NOHO²

NORTH HOLLYWOOD
TRANSIT-ORIENTED DEVELOPMENT

Caroline Chen
City and Regional Planning Department
College of Architecture and Environmental Design
California Polytechnic State University, San Luis Obispo
June 2019

NOHO^2: NORTH HOLLYWOOD TRANSIT-ORIENTED DEVELOPMENT

A Senior Project

presented to

the Faculty of the City and Regional Planning department

California Polytechnic State University, San Luis Obispo

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science

by

Caroline Chen

June 2019

APPROVAL PAGE

City and Regional Planning Department
California Polytechnic State University, San Luis Obispo

Title: NOHO^2: North Hollywood Transit-Oriented Development
Author: Caroline Chen
Date Submitted: June 2019

Amir H. Hajrasouliha Senior Project Advisor	_____ Signature	_____ Date
Michael R. Boswell Department Head	_____ Signature	_____ Date

ACKNOWLEDGMENTS

It is very exciting to see four years of learning and hard work taking the form of my final project before I bid farewell to Cal Poly and start a new chapter in my life. This would not have been possible without the faculty and staff members of the City and Regional Planning department at Cal Poly San Luis Obispo, whose knowledge and expertise have shaped me as both a student and an emerging professional in the field of urban planning. I would especially like to extend my sincere gratitude and appreciation to Dr. Amir H. Hajrasouliha, my senior project advisor and past studio instructor, who provided his invaluable guidance, critiques, and suggestions throughout the course of my project.

Finally, I would like to thank my family and friends for offering me endless support and encouragement during my time at Cal Poly—your unconditional love is the North Star in my sky.

TABLE OF CONTENTS

CHAPTER 1
EXECUTIVE SUMMARY

As population in California continues to grow, the demand for high-density housing alongside alternative transportation in communities across the U.S. has been steadily increasing. North Hollywood, a neighborhood in Los Angeles, California, is one such community. This transit-oriented development (TOD) proposal capitalizes on the existing assets of the community while introducing new elements that meet local and regional demand and enhance the harmony of the public.

This document aims to record the design process for the North Hollywood TOD project. Chapter 2 is a literature review on the definitions, benefits, and challenges of TOD. Chapter 3 includes three case studies on successful examples of TOD in three American cities. Chapter 4 is a site assessment examining the current physical environment in and around the site, as well as existing planning documents on North Hollywood. The finalized layout of the project, design principles, and project visualization are explored in Chapter 5 and 6.

CHAPTER 2

TRANSIT-ORIENTED DEVELOPMENT: AN OVERVIEW

DEFINITIONS OF TRANSIT-ORIENTED DEVELOPMENT

The predecessor of transit-oriented development (TOD) can be traced back to early twentieth century, when English urban planner Ebenezer Howard introduced "real estate development with rail as the primary conduit between developed areas" in Garden Cities of To-morrow (Carlton, 2007, p. 2). The concept of TOD was revived in the late 1980s by American architect and urban planner Peter Calthorpe (1993), whose book The Next American Metropolis defines TOD as follows:

> The Transit-Oriented Development (TOD) concept is simple: moderate and high-density housing, along with complementary public uses, jobs, retail and services, are concentrated in mixed-use developments at strategic points along the regional transit system . . . TODs add emphasis to the integration of transit on a regional basis, providing a perspective missing from strategies which deal primarily with the nature and structure of individual communities and neighborhoods. (p. 41)

According to the Federal Transit Administration (FTA; n.d.) website,

> [TOD] includes a mix of commercial, residential, office and entertainment centered around or located near a transit station. Dense, walkable, mixed-use development near transit attracts people and adds to vibrant, connected communities. Successful TOD depends on access and density around the transit station. Convenient access to transit fosters development, while density encourages people to use the transit system . . . TOD primarily occurs when regional or local governments encourage it through land use planning, zoning laws, and changes to building codes, among other things.

The California Department of Transportation (CalTrans; 2002) also provides a definition of TOD in "Statewide Transit-Oriented Development Study":

> TOD is moderate to higher-density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto. TOD can be new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use . . . At the local level, TOD generally implies a mix of higher-density land uses and activities designed and located to create a safe and convenient environment that encourages transit ridership as well as bicycling and walking. (p. 12)

The Bay Area Rapid Transit (BART; n.d.) website notes:

> TOD is well designed, mixed-use, higher density development adjacent to frequent transit. It helps communities and transit agencies increase sustainable transit ridership, revitalize communities, enhance regional quality of life, and strengthen economic competitiveness. By focusing housing and jobs near transit, communities can accommodate new growth while minimizing associated congestion and environmental impacts.

As demonstrated above, TOD has been defined by various transit agencies on federal, state, and local levels in different ways. Although there is no singular definition of TOD, this type of development aims to create a compact, walkable neighborhood located near transit that encourages alternative transportation and provides access to a variety of residential, retail, and recreational offerings. The major components of TOD consist of mixed-use, high-density housing, access to public transit, high-quality public spaces, and pedestrian-oriented streetscape.

In recent years, some seek to redefine TOD, which they believe cannot be defined by physical form alone. Ditmar and Poticha (2012) write that successful TOD projects should achieve five main goals:

- **Location efficiency** refers to the "conscious placement of homes in proximity to transit systems"; its key components are density, transit accessibility, and pedestrian friendless, which "combine to create a metric that enables one to predict travel behavior to a high degree of accuracy" (Ditmar & Poticha, 2012, p. 23-24).

- Offering a **rich mix of choices** within walking distance for those who do not drive is a major component of a successful TOD. In addition to a variety of activities and uses, a community based on the principle of choice should also provide a range of housing options that suit different people's needs so they will not be forced to leave the community.

- Economic **value capture** indicates "higher tax revenues from increased sales and property values," "reduced household expenditures on transportation," rewarding transit-oriented neighborhoods for their transportation savings, and "providing amenities to enable the reduction of driving" (p. 28-29). To achieve value capture, local authorities should provide "frequent, high-quality transit service," "good connections between transit and the community," "community amenities and a dedication to place making," and "scorekeeping and attention to financial returns" (Ditmar & Poticha, 2012, p. 26).

- Currently, not enough attention has been paid to **place making**—making the built environment attractive and pedestrian-oriented. Successful examples of TOD often make "safe, comfortable, varied, and attractive" places, "enrich the qualities of existing urban places," integrate themselves with their surrounding environment, offer "a balance between the natural and man-made environment and utilize each site's intrinsic resources," "meet a variety of demands and provide amenities to the widest possible range of users," and be "economically viable," well-maintained and managed, and "flexible to respond to future changes in use, lifestyle, and demography" (Ditmar & Poticha, 2012, p. 31-32).

- The final characteristic of good TOD is the ability to **resolve the tension between node versus place**—"the tension that exists between the role of a transit station or stop as a 'node' in a regional transportation network and the station's role as a 'place' in a neighborhood." The conflict between "the station's role as an access point for people arriving by train, bus, car, bike, or foot, and its role as a vibrant, pleasant livable place" can be resolved by "incorporating the footprint of the station in the community," integrating appropriate uses and services into or around the station, and "optimizing the location and treatment of both parking and bus drop-off" (Ditmar & Poticha, 2012, p. 32).

BENEFITS OF TRANSIT-ORIENTED DEVELOPMENT

The implementation of TOD provides significant benefits to communities and regions of different scales. CalTrans (2002) illustrates seven major advantages of TOD that can be categorized into environmental, social, and economic benefits:

- Enhanced quality of life for community residents,
- Increased options for mobility, especially in congested urban and suburban areas,
- Reduced rates of vehicle tripmaking and fewer vehicle miles households travel by automobile,
- Improved air quality and reduced energy consumption,
- Preservation of prime farmland and other resource lands,
- Reduced infrastructure costs for government, developers, and property owners,
- Increased safety for pedestrian and bicyclists, and helping to reduce aggressive driving injuries and deaths (p. 22)

ENVIRONMENTAL BENEFITS

By expanding the range of transportation options, TODs provide a wide range of environmental benefits including lower greenhouse gas (GHG) emission, energy and resource consumption, and better air quality. According to the United States Environmental Protection Agency (EPA; 2016), the largest source of transportation carbon dioxide (CO2) emissions in 2014 were passenger cars (42.4%) (p. 11). CO2 is one of the major components of GHGs, accounting for 82% of U.S. GHG emissions in 2015. By introducing alternative options for mobility such as public transit, TODs reduce the number of vehicle trips attracted to and generated by the development, leading to a lower amount of pollutants associated with fossil fuel burning, including GHGs and particulate matter (PM). TODs also alleviate sprawl development and protect rural resource lands by providing high-density housing.

Good air quality is essential to human health and the environment. In the U.S., the majority of GHGs are derived from burning fossil fuels, specifically for transportation activities (EPA, 2016, p. 9). The exploitation of nonrenewable energy such as fossil fuels actively produces air pollutants such as ozone precursors (reactive organic gases [ROG] + NOx), diesel particulate matter (DPM), fugitive particulate matter (PM10), and carbon monoxide (CO). Such pollutants are found across the U.S. and can cause significant harm to air quality and human health by inducing respiratory diseases including asthma, lung disease, and cancer. The Urban Land Institute (ULI; 2016) mentions that people who live in TOD apartments tend to own less cars and commute by public transit at a higher rate than non-TOD residents (p. 17) By optimizing access to more transit options, TODs encourage more residents to utilize alternative transportation, reducing automobile dependency and the consumption of fossil fuels.

lung disease and cancer. The Urban Land Institute (ULI; 2016) mentions that people who live in TOD apartments tend to own less cars and commute by public transit at a higher rate than non-TOD residents (p. 17) By optimizing access to more transit options, TODs encourage more residents to utilize alternative transportation, reducing automobile dependency and the consumption of fossil fuels.

SOCIAL BENEFITS

There are several social benefits associated with the implementation of TOD. CalTrans (2002) suggests that residents in suburban sprawl neighborhoods no longer experience sense of community due to "its emphasis on private living space in fringe areas and travel that is conducted almost exclusively by personal automobile" (p. 26). People who live in sprawl communities are more likely to undergo social isolation and travel-related stress than those living in dense, transit-oriented neighborhoods. TODs can increase social interaction through offering safer, more walkable streetscape and better public spaces with vegetation, seating and gathering areas, which allow people to get around on foot and bond with their neighbors at the same time, thus improving the quality of life.

The high-density nature of TOD allows for a wider range of housing types that accommodates a variety of income levels. As the housing affordability crisis in California persists, the demand for more affordable housing is crucial for low and middle-income renters and homebuyers who are often priced out of metropolitan areas where they work in. TODs promote affordable housing to those in need and connect accessible housing, employment, and other activities with transit to enhance mobility for low and middle-income people who tend to be more "dependent upon transit to access work, education, shopping, leisure, and other opportunities" (CalTrans, 2002, p. 32).

ECONOMIC BENEFITS

TODs provide economic benefits due to reduced urban deterioration, the market value of walkability and transit accessibility, and lower infrastructure capital and operating costs. As an economic development method, TODs are frequently used to mitigate central city decline and revitalize existing urban areas. CalTrans (2002) observes that "downtown-oriented transit investments make central business districts more attractive to businesses and to workers by increased transportation accessibility to more distant locations" (p. 33). TODs also utilize the value those investments to improve physical attractiveness and produce employment opportunities to reduce the negative impacts of problem-facing urban regions.

The market attractiveness of TOD is especially relevant for California, where the high-technology sector heavily contributes to state employment (CalTrans, 2002, p. 36). Employees in the tech industry are more likely to prefer walkable communities near transit equipped with a variety of housing, offices, and retail. Several findings prove that properties in close proximity to public transit stations tend to have higher property values. The characteristics of walkable, transit-oriented communities have become increasingly marketable developments that generate tax revenues.

TODs also generate more revenue for cities and counties. After comparing the socioeconomic characteristics of approximately 10,000 apartment complexes in 42 TOD and non-TOD projects in Virginia and Maryland, Urban Analytics found that TOD apartment units "generated a lower demand for public services per unit on local governments and school" than non-TOD units, suggesting that TOD projects cost local governments and jurisdictions less due to their locations near transit rail stations (ULI, 2016, p. 11). In the four case studies conducted by the ULI (2016), the selected TOD projects in Virginia and Maryland all managed to impose lower costs for local governments and school systems by generating higher revenues from tax and nontax resources than the cost to local jurisdictions for services for residents and employees (p. 7-10).

CHALLENGES OF TRANSIT-ORIENTED DEVELOPMENT

Although the environmental, social, and economic benefits of TOD can be valuable on local, regional, and state levels, there are potential difficulties that prevent the wider implementation of TOD. CalTrans (2002) identifies five potential challenges of TOD that can be grouped into physical design, community, and financial concerns:

- Transit system location and design
- Local community concerns
- Local zoning not transit-friendly
- Higher developer risk and cost
- Financing difficult to obtain (p. 6-7)

PHYSICAL DESIGN CONCERNS

Land use regulations are one of the main obstacles to TOD. In California, local zoning near most major transit station sites often remain unchanged, thereby failed to reflect the increasing prevalence of high-density, transit-oriented, mixed-use development. The United States Government Accountability Office (GAO; 2016) mentions that factors such as operating legacy industry that would be unsuitable for adjacent residential and civic uses, environmental cleanup, physical infrastructure investment, and lack of community infrastructure can hinder potential TODs (p. 19).

Since most transit hubs across California are auto-oriented, poorly integrated with local communities, and not designed with pedestrians and accessibility in mind, the environment surrounding a transit station can be problematic for TOD. Physical barriers such as highways, parking, vacant land, blank walls, driveways, and lack of pedestrian crossings make TODs seem unattainable (GAO, 2016, p. 18-19).

COMMUNITY CONCERNS

TODs could face objections when the local population is not in favor of alternative transportation or dense residential development. The legacy of urban sprawl has caused people to adapt to a low-density, auto-dependent, privacy-oriented lifestyle, and resist dense, transit-oriented, and communal living. In cities like Baltimore and Houston where most people prefer to travel independently in their cars, the perceptions of transit have negatively affected transit ridership and demand for TOD. For some neighborhoods, TODs are also associated with changing community characteristics and low quality of life due to higher population density, traffic, and demand for parking (GAO, 2016, p. 18).

Community concerns can also arise due to the potential link between TOD and displacement. While a study conducted by Chapple, Loukaitou-Sideris, González, Kadin, and Poirier (2017) does not find "a significant relationship between a neighborhood's proximity to transit and commercial gentrification, this may not be applicable to all cases of TOD; furthermore, "more important factors that may induce commercial gentrification are the baseline demographics of the neighborhood, particularly the percent of non-Hispanic black, foreign-born, and renter residents, as well as the overall population density in the neighborhood" (p. 88).

Fortunately, many local jurisdictions begin to recognize potential community concerns about TOD and start taking the initiative to mitigate the negative social impacts and inequitable planning practices associated with TOD. In Sacramento, California, where TOD expansion near two light-rail station is proposed, local governmental agencies, including Sacramento Regional Transit (SacRT), Sacramento Council of Governments (SACOG), Sacramento Municipal Utility District, and the Sacramento Metropolitan Air Quality Management District, have set to outline a plan in order to "promote equitable, healthy, and inclusive community development that fosters job and income growth, housing options, and healthy neighborhood amenities with more convenient access to transit, retail, and services" (McCormick, 2018). This is crucial to the future of Sacramento, a racially diverse city that currently suffers from low housing density, lack of connections to jobs, and lack of public open spaces. McCormick (2018) writes that a ULI Advisory Services panel has outlined several recommendations after meeting with local officials, business leaders, residents and other stakeholders:

- Identify and strengthen leadership within the South Sacramento community.
- Identify an "executive sponsor" for a South Sacramento program to develop safe, connected, active, and green pedestrian and bike transit access to improve "first- and last-mile" options.
- Establish a South Sacramento TOD working group with local representatives
- Build denser mixed-income and mixed-use multifamily housing to provide affordable units, draw people with higher incomes, and stimulate redevelopment along the corridor.
- Jump-start jobs and entrepreneurship with redevelopment and placemaking of available retail space.
- Create parks and recreation facilities, community gathering spaces, and healthy food opportunities through station area design, development, and programming.
- Use arts and culture to activate station area development and enhance the study area's sense of place and community.

FINANCIAL CONCERNS

The implementation of TOD can be financially challenging because of high construction costs and lack of financing. Due to innovative design and high quality construction, multi-story, mixed-use buildings are more costly to build than traditional single-family developments. When transit agencies enter into agreements with developers to use existing surface parking spaces for TODs, the cost of constructing parking structures that replace existing parking used for new projects may discourage smaller developers and construction firms from pursuing those projects (GAO, 2016, p. 16). In many cases, TODs are also subjected to strict regulations and lengthy local approval processes, which may add further requirements, cause delays, and contribute to high development costs.

The difficulty of obtaining funding is another prominent financial barrier to implementing TOD. GAO (2016) explains that many lenders are reluctant to finance TODs due to lack of experience and the perception that mixed-use buildings are riskier than conventional low-density residential projects, and that "mixed-use developments can face market challenges because each use must have sufficient market demand to make the project as a whole profitable" (p. 17).

