North Hollywood to Burbank Airport Red Line Extension

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Chapter 1: Vision and Goal

Introduction

The North Hollywood-Burbank Airport Red Line Extension is a proposal that plans to connect the Red Line from the North Hollywood Station to the Hollywood Burbank Airport. The main focus of the extension is to reduce traffic by allowing a direct Metro rail to the airport. Extending the line will help commuters traveling between Los Angeles to San Fernando Valley and new arrivals at the Hollywood Burbank Airport. In the proposal, commuters will have a direct connection to Amtrak’s Pacific Surfliner and Coast Starlight without having to travel down to Union Station. New arrivals will also have access to cities such as Hollywood without having to stop at Union Station. With a better connection, it will help alleviate traffic on Interstate 5 (I-5), State Route 134 (SR 134), and State Route 170 (SR 170). This document will cover the general plans, zoning analysis, case studies, infrastructure, and key areas.

The proposed Red Line Extension will cross between the City of Los Angeles and the City of Burbank, both of which are in Los Angeles County. Located in San Fernando Valley, it will be around 10 miles north of Downtown Los Angeles. In terms of population, Los Angeles has around 3.9 million people whereas Burbank has around 107,000 people. Los Angeles covers 322,000 acres and Burbank covers 11,100 acres. Despite the disparity in population and land area, the two cities are heavily interconnected. Because both cities want to provide safe and accessible multimodal transportation, public transportation is desired as a way to help lower-income communities.

Concept

The City of Los Angeles is one of the most populated places in the United States. Known for its good weather, job, and its beaches, Los Angeles has managed to attract people across the US and elsewhere across the globe. Burbank, the next city over, is smaller than Los Angeles, but equally vibrant also attracts people to the city. Due to these qualities and high population, the Red Line extension will help connect the two cities better. The length of the extension will be around...
The stations will consist of designs that will benefit the surrounding area. At both stations, the Victory Boulevard & Vineland Avenue and Burbank Airport will be accompanied by an estimated 100 parking spots. Half of the lots will be dedicated to short term parking and the other half will be dedicated for long term parking. Having a place for cars, buses, and rail to intersect will allow for ease of access between the two modes of transportation. In addition to the design, the architectural style will be similar to buildings nearby in order to fit in better with the surroundings.

For the Burbank Airport station, public space near or on site will be minimal due to the lack of space around the station. On the other hand, the Victory Boulevard Station will have more open space near or on site. To enhance the usage of the station, commercial retail could develop near the stations to take advantage of the number of commuters that will be passing through the area. The stations will consist of designs that will benefit the surrounding area. At both stations, the Victory Boulevard & Vineland Avenue and Burbank Airport will be accompanied by an estimated 100 parking spots. Half of the lots will be dedicated to short term parking and the other half will be dedicated for long term parking. Having a place for cars