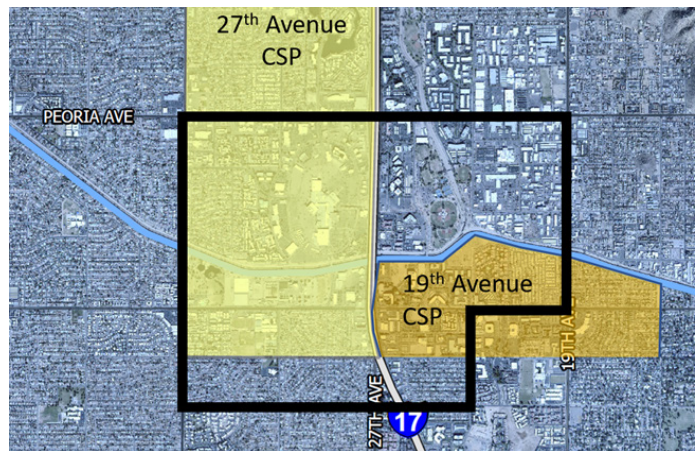
The Neighborhood Services, Police, Public Transit, Street Transportation, and Human Services Departments, along with the Law Department/City Prosecutor’s Office, are working collaboratively through this pilot project to improve the safety and quality of life along the 27th Avenue Corridor in areas adjacent to Interstate 17 (I-17). The 27th Avenue corridor is consistently a source of violent crime, prostitution, drug use, trespassing, blight, and other quality-of-life concerns.

North Mountain Redevelopment Area Plan with NWEII Study Area



Source: City of Phoenix Planning & Development Department

Trimmed Map of 27ACCSCPP



Source: City of Phoenix Planning & Development Department

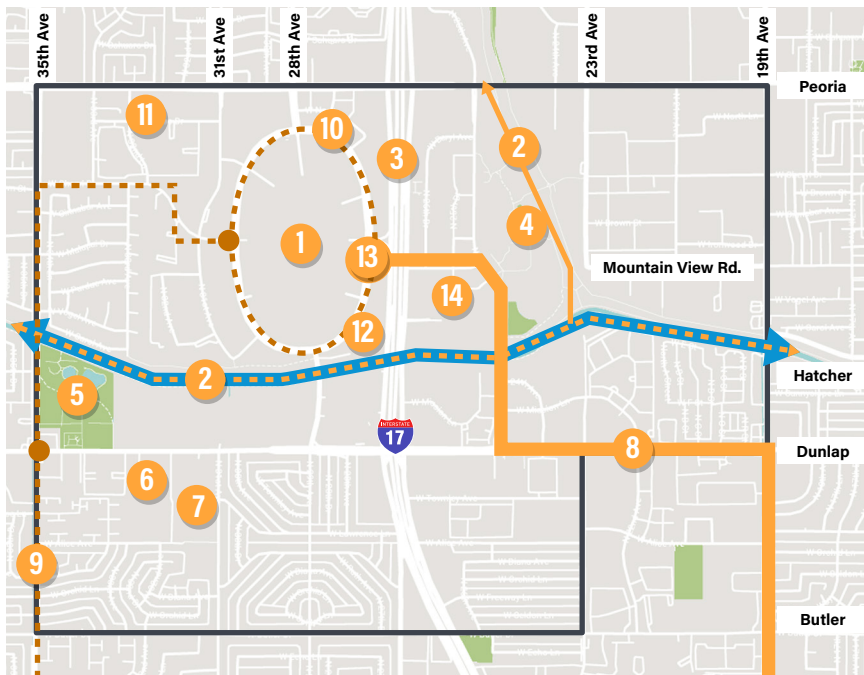
Assets, Opportunities, & Challenges

Several key themes underpin the NWEII community, including its challenges and opportunities; these are invaluable to understanding the ways in which transit-oriented community reinvestment will be able to benefit the people and places most efficiently in the NWEII Study Area. Through a series of past planning efforts, the community has identified the following assets, opportunities, and challenges within the NWEII Study Area.

Assets

Assets are strengths that currently exist within a district, such as employment districts, schools, historic buildings, community organizations, initiatives, and institutions. A community that understands its identity is much closer to a vibrant future than most others.

Community Assets



- 1 Metrocenter Mall Redevelopment
- 2 AZ Canal & Trail Connectivity
- 3 I-17 Corridor
- 4 Rose Mofford Park
- 5 Cortez Park
- 6 Cortez High School
- 7 Alta Vista Elementary
- 8 Valley Metro Light Rail
- 9 Bus Rapid Transit
- 10 Cholla Library
- 11 Northwest Restaurants & Retails
- 12 Castles N' Coasters
- 13 Thelda Williams Transit Center
- 14 Thunderbird VA Clinic

Opportunities

Gathering places such as churches, schools, and parks play a central role in a community's sense of place. Of special note are Rose Mofford Park and Cortez Park, which serve the immediate area but also a much larger region. Additionally, Metrocenter Mall was a regional destination not only for shopping but also for gatherings of all types. While Metrocenter Mall is now closed, its proposed redevelopment offers the promise to reinvent the property as a destination once again.

The NWEII light rail extension will soon place all the destinations along the region's light rail system within reach of the study area. In addition to the light rail extension, bus rapid transit (BRT) will soon connect the Thelda Williams Transit Center at Metrocenter to downtown Phoenix via 35th Avenue. Finally, the Arizona Canal Trail provides a regional bicycle transportation amenity that extends approximately 39 miles, in addition to multiple connections to other trails.

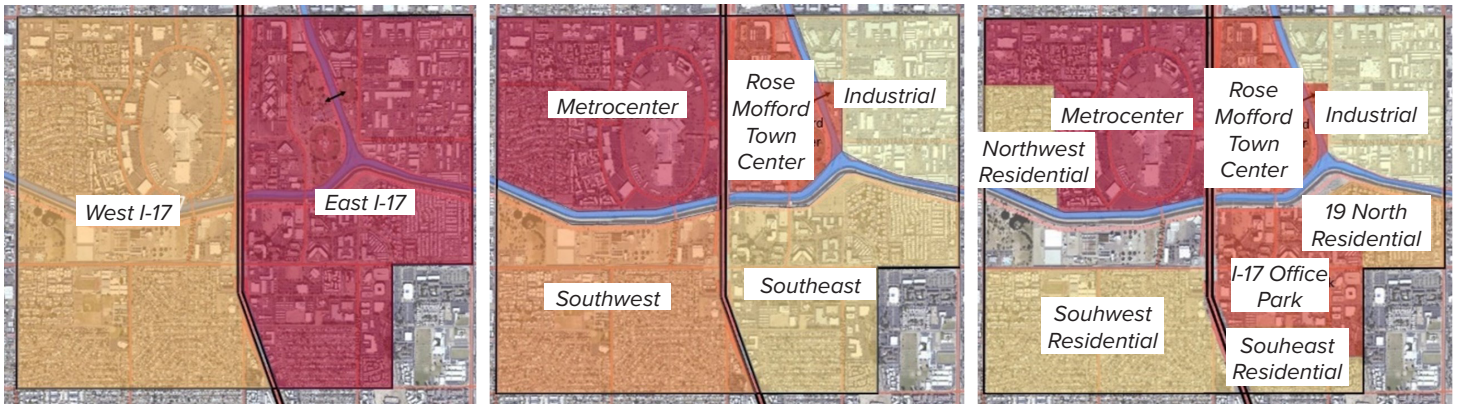
Challenges

It is likely that most residents of the NWEII Study Area do not identify themselves as truly being a part of the larger geographic area because the area is heavily fragmented by physical features such as I-17, the Arizona Canal, and wide arterial streets. Additionally, the area has suffered commercial and residential disinvestment and an increase in crime and blight.

The study area contains a mix of land uses, which is relatively unique for a region that developed in the era of single land use -- zoning, exacerbated by large infrastructure investments fragmenting the area. Together, these physical and policy fragmentations have hindered a sense of cohesion.

The study area also has been a part of the downward curve of the real estate cycle, wherein older properties see disinvestment and blight as they approach obsolescence before they eventually require rebirth. Less visible than the Metrocenter Mall but no less important are the office complexes that are now underutilized, with some nearing a condition of abandonment.

Reading the Land -- Barriers to Cohesion



I-17, constructed in 1959, bisects the NWEll Study Area with limited crossings between the east and west sides.

The Arizona Canal and the Cave Creek Wash trisect the NWEll Study Area.

The NWEll Study Area is further fragmented by the legacy of Euclidian zoning, which sought to promote compatibility through separation rather than design.

Unique Characteristics & Infrastructure Needs

Cities are a one-of-a-kind collection of individual ambitions, communal visions, environmental and market conditions, and many other factors.

Infrastructure Needs

The NWEll Study Area is home to major public infrastructure, including I-17, the Arizona Canal and trails, the Cave Creek Wash and trails, and the Flood Control District of Maricopa County Arizona Canal Diversion Channel (ACDC). Some of these elements provide a tangible local benefit and opportunity that can be built upon, such as the Arizona Canal trail.

Fully Built-Out, but with ample infill & Redevelopment Opportunities

The NWEll Study Area contains a full system of streets and utilities and virtually all the land has been subdivided and developed. However, much of the commercial land has been developed in a super-block configuration that was common in the 1970s and 1980s for large commercial and office centers; this pattern is especially prevalent in the northwest and southeast quadrants of the study area. This was also the age of the automobile when vast single-use parking lots were commonplace and parking was supplied on each parcel.

The NWEll Study Area contains the North Mountain primary core, which has long been envisioned as the central business district for the North Mountain Village – a place where people could live, work, and play. With the arrival of light rail and the related redevelopment of the Metrocenter Mall, that vision is on the horizon.

The Cave Creek Wash and Park Greenway

The northwest quadrant of the NWEll Study Area is bisected by the Cave Creek Wash. This section of the wash is channelized and feeds into the ACDC, which runs parallel to the Arizona Canal to the west. In its current state, the wash is merely infrastructure with a de facto trail that runs beside it. However, there is new interest in canal-side development that has taken hold.

The Cave Creek Wash also represents a latent opportunity because it is part of an emerging greenway park and trail system. Within the study area, the system begins with Rose Mofford Park, then segues to Cave Creek Park approximately one-quarter mile north of the study area.

Key Themes of NWEI Study Area Needs



Excellent transit connectivity

The study area will soon be the northernmost point on the regional light rail system, on the region's first Bus Rapid Transit (BRT) Line, and already serves as a major transit center where local bus routes feed into north-south RAPID bus routes.