CHAPTER 3

CASE STUDIES

HENNEPIN AVENUE CULTURAL CORRIDOR

MINNEAPOLIS, MINNESOTA

SUMMARY

The Hennepin Avenue Cultural Corridor project is located in downtown Minneapolis, the home of world-class cultural institutions including a library, a sculpture garden, and several historic theaters. The area contains a mixture of both vibrant and underutilized blocks. Local stakeholders understand that in order to leverage the full potential of the area's cultural institutions, existing destinations need to be connected into a cohesive pedestrian experience, rather than having isolated activity spots along the avenue. To amplify the historic heritage of the corridor and strengthen its identity as a place of cultural exchange, this project aims to create a vibrant mixed-use district filled with cultural activities. By weaving together the underutilized blocks characterized by vacant storefronts and surface parking lots, the project sets out to incorporate green space, courtyards, event space, restaurants, and street-level shops so that the corridor is not only defined by its cultural amenities. Through connecting existing cultural institutions with new retail activities and pedestrian infrastructure, the corridor can achieve the goal of enhancing the vibrancy and activity of the downtown area.

STATISTICS

According to the Comprehensive Report for this project, Hennepin Avenue is home to "57 arts, culture and education organizations, more than 12,000 theatre seats, almost 90,000 square feet of visual art exhibition space, a 7.5-acre public sculpture garden, 20,000 students in day and evening classes, and four regional churches of various denominations." It is estimated that the downtown residential population will increase to 70,000 by 2025. The report does not provide detailed statistics on new uses, but it suggests that to establish Hennepin Avenue as a major regional destination, the proposed development will expand retail services, promote high-density residential options including those for artists, provide green and walkable public spaces, and expand partnerships with cultural institutions to facilitate activities and build trust in communities.

Figure 3.1.1. The corridor

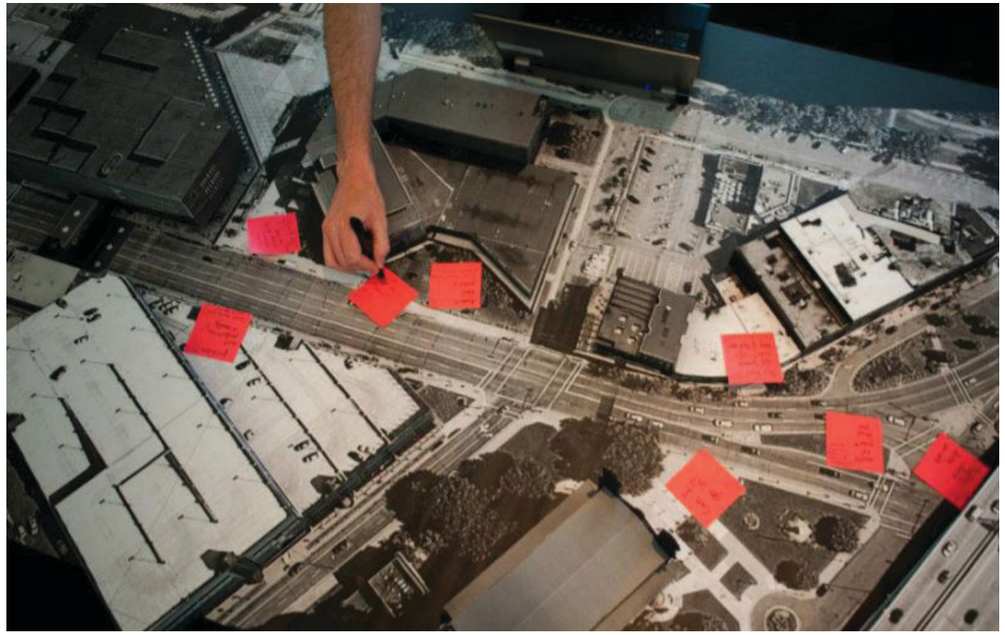


Figure 3.1.2. Public outreach activity

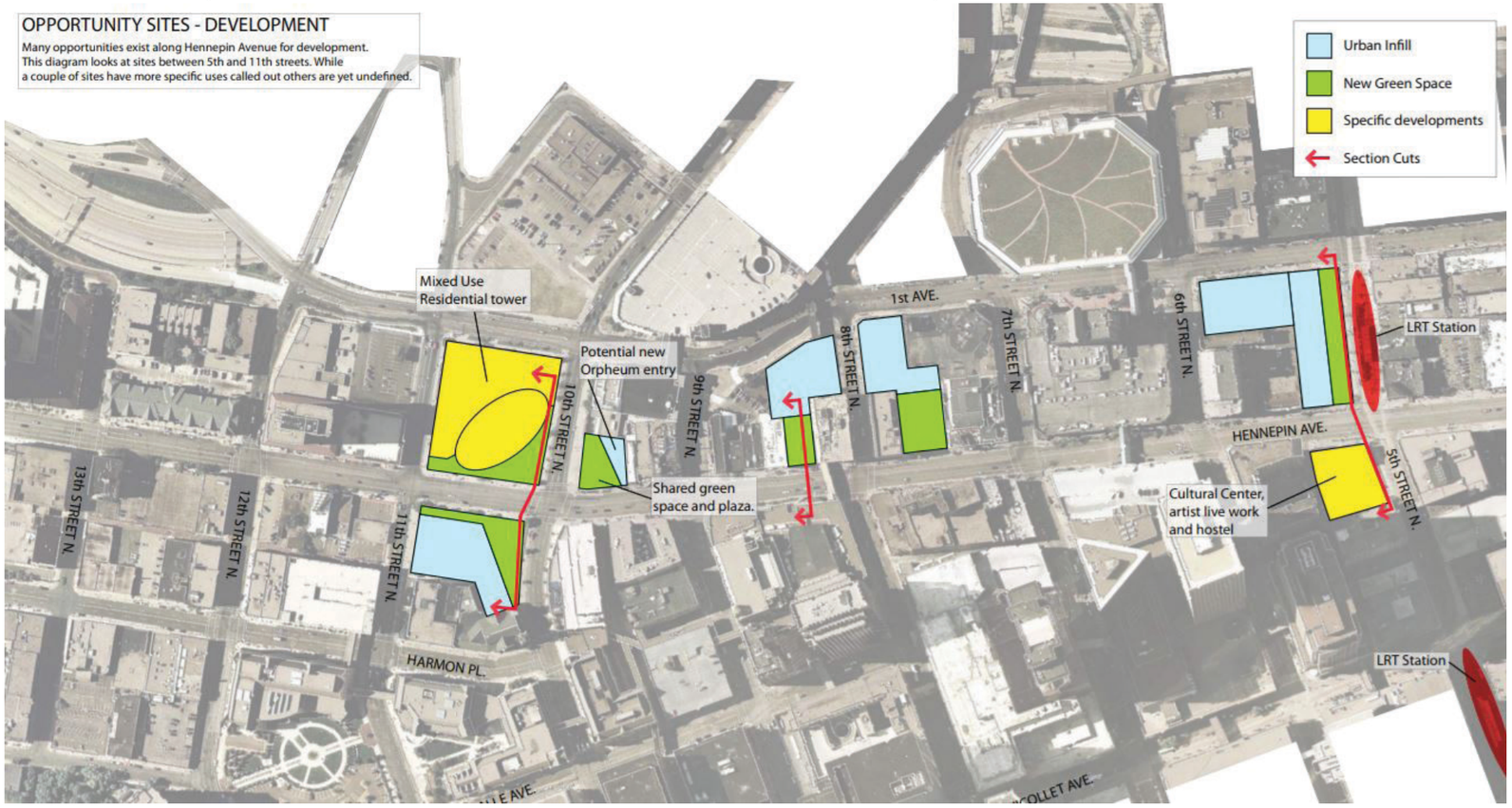


Figure 3.1.3. Opportunity sites

INTERFACE

A series of strategies are used to enhance the interface between buildings and streetscape. The current lack of interface is signified by gaps between buildings, including blank walls and surface parking lots, as well as uneven sidewalk quality and inadequate lighting. These characteristics indicate the auto-oriented nature of the avenue and diminish the pedestrian experience. Public art commissions such as murals and utilization of blank walls and buildings improve façades and storefronts, give the street unique visual integrity, and revitalize challenging spaces. Access to public space is provided through the installation of signage and a network of green spaces accommodating both active and passive activities along the street.

WALKABILITY

Well-designed pedestrian and transit amenities play a significant role in advancing the walkability of Hennepin Avenue. This plan emphasizes the recognition of the street as a historic corridor, along with its significant historic figures and events, by designing and implementing public artworks, historical markers, and integrated streetscape that includes wayfinding signage. Pedestrian-friendly green spaces accommodating public activity connect attractions along the street, including the Mississippi River, Loring Park, and the Minneapolis Sculpture Garden, are created to encourage a wide range of activities and solidify the Hennepin Avenue's cultural identity. Other improvements such as crosswalks with heavier markings, embedded pavement patterns, bikeways, and enhanced transit shelters also assist the area with achieving walkability and accommodate future mixed-use development.

SCALE

Aside of walkable streets and public spaces, this project embraces human-scale design by implementing new cultural, retail, and residential development that promotes "an active 24/7 street-level experience." Vacant storefronts will be transformed into locally-owned stores and interesting activities such as art galleries to provide a wider variety in retail and recreation. This will create more attractions in the corridor and catalyze pedestrian traffic, promoting a vibrant and welcoming downtown.

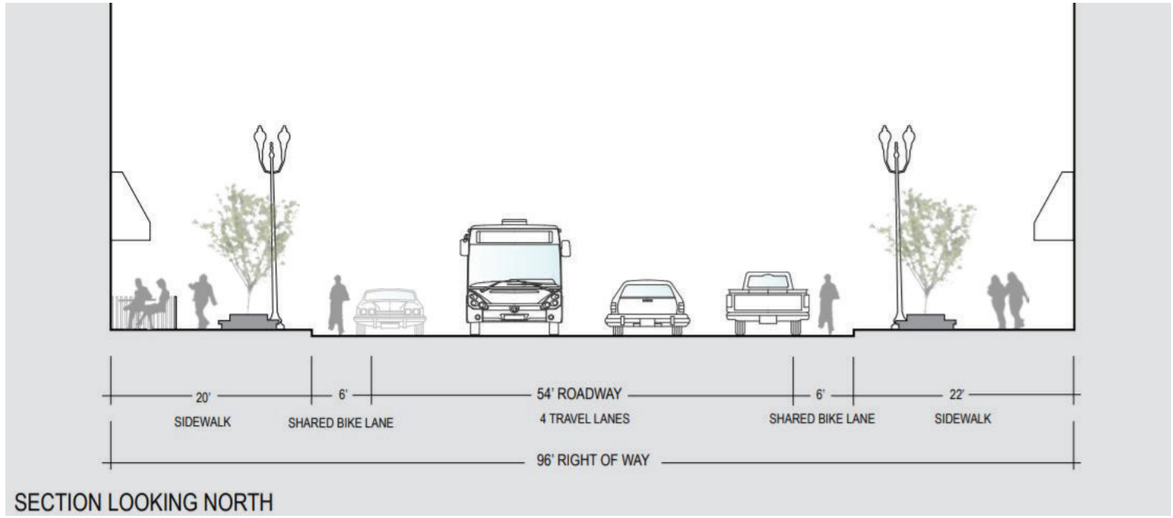


Figure 3.1.4. Street section demonstrating distance between buildings

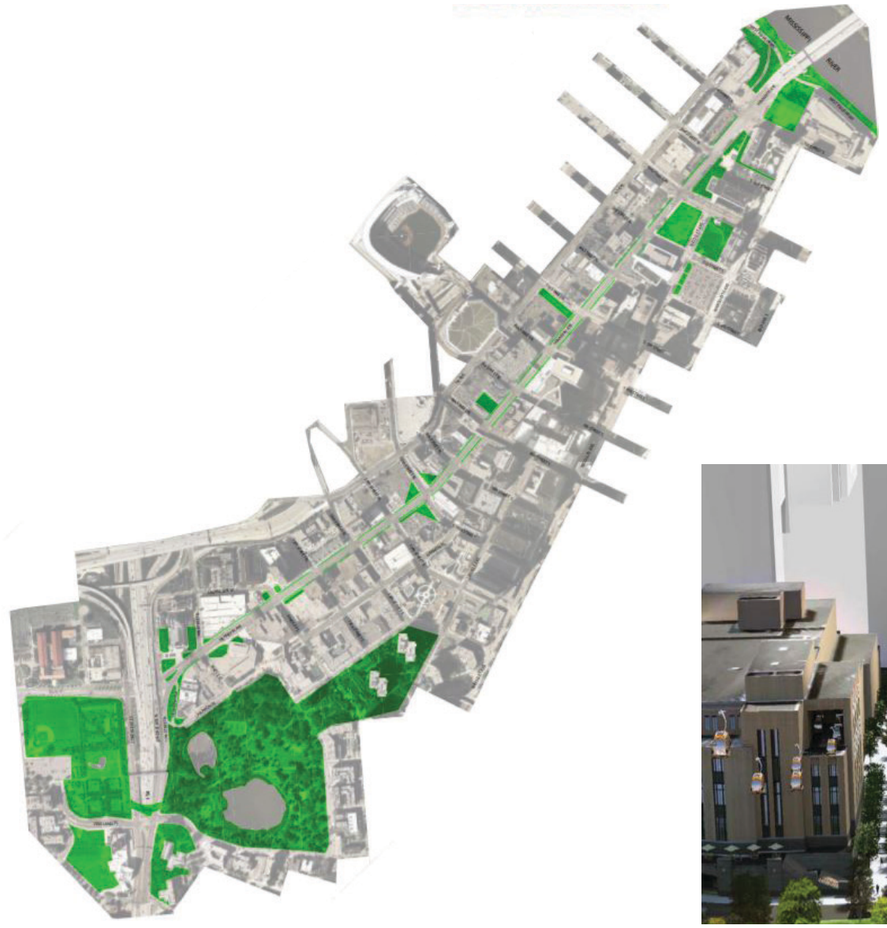


Figure 3.1.5. Public spaces and greenery

SCALE

Aside of walkable streets and public spaces, this project embraces human-scale design by implementing new cultural, retail, and residential development that promotes "an active 24/7 street-level experience." Vacant storefronts will be transformed into locally-owned stores and interesting activities such as art galleries to provide a wider variety in retail and recreation. This will create more attractions in the corridor and catalyze pedestrian traffic, promoting a vibrant and welcoming downtown.

TRANSITION

There are currently many vacant and underdeveloped properties existing alongside cultural institutions and attractions and scattered along Hennepin Avenue. As a result, many community members and visitors consider downtown Minneapolis "uneven" due to the lack of consistency when it comes to land and building usage. The "uneven" urban experience is characterized by the mix of well-utilized and vacant blocks, as well as unrelated businesses and institutions. The cultural corridor project seeks to create a coherent pedestrian experience by supporting infill development that transform underutilized properties into public spaces which provide vegetation and accommodate diverse activities and events. By connecting existing cultural amenities with new public spaces, Hennepin Avenue will be able to successfully establish downtown Minneapolis' identity and define itself by a variety of factors beyond cultural heritage.

TAKEAWAY

The most inspiring aspect of this project is how new public spaces are used to connect scattered attractions and create a cohesive downtown experience. This is a great strategy for urban redevelopment since existing structures and uses are preserved, while greenery and public spaces serve as infill development, providing a sense of place and elevating the downtown Minneapolis experience. The Hennepin Avenue light rail station area plan is especially to my project, since it aims to create a welcoming visitors' hub with mixed-use residential and office buildings, along with visitor information services, a rooftop walkway, and flexible event spaces and outdoor courtyards. The capability of accommodating local cultural institutions and increasing number of downtown residents is what makes this project effective and unique.

SOURCES

Metris Arts Consulting
National Endowment for the Arts

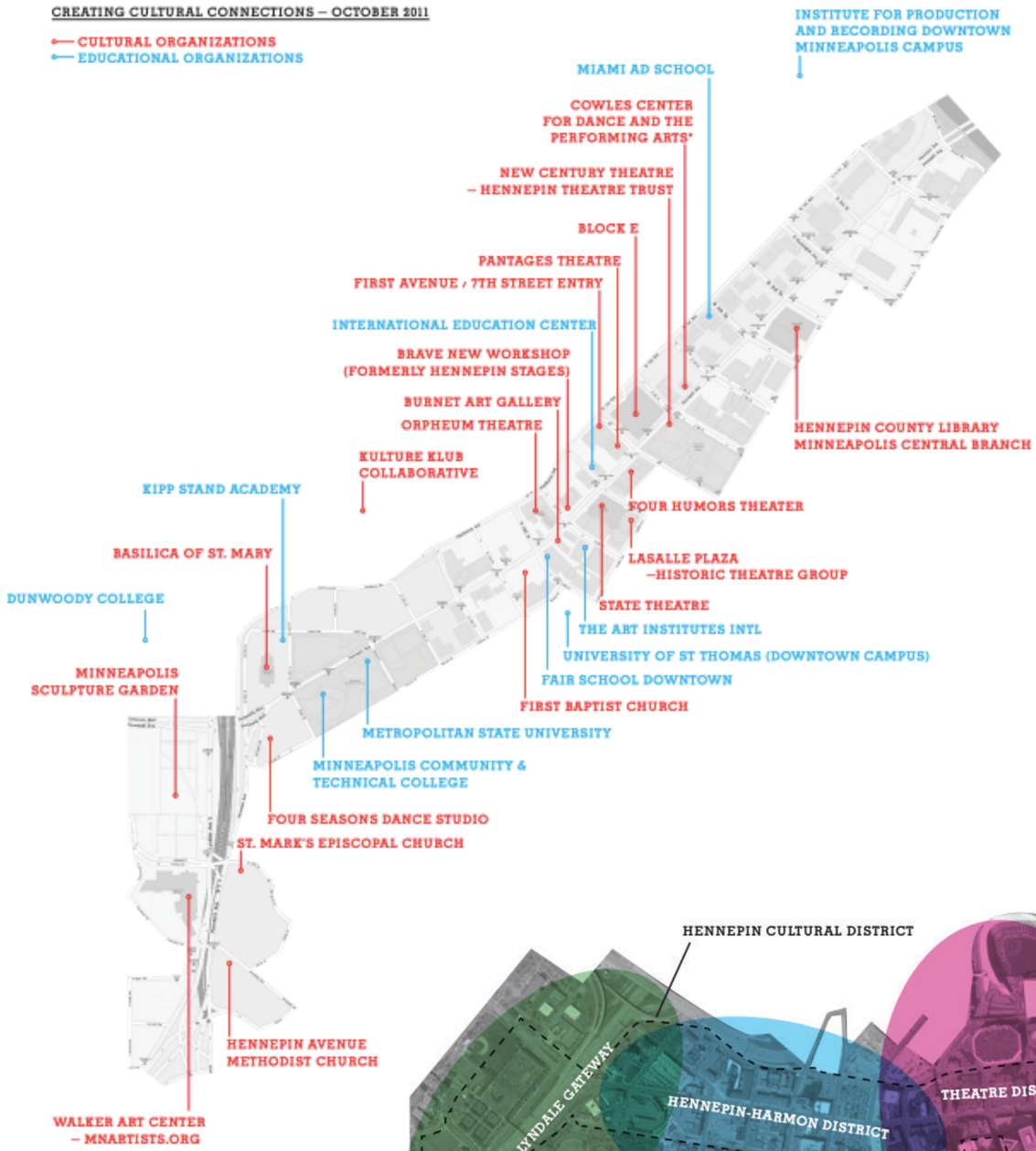


Figure 3.1.6. Connections among cultural institutions

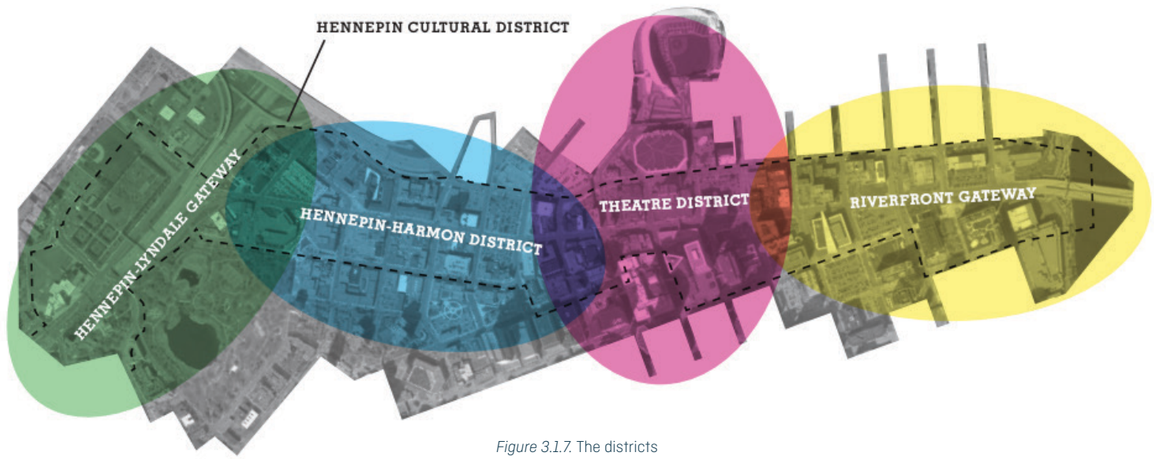


Figure 3.1.7. The districts

TRANSIT REVITALIZATION INVESTMENT DISTRICT (TRID) MASTER PLAN

PHILADELPHIA, PENNSYLVANIA

SUMMARY

The TRID Master Plan targets two distinct neighborhoods in Philadelphia, each served by a prominent transit station under the Southeastern Pennsylvania Transportation Authority (SEPTA). The two stations, the 46th and Market Street Station and the Temple Regional Rail Station, are currently underutilized and physically disconnected from nearby, poverty-stricken neighborhoods. To elevate the relevance of transportation in achieving the city's sustainability goals, this master plan incorporates alternative transportation methods as a part of its effort to physically rebuild the fabric around each station. Besides higher densities and new park space, outdated infrastructure adjacent to the stations is repurposed for new uses. New connections between stations and local attractions are created to promote transit use and enhance pedestrian and bicycle-oriented infrastructure.

STATISTICS

This master plan includes many improvements of infrastructure, public spaces, and other amenities neighboring the Temple Regional Rail Station and the 46th and Market Street Station:

- Temple Regional Rail Station: The development around Temple Station presents a significant opportunity for the community given the large concentrations of existing vacant land and its proximity to Temple University. Key development sites are distributed along the three major streets that serve the station—Berk Street, Norris Street, and 9th Street. The proposed plan illustrates new residential, community-supporting retail, office space, park space, and institutional uses. The site can accomodate 200 units of mixed-income housing, 20,000 square feet of retail, a civic plaza, and up to 240 parking spaces on three levels of parking. The station will provide covered parking for at least 10 bicycles and at least one designated, on-street carshare parking space.

- 46th and Market Street Station: With high redevelopment potential, 46th Street Station serves several project sites along three primary streets—Market Street, Farragut Street, and 46th Street. Proposed uses include mixed-income housing, community-supporting retail, office space, park space, and institutional uses. The plan does not specify the exact scale of each proposed land use.

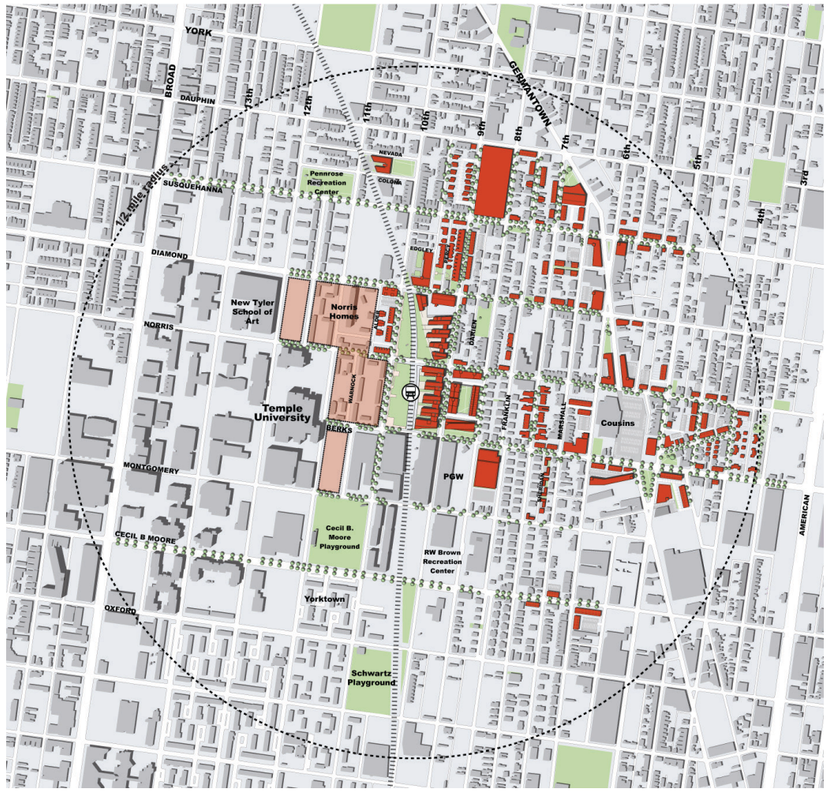


Figure 3.2.1. Development area

Figure 3.2.2. Site plan

INTERFACE

Both transit stations have a high potential ridership based on a growing housing market, their proximity to college campuses and major employers, and the areas' strong community development corporations. To capitalize on those potentials, this master plan seeks to establish a new interface between the station and its context. New civic space is created at the doorstep of each station to replace parking and enhance the relationship between each station and its surroundings. At Temple Station, proposed green roof pedestrian "allées" perpendicular to the rail are situated on a site currently used for parking to create transitional space between new mixed-use developments. The existing plaza under Temple Station is also expanded to accommodate new bicycle parking and a small café. At 46th Street Station, a small linear park is proposed to create a diagonal connection to an adjacent major street while providing better views and more direct pathways.

WALKABILITY

Enhanced pedestrian and bicycle infrastructure is the key to resuscitate transit use in this master plan. The walkability around each station is improved with new public spaces that accomodate bicycle parking and enhanced pedestrian access. There are several street beautification efforts that encourage physical activities. New trees are planned along the barren blocks leading to the Temple Station, with newly repaired sidewalks and brightly colored bicycle lanes to separate vehicular, pedestrian, and bicycle traffic. The plan also proposes a new running track around the "superblock" north of the 46th Street Station and transforms the underutilized and overgrown space next to the sidewalk into an active recreational destination serving local schools, a recreation center, and an anti-obesity program that trains youths from low-income families.

SCALE

This master plan introduces human-scale design that improves the built environment around the two transit stations by transforming existing underutilized infrastructure into green infrastructure. A vacant rail viaduct adjacent to Temple Station is repurposed to accomodate an elevated tree nursery and open space that serve as a productive landscape resource for future greening efforts in the community, including locally grown trees, minimize impervious surfaces, new educational and job opportunities. A staircase providing access to 46th Street Station for a neighboring low-income residential community is replaced by a landscaped, sloped pathway to combat the overall sense of deterioration caused by vandalism and provide a safer and more attractive route between the station and the apartment complex.

Figure 3.2.3. Transitional green space

Figure 3.2.4. Bike lane

Figure 3.2.5. Transforming old infrastructure into greenery

TRANSITION

This master plan aims to create new transitional spaces between each station and its surroundings to enhance accessibility and connection. Transitional spaces are established in the form of greenery and public spaces, such as the landscaped pathway near 46th Street Station and the extended plaza under Temple Station. At 46th Street Station, small rain gardens inspired by the area's historic water flows are designed to manage stormwater runoff, while serving as a gateway to the station as well as new passive open spaces within the community. Former "slack" space near Temple Station is similarly reused to capture stormwater discharge from adjacent parking lots.

MATERIALS

The inventive use of different materials and textures in this master plan is demonstrated by the incorporation of vegetation and landscaping. Upgraded pedestrian paths and brightly colored bicycle lanes physically mark the distinction between traffic modes and accommodate a wide variety of street users. New green space and vegetated streetscape diversify the view and amplify the visual beauty of the neighborhoods. Impervious pavement in the alleys is replaced by permeable pavers or porous asphalt to enhance stormwater management and increase aesthetic appeal. Exchanging asphalt for vegetation in the form of street trees or rain garden improves the environmental quality of the neighborhood since less stormwater is directed into sewer pipes and less heat is trapped by impervious surfaces.

TAKEAWAY

This project places a large emphasis on the improvement of landscape and infrastructure. Establishing connection between the transit station and its surrounding environment is the key to optimize accessibility to public transit and create memorable public spaces that can be enjoyed by all. The use of vegetation is especially crucial since it provides a diverse range of environmental, social, and aesthetic benefits. Adapting existing, deteriorating infrastructure and buildings for new uses is also a cost-effective urban design method that reduces the consumption of new construction materials.

SOURCES

American Society of Landscape Architects
NeighborhoodsNow

Figure 3.2.6. Transitional green space

Figure 3.2.7. Vegetated pedestrian walkway

PRINCE GEORGE'S PLAZA TRANSIT DISTRICT DEVELOPMENT PLAN

HYATTSVILLE, MARYLAND

SUMMARY

The Prince George's Plaza Transit District is located in just over a mile north of the District of Columbia, anchored by the Prince George's Plaza Metro Station, the Mall at Prince Georges, and the University Town Center mixed-use development. Building upon past planning initiatives, this plan serves as a regulatory foundation for future development using design guidelines that increase the competitiveness of the Metro station at regional and national level. A comprehensive policy and regulatory framework that promotes walkable, mixed-use, transit-oriented development is established as a response to the evolving real estate market, focusing on the form of the built environment while facilitating a wide variety of uses. The plan reintegrates MD-410, an auto-oriented highway, into the transit district by connecting the station with new development to the north and transforming the highway into a walkable, bicycle-friendly boulevard. The vision and goals of the Community Heritage, Culture, and Design Element are based on creating a vibrant urban destination with well-designed, pedestrian-oriented streets, accessible buildings with a range of uses, diverse shopping destinations and cultural activities, and implementing "urban design standards that regulate the physical form and function of the built environment, permitting and encouraging the walkable, mixed-use products the real estate market demands."

Figure 3.3.1. Site plan

STATISTICS

This plan suggests the anticipated development patterns reflects a mix of commercial, residential, institutional, and other uses. The Downtown Core is the Transit District's central activity hub. It is mostly mixed-use to allow for a mix of uses, both horizontal and vertical, that are desired in the downtown area as it evolves over time. The Neighborhood Edge is a residential area that serves as a transition area between the Downtown Core and surrounding established neighborhoods. It consists of a mix of housing types including single-family detached homes and townhouses, along with parks and open space. Anticipated growth includes 8,201 multifamily units, 232 single-family units, 171,000 square feet of office development, 24,000 square feet of retail development, and 231,000 square feet of other uses such as hotel and community center. 31,500 new dwelling units will be developed in the Transit District. Per the recommendation of the plan, 50 percent of new dwelling units and 50 percent of new jobs will be located within the Transit District.

INTERFACE

One of the goals of the Community Heritage, Culture, and Design Element is to design human-scale buildings that are accessible to the pedestrian. New complete streets are created to provide connectivity and allow for buildings to face directly onto the street network. Active ground floor uses such as shops, restaurants, cultural and artistic institutions are encouraged to generate pedestrian traffic and enhance accessibility to shopping and community destinations.

WALKABILITY

Strengthening the walkability within the Transit District is one of the most prominent aspects of this plan. The district will encompass a network of well-designed urban streets with pedestrian and bicycle pathways to support walkability and transit use. Numerous points of interest, retail, and programmed activities are distributed across the district to make downtown an inviting place. The plan will also encourage smaller blocks and create "a hierarchy of new complete and green streets" to keep the redevelopment of the district at a walkable scale. Sidewalks on both sides of all streets are required along with a series of frontage zones to support pedestrian circulation.