Aging commercial and housing stock

Much of the single-family housing stock in the area was constructed by 1979 including large portions that developed by 1960. Much of the multifamily housing stock was constructed in the mid-1980s and little housing has been constructed since then. As a result of this pattern, the NWEI Study Area is home to naturally occurring affordable housing; however, even this is becoming less affordable in the current economy.



Significant geographic fragmentation via infrastructure barriers

The NWEI Study Area is fragmented into several pieces by infrastructure. While it would be costly to overcome each of these barriers with improvements such as pedestrian bridges, a more economical approach will likely be a mix of new physical crossings in addition to enhancements to existing crossings to make them safer, more welcoming, and more comfortable.



Regional trail connections and Canalscape

The NWEI Study Area is well served by multiuse trails along both the Arizona Canal and the Cave Creek Wash. Through thoughtful reinvestment, it is possible to strengthen these assets to better serve the community.



Challenges with crime and unsheltered populations

For a variety of reasons including some local and some macro factors, the NWEI Study Area has experienced an outsized challenge related to crime, drugs, vagrancy, and unsheltered individuals.



Demographics and socioeconomic conditions with a high propensity for transit ridership

The current demographic and socioeconomic conditions in the study area indicate that there is a significant demand for transit-ridership. Conditions include income characteristics, automobile availability, and many others. By strengthening the physical connections to transit facilities and by overcoming social and psychological barriers to transit use, the area has the potential to significantly benefit from transit resources.



Incoming public infrastructure investment and pending influx of private investment in Metrocenter Mall redevelopment

The NWEI Study Area received a major investment through the extension of the light rail system which features three new stations that terminate at the former Metrocenter Mall. In addition, much of the Metrocenter Mall complex was recently purchased and will soon be transformed into a walkable and transit-oriented urban village. Together, these investments are poised to give new vitality to an area that had been a regional landmark for decades but had struggled in the recent past.

Community Resources

Historic & Cultural Resources

Central to authenticity is the history of a place and the physical landmarks that remain today. It is the physical and social heritage that the existing conditions are built upon. By preserving key landmarks and stories, the future will have a strong foundation to build upon.

The NWEI is the most recent planned expansion of Valley Metro's light rail service. The new route extends the light rail west on Dunlap Avenue from 19th Avenue, go north on 25th Avenue and across I-17 at Mountain View Road, ending on the west side of the freeway near the former Metrocenter Mall. This extension will include the system's first elevated station and connect to a relocated Transit Center and a new Park-and-Ride facility.

Several key factors have been integral to the history and development of the area surrounding the NWEI Study Area. These factors include:

- water and agriculture,
- transportation,
- commercial development, and
- recreation resources.

Water and Agriculture

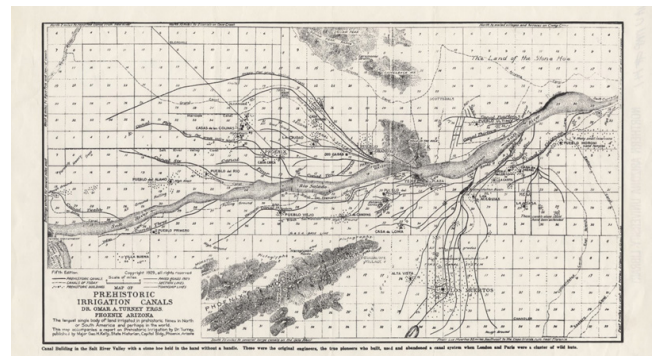
Huhugam Canal Network

The early history of Phoenix was largely driven by agriculture, which began with the development of an extensive network of irrigation canals built by the Huhugam people during the Hohokam Era (450-1540 Common Era [CE]). Fed by the Salt and Gila Rivers, these canals supported the cultivation of crops in the harsh desert climate of the region. Ancestors of present-day Salt River Pima-Maricopa Indian and Gila River Indian communities, the Huhugam lived in the Salt River Valley for about 1,400 years before the arrival of European and American settlers. It is understood that the Huhugam constructed nearly 1,000 miles of canals by hand using wooden and stone tools.

Arizona Canal

When Euro-American settlers found the remains of the Huhugam irrigation system in the late 19th and early 20th centuries, they reestablished canal segments and expanded them, increasing the coverage of the canal system. Constructed between 1883-1885 by the Arizona Canal Company, the Arizona Canal runs east-west through this area, approximately 1/4 mile north of Dunlap. The Arizona Canal brought water from the Salt River across the north and west Valley, increasing development through these areas.

At more than 38 miles, the Arizona Canal is the longest canal in the SRP system. This expanded canal system supported vast acreages of farmland throughout the west Valley. Major crops grown included alfalfa, cotton, dates, and citrus. Irrigation allowed the cultivation of feed crops to support ranching and dairy operations. The Arizona Canal supported new commercial and residential development in this area and into west Phoenix.



Dr. Omar Asa Turney's Map of Prehistoric Irrigation Canals, Northern Arizona University Cline Library, 1929



Low level check station on the Arizona canal, near the Deer Valley Water Treatment Plant. Library of Congress Historic American Engineering Record, 1990.

Most of the area around the NWEI Study Area remained farmland up until the mid-1950s. In 1964, SRP signed an agreement with the Bureau of Reclamation and Maricopa County, permitting the county to use 60 miles of canals for public recreation, and to develop a network of canal-adjacent parks. The Arizona Canal now has paved walking and biking trails and is often used for recreational urban fishing.

Transportation

Paradise Airport

A lesser known and vanished historic property north of the Arizona Canal and west of 19th Avenue was created at a time when the land was predominantly still desert. Development of the Paradise Airport can be attributed to Arizona native Earl Pylant, who obtained his pilot's license while a student at Glendale High School on December 15, 1935. By 1937, Pylant was offering scenic flights and flight instruction at Pylant Airport, located on the west side of 19th Avenue, just north of the Arizona Canal.

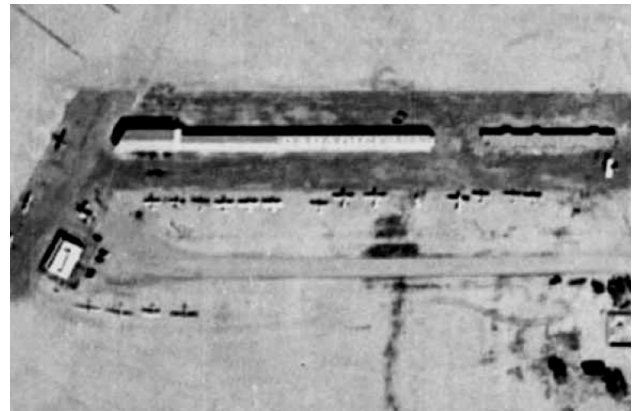
Paradise Airport was one of many small regional airports that sprang up after World War II. Increased development nearby caused the airport to begin winding down operations in 1959 and it closed the following year.

Interstate 17 (Black Canyon Freeway)

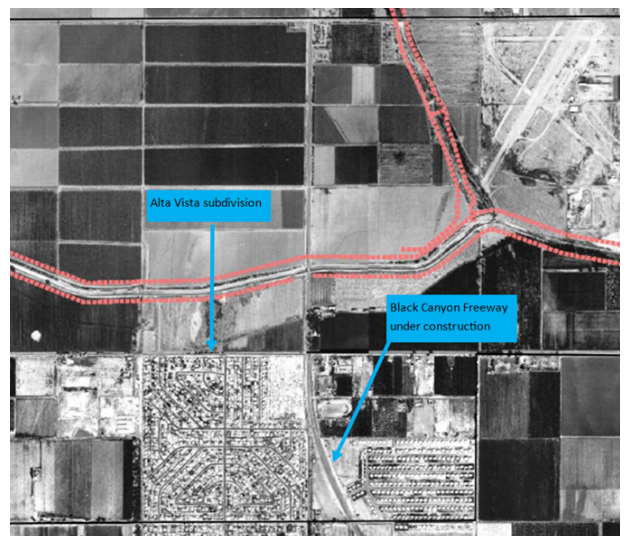
World War II brought military bases and defense industries to Arizona, along with an influx of new residents. With many of those transplants choosing to stay, and more arriving daily, it greatly increased the number of vehicles on the roads. Postwar highway projects by the Arizona Highway Commission increased to meet this demand. One of these projects was the Black Canyon Freeway, which began as a four-lane, 5-mile-long highway that ran from Durango Road to McDowell Road. Completed in 1957, the Black Canyon Freeway project included the state's first freeway interchange at Grand Avenue. With funding from the Federal-Aid Highway Act of 1956, that freeway became Interstate 17. By 1959, close to 1,000 single-family homes had been built on the former farmland just south of the Arizona Canal, as part of the large Alta Vista development. As the population of Phoenix increased, the capacity of the freeway also increased, with additional lanes added in the 1990s.



City of Phoenix Water Department, 2022.



Aerial photo detail showing 24 single engine aircrafts around the hangars of Paradise Airport, 1949.



Aerial photo of the Alta Vista subdivision homes and the Black Canyon Freeway under construction, 1959

Commercial Development & Commercial Architectural Resources

Metrocenter Mall

In January of 1972, work began on the super regional wonder called Metrocenter Mall. Formerly farmland, the 312 acres near the Black Canyon Highway and Dunlap Avenue were worked to form dips and hills from the excavated material beneath the complex. Atop the undulating manmade landscape, architects and builders constructed the first five anchor shopping mall in the country. Mall anchors were major department store retailers, which were to draw consumers to also support the 175 specialty shops in the mall. Anchor tenants were Goldwaters, The Broadway, Rhodes, Diamond's, and Sears. All of anchor spaces were designed by four architectural firms, some of international renown. The anchors were attached to one another by the two-story mall, which had five separate, sculptural entrances, 175 specialty shops, a movie theatre, and an ice rink. Metro Parkway, a road surrounding the 1.6-million-square-foot mall, encircled 7,000 parking spaces. Not only was it architecturally significant, Metrocenter Mall was significant for its innovation and economic impact. It created jobs and stimulated economic growth throughout this area for several decades. Businesses built near the mall compounded the positive economic effects. Apartment complexes were built nearby in the 1970s to serve the growing demand for housing in the area. Competition from online retailers and an economic recession in the 2000s negatively impacted sales and the mall closed in 2020.

Western Savings Branch Bank

Founded in 1929, Western Savings and Loan grew to become the largest savings and loan association in Arizona and among the 100 largest in the United States, with multiple branches throughout Phoenix. During the expansive growth of this area and the construction of Metrocenter Mall, this building became the 38th branch of Western Savings and Loan.