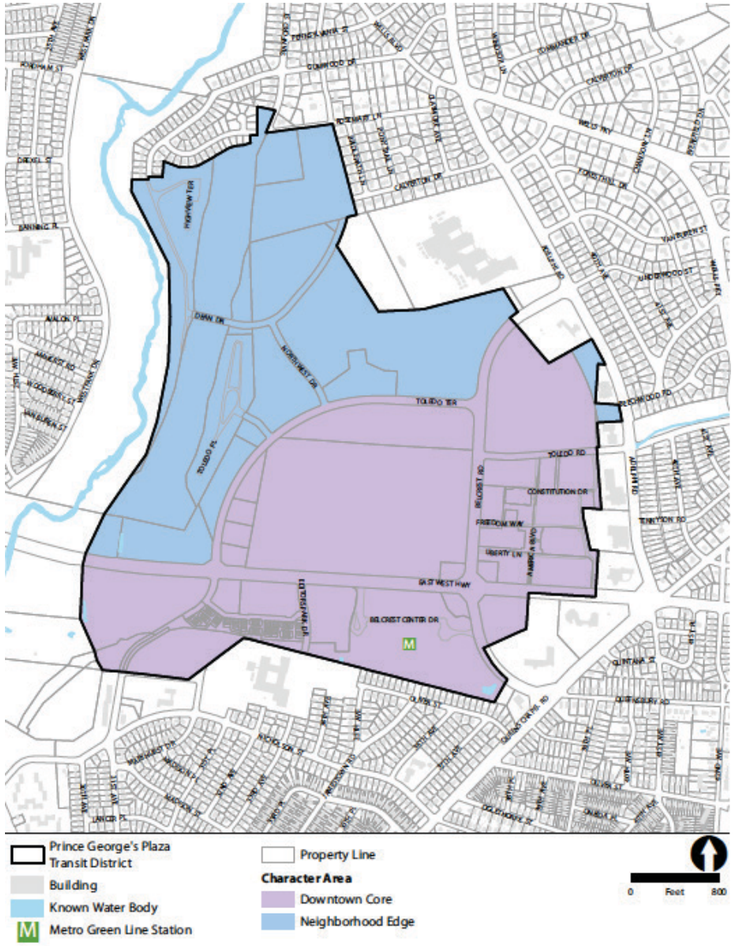


Figure 3.3.2. The districts

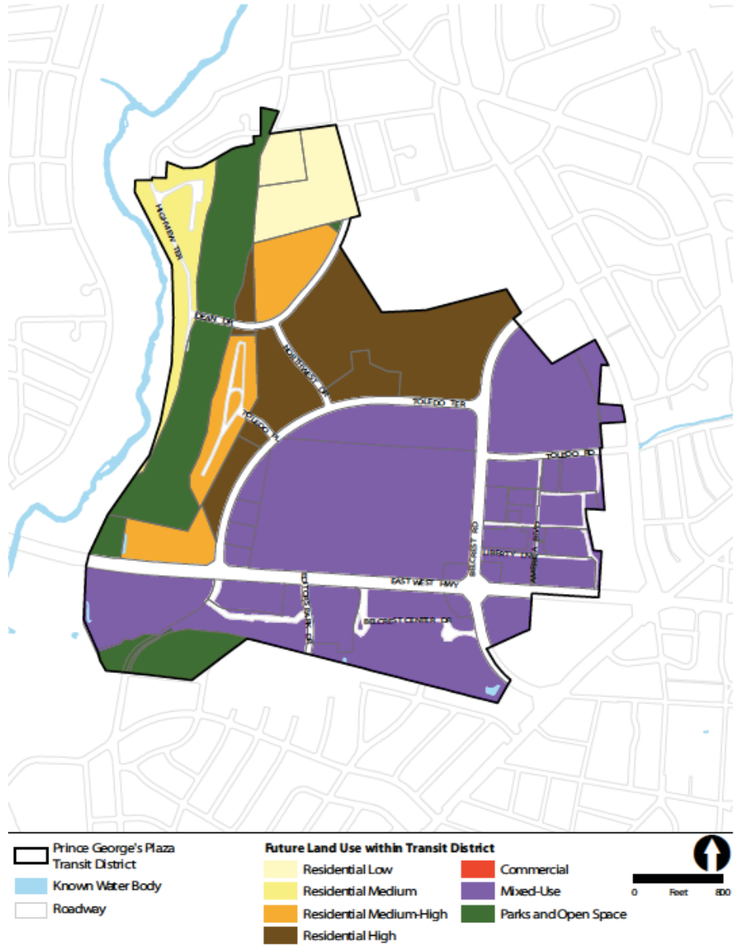


Figure 3.3.3. Land use map

Figure 3.3.4. Walkable street

SCALE

Future development within the Transit District will be at urban scale appropriate for a designated transit-oriented district. Residential densities in excess of 40 units per acre and commercial development in excess of 3.0 floor area ratio are permitted and encouraged to generate higher density. New height regulations in the Downtown Core are established to accommodate high-density development and "provide property owners the flexibility necessary to meet market demands at appropriate densities to support transit, walking, and bicycling." Single-story buildings should be permitted only when they are necessary for unique tenant or market demands, and should be constructed at a scale that creates a sense of enclosure appropriate for a downtown street without negatively diminishing the character of the area's vibrancy.

TRANSITION

The transition between the Downtown Core and the Neighborhood Edge is accomplished through the creation and preservation of natural barrier and built transitional spaces between the Transit District and adjacent residential communities. Existing parkland and other natural resource areas are preserved and enhanced. The heights and portions of buildings located in transitional zones are limited to ensure a smooth transition between high and low densities.

MATERIALS

This plan emphasizes that new buildings should incorporate green building materials. The Architectural Elements section lists the following criteria for green materials:

> Produced locally or salvaged; recycled and/or recyclable; rapidly renewable; durable; containing a low embodied energy; manufactured in a less environmentally hazardous or toxic manner; for wood, certified in accordance with the Forest Stewardship Guidelines for environmentally responsible forest management; for refrigerants and fire suppression devices, not containing CFCs or Halon gas.

TAKEAWAY

What stands out to me about the Transit District Development Plan is the focus on encouraging high-density development without negatively detracting from the identity of the community. In this plan, high density does not only indicate more multifamily housing. Other amenities and infrastructure must be updated to be compatible with a high-density environment. Walkable streets, enhanced landscaping, and a wider range of retail and recreational destinations are necessary to accommodate future growth, as well as new residents and visitors, in the downtown area.

SOURCES

Prince George's County Planning Department

Figure 3.3.5. Downtown

CHAPTER 4

SITE ASSESSMENT

COMMUNITY BACKGROUND

NORTH HOLLYWOOD

Locaation

North Hollywood is a neighborhood located in the San Fernando Valley region of Los Angeles, California. The community is bordered on Sun Valley, Burbank, Studio City, and Toluca Lake. The major freeway that serves North Hollywood is State Route 170, part of the Hollywood Freeway, that runs north and south on the western part of the community. Originally a farming community with a fruit packing company, NH underwent rapid housing development in the 1920s, which shifted the area into a suburban residential community in Los Angeles. In recent decades, North Hollywood has transformed itself into the Valley's major cultural hub. The vibrant NoHo Arts District is the focal point of the community with live theaters, galleries, artisan store fronts, and the headquarters of the Academy of Television Arts & Sciences (the Emmys).

Population, Age, and Race

The American Community Survey (ACS) 2010-2014 reports that the North Hollywood-Valley Village area had a total population of 139,122 and one of the highest population densities for the Los Angeles County. There was a high percentage of residents aging 19 to 34. The neighborhood had moderate racial diversity (White 63.7%, Black 6.9%, American Indian and Alaska Native 0.5%, Asian and Pacific Islander 7.2%, Other 21.7%; Hispanic or Latino 44%) as well as a high percentage of Latino population. 39% of the population were foreign-born.

Housing

The number of total households in the North Hollywood-Valley Village area was 53,694 with an average household size of 2.57. The percentages of family and non-family households were 52.8% and 47.2% respectively. The neighborhood had a total of 57,106 dwelling units. 73% of all housing units were renter-occupied while 27% were owner-occupied.

Employment and Income

There were 71,072 employed living in the North Hollywood-Valley Village area, making up 51.1% of the population. 20% of the total population earned income below poverty level in the past 12 months. In North Hollywood, the median household income in 2008 dollars was $42,791 (Los Angeles Department of City Planning, 2014).

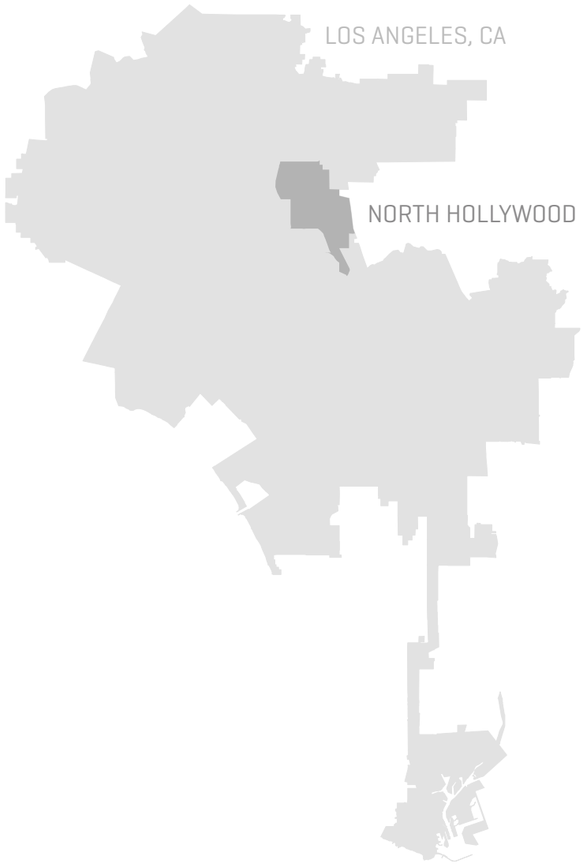
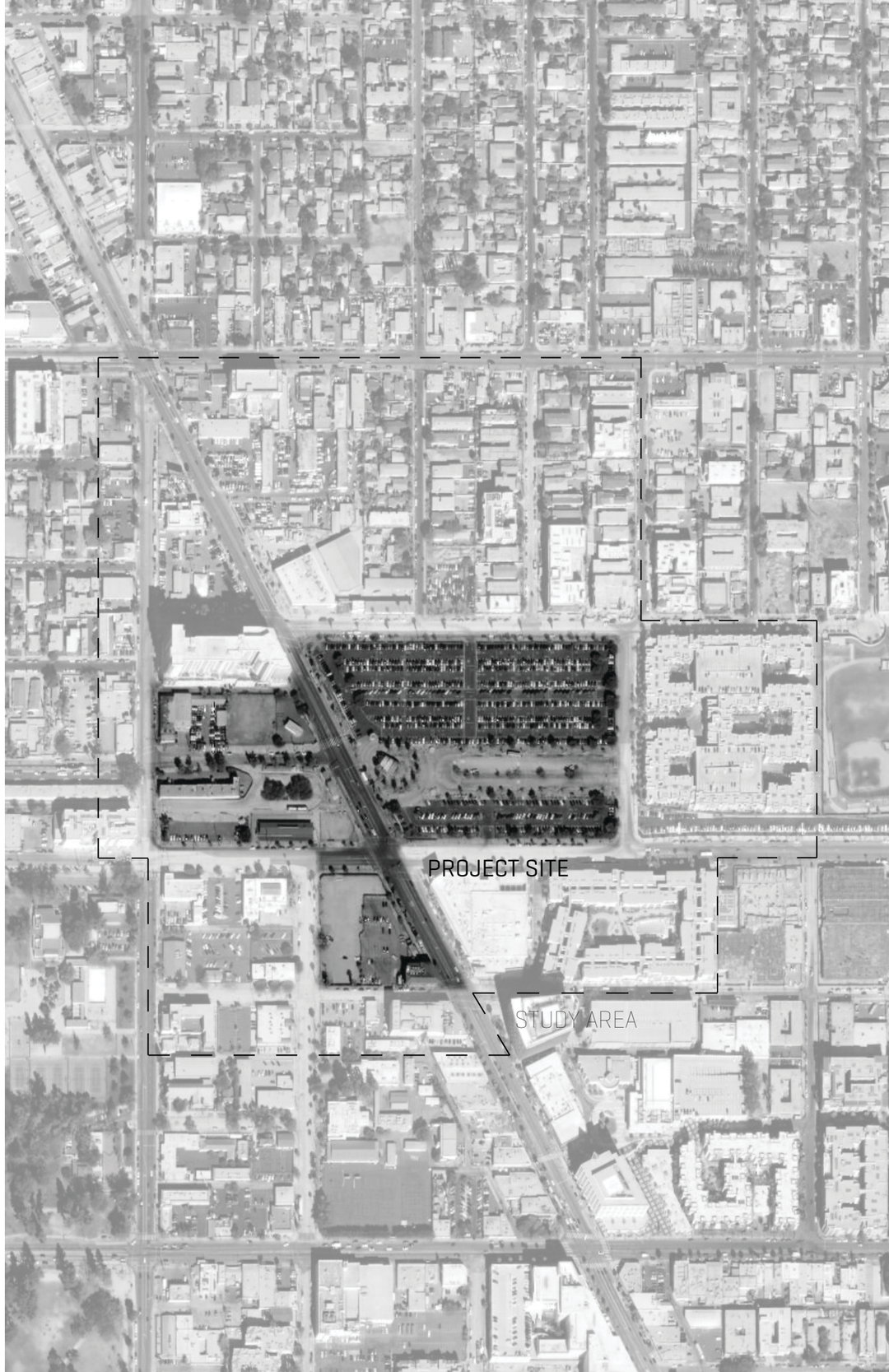


Figure 4.2.1. Site location



SITE INVENTORY

LAND AND BUILDING USE

Existing Land Use
The existing land uses in and around the project site consist of Community Commercial, High Medium Residential, Commercial Manufacturing, and Public Facilities (see Figure 4.2.2). Some building uses are inconsistent with their designated land uses. For example, building 4 and 5 are both apartment complexes although they are located in the Commercial Manufacturing and Community Commercial zones respectively (see Figure 4.2.6 and 4.2.7).

Transit Priority Area (TPA)
The project site is currently zoned as part of the TPA in Los Angeles. It contains the Metro Red Line North Hollywood Station ("Red Line Station") and the Orange Line North Hollywood Station ("Orange Line Station"). City of Los Angeles (2016) states that TPAs are defined by Senate Bill (SB) 743 as "a 1/2 mile buffer around a rail transit station or where frequent-serving bus routes intersect" (p. 3). The Office of Planning and Research (OPR) suggests that a project located within a TPA is "generally considered to have a less than significant transportation impact" pursuant to the California Environmental Quality Act (CEQA) due to "availability of frequent transit service" (City of Los Angeles, 2016, p. 5).

North Hollywood Redevelopment Area
Located in the North Hollywood Redevelopment Area, the project site contains a portion of the Business Improvement District (BID) that serves the North Hollywood community with Lankershim Boulevard as the main focus of redevelopment. The North Hollywood-Valley Village Community Plan aims to provide a framework for implementing community revitalization projects and activities, while enhancing the redevelopment area as "a diverse community with active residential, commercial and industrial sectors" (City of Los Angeles, 2016, p. I-1). The most recent amendment puts an emphasis on attracting and retaining the arts and entertainment industry in the area.

Residential The Plan proposes that the low-density neighborhoods of the area should be preserved, while new residential properties may be developed with higher density than otherwise permitted in this Plan. The minimum and maximum dwelling units per acre for High Medium Residential is 55 and 109, with a midpoint of 82.0 (City of Los Angeles, 2016, p. III-2). New residential development should achieve flexible design and well-planned communities that accommodate all socioeconomic groups.

Commercial Given its central location and proximity to the region's major transit hub, the BID should be developed with professional offices, artists in residence, other retail stores, financial establishments, and

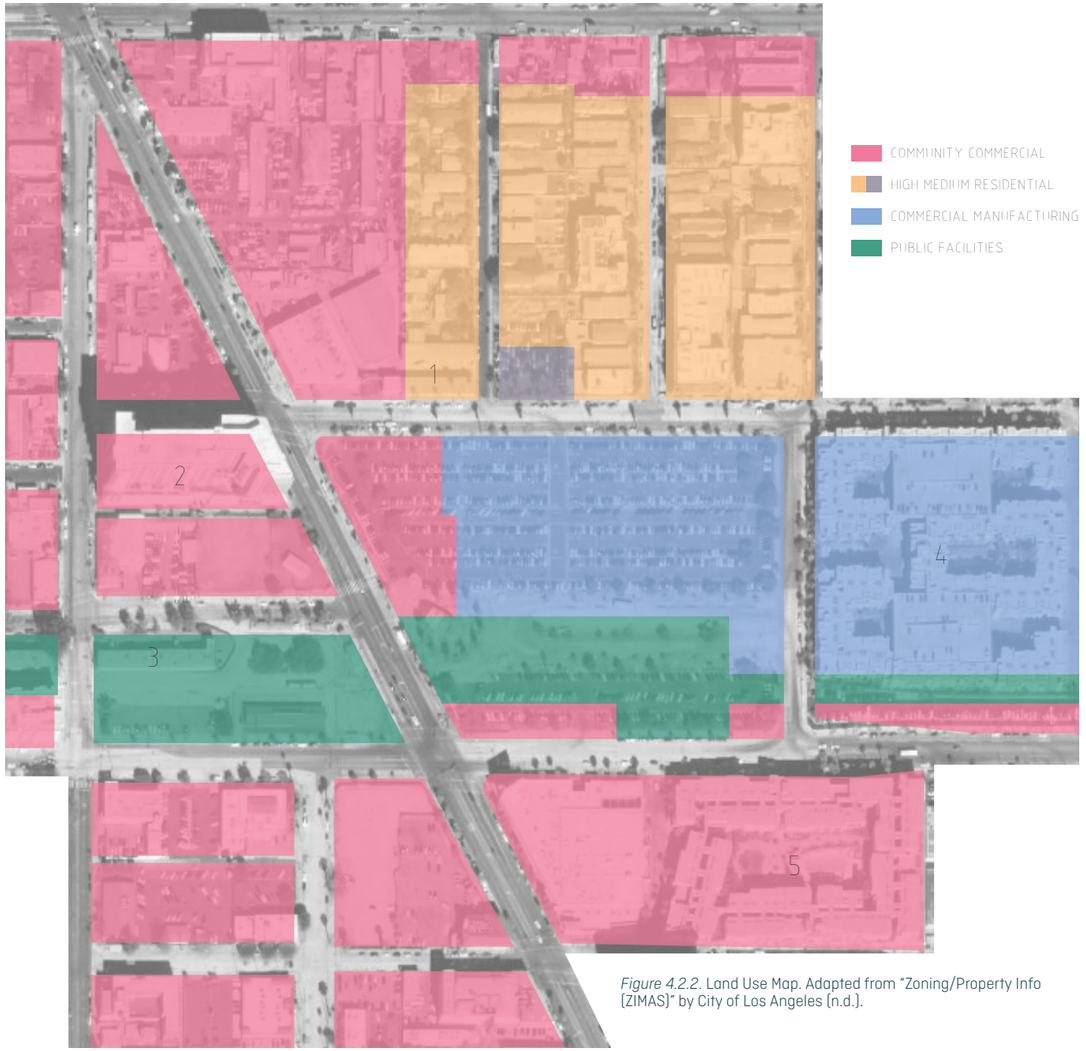


Figure 4.2.2. Land Use Map. Adapted from "Zoning/Property Info (ZIMAS)" by City of Los Angeles (n.d.).

Figure 4.2.3. Auto shop on Elmer Avenue **(1)**

Figure 4.2.4. NoHo 14 Apartments and Roger Dunn Golf Shops **(2)**

Figure 4.2.7. Lofts at NoHo Commons Apartments **(5)**

Figure 4.2.6. The Gallery at NoHo Commons Apartments **(4)**

Figure 4.2.5. Warehouse on Chandler Boulevard (westbound) **(3)**

entertainment facilities. Underutilized commercial lands in and around the BID are encouraged to be repurposed into medium or medium-high density housing (City of Los Angeles, 2016 p. III-3).

Circulation Streets should be developed in accordance to standards proposed by Los Angeles' Mobility Plan 2035. Some of the key policy initiatives provided by the Plan include:

- New complete street standards that promote safety and efficiency for pedestrians, bicyclists, transit rides, and drivers
- The relationship between transportation and land use
- A sustainable transportation system that targets greenhouse gas reductions
- More first-mile/last-mile connections
- Environmental justice and equity as a part of transportation planning
- Street as public space
- Green street to treat and infiltrate water (Los Angeles Department of City Planning, 2016, p. 14)

The appearance of streets should be enhanced by trees and planted median strips, as well as by paving (City of Los Angeles, 2016 p. III-4).

Lankershim Core

The project site is a part of Lankershim Core redevelopment area as suggested by the Community Redevelopment Agency of the City of Los Angeles (CRA/LA). Several development standards, including maximum building height and residential densities, are established in the area. Figure 4.2.8 illustrates that the maximum building height is 200 feet for projects with direct access to the station portal. Otherwise, the building height should not exceed 140 feet. The residential density exclusive of bonuses is 90 units per acre.

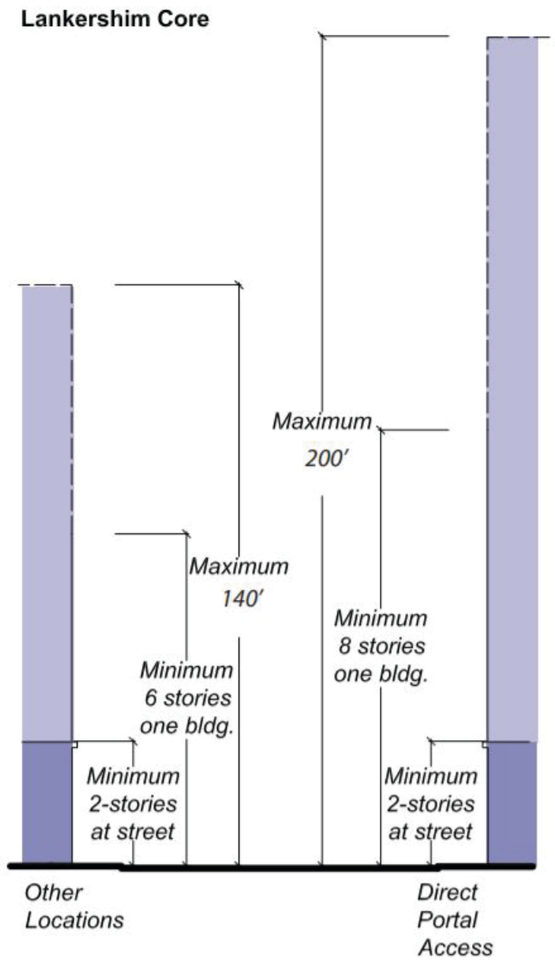


Figure 4.2.8. Minimum and maximum building height and residential densities for Lankershim Core. From "North Hollywood Redevelopment Project Area Five-Year Implementation Plan" by CRA/LA. (2010).

Figure 4.2.9. Red Line Station portal

Commercial

The most notable weakness of the study area is the lack of neighborhood-serving retail like stores and grocers where people can shop and fulfill their everyday needs. The commercial buildings in and around the project site are in average-to-good condition, albeit inconsistent in design, and contains uses ranging from warehouses, auto dealerships and services to restaurants, hotels, and performing arts studios. Stores in the project site include NAPA Auto Parts (1), Mark Gerson Plumbing Supply Inc (3), Divas Tacos (4), Universal Supplies Inc (6), and The Federal Noho (11). Auto dealerships such as Sunrise Ford and NAPA Auto Parts, along with other services such as Quick Lane Tire & Auto Center and Tujunga Car Wash, congregate on the blocks surrounded by Burbank Boulevard, Tujunga Avenue, Cumpston Street, and Elmer Avenue. Other commercial uses are scattered throughout the study area.

Residential

Despite categorized by City's Land Use Map as High Medium Residential as a whole, the residential buildings in and around the site vary in size, density, and style. The low and medium-density units are generally well-maintained and distributed along Elmer Avenue, Klump Avenue, and Bonner Avenue. The single-family houses with fenced front yards are among some of the oldest buildings in the study area, most of which are one-story and were built from the 1910s to 1950s. The majority of medium-density apartment buildings were constructed from 1950s to 1990s and range in height from two to three stories. Additionally, several high-density apartment buildings ranging in height from three to six stories can be found around the project site. Since these buildings were built in recent decades, they are in good condition and can be used as examples of how new high-density residential buildings can be designed in the future. Most of the apartment buildings offer private, off-street parking.

Mixed-use

There are two well-maintained mixed-use buildings near the project site. Built in 2004 and opened in 2008, NoHo 14 Apartments (2) is a 10-story building with Roger Dunn Golf Shops and parking on the first floor and apartments above (see Figure 4.2.4). Lofts at NoHo Commons Apartments (12) is a 4-story apartment complex built in 2007 with retail and parking on first floor and apartments above (see Figure 4.2.7).

Public Facilities and Parking

The on-site public facilities include the Red Line Station portal (7), the key entrance to the station, and the historic Lankershim Train Depot (9) that was renovated and reopened in 2017. All three parking lots in the study area are also located in the project site. The transit parking facility (5) contains 957 spaces for Metro riders (Metro, 2015, p. 24). The other two parking lots (8 and 10) are located next to the Lankershim Train Depot and The Federal Noho respectively.

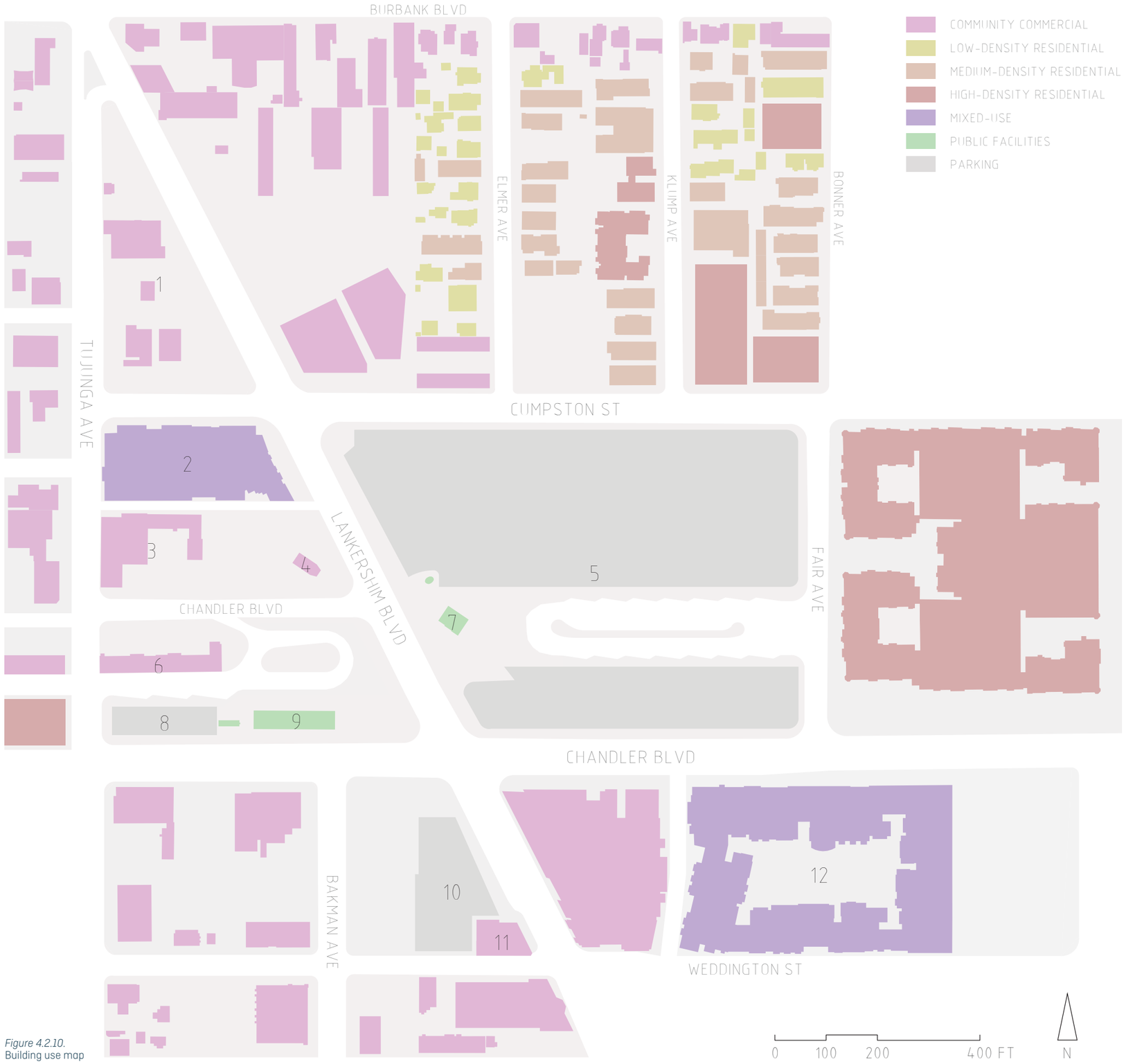


Figure 4.2.10.
Building use map

CIRCULATION

The circulation in and around the project site consists of vehicular, pedestrian, bicycle, bus, and subway. The 4-lane Lankershim Boulevard, which runs northwest to southeast, is the major street carrying the most traffic. The main intersections for vehicle and pedestrian circulation are distributed along Lankershim Boulevard, including Cumpston-Lankershim, Weddington-Lankershim, and the two Chandler-Lankershim intersections. All four major intersections provide crosswalks and traffic lights while generating a significant amount of noise. Streets with moderate traffic include Tujunga Avenue, Cumpston Street, and Chandler Boulevard (eastbound). The only one-way streets in the project site are the two Chandler Boulevards, which are divided by the block bordered by Tujunga Avenue. Both are two-lane streets running east to west in opposite directions.

Parking is a key issue for residents, businesses, and transit riders in and around North Hollywood. Metro (2015) suggests that North Hollywood is "an extremely high demand location for transit parking, filling up daily and spilling over into metered parking" (p. 23). Metered, on-street parking spaces can be found along Lankershim Boulevard, Cumpston Street, Chandler Boulevard, Weddington Street, and Bakman Avenue. Non-metered parking is provided on other streets, including Tujunga Avenue, Elmer Avenue, Klump Avenue, Bonner Avenue, and Fair Avenue. Non-metered parking is provided on other streets, including Tujunga Avenue, Elmer Avenue, Klump Avenue, Bonner Avenue, and Fair Avenue.

All streets in the study area are equipped with paved sidewalks. However, certain portions of the sidewalks are narrower and less vegetated than others. Pedestrian activity is more prominent near the Orange Line Station and the Red Line Station. There is very little bicycle circulation in the study area since most streets do not have designated bike lanes with the exceptions of both Chandler Boulevards.

Given the growing popularity of lifestyles centered on transit, public transportation plays a significant role in mobilizing North Hollywood residents. With over 22,000 boardings per day, the Red Line Station (1) and the Orange Line Station (2) form a major transit hub in the region (Los Angeles County Metropolitan Transportation Authority [Metro], 2015, p. 9). The Red Line, which serves Hollywood and Central LA neighborhoods, is a heavy rail subway line running between Downtown Los Angeles and North Hollywood, where it connects with the Orange Line, a bus rapid transit line that operates between Chatsworth and the North Hollywood Metro Station. Besides the major stations, a large bus plaza with a bus stop is located on the east side of the Red Line Station Portal. It has the capacity of 14 bus bays and 6 additional bus parking spaces in the layover zone (Metro, 2015, p. 21). 5 other bus stops that serve a variety of lines can also be found throughout the study area.

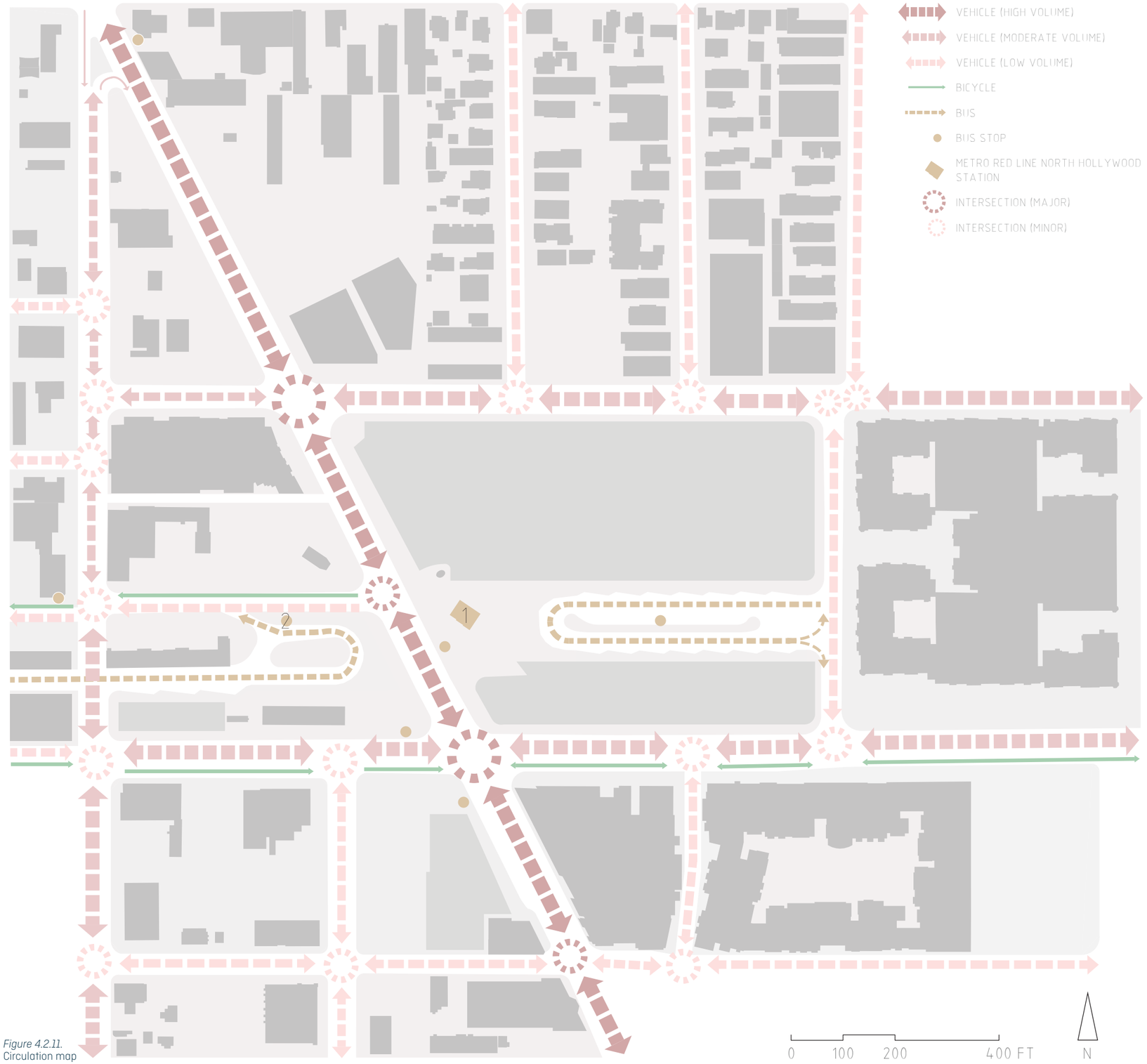


Figure 4.2.11.
Circulation map

NATURAL ENVIRONMENT

Vegetation

The project site contains a moderate amount of vegetation in the form of trees, and sometimes shrubs and grass, that are distributed along sidewalks. Many of those trees are not very effective in providing adequate shade to pedestrians since they are either palm trees or young trees (see Figure 4.2.12). There is a notable lack of public spaces on site with the exception of a 8,500-square-foot landscaped plaza next to the Lankershim Train depot that opened in 2018 (see Figure 4.2.13).