Edouard Wautier



loandearc.com

Metrocenter is the largest enclosed mall in Arizona, featuring two-story shopping levels and five anchor department stores. Because the structure is so large and consists of so many parts, it is difficult for shoppers to sense their orientation to their cars in the expansive parking lots. Thus, the architects created what they hoped would be memorable main entrances. The entrances are verbatim quotations of the signature feature of Le Corbusier's Palace of Assembly in Chandigarh, India (top), 1953. As a master-planned development, the oval-shaped ring road would become filled with smaller strip centers, individual "pad" buildings, restaurants, amusement parks, and banks. The vase-shaped Western Savings & Loan branch office (bottom, in background) was among the first satellite buildings.

Metrocenter excerpt from the book, Midcentury Marvels: Commercial Architecture of Phoenix, 1945-1975, published by City of Phoenix, 2010



Midcentury Marvels, Commercial Architecture of Phoenix 1945-1975. Published by City of Phoenix, 2010

Recreational Resources

Cortez Park

Built in 1969, Cortez Park was the first in a series of canal adjacent parks planned throughout Maricopa County. This plan had the goal to place parks adjacent to irrigation canals throughout the Salt River Valley. The 28-acre park located at 35th Avenue and the Arizona Canal, includes a 2.5-acre lagoon fed by the canal that enables urban fishing. The park has lighted basketball and volleyball courts, lighted softball fields, a playground, and picnic areas. Cortez Park also has a standard competition-size pool, a diving pool, and a kiddy pool with a beach entry.

Rose Mofford Sports Complex

With bond funds approved in 1984, the City of Phoenix constructed the Cave Creek Sports Complex at 25th Avenue just north of the Arizona Canal. On June 10, 1997, the complex was renamed the Rose Mofford Sports Complex, to honor former Arizona Governor Rose Mofford on her 75th birthday. Born Rose Perica in Globe, Arizona, in 1922, Rose Mofford was an accomplished softball player in her youth. The complex has youth and adult sports programs, competitive leagues, and multiple amenities.



City of Phoenix, 2017



Rose (Perica) Mofford pictured bottom row, third from left. Photograph, Arizona Republic July 14, 1939

02

Introduction

The residents, neighborhoods, businesses, and organizations that make up the NWEII Study Area are the foundation of a vibrant, diverse, and cohesive community that the district plan will build upon.

Existing Conditions

The City of Phoenix, in partnership with Valley Metro Regional Public Transportation Authority (Valley Metro) completed the Northwest Extension Phase II (NWEII) of the light rail system in January 2024. The new extension extends from from 19th Avenue to Dunlap Avenue to MetroCenter Mall. The extension added 1.6 miles of track, three stations, a park-and-ride transit center, and a freeway crossing of Interstate 17.

The purpose of the Existing Conditions Report is to provide background, a demographic overview, and analysis that will serve as a foundation on which the planning process can build. The Existing Conditions Report examines the built, demographic, and socioeconomic character of the NWEII Study Area through the lens of the following six planning elements:



Land Use



Health



Mobility



Green Systems



Economic Development



Housing

ReinventPHX and the Framework:

The six planning elements are interwoven throughout all subsequent sections of the plan, including the vision and implementation chapters. By maintaining a consistent vocabulary and perspective on how the area is viewed, the implementation plan is more approachable, and successes are easier to measure. The NWEII Study Area Transit-Oriented Development (TOD) Policy Plan is built on the framework established through the ReinventPHX Plans.

In 2011, the U.S. Department of Housing and Urban Development awarded the City of Phoenix a \$2.9 million grant to plan for development along the light rail corridor. Known as ReinventPHX, this comprehensive planning initiative was a collaborative partnership between the City of Phoenix, Arizona State University, St. Luke's Health Initiatives (now Vitalyst Health Foundation), and numerous other organizations committed to developing walkable, opportunity-rich communities connected to light rail. ReinventPHX established five transit districts along the light rail system (Gateway, Eastlake-Garfield, Midtown, Uptown, and Solano), and created TOD policy plans for each district. The plans establish a community-based vision for the future and identify investment strategies to improve the quality of life for all residents.

ReinventPHX was based on four objectives:

1. Quality Development – Create an attractive investment environment for high-quality and equitable transit-oriented development
2. Smart Growth Model – Establish a model process for guiding smart, cost-effective investment along light rail corridors.
3. Civic Engagement – Empower the community, including low-income and limited English-speaking residents, to be actively involved in the decision-making and implementation processes.
4. Return on Investment – Capitalize on the community's investment in light rail by guiding development to benefit residents, lower the cost of living, and enhance unique and historic characteristics.

The Reinvent PHX approach was deployed for two subsequent TOD planning efforts, the South Central TOD Community Plan and the 19North TOD Policy Plan.



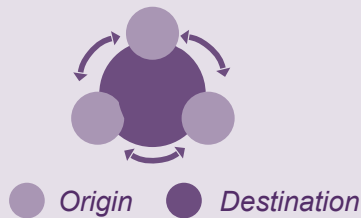
Land Use Element

The NWEII Study Area contains a mix of land uses of various intensities, including two major public open space areas and numerous schools. Much of the area has been studied over the years and a variety of plans have been produced that this plan builds upon.

Overview

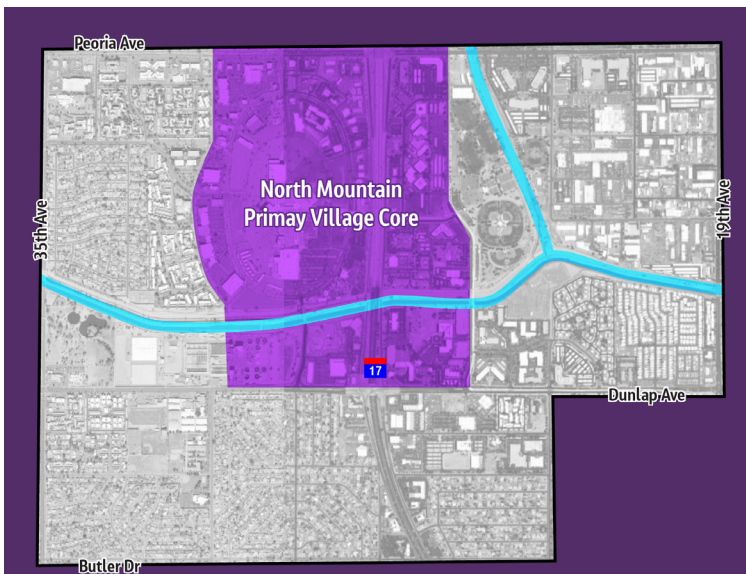
Land use policy and patterns shape our communities, our homes, and our lives. How land uses and mobility networks interplay is undeniably important and influences the way residents interact with their city.

A walkable and transit-oriented place includes a variety of complementary origins and destinations near each other...



... with the distance between them designed to encourage walking, bicycling, and other forms of transit.

Much of traditional 20th century planning policy in the US was the opposite of this ideal, as focus on separation of land uses and facilitation of the automobile were primary focuses. Many communities are now faced with reinventing themselves to encourage the lived experiences achieve the quality of life they deserve.



Primary Village Core

In 1979, the Phoenix General Plan formally established the primary village core model for its urban development. There are two identified cores within the North Mountain Village:

- Metrocenter Mall and the surrounding area
- Central Avenue & Hatcher Rd.

As a young city that grew with the automobile, each of these villages are relatively suburban with its own core. Most primary village core locations were selected based on developed major destinations, such as shopping centers, and envisioned as areas of great density.

The North Mountain Primary Village Core (0.73 mi²) is entirely encompassed and accounts for 26.83% of the study area.

Of the Primary Village Core:

- 30.49% is zoned and planned for high-density, mixed-use development.
- The remaining 326 acres utilize traditional zoning districts (not designed to implement compact, urban, and transit oriented development), but is eligible for the Walkable Urban Code.

NWEII Study Area

2.73 mi²

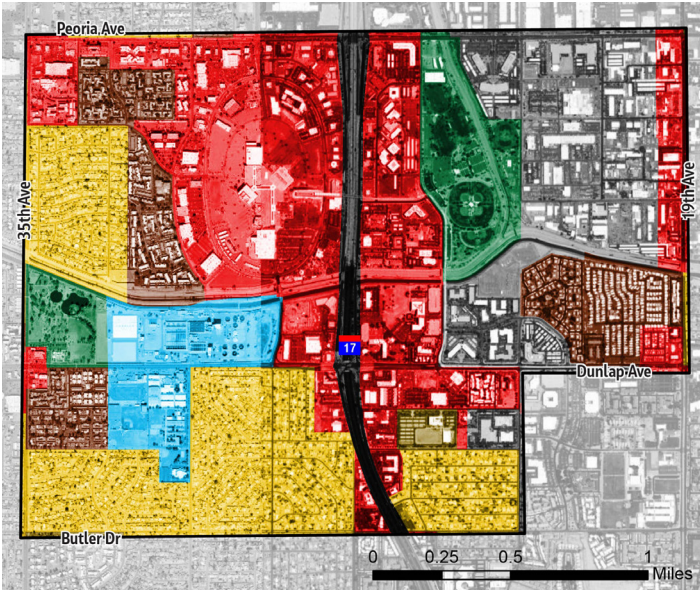
North Mountain Primary Village Core

0.73 mi²

27%

The Primary Village Core accounts for more than 1/4 of the Study Area.

General Plan Land Use



General Plan Land Use



Phoenix General Plan Land Use Map

The Phoenix General Plan was adopted in 2015 and the current plan update is slated for the ballot in November 2024. In addition to providing narrative guidance for future growth, the General Plan land use map also provides guidance on what land use is appropriate for every parcel within the city.

However, the Land Use Map designations for this area have not been updated in sometime, do not support a strategic mix of uses. It tends to support single-use districts with physical separation from other uses.

Of the General Plan Land Use designations in the study area:

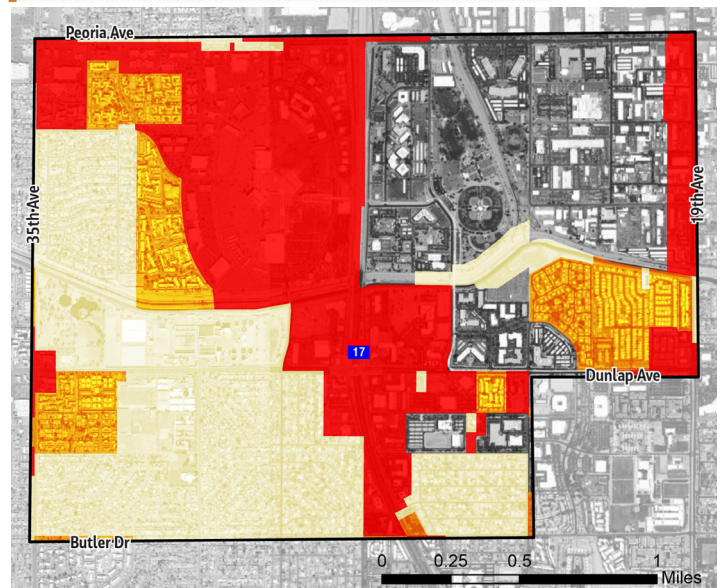
- **32.87%** encourage a mix of uses (Commercial)
- **67.13%** focus primarily on single-uses (Single-Family, Multifamily, and Industrial).

Generalized Zoning Entitlements

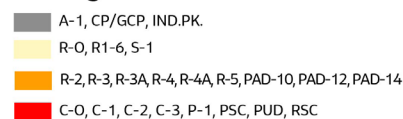
The NWEII Study Area was zoned beginning in the 1960s and followed rules to separate land uses, based on the assumption that unlike land uses are inherently incompatible. Much of the area in the southwest quadrant is zoned exclusively for single-family residential, while much of the northeast quadrant is zoned exclusively for industrial uses. Although commercial districts permit a mix of medium-density residential and commercial uses, the zoning ordinance construction tends to favor horizontal development over vertical mixed-use.

The Metrocenter PUD is in the center of the study area and occupies much designated North Mountain village core; the area was rezoned to allow high-density growth and TOC. This PUD uses the walkable urban zoning code, and has a density target of 2,800 new residential units in addition to commercial and parkland. The existing mall complex is slated for demolition in 2024 with the first phases of new development opening in 2026 and 2028.

Zoning Map



Zoning



Utility Infrastructure Uses



~**13.01%**
is used for utilities, water conveyance, flood control, & water treatment.

Vacant Land and Underutilized Real Estate



55.67% (1.52 mi²)
of the NWEI Study Area are within 1/2 mi. of a light rail station.



Within this walkshed
1.57%
of total land is vacant
(per Maricopa County)



~ 10 min. walking distance

Built Conditions and Trends

Walkable and transit-oriented neighborhoods share design similarities that support pedestrian comfort while encouraging residents to walk and interact with one another.



First, buildings located within 15 feet of the public right-of-way provide a frame to the streetscape that defines the space and allows for a building entrance which is relevant to the pedestrian environment. There are several local streets with residential buildings fitting this category that offer the opportunity to reinforce these environments by retrofitting streets.



However, with the zoning codes that governed the original development in these areas, the potential impact of these trends is lessened. While most neighborhood streets are considered local streets, many of these streets are often wider than necessary—36 to 40 feet wide—which promotes higher vehicle speeds, reducing pedestrian comfort and space.



South of Dunlap Avenue, many of the single-family neighborhoods are designed with alleys. While these alleys were traditionally used for vehicle access, utilities, and refuse collection, many homes now have their vehicle access from the front yard.





Health Element

The key aspects of the built environment that affect public health include access to healthy food, public recreation, and the ability to walk and bike safely. Mental and social well-being also are an integral part of health, because health is more than the absence of physical health burdens, and it includes having social support, being free of threats of violence, not being anxious or fearful, being in good temper, and feeling empowered

Overview

Accessible, dependable, and affordable transportation options encourage healthy behaviors and provide easier access to health-related resources. The negative consequences of today's vehicle-centric reliance are especially impactful to underserved populations. Populations with challenging health conditions and restricted means, including limited income and disabilities that hinder mobility, often are hit hardest.

A family without accessible transportation options might struggle to:



travel for work or errands

Being able to reliably attend work or social engagements is important for avoiding financial stress or social isolation.



receive health care

Accessing routine medical care is essential in maintaining healthy maintenance of medical and physical health.



buy healthy food

Needing to drive farther distances to access a grocery store can deter healthy eating or promote convenient fast-food options.

Health Demographic Factors

A resident's socioeconomic status is one of the greatest influences in determining access and ability to afford health care and plays a significant role in overall health & well-being.

The NWEII Study Area has:

- lower rates of educational achievement
- income levels below poverty
- typically younger in age
- live alone
- more likely to be part of a minority group
- more reliant on public transportation because of low vehicle availability per household.



17.2%
of the population
age 25+ does not
have a high school
diploma

Studies show that those with less educational attainment tend to suffer more physical symptoms tied to lack of well-being and undergo greater psychological distress, which is most often linked to financial instability.

Of households...



18%
do not own a car



48%
own one car

Residents without a vehicle are more likely to walk, ride a bike, or use public transportation to commute. However, considering the low household income in the area, even relatively affordable cost of public transportation can be considered a substantial financial burden.

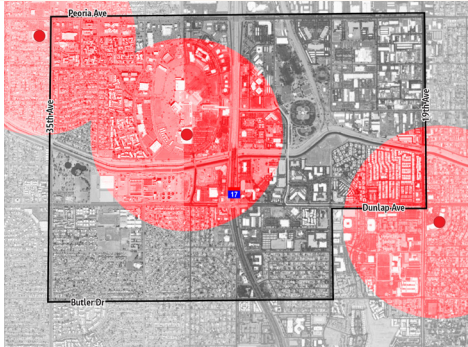
39% of households are within 1/4 mile of a recreation facility



Healthy Food Access

Food security means access by all people at all times to enough food for an active, healthy life. The 2025 Phoenix Food Action Plan acknowledges this definition and sets a goal for healthy, affordable, and culturally appropriate food for all by 2050. The plan sets several objectives and actions in various aspects of the food system that contribute toward achieving that goal. Access to healthy food is key and currently is unevenly distributed in a manner that excludes low income residents and people of color, given that supermarkets and other fresh food retailers are less likely to locate in these communities, where convenience, dollar stores, and unhealthy food options are more prevalent.

Grocery Stores within 0.5 Mi.



Food deserts- areas where low-income neighborhoods are more than 1 mile from a supermarket.

-U.S. Department of Agriculture

While there are no food deserts within the NWEll Study Area, there are four census tracts to the northeast of the study area that meet the conditions. The NWEll Study Area has one full-service supermarket, with an additional two supermarkets outside of the study area but within 1/4 mile of the study area.

Heat Risk

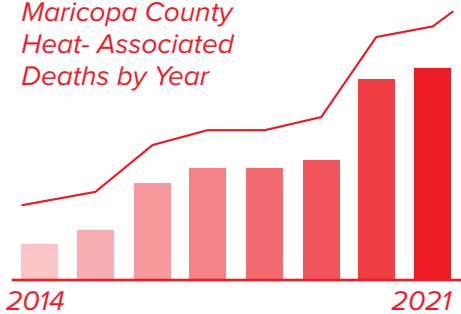
“Heat is a chronic environmental and health challenge for Arizona residents and communities. Often overlooked as an everyday occurrence during the summer months, extreme heat poses threats to everyone and can be fatal. It is particularly detrimental for vulnerable populations, including the homeless, elderly, communities of color, and those in low income areas.” - Arizona State University Sustainable Cities Network

In 2019, Maricopa County (AZ) experienced 197 heat-associated deaths. Heat-related deaths have risen to new record highs in the county each year since 2016. Experts are concerned about further increases with healthcare and social support systems severely strained by the global pandemic. Long-term projections of continued warming pose further risks to public health.

Cooling Stations

One of the methods of addressing the heat risk to the most vulnerable populations is through the implementation of cooling stations. During extreme heat events, air conditioners are frequently pushed to their breaking points and usually require service at the least opportune times. Cooling stations are air-conditioned places where an individual can escape the heat and rehydrate. These stations can be set up in community centers, public park facilities, or libraries. Within the NWEll Study Area, both Rose Mofford Park and Cortez Park are designated cooling stations.

Maricopa County
Heat- Associated
Deaths by Year



Source: Arizona State University





Mobility Element

The Mobility Element focuses on the movement of people and goods, including the availability of quality multimodal transportation options. Mobility is the essential right to all residents to freely and safely navigate their community to live their lives each day.

Overview

Street configurations can provide effective multimodal transportation access to a significant portion of a population, making developments more livable and sustainable in the future. Public transit works in tandem with walking, bicycling, and personal automobiles to provide multiple, equally convenient transportation choices. An effective street network—most commonly a grid—can improve connectivity while simultaneously generating benefits, such as encouraging bicycle and pedestrian trips and decreasing vehicle miles traveled (VMT).

“With rare exceptions, every transit trip begins and ends with a walk. As a result, while walkability benefits from good transit, good transit relies absolutely on walkability.”

— Jeff Speck

Street Patterns

The street configuration in the NWEll Study Area generally expands the grid system but with three notable deviations:

- The continuous grid pattern is interrupted by Interstate 17, the Arizona Canal, and the Cave Creek Wash.
- Metrocenter Mall and the office blocks east of Interstate 17 are configured as large superblocks, which further interrupt the grid.
- Many of the local streets in residential areas and office blocks are indirect or disconnected from the grid.

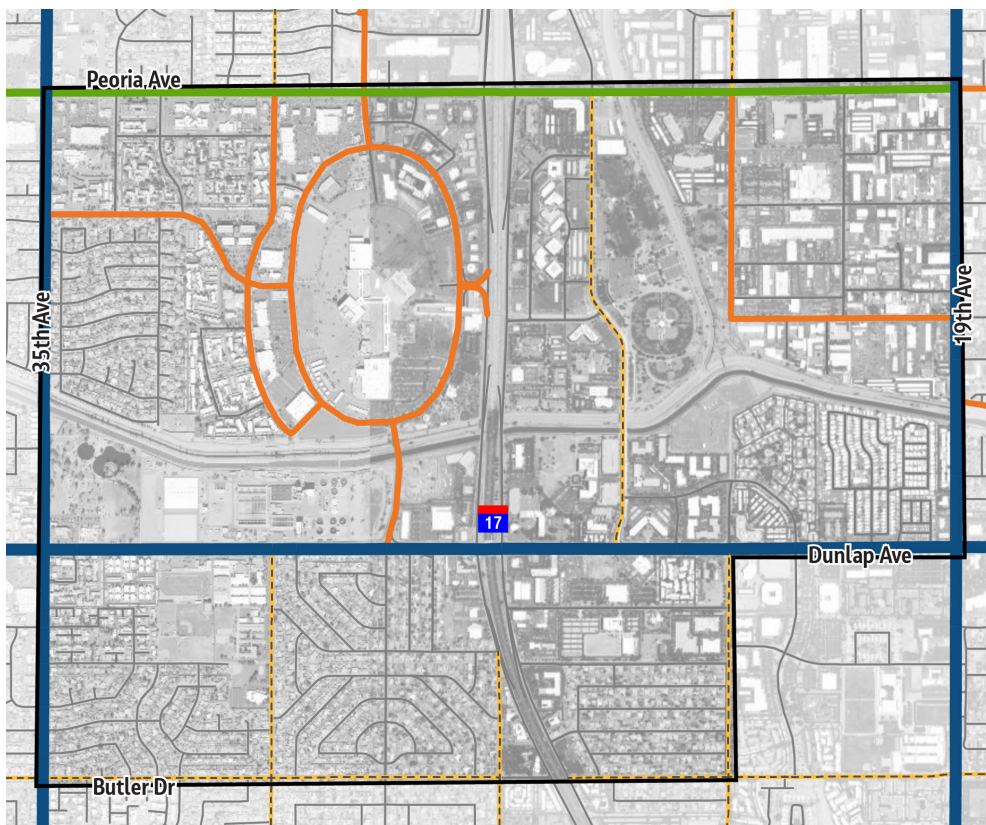
This discontinuity increases the total travel distance for most trips, which:

- negatively affects walkers, bicyclists, and potential transit users;
- increases vehicular traffic on the arterial streets by reducing route options; and
- forces pedestrians and bicyclists onto the same high-traffic streets as automobile users.