Figure 4.2.12. Palm trees near Red Line Station

Figure 4.2.13. New plaza next to the Lankershim Depot

Figure 4.2.14.
Vegetation map

Temperature

North Hollywood has hot-summer Mediterranean climate, making the temperature warm and pleasant. TMY3 data indicate that the percent of time during which the Universal Thermal Climate Index (UTCI) indicates no thermal stress (comfortable conditions) is 79%. The annual average temperature is 65°F, which is significantly higher than the nationwide (contiguous U.S.) average of 55°F. The warmer months are from April to September with an average temperature of 69°F, while the cooler months are from October to March with an average temperature of 57°F (see Figure 4.2.15). The highest and lowest possible temperatures are 100°F and 34°F respectively.

Wind

The warm climate of North Hollywood is further demonstrated by its wind data. As shown in Figure 4.2.16, annually, the wind blows mostly from the south, and sometimes from the southeast, with an hourly speed of 5.32 mph, which is categorized as "light breeze" by the Beaufort Wind Scale (U.S. National Weather Service [NWS], n.d.). This is also applicable to the warmer months with the exception of a higher hourly speed of 6.13 mph and less wind blowing from the southeast. During the cooler months, more wind blows from the southeast directions with an hourly speed is 4.52 mph.

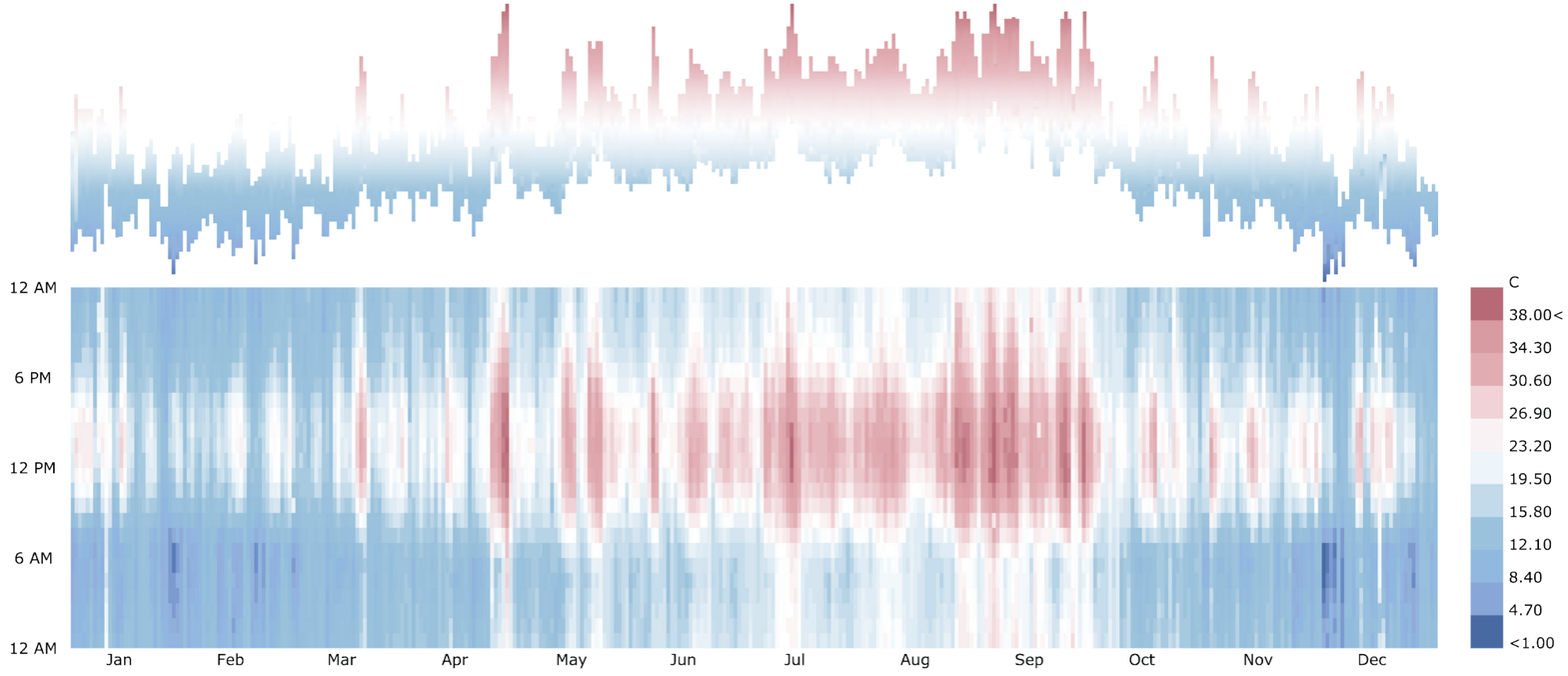


Figure 4.2.15. Temperature graph of North Hollywood, Los Angeles

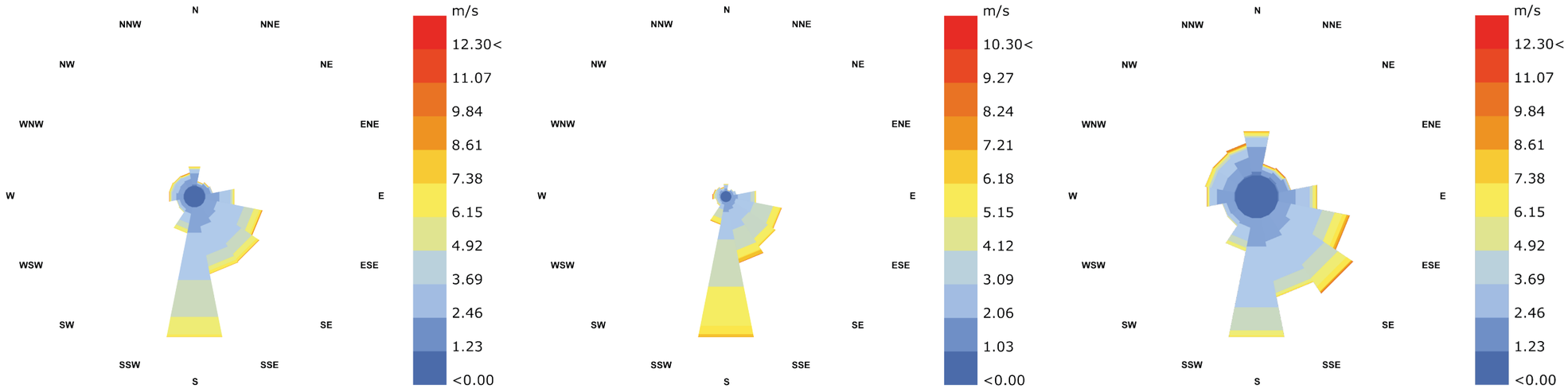


Figure 4.2.16. Wind rose charts for North Hollywood, Los Angeles: (left to right) annual, April to September, and from October to March

EXISTING ARTS INSTITUTIONS

PERFORMING ARTS

ACME Comedy
Actors Forum Theatre & Workshop
Art of the Dance Academy
Cleary Irish Dance
Crown City Theatre Company
Dance Teacher Summit
El Portal Theater
Evolution Studios
HaHa Comedy Club
Jarek Stultz Dance Academy
Jump Dance Convention
Laemmle NoHo
Liv Art Dance Studio
Madilyn Clark Studios
MKM Cultural Arts Center
Patsy Metzger Dancers
Raven Playhouse
Secret Rose Theatre
Sherry Theater
T.U. Studios
The Movement Lifestyle
The Road Theatre Company
Theatre 68
Tremaine Dance Conventions
Young Artist Awards
Zombie Joe's Underground Theatre

VISUAL ARTS

11 11 A Creative Collective
California Institute of Abnormal Arts
Caprice Studios
Cella Gallery
Fielding Photography
Gallery 800
Jody Frank Photography
Judith Kaufman Gallery
Lake House Galleries
Michael Roud Photography
NoHo Art Walk
Nowhere Bound
Trench Art Productions
WAAS Gallery

RECORDING

All Access Studios
Ameraycan Studios
Central Command Studios
Clear Lake Recording Studios
Creative Studios LA
Emkron Studios
NRG Recording Studios
Pacifique Recording Studio
Salami Studios
Sphere Studios
Thus Studios

Figure 4.2.17. Existing arts institutions in and around the NoHo Arts District

EXISTING PROJECTS

NORTH HOLLYWOOD STATION JOINT DEVELOPMENT

Vision

This project envisions "an energetic, public-oriented, and pedestrian-scale environment that can endure as a local and regional landmark." As the major transit hub in the Valley, the North Hollywood Station, located at the intersection of the Red and Orange Lines, has the potential of accommodating a new integrated transit center. With growing housing demand and increasing usage of public transit, this project is crucial to the continuing transformation of North Hollywood. It is a valuable opportunity to create "a high-intensity, iconic transit-oriented development with a mix of uses around the Station that build upon NoHo's creative arts-oriented identity" (Metro, 2015, p. 9). The Los Angeles County Metropolitan Transportation Agency (LA Metro) is in an agreement with developer to develop a vision for the new TOD. According to Metro (2015), the design objectives of this project are:

- Create a significant concentration of commercial development (retail, hotel, entertainment, and office), as well as housing, around the Metro Red and Orange Line Stations;
- Encourage convenience uses that will become a part of the everyday commute;
- Provide linkages between the transit-related development in the Lankershim Core, the NoHo Arts District, and surrounding neighborhoods and between individual buildings in the Lankershim Core (p. 12).

Public Input

A diverse range of community stakeholders, such as Neighborhood Councils, Chamber of Commerce, Los Angeles Department of Transportation (LADOT), St. Paul's First Lutheran Church, West Hollywood Community Housing Corporation, Cesar Chavez Foundation, and El Portal Theatre, participated in focus groups and community meetings. Metro (2015) noted that there are several recurring themes when gathering feedback from stakeholder groups:

- Create a dense, urban development at the Project Site;
- Balance density with well-designed open spaces and mitigate traffic impacts;
- Preserve and celebrate the eclectic, artistic character of the neighborhood through the incorporation of public art, opportunities for performances, and a vibrant street life;
- Curate the retail, strive to keep local businesses and artists in NoHo, and restrict the number of national brand chain stores;
- Support the community's diversity and provide and enhance amenities for artists and families;
- Promote safety and security around the station;
- Provide adequate transit parking;
- Create a project of iconic design, but also honor the historic landmarks; and
- Allow for innovation, co-working, and incubation of small new businesses and artists in the district (p. 10).

Figure 4.3.1. Site map

Phase	Building	Commercial		Residential				Parking	
		Retail Area	Office Area	Market-Rate Units	Affordable Units	Total Number of Units	Percentage Affordable	Required	Provided
1	1-A	35,000 SF	0 SF	470 Units	0 Units	470 Units	0%	580 Spaces	480 Spaces
1	2	6,000 SF	300,000 SF					620 Spaces	580 Spaces
1	4	2,000 SF	0 SF	0 Units	140 Units	140 Units	100%	80 Spaces	110 Spaces
Subtotal Phase 1		**43,000 SF**	**300,000 SF**	**470 Units**	**140 Units**	**610 Units**	**25%**	**1,280 Spaces**	**1,170 Spaces**
2	1-B	19,000 SF	0 SF	150 Units	0 Units	150 Units	0%	210 Spaces	240 Spaces
2	1-C	8,000 SF	0 SF	0 Units	180 Units	180 Units	100%	110 Spaces	120 Spaces
2	1-D	3,000 SF	80,000 SF					170 Spaces	0 Spaces
2	1-E	28,000 SF	0 SF	260 Units	0 Units	260 Units	0%	340 Spaces	430 Spaces
2	1-F	33,000 SF	0 SF	160 Units	0 Units	160 Units	0%	260 Spaces	440 Spaces
2	1-G/H	10,000 SF	0 SF					30 Spaces	0 Spaces
Subtotal Phase 2		**101,000 SF**	**80,000 SF**	**570 Units**	**180 Units**	**750 Units**	**25%**	**1,120 Spaces**	**1,230 Spaces**
Total		**144,000 SF**	**380,000 SF**	**1,040 Units**	**320 Units**	**1,360 Units**	**24%**	**2,400 Spaces**	**2,400 Spaces**

Figure 4.3.2. Proposed program

Project Proposal

There are two proposals for the development of more than 15 acres surrounding the Metro stations. Chiland (2017) writes that "both possibilities include a large, central public space and mixed-use structures spread out across the four sites adjacent to the Lankershim and Chandler boulevards intersection." Proposal 1 (see 4.3.3) is smaller on scale and consists of 750 residential units, 40,500 square feet of retail, 200,000 square feet of offices, a public plaza, and a new entrance to the Red Line Station. Proposal 2 (see 4.3.4) includes 1,500 residential units, 150,000 square feet of retail, 450,000 square feet of offices, and 5,400 parking spaces. At least 35% of units are affordable housing. Metro has decided to move forward with Proposal 1 due to smaller blocks, more public spaces, and better connectivity and pedestrian flow, while the developers of the project lean toward Proposal 2, the more ambitious of two proposals. The status of the project is currently unclear.

Figure 4.3.3. Proposal 1

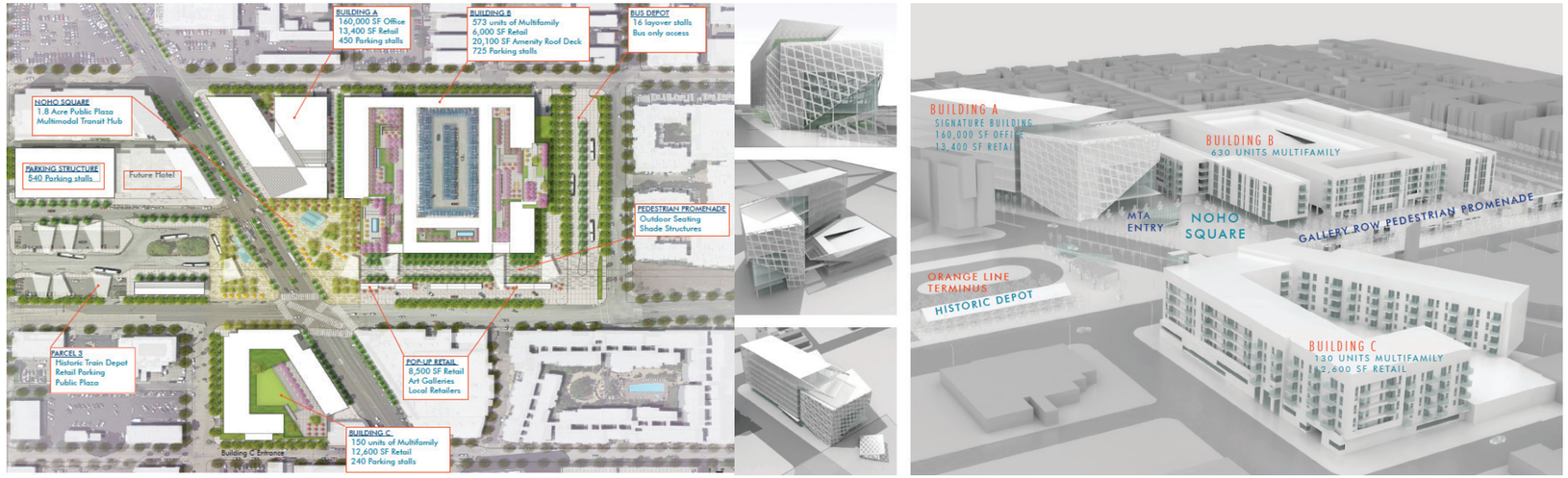


Figure 4.3.4. Proposal 2

NORTH HOLLYWOOD REDEVELOPMENT PROJECT AREA

The CRA/LA outlines a variety of completed and ongoing projects and programs that focus on strengthening the livability and community identity of North Hollywood, notably apartment complex projects that fulfill the needs of different age, income, and disabled groups by introducing high-density housing and both market-rate and low-income units to the area. An example of stimulating economic growth is the North Hollywood Business Assistance Program which attracts new businesses through technical and financial assistance such as grants and low-interest loans. To establish the artistic identity of North Hollywood, the North Hollywood Arts Retention Program and the NoHo Arts District project provide support to arts organizations with "a track record of producing high-quality programming" and "a commitment to the North Hollywood Community," while retaining and retaining art businesses through the physical improvement of the district such as the creation of wayfinding signage (CRA/LA, 2010, p. 14).

The only historic preservation project in the plan is the rehabilitation of the Lankershim Historic Train Depot, one of the oldest structures in the San Fernando Valley (see Figure 4.3.5). Streetscape revitalization projects such as the Chandler Bikeway and NoHo Arts District Streetscape Improvements provide enhanced pedestrian and bicycle amenities with vegetation, street furnishing, enhanced crosswalks, and new district gateways (see Figure 4.3.6). The rehabilitation of commercial storefronts along Lankershim Boulevard are initiated by the Commercial Façade Improvement program, which offers grants to property owners, long-term tenants, and theater operators while providing improvements including new doors and windows, stucco, paint, and lighting.