Even where the grid is intact, it can be functionally disconnected for people walking and biking when they have to travel up to a 1/4 mile out of their way to get to a traffic signal to safely cross an arterial. While the distance is less onerous for people biking as compared to walking, bicyclists may end up riding against traffic on a sidewalk to reach their destination, which increases the risk of collisions and creates conflicts with people walking.



Street Classification Map



Street Classification

- Major Arterial
- Arterial
- Collector
- Minor Collector
- Local

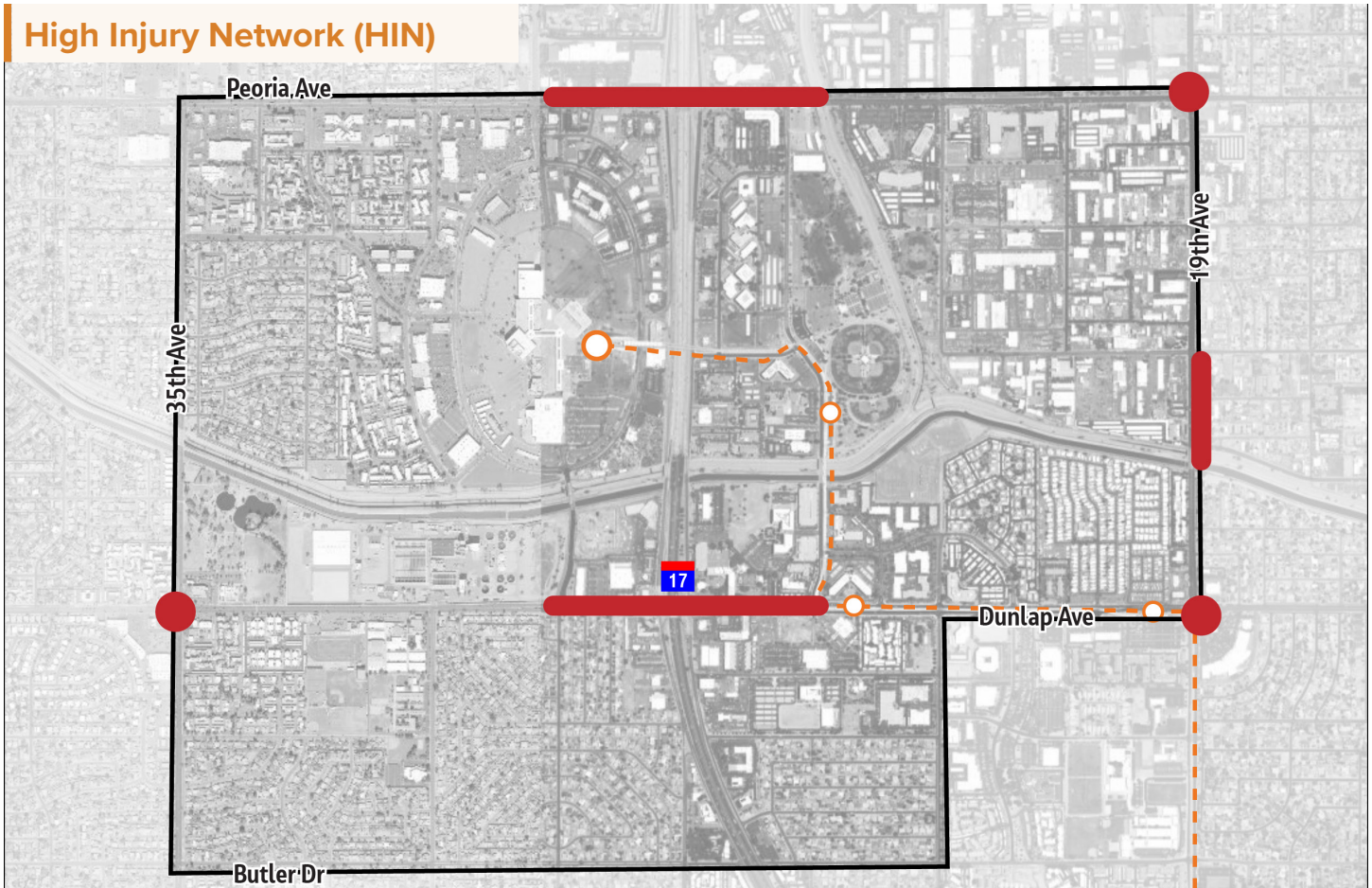
Street Patterns Classification Map Designations

There are six functional street classifications defined and applied on the City Council Adopted **Street Classification Map (SCM)** and are intended to balance the rate of mobility against access.

- **Major arterial streets** are intended to provide for long distance traffic movement between Phoenix and other cities. Service to abutting land is limited and opposing traffic flows often are separated by a raised median or a continuous turn lane
 - Examples of major arterial streets are 35th Avenue, 19th Avenue, and Dunlap Avenue.
 - Peoria Avenue is considered an arterial street, which means that it is intended to convey traffic at a slightly slower rate and provide slightly greater land access.
- **Collector streets** are intended to provide for short trips of less than 3 miles and function primarily to convey traffic from local streets to arterial streets.

The SCM for roadways in the NWEI Study Area has largely remained unchanged. This designation occurred during the height of vehicle-centric development in Phoenix, when the NWEI was at the edge of the city, and prior to the arrival of high-capacity transit. As such, many streets prioritize vehicle mobility with little thought to bicycles and pedestrians. There may be opportunity to reallocate the roadway to add bicycle lanes or shaded and detached sidewalks.

High Injury Network (HIN)



High Injury Network

- Intersections
- Roadways

High Injury Network

As part of the Road Safety Action Plan and the commitment to “**Vision Zero**,” the Street Transportation Department created a “**high injury network**” (HIN). The HIN highlights intersections and road segments where a high number of people have been killed or severely injured in motor vehicle crashes. This network is intended to focus limited resources on what is needed and where so that funds can be invested in the areas that are most impacted by death and injury. The HIN comprises both “segments” and “intersections,” with a total of 156 citywide. The study area contains four segments and three intersections.

High Injury Segments:

- Peoria Avenue from 25th Avenue to 28th Drive
- Dunlap Avenue from 23rd Avenue to 29th Avenue
- Dunlap Avenue from 31st Avenue to 35th Avenue
- 19th Avenue from Hatcher Road to Mountain View Road

High Injury Intersections:

- 35th Avenue and Dunlap Avenue
- 19th Avenue and Dunlap Avenue
- 19th Avenue and Peoria Avenue

While it is outside of the NWEI Study Area boundary, 35th Avenue from Northern Avenue to Butler Drive also is notable and relevant to the vitality of the area. This segment abuts the NWEI Study Area at the southwest corner, is a future high capacity transit corridor (bus rapid transit [BRT]), and is only one-half mile from the North Mountain primary village core.



Active Transportation Infrastructure

The City of Phoenix’s Complete Streets policy directs the City to ensure safe and comfortable options for driving, walking, bicycling, and taking public transit are available on City streets. Walkability is enhanced by smaller block sizes, which disperse vehicular traffic and provide greater connectivity for pedestrians.

While there are a notable number of bike lanes and trails in the area, most still face the barriers to mobility previously discussed, which makes navigating the NWEI Study Area challenging and uncomfortable by bicycle or on foot. There are only two bikeways that cross the study area and those are the Arizona Canal Trail and the linkage of 23rd Avenue and 25th Avenue via Mission Lane.

NWEI Study Area



0.5 Miles
On-street bike lanes



2.1 Miles
Multi-Use Trails



3 Pedestrian Bridges/
Underpasses



3.61 Miles
Planned bikeways

Multi-Use Trails

- Multiuse Trail on the Arizona Canal
- Multiuse Trail on the Cave Creek Wash

On-Street Bicycle Facilities

- 23rd Avenue
- 25th Avenue
- West Cheryl Drive
- 31st Avenue (north of the Arizona Canal and south of Dunlap Avenue)
- Butler Drive

Bridges and Underpasses Rose Mofford Bike/Pedestrian Connection

- Arizona Canal Trail Interstate 17 Underpass
- Arizona Canal Trail 29th Avenue Underpass
- Arizona Canal Trail 35th Avenue Underpass

Off Street Park Paths

- Rose Mofford Park
- Cortez Park

Sidewalks

Sidewalks are often intermittent, lacking, or present but immediately adjacent to travel lanes without a landscape buffer.

Walking and Biking to School Activity

There are high levels of walking activity within 1/4 and 1/2 half mile of schools in the NWEI Study Area. These areas have sidewalks immediately adjacent to major arterial streets that carry high volumes of vehicle traffic daily. Dunlap Avenue is a prime example adjacent to Cortez High School; the major arterial street carries an average daily traffic volume of 39,518 with a 5' wide sidewalk immediately adjacent to travel lanes. This segment is identified on the HIN.

Zero and One Car Households



The NWEI Study Area has a much higher percentage of households without access to an automobile (18.0%) compared to 6.9% for the City of Phoenix and 9.0% for the North Mountain village core. Often, single-car households will have one or more individuals who rely on alternative transportation for at least some of their mobility.



The largest number of households with one car or no car are located in the northeastern section of the NWEI Study Area. Geographically, this area is mostly park and industrial land, so many of the car-limited households are south of the Arizona Canal in a mobile home park or in multifamily configurations.



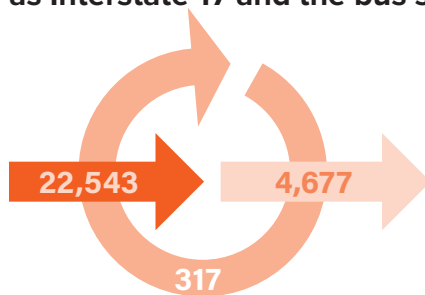
Pockets of the NWEI Study Area with relatively low numbers of car-limited households occur mostly in the established and predominantly single-family neighborhoods. However, it is important to note that even these neighborhoods, on average, have access to fewer cars than is typical in the City of Phoenix or the North Mountain village core.

Daily Bus Boardings

In addition to the light rail, the NWEI Study Area is well served by several bus routes, including RAPID Bus Lines that travel from the Thelda Williams Transit Center both north on Interstate 17 and south on Interstate 17 into downtown Phoenix. Many of the traditional bus routes serve to connect riders to the more rapid service available at the Thelda Williams Transit Center, which will soon offer both light rail and BRT. The ability to access transit with a bicycle allows for easier access to the transit modes from distances that may not be comfortable for walking

Commuting Patterns

As a large metropolitan area, many jobs are scattered widely throughout the region and employees also are distributed based on a variety of factors such as housing affordability, vehicle availability, skill-career matching, and the location of a partner's employment among many other factors. **The NWEI Study Area's population is especially mobile based on the rapid transportation infrastructure such as Interstate 17 and the bus system,** which converges on Metrocenter Mall.



Inflow/Outflow Analysis

Most individuals employed within the NWEI Study Area reside outside of the area. Only 1.4% both live and work in the study area.

Distance and Direction Analysis

The following analysis shows where NWEI residents work and where NWEI business employees live, with a focus on where alternative modes of transportation, such as transit, walking, and bicycling, can potentially be offset through relatively short commute distances.

Of those residing in the NWEI Study Area and employed in the labor force:

- most (55.1%) work within 10 miles and
- 37.1% work within 10-24 miles. Of those residing within 24 miles, 30.6% travel to the southeast, 13.8% travel to the south, and 10.6% travel to the north.

Of those employed in the NWEI Study Area labor force:

- 43.3% live within 10 miles and
- 33.8% live within 10-24 miles. Of those residing within 24 miles, 14.2% travel from the southeast, 14.2% travel from the southwest, and 12.2% travel from the west.

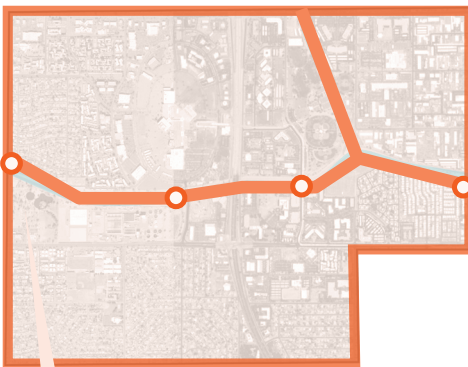
Barriers to Mobility

There are three physical barriers that affect mobility in the NWEI Study Area and two notable barriers that are both physical and psychological.



I = Traffic Signals

HIN = High Injury Segment



○ = Canal Crossings



- Interstate 17 (I-17)** is an elevated freeway corridor also known as the Black Canyon Freeway. Crossings include:

 - Peoria Avenue.** A major arterial street crosses above I-17 with sidewalks that are 5’ wide. The sidewalks are separated from Peoria Avenue by a continuous concrete wall on one side and adjacent to a concrete embankment on the opposite site. Additionally, the crossing distance between the on-ramps is nearly 500 feet, which takes an average pedestrian ~ 1.8 minutes to cross. There are eight travel lanes, including designated turn lanes. This segment is identified on the HIN.
 - Dunlap Avenue.** An arterial street crosses beneath I-17 with sidewalks that are 4’ wide. The sidewalks are partially separated from Dunlap Avenue by low continuous concrete walls. Additionally, the crossing distance between the on-ramps is nearly 415 feet, which would take an average pedestrian about 1.5 minutes to cross. There are 11 travel lanes, including designated turn lanes. This segment is identified on the HIN.
 - Light Rail (LR) Bridge.** An exclusive right-of-way bridge used by the Valley Metro light rail line.
 - Arizona Canal Trail.** A multiuse trail underpass beneath Interstate 17.
- The **Arizona Canal and Flood Control District of Maricopa County Arizona Canal Diversion Channel (ACDC)** bisects the study area into north and south halves. The principal pathway of the Arizona Canal is in a 350’-380’-wide utility corridor that runs east-west across the study area with the physical canal on the south, ACDC on the north, and a multimodal trail running between the two. Crossings include the following:

 - 19th Avenue.** A major arterial street with attached sidewalks along both sides of 19th Avenue that increase from 5 feet wide over the Arizona Canal to 7 feet wide over the ACDC. The Arizona Canal Trail crosses 19th Avenue below grade; however, the north and south access roads along the canal function to many users as de facto trails, and these have no marked or signalized crossings at 19th Avenue. At this location, 19th Avenue has five travel lanes and a center turn lane.

- **25th Avenue.** A minor collector street that forms the eastern boundary of the North Mountain village core, 25th Avenue features the light rail station at 25th Avenue and Rose Mofford Park. There is a 5'-wide attached sidewalk on both sides of 25th Avenue. The Arizona Canal Trail crosses 25th Avenue at grade with pavement markings to delineate the crossing. However, the north and south access roads along the canal function to many users as de facto trails, and these have no marked or signalized crossings at 25th Avenue. At this location, 25th Avenue has two travel lanes and a center turn lane
- **29th Avenue.** A collector street that connects the northern and southern portions of the North Mountain village core across the ACDC. There is a 5-foot-wide attached sidewalk on the east side of 29th Avenue and no sidewalk on the west side. The Arizona Canal Trail crosses 29th Avenue below grade; however, the north and south access roads along the canal function to many users as de facto trails, and there is a faded crosswalk at 29th Avenue by the south access road. At this location, 29th Avenue has three travel lanes and a center turn lane
- **35th Avenue.** A major arterial street with 5' wide attached sidewalks on both sides. The Arizona Canal Trail crosses 35th Avenue below grade; however, the south access roads along the canal function to many users as de facto trails, and these have no marked or signalized crossings at 35th Avenue.

For a pedestrian to navigate this crossing, there is one safe and legal option:-

- » To use the westbound underpass on the Arizona Canal from the east side of 35th Avenue, cross the Arizona Canal, travel east approximately 220 feet to the start of the underpass, then use the underpass to the opposite side of 35th Avenue. This route is approximately 875 feet long. Many users cross 35th Avenue at grade and without a legal crossing.

3. The Cave Creek Wash bisects the northeastern half of the study area into two pieces with crossings that include the following:

- **Peoria Avenue.** An arterial street with 4-foot-wide attached sidewalks on both sides of Peoria Avenue.
- **Rose Mofford Park Pedestrian Bridge on the Cheryl Drive Alignment.** A multiuse trail bridge connecting the east and west sides of Rose Mofford Park, this bridge also connects the northeast quadrants of the study area and provides more direct access to the future light rail station





Green Systems Element

The Green Systems Element focuses on the measures taken in the built environment to manage stormwater to create more resilient communities by improving resource efficiency, environmental protection, and social and economic benefits. Green systems play a significant role in improving thermal comfort conditions and reducing the urban heat island (UHI) effect

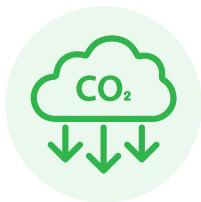
Overview

Green systems are building and infrastructure techniques designed to work with nature, the water cycle, and the environment. Green systems use both natural and engineered systems to provide ecosystem services in a given area. Common examples of green systems are vegetated swales or rain gardens, permeable pavement/pavers, and curb cuts. These systems can be implemented and planned in early stages of new construction, often are referred to as **low-impact development (LID)**, can be embedded into a revitalization project, or are created at pre-existing sites.

Green systems are “**Solution multipliers**” and provides a myriad of economic, social, & environmental benefits, such as:



Reduced use of infrastructure and collection systems



Improved air quality



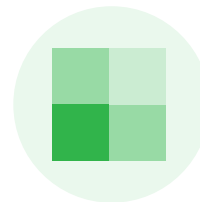
Strengthened quality of place and local economy



Reduced stormwater runoff & impacts



Improved social connections



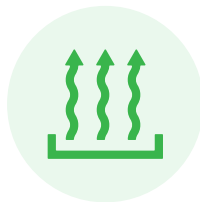
Supported smart growth, compact development, and walkable neighborhoods



Preserve natural drainage courses & water filtration



Reduce erosion



Reduce heat island effect



Conserve natural resources and ecosystems



Reduced energy costs



Increase vegetation, improving livability & walkability

Phoenix's commitment to Green Systems



PlanPHX: The Connected Oasis

The overarching vision for the 2015 Phoenix General Plan was the idea of “The Connected Oasis.” This vision re-imagines our city as a network of vibrant pedestrian connections that incorporate the benefits of cleaner air and shade as keys to creating healthy and equitable urban design. This network also can provide additional benefits for health, mobility, and biodiversity that help make streets safe and comfortable for pedestrian and bike mobility

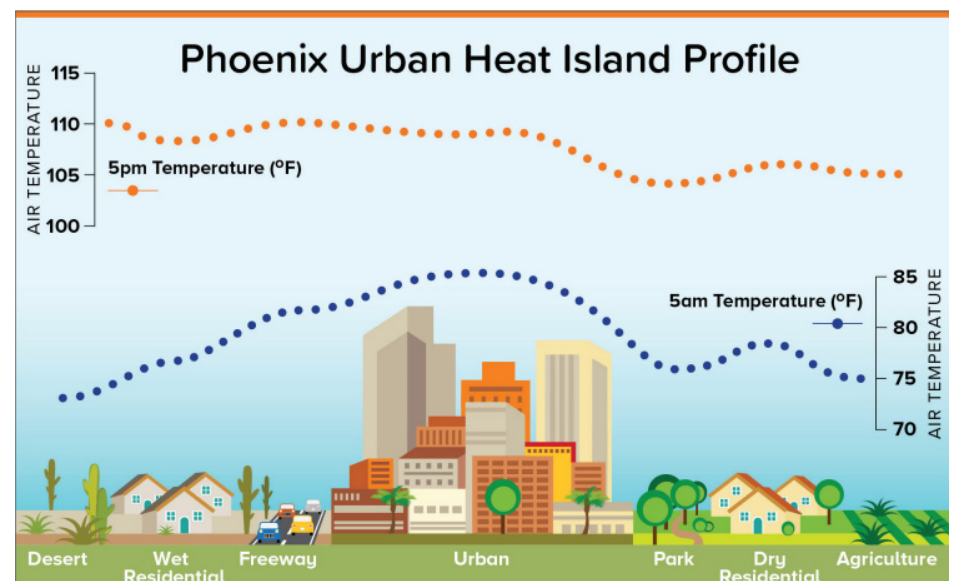
PlanPHX: Sustainable Desert City & The Climate Action Plan

A sustainable city plans and manages its growth and resources and incorporates eco-friendly practices to protect natural resources for future generations while addressing the social, environmental, and economic needs of the community. In 2015, Phoenix voters committed to the General Plan vision to become the most sustainable desert city on the planet, and developed a data-driven implementation guidebook, the Climate Action Plan, which was approved by the City Council in 2021.

“‘Urban heat islands’ occur when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs (e.g., for air conditioning), air pollution levels, and heat-related illness and mortality.” --U.S. Environmental Protection Agency (EPA)

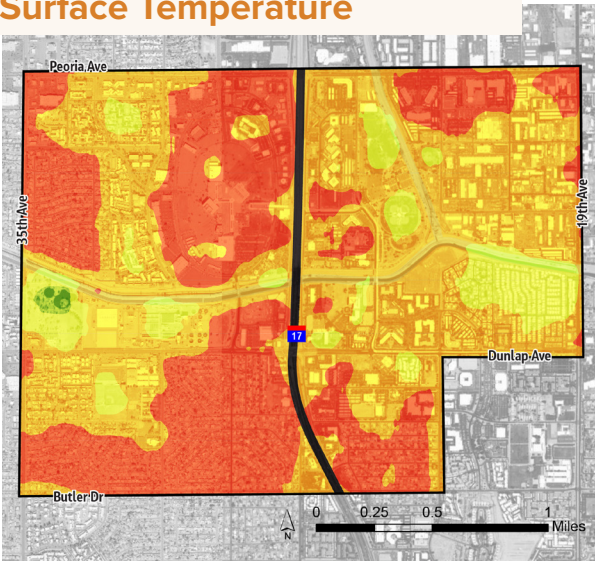
Urban Heat Island and Thermal Comfort

Asphalt's ability to store heat during the day and release it during the night results in much higher surface temperatures. Open areas without vegetation contribute to higher daytime and nighttime temperatures because of the lack of shade and the UHI effect. The annual mean air temperature of a city with 1 million people or more can be 1.8°F to 5.4°F (1°C to 3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C).



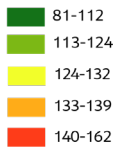
Source: Let's Talk Heat

Surface Temperature

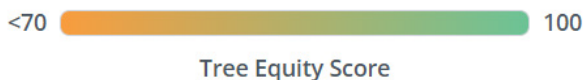
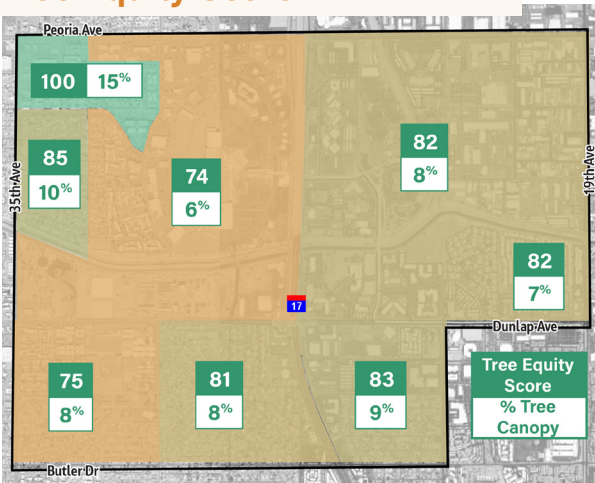


Source: City of Phoenix

Temperature (Degrees Fahrenheit)



Tree Equity Score



Source: Treeequityscore.org

The heart of the Metrocenter Mall area is a dense concentration of pavement that stores heat during the day. The surface temperature, shown in the image, can reach as high as 158.5°F. Natural features reach much lower temperatures, including the Arizona Canal, Rose Mofford Sports Complex, and Cortez Park. These elements mitigate the heat in their immediate surroundings and contribute to improving thermal comfort in their immediate environs. The most common strategies for mitigation of UHI are vegetation, shade structures, and cool materials for built infrastructure.

Shade Canopy and Tree Coverage

Tree canopy cover is a measure of all public and privately owned trees and woody shrubs. Urban trees provide vital benefits to the community, including improvements in stormwater run-off management, reduced temperatures, air quality, reduced energy use, and an estimated increase of property values ranging from 2 to 10%.

The total annual combined benefits of the City’s urban forest is \$40.35 million¹. As a part of this commitment, the City has established a goal of reaching 25% canopy cover by 2030 and the current citywide canopy is at 12.4%.

Identified as a “High Need Area for Trees”

The Maricopa County Shade Need Study indicates that the entirety of the NWEII Study Area has a “high need for trees.” The northwestern extension area from Butler Drive to Peoria Avenue and from 35th Avenue to 19th Avenue is entirely within a “high need for trees” zone.

Tree Equity Score Analysis

The Tree Equity Score is a “metric that helps cities assess how equitably they are providing a tree canopy to their residents. The score combines measures of tree canopy cover need and priority for trees in urban neighborhoods using census block groups and derived from tree canopy cover, climate, demographic, and socioeconomic data. Based on the assessment, the NWEII Study Area has multiple scores ranging from 66 (out of 100) in the Metrocenter area to a score of 98 northwest of the Metrocenter. For the largest portion of the study area, the Tree Equity Score ranges between 66-72 and notes that most of the census block groups are well below the City’s goal of a 15% tree canopy, at between 5-6%.

One notable exception is the northwestern most census block group, which boasts a tree canopy of 15% and a Tree Equity Score of 100. Several streets in this neighborhood have mature, healthy trees along the sidewalk that cast continuous morning and evening shade for pedestrians.

¹ Desert Southwest Community Tree Guide: Benefits, Costs & Strategic Planning Report

Green Stormwater Infrastructure

Green Stormwater infrastructure (GSI) is a range of measures designed to work with nature, the water cycle, and the environment to manage stormwater runoff. GSI can provide multiple co-benefits, such as helping to mitigate localized flooding, reducing the UHI effect, improving localized air quality, improving localized water quality, reducing reliance on landscaping irrigation, and supporting native vegetation, which provides biodiversity benefits. Common examples of GSI are vegetated bioswales, bioretention basins, and permeable concrete or pavers. In collaboration with Bloomberg Associates, the City of Phoenix created the Phoenix Green Stormwater Infrastructure Prioritization Tool, which seeks to identify the developed areas where GSI is most important and would be most impactful. All of the NWEII Study Area is considered either a moderate-high priority area.

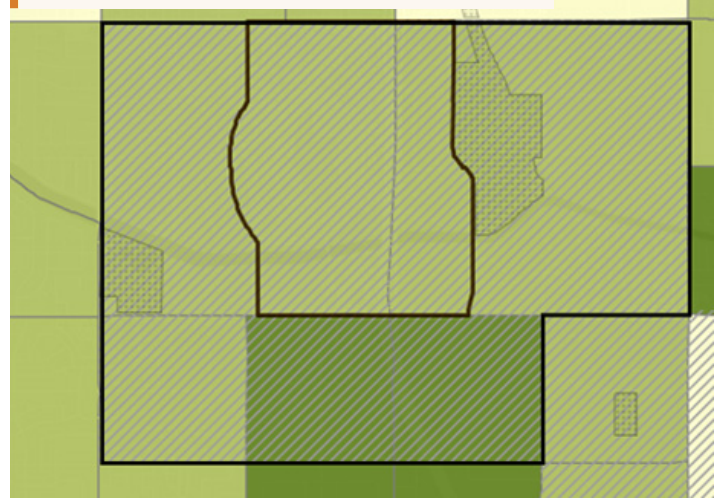
Impervious Areas

Many parts of the NWEII Study Area's environment are characterized by large impervious areas paved with asphalt that can store heat, resulting in much higher surface temperatures. UHI "hot spots" are areas where exposed pavement and building materials absorb solar energy, creating higher surface temperatures. Impervious areas also prevent stormwater permeability and increase surface runoff. A large impervious surface in the northwest extension area includes the Metrocenter from Peoria Avenue to the Arizona Canal and from Interstate 17 to 31st Avenue. Most of the surface is paved and used for parking purposes

Vacant/Undeveloped Areas

The NWEII Study Area has a small number of vacant and undeveloped parcels. Often, vacant and undeveloped parcels may contribute to permeability, which can be a positive for stormwater management. However, a vacant and undeveloped parcel with low tree and vegetation coverage may negatively contribute to higher surface temperatures while also increasing dust and other particles count in the air. Most of the vacant and undeveloped parcels are located along the north side of the Arizona Canal and on both sides of Interstate 17.

GSI Priority Areas



Source: City of Phoenix, Bloomberg Associates

GSI Prioritization Index





Economic Development Element

The Economic Development Element focuses on the financial prosperity of businesses and residents, including the access to jobs, training, and educational opportunities.

Overview

Economic development can be defined as efforts that seek to improve the economic well-being and quality of life for a community by empowering individuals and businesses with the skills they need to effect change within their communities, including creating and retaining jobs and supporting or growing incomes and the tax base to spur economic growth.

While the term “economic growth” denotes an increase to specific measures such as income, “**economic development**” encompasses improvements in a variety of areas, including:



housing & transportation



costs, educational achievement,



workforce development,



economic welfare.

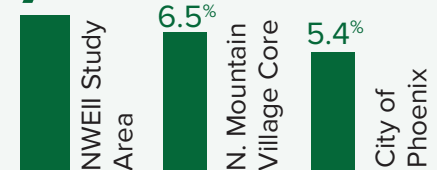
To support economic development initiatives, much of the NWEII Study Area is a designated Opportunity Zone.

Workforce (Study Area)

Of the 14,704 residents in the NWEII Study Area, nearly **1/2** are within the labor force (ages 16-64)

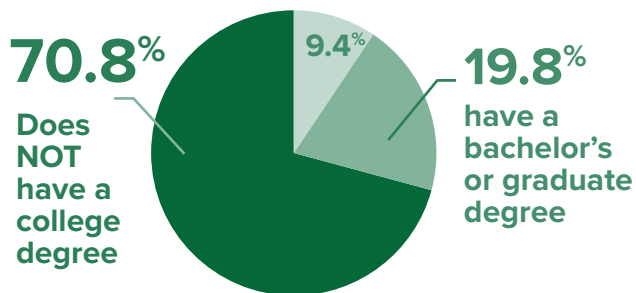
Within this labor force...

7% are unemployed

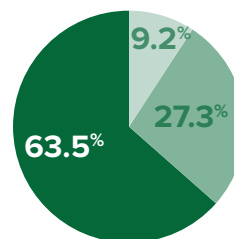


Of the NWEII Study Area residents age 25+, have lower education attainment than the City of Phoenix and the North Mountain village core.

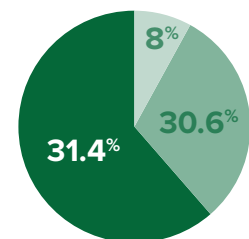
NWEII Study Area



N. Mtn. Village Core



City of Phoenix



No college degree

Bachelor's or Graduate Degree

Employment

Major Employers

The NWEI Study Area contains many large employers, including the top 10:

1. **Pinnacle West Capital Corporation**
| 1,420 employees
2. **Maximus Federal** | 890 employees
3. **Cognizant Technology Solutions**
| 700 employees
4. **Matrix Absence Management**
| 390 employees
5. **Walmart** | 300 employees
6. **Oakwood National Processing Center**
| 240 employees
7. **Sky Sonoran Community Services**
| 240 employees
8. **Diversified Roofing Corp.**
| 230 employees
9. **Ciox Health**
| 200 employees
10. **Empereon Constar**
| 200 employees

Employers by Size

The NWEI Study Area is home to 445 businesses with 5+ employees per location, and accounting for 14,210 employees. **The largest employers comprise only 1% of all businesses but employ 26% of all employees** and the largest share of employees (38%) are employed by companies with between 20 and 99 employees.

Jobs in Key Industries

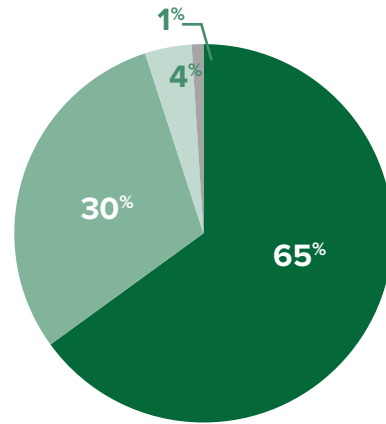
The NWEI Study Area contains many key industries including finance, health care, manufacturing, warehouse/distribution, aerospace, and information technology. There are a total of 161 businesses that specialize in these industries, employing 3,150 individuals.

Employment by Occupation

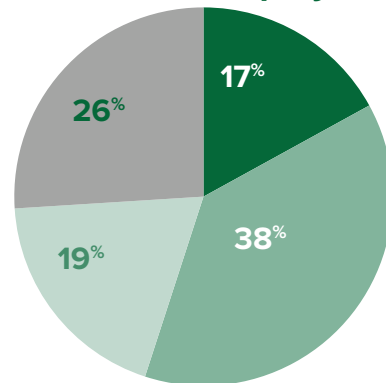
Of the civilian population 16 years and older, the leading occupation categories in the NWEI Study Area are:

- **25.2%** | Sales and office occupations
- **22.6%** | Management, business, science, and arts occupations
 ↓ *much smaller share than City of Phoenix (37.2%)*
- **21.6%** | Service occupations
 ↑ *larger share than City of Phoenix (17.9%)*

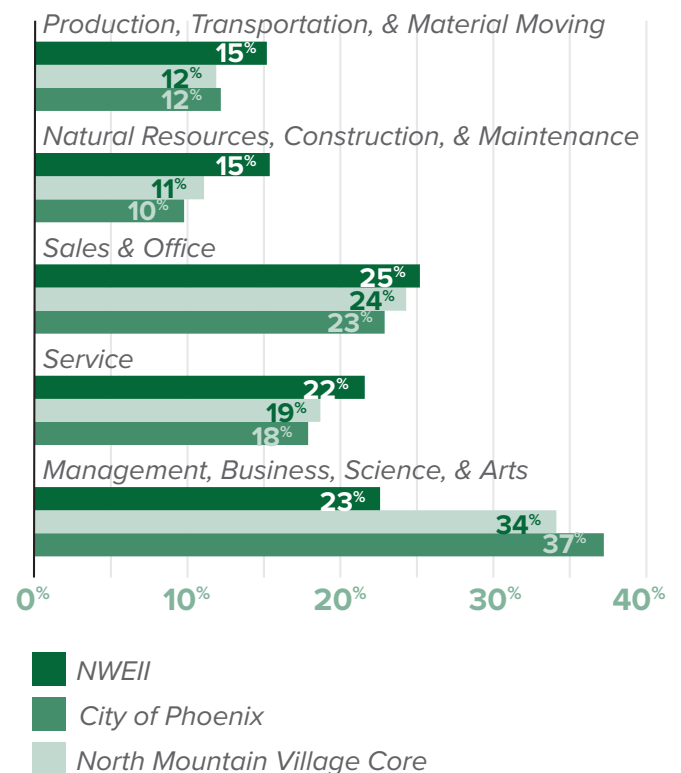
Number of Locations



Number of Employees



Occupation (Workers Ages 16+)



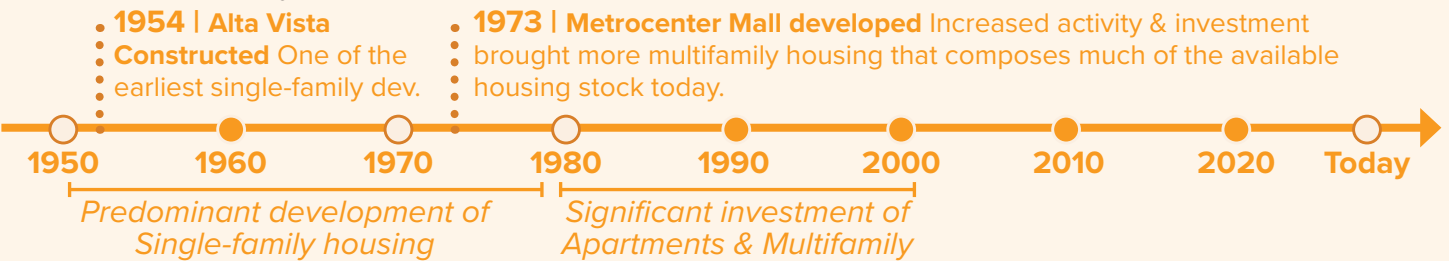


Housing Element

The Housing Element focuses on the affordability, quality, and diversity of residential living options

Overview

For housing in the NWEI Study Area to be sustainable, it requires a mix of housing that meets the needs of future and current residents. Promoting the social, economic, and environmental welfare of the greater community through housing will ensure a better quality of life for those in the NWEI Study Area and for the City of Phoenix overall.

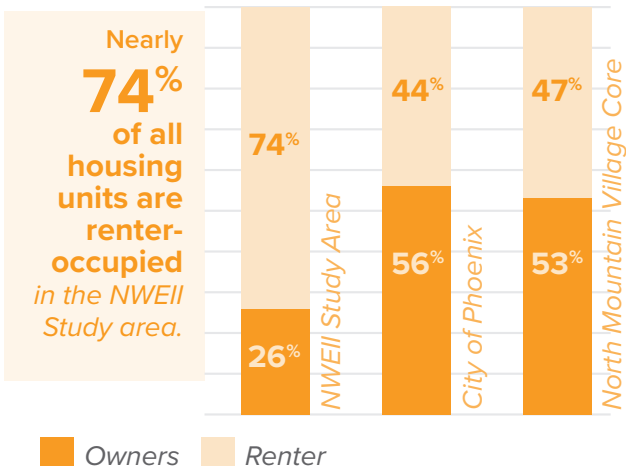


Housing Age

51% Of the NWEI Study Area housing stock was built between 1970-1989. 16% of the existing housing stock is over 60 years old



Occupancy and Household Size



The NWEI Study Area has a **substantially higher rate (74%) of renters** than the **City of Phoenix (44%)** and the **North Mountain village core (47%)**. This can be expected given the number of multifamily apartment developments built in the area.

The U.S. Census Bureau defines overcrowding as more than one occupant per room. Approximately **8.5% of all housing units are considered overcrowded**, with nearly 10% of renter-occupied units and nearly 5% of owner-occupied units falling in this category.

Housing Types



Single-Family Housing. According to the U.S. Census Bureau, single-family housing accounts for 25.7% of the housing units, largely concentrated in the southern and eastern portions of the NWEII Study Area, which were some of the first communities built in this area.



Multifamily Housing: An analysis of the 2021 5-year ACS shows that most of existing housing units in the NWEII Study Area are in structures with two or more units, a total of nearly 4,000 units or 64.0% of the entire housing stock in the area.



Mobile Homes: Desertscape Manufactured Homes is the sole mobile home park in the NWEII Study Area, located directly across the street from the 19th Avenue and Dunlap Avenue light rail station. It was constructed in 1969, with the western section of the property developed in 1972. In total, there are 247 mobile home housing units in the area, representing 4% of the total housing stock in the NWEII Study Area.

Housing Mix

Dwelling units in the NWEII Study Area consist mostly (48.8%) of housing complexes with 10+ units per complex with notably fewer small complexes (2 to 9 dwelling units per building), which commonly accounts for “missing middle housing.”

“**Missing middle housing**” is a term used to describe small- and medium-size multifamily configurations that are designed to blend with a wide variety of neighborhood types. There is very little of this type of housing in the NWEII Study Area currently.

According to MAG data, approximately 66.7% of all housing units are in large multifamily complexes with the greatest concentration in the northwest quadrant immediately west of Metrocenter Mall.

Housing Need

In the NWEII Study Area, the housing vacancy rate is 7.0%. As Phoenix’s population continues to grow, more housing is urgently needed to meet demand. Per MAG Growth Projection Analysis, the traffic analysis zone that contains the NWEII Study Area is projected to grow from approximately 50,000 in 2020 to 60,000 in 2050.

Housing Affordability



Nearly half (51%) of renters in the NWEII Study Area pay more than 1/3 of their household income on rent, higher than the City (48%).

23% of renters pay more than 1/2 of their household income for rent. There is currently no City-owned affordable housing within the NWEII Study Area.



The NWEII Study Area has **6,208 Housing Units**

HOUSING

Name	Total	%
Total Housing Units	6,208	-N/a-
1, detached	1,709	27.5%
1, attached	229	3.7%
2 to 9	946	15.2%
10 or more	3,030	48.8%
Mobile Home	247	4.0%
Boat, RV, van, etc.	47	0.8%

Universe: Housing Units