Figure 4.3.5. Lankershim Historic Train Depot before and after

Figure 4.3.6. NoHo Arts District

Figure 4.3.7. A mural in North Hollywood

Figure 4.3.8. El Portal Theater

CHAPTER 5

PROJECT VISION

SWOT ANALYSIS

STRENGTHS

Affordable housing is encouraged
Financial assistance to businesses
High-density housing is encouraged
Large open space (parking lot)
Located near major corridor
Proximity to existing neighborhoods
Proximity to public transit
Proximity to NoHo Arts District
Site is flat
Warm weather year-round

WEAKNESSES

Heavy traffic on Lankershim Boulevard
High demand for parking
Inconsistent building conditions
Inconsistent sidewalk
Lack of bike lanes
Lack of neighborhood-serving retail
Lack of public space
Lack of vegetation
Low pedestrian activity
No mid-block crossing

OPPORTUNITIES

Bike and pedestrian infrastructure
Coherent building design
Events (performances, exhibitions)
High-density housing
Historic landmark (train depot)
Local artistic identity
More retail (especially local businesses)
Mitigated vehicular traffic
Mixed-use development
Public spaces

THREATS

Affordability of new development
Crime in Metro station area
Disconnection from surroundings
Existing warehouses and auto dealerships
Inefficient land use (i.e. too much parking)
Insufficient parking
Interference with existing neighborhoods
New development may create more traffic
Privatized internal "public" spaces
Tall buildings may impact views

DESIGN IDEAS

ARTS

Accessibility of the arts
Arts as neighborhood character
Dance and music studios
Galleries
Incorporation of art everywhere
Multi-use public spaces
Vibrant streetscape

CONNECTIVITY

Active streetscape
Adequate transit parking
Better pedestrian infrastructure
Complete streets
Low parking ratio for TOD residents
Open space around stations
Street-facing edges

FUN

Family-friendly activities
Retail and food choices
Multi-use public spaces
Nightlife
Pop-up shops
Small, local businesses
Spaces that encourage human interaction

DENSITY

Active public spaces
Affordable and market-rate housing
Balance between density and human scale
Community gatering spaces
Diverse housing types
Various building heights
Vibrant urban life

CHAPTER 6

DESIGN DEVELOPMENT

PROJECT STATEMENT

Situated in the heart of the NoHo Arts District in North Hollywood, Los Angeles, NOHO^2 is a new transit-oriented development (TOD) integrating the vibrant local art community into the built landscape by incorporating multi-functional, pedestrian-oriented public spaces that accommodate a wide variety of activities, including outdoor exhibitions and performances. Making use of its convenient location near the Metro Red and Orange Line Stations, this project creates a unique opportunity for sustainable transportation by stimulating the station area and providing adequate transit parking for commuters. Economic growth is promoted through the introduction of more than 1,400 affordable and market-rate apartment units, 484,000 square feet of office space, and nearly 450,000 square feet of retail space consisting of pop-up shops, a grocery store, local restaurants, an indoor-outdoor hybrid gallery, a children's art dance and music studios, and nightlife venues. Taking the North Hollywood community's needs for higher density, better public spaces, amenities for artists, more activities, and local retailers into consideration, NOHO^2 enhances the urban fabric of North Hollywood and transforms the area into a regional destination where people can live, work, and have fun.

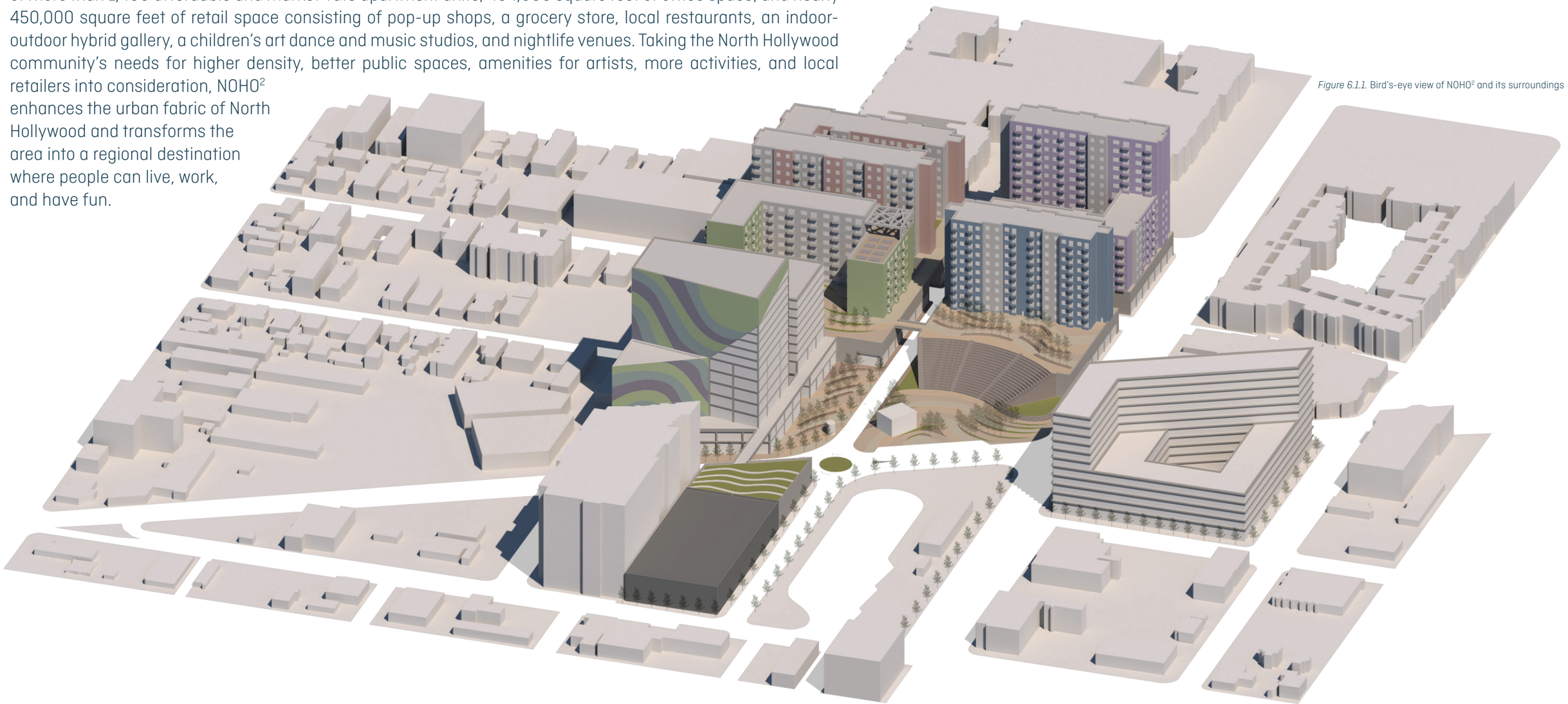


Figure 6.1.1. Bird's-eye view of NOHO^2 and its surroundings

SITE PLAN

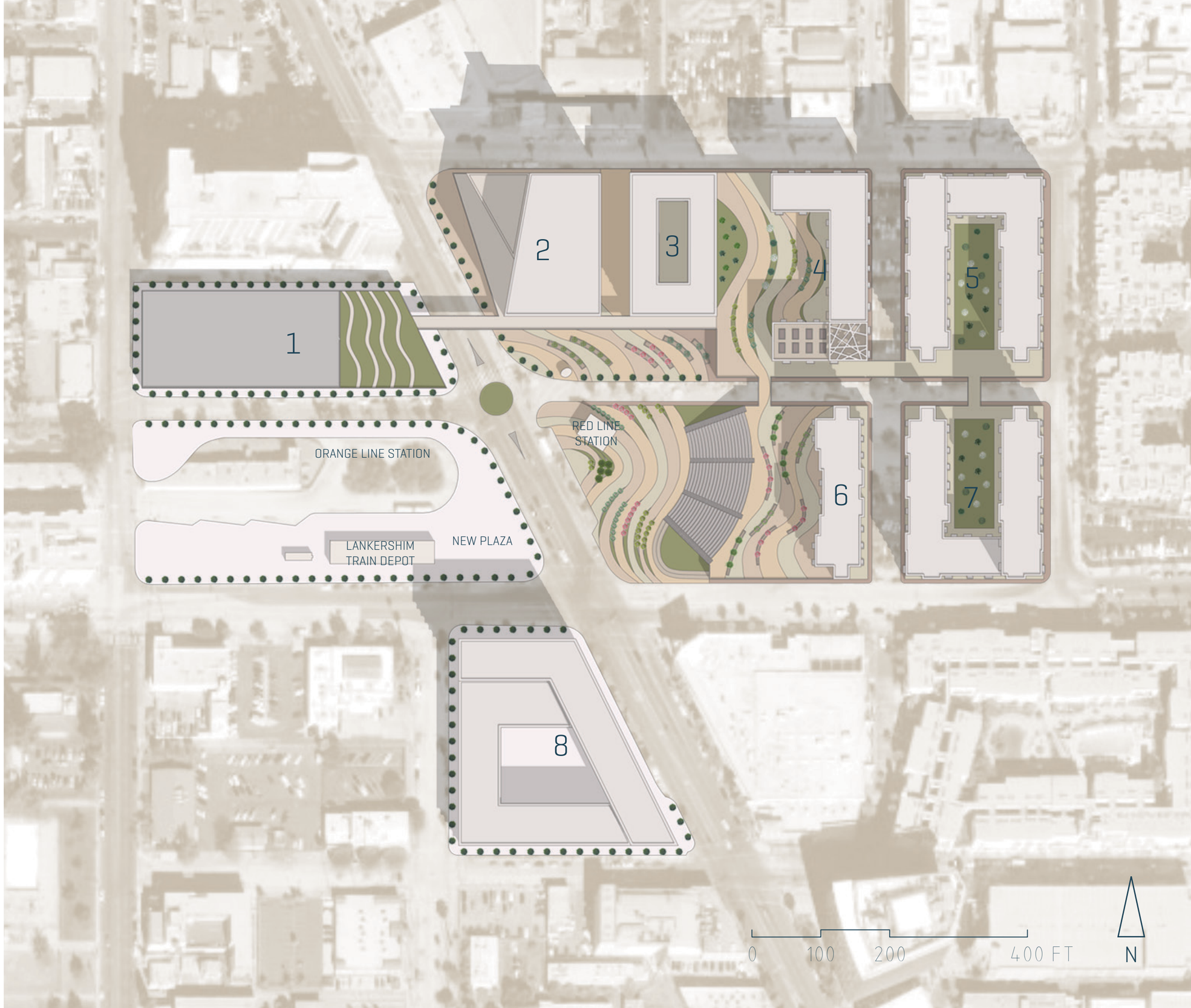


Figure 6.2.1. NOHO^2 site plan

BUILDING AND LAND USE STATISTICS

Building Number	Use	Number of Units/Spaces	Number of Stories	Footprint	Total Square Footage
1	Grocery Store	1	8/2	62,974	392,348
	Nighlife Venue	4			
	Parking	548			
2	General Retail	83	15	43,896	337,241
	Restaurant	23			
	Office	80			
	Indoor Gallery	1			
	Dance Studio	1			
	Music Studio/Academy	1			
	Children's Art Center	1			
3	Hotel Room	210	10	30,680	267,740
	General Retail	18			
	Restaurant	11			
	Fitness Center	1			
4	One-Bedroom	74	15/13	71,070	483,346
	Two-Bedroom	118			
	General Retail	21			
	Parking	678			
5	Studio	216	17/15	64,890	764,888
	One-Bedroom	150			
	Two-Bedroom	98			
	General Retail	14			
	Parking	704			
6	Studio	180	19/13	55,020	629,244
	One-Bedroom	144			
	Two-Bedroom	108			
	General Retail	12			
	Parking	261			
7	Studio	188	17	46,288	457,382
	One-Bedroom	124			
	Two-Bedroom	23			
	General Retail	14			
	Parking	530			
8	Office	162	11/5	60,729	470,466
	General Retail	12			
	Restaurant	14			

Figure 6.3.1. Building use data

Land Use	Building/Amenity Type	Number of Units	Total Number of Units	Square Footage	Total Square Footage
High-Density Residential	Studio	592	1,423	266,400	886,200
	One-Bedroom	492		307,500	
	Two-Bedroom	347		312,300	
Community Commercial	General Retail	174	221	208,800	452,164
	Restaurant	48		76,800	
	Grocery Store	1		41,440	
	Indoor Gallery	1		38,100	
	Dance Studio	1		11,450	
	Music Studio/Academy	1		11,450	
	Children's Art Center	1		15,000	
	Fitness Center	1		30,550	
	Nightlife	4		18,574	
	Hotel	210		74,360	
	Office	243		484,000	
Recreational	Open Space	N/A		205,379	253,361
	Rooftop Garden	N/A		47,982	
Parking	Residential Parking	700	3,739	256,615	1,370,691
	Transit & Office Parking	3,039		1,114,076	

Figure 6.3.2. Land use data

Figure 6.4.1. Gateway plaza with amphitheater

DESIGN PRINCIPLES

CELEBRATE THE ARTISTIC IDENTITY OF THE COMMUNITY

The identity of the North Hollywood community is strongly driven by its concentration of artists and artistic institutions such as theaters, dance companies, galleries, and recording studios. Despite being located in or around the NoHo Arts District, these institutions are physically scattered with very little connectivity, except the ones located along Lankershim Boulevard. This project incorporates a significant amount of **OFFICE SPACES** in Building 2 and 8 for local artists, allowing them to concentrate in one area and exchange with each other.

In addition to the artists themselves, it is equally important to support the arts produced by them. In NOHO[2], the **MULTI-FUNCTIONAL GATEWAY PLAZA** can accommodate a wide range of activities—the amphitheater can be used either for exhibitions or by audiences, while the center stage can be enjoyed by all when there are no live performances or events. The act of merging the arts with public spaces is to bring them closer to everyday life and make sure that everyone has the opportunity to devour the beauty of art.

This development is also equipped with indoor facilities for the arts that truly encompass all art forms, including an indoor-outdoor hybrid gallery, a dance studio, a music studio/academy, and a children's art center that empowers and promotes art education among children and the youth.

Figure 6.4.2. Commercial corridor

DIVERSIFY TYPES OF LAND USES AND ACTIVITIES

Many residents in North Hollywood have expressed their frustration over the lack of restaurants and shops in their activities. NOHO[2] seeks to introduce new land use types and activities that compliment the urban fabric and artistic identity of North Hollywood. A **COMMERCIAL CORRIDOR** is established, starting from the footbridge over Lankershim Boulevard and continuing along the extended Chandler Boulevard (westbound). All of the indoor art facilities mentioned in the "celebrate artistic identity" section are located in Building 2 and can be accessed through the footbridge. Through the prioritization of local businesses and pop-up shops, this development aims to stimulate local economy and reinforce community pride. To enhance accessibility and physical transparency, most retail stores and restaurants are located close to the streets or public spaces.

Figure 6.4.3. Extended Chandler Boulevard (westbound)

PROMOTE ACTIVE TRANSPORTATION

Home to **TRANSIT STATIONS** including Metro Red Line Station and Orange Line Station, North Hollywood has already established itself as a regional transit hub, making the project site suitable for TOD. To maximize the potential of public transit, NOHO[2] implements a low parking ratio for NOHO[2] residents, so more parking spaces can be saved for those who do not live near public transportation. Through careful planning, the number of parking spaces increases from the original 957 to more than 3,000, satisfying Metro's plan. By merging the bus layover area on Fair Avenue with the existing Orange Line Station, this project reduces walking distance and improves wayfinding for those unfamiliar with the area.

Better streetscape is another crucial aspect of alternative transportation since it regulates vehicular speeds and enhances pedestrian safety. The extended Chandler Boulevard (westbound) and Klump Avenue are designated as **COMPLETE STREETS** to mitigate the impact of vehicular traffic on site and enable safe access for all by incorporating sidewalks, narrow vehicular lanes, mid-block crossings, and pedestrian signals.

Figure 6.4.4. Apartment buildings

SUPPORT POPULATION GROWTH

As one of the densest communities in Los Angels County, North Hollywood has been experiencing a rapid increase in population density. TOD is a great opportunity for the North Hollywood community to prepare for its future population growth. The maximum building height should be increased in order for TOD projects like NOHO[2] to proceed. This project consists of exclusively **HIGH-DENSITY RESIDENTIAL** units, including studio, one-bedroom, and two-bedroom apartments. All four apartment buildings are built upon the parking-residential mixed-use structures and are strategically arranged to ensure access to public spaces, while those who desire a sense of privacy can choose units that are farther away from the more active parts of the community. To avoid an overly dense physical presence, the residential buildings vary in height and are equipped with their own **OPEN SPACES** that mitigate the impact of density. Two community gardens are located on the rooftops of Building 4 to promote fresh produce and community gatherings.

Figure 6.5.1. View of the gateway plaza from east

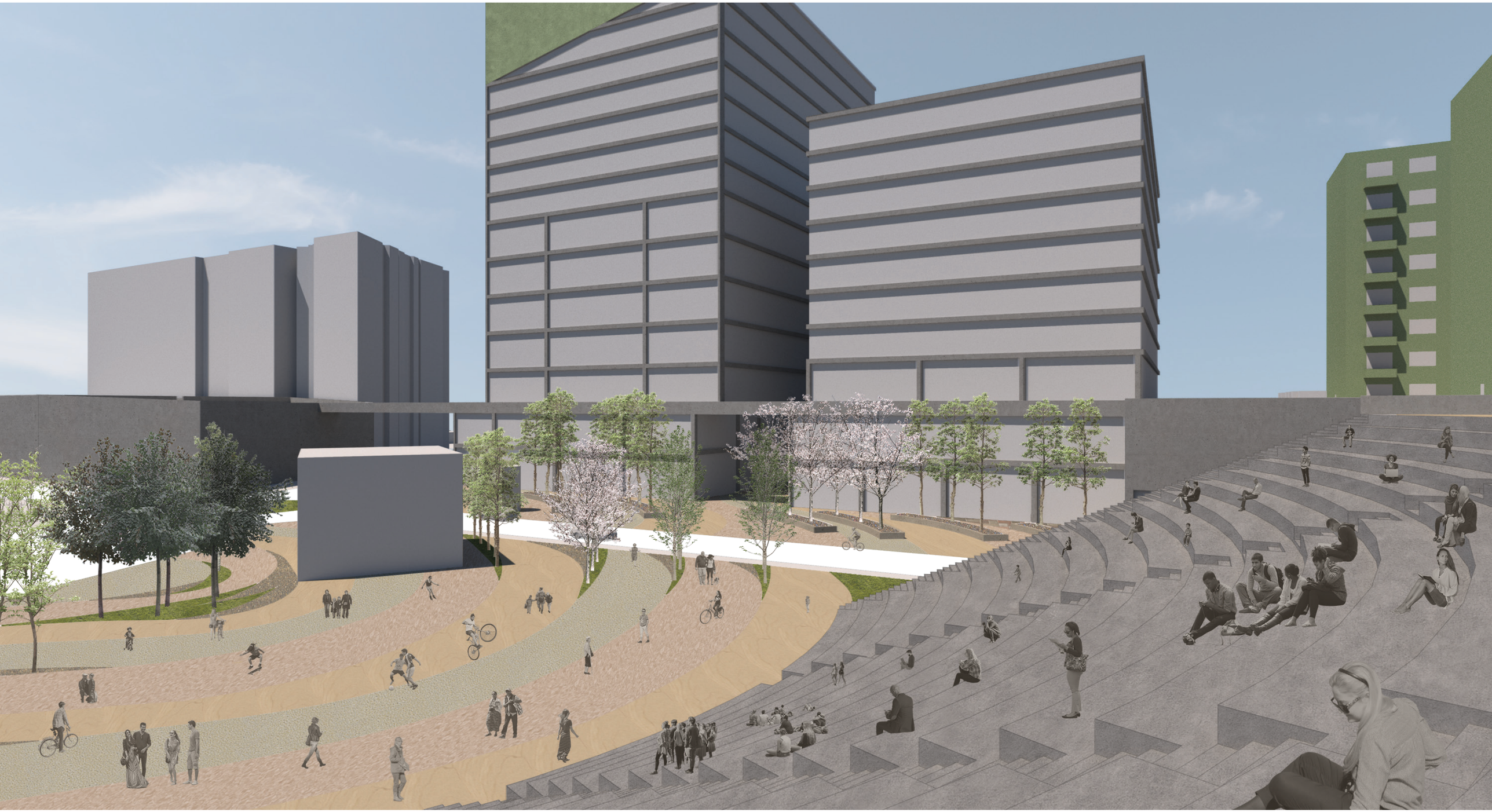


Figure 6.5.2. View from the amphitheater

Figure 6.5.3. View of the commercial corridor from Building 1

Figure 6.5.4. View of open space near Building 6

Figure 6.5.5. View of open space near Building 5

ELEVATIONS

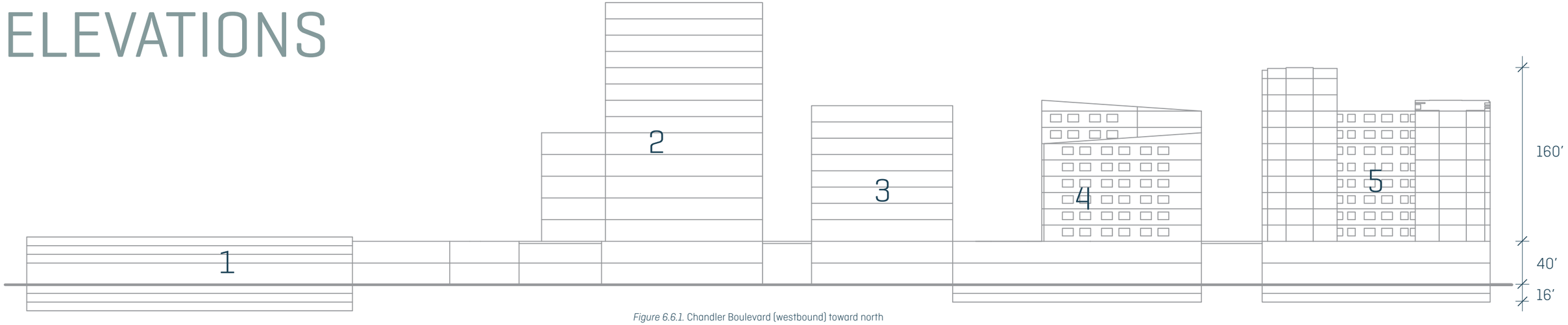


Figure 6.6.1. Chandler Boulevard (westbound) toward north

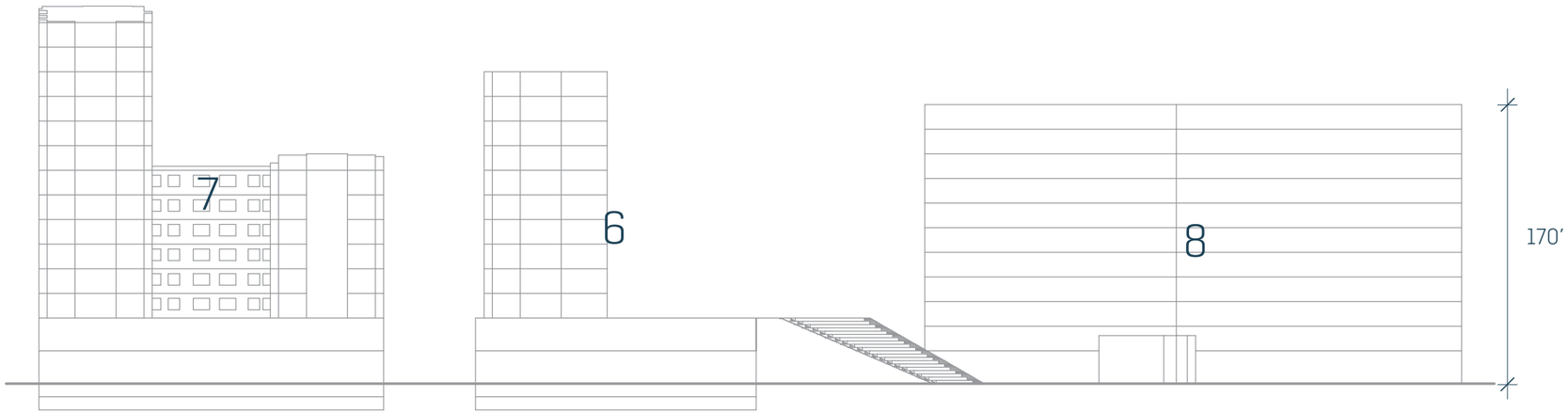


Figure 6.6.2. Chandler Boulevard (westbound) toward south

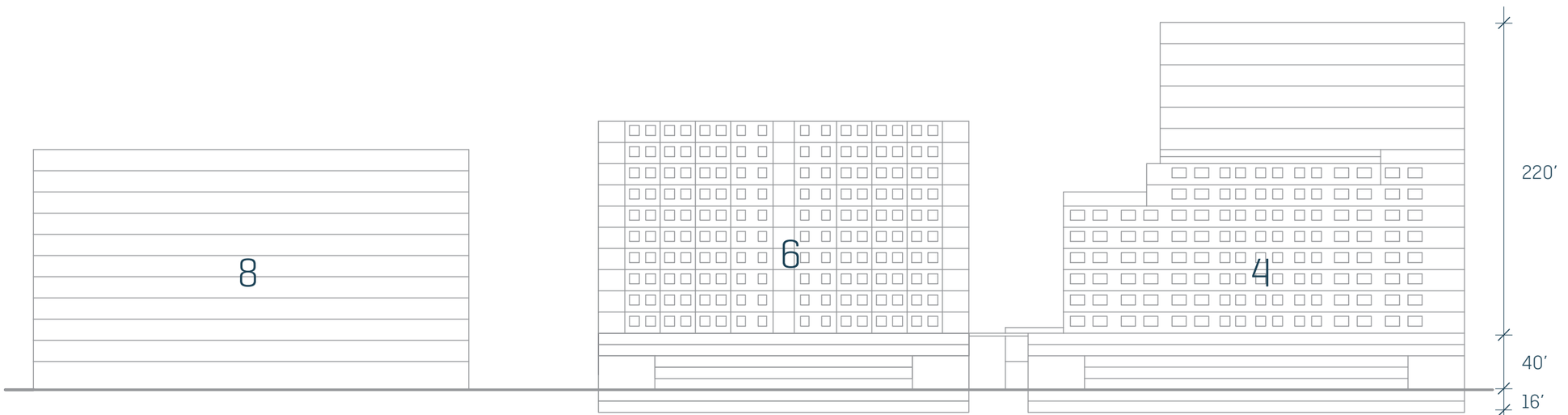


Figure 6.6.3. Klump Avenue toward west

CHAPTER 7
CONCLUSION

The NOHO^2 proposal is a great opportunity to apply TOD elements to a real-life scenario. Urban design principles such as mixed-use, high-density housing, proximity to transit, and local retailers are evident in the final design. By taking advantage of existing opportunities (i.e. public transit) and discovering development potentials in and around the project site, this project transforms a parking lot, along with several infill lots, into a regional hub with residential development revolving around a commercial and recreational core. As long as the population growth in North Hollywood (and Los Angeles as a whole) persists, developing high-density residences with other amenities near transit stations is an effective way to alleviate the impact of automobiles and sprawl development while bringing exciting activities to communities.

To me, the most memorable aspect of this project stems from the artistic identity of the North Hollywood community and the decision of making art the core of North Hollywood's new urban fabric. Through reading the public comments, I came to understanding how much the arts are cherished by those community members, as well as how much they would like to share their artistry to a wider audience. Without art, it would be hard for NOHO^2 to distinguish itself from other TOD projects.

The biggest obstacle I encountered during the development of this project was related to density. Although current policy in North Hollywood allows for higher density near transit stations, it did not seem "dense enough" for me. With the number of housing units that the project needed to accommodate, along with the sheer amount of commuter parking that had to be provided, it was hard to accommodate density, parking, and a sense of place at the same time. Luckily, after several alterations to my original design, I was able to incorporate high-density apartment units while still making the development appealing by diversifying building heights and including smaller public spaces between buildings.

REFERENCES

American Society of Landscape Architects. (2010). Transit Revitalization Investment District (TRID) Master Plan Retrieved from https://www.asla.org/2010awards/537.html.

Bay Area Rapid Transit. (n.d.). Transit-Oriented Development (TOD). https://www.bart.gov/about/business/tod.

California Department of Transportation. (2002). Statewide Transit-Oriented Development Study: Factors for Success in California. Retrieved from http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/TOD-Study-Final-Rpt.pdf.

Calthorpe, P. (1993). The Next American Metropolis: Ecology, Community and the American Dream. New York: Princeton Architectural Press.

Carlton, I. (2007). Histories of Transit-Oriented Development: Perspectives on the Development of the TOD Concept. UC Berkeley Institute of Urban and Regional Development. Retrieved from http://fltod.com/research/marketability/histories_of_transit_oriented_development_perspectives_on_the_development_of_the_tod_concept.pdf.

Chapple, K., Loukaitou-Sideris, A., González, S. R., Kadin, D., & Poirier, J. (2017). Transit-Oriented Development & Commercial Gentrification: Exploring the Linkages. Retrieved from http://ucconnect.berkeley.edu/sites/default/files/research-papers/TOD%20and%20Commercial%20Gentrification.pdf.

Chiland, E. (2017). New look emerges for huge development around North Hollywood Metro station. *Curbed Los Angeles*. Retrieved from https://la.curbed.com/2017/4/3/15163060/north-hollywood-metro-development-project.

City of Los Angeles. (n.d.). Zoning/Property Info (ZIMAS). Retrieved from http://zimas.lacity.org/.

City of Los Angeles. (2016). North Hollywood-Valley Village Community Plan. Retrieved from http://planning.lacity.org/complan/pdf/nhlcptxt.pdf.

Community Redevelopment Agency of the City of Los Angeles. (2010). North Hollywood Redevelopment Project Area Five-Year Implementation Plan. Retrieved from http://www.crala.org/internet-site/Projects/North_Hollywood/upload/NH_IP_FY2011-2015.pdf.

Dittmar, H., & Poticha, S. (2012). Defining Transit Oriented Development: The New Regional Building Block. In Dittmar, H. & Ohland, G. (Eds.), *The New Transit Town: Best Practices in Transit-Oriented Development* (pp. 20-40). Island Press. Retrieved from http://eds.a.ebscohost.com/ehost/ebookviewer/ebook/bmxlYmtfXzE2NDE0M19fQU41?sid=3b672761-4b20-4a52-b964-49bf9c3fe38d@sessionmgr4007&vid=0&format=EB&rid=1.

Federal Transit Administration. (n.d.). Transit Oriented Development. Retrieved from https://www.transit.dot.gov/TOD.

Los Angeles County Metropolitan Transportation Authority. (2015). Guide for Development: North Hollywood Station. Retrieved from https://media.metro.net/projects_studies/joint_development/images/sfv_noho_guide_2015-12.pdf.

Los Angeles Department of City Planning. (2016). Mobility Plan 2035: An Element of the General Plan. Retrieved from https://planning.lacity.org/documents/policy/mobilityplnmemo.pdf.

Los Angeles Department of City Planning. (2016). "Report on Specific Tasks in Anticipation of the State's Adoption of the Amended CEQA Guidelines Implementing SB 743, CF 14-1169." Received by the Los Angeles City Council, 19 January 2016. Retrieved from http://clkrep.lacity.org/onlinedocs/2014/14-1169_misc_1-22-16.pdf.

Los Angeles Department of City Planning. (2014). North Hollywood-Valley Village Community Plan Area—Demographic Profile. Retrieved from https://planning.lacity.org/complan/CPA_DemographicProfile/2014_NOHO.pdf.

McCormick, K. (2018). Planning for Equitable Transit-Oriented Development in Sacramento. *Urban Land Institute*. Retrieved from https://urbanland.uli.org/industry-sectors/infrastructure-transit/planning-for-equitable-transit-oriented-development-in-sacramento/.

Metris Arts Consulting. (2012). Plan-It Hennepin: Creative Placemaking for Downtown Minneapolis. Retrieved from https://metrisarts.com/wp-content/uploads/2013/01/plan-it_comprehensive-report.pdf.

National Endowment for the Arts. (n.d.).Hennepin Avenue Cultural Corridor. Retrieved from https://www.arts.gov/exploring-our-town/hennepin-avenue-cultural-corridor.

National Weather Service. (n.d.). Beaufort Wind Scale. Retrieved from https://www.weather.gov/mfl/beaufort.

NeighborhoodsNow. (2008). Transit Revitalization Investment District Planning Study: 46th and Market Street Station, Temple Regional Rail Station. Retrieved from https://www.dvrpc.org/trid/pdf/3-TRIDStudy_46thMktTemple.pdf.

Prince George's County Planning Department. (2016). Prince George's Plaza Approved Transit Development Plan and Transit District Overlay Zoning Map Amendment. Retrieved from https://issuu.com/mncppc/docs/pgptddptdozma2016.

Sotero, D. (2018). New plaza in front of Lankershim Depot in NoHo. *The Source*. Retrieved from https://thesource.metro.net/2018/11/28/new-plaza-in-front-of-lankershim-depot-in-noho/.

United States Environmental Protection Agency. (2016). Executive Summary. In Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014. Retrieved from https://www.epa.gov/sites/production/files/2017-04/documents/us-ghg-inventory-2016-chapter-executive-summary.pdf.

United States Government Accountability Office. (2014). Multiple Factors Influence Extent of Transit-Oriented Development. Retrieved from https://www.gao.gov/assets/670/666992.pdf.

Urban Land Institute. (2016). Fiscal Impacts of Transit-Oriented Development Projects. Retrieved from https://todresources.org/app/uploads/sites/2/2017/02/fiscal-impacts-report.pdf.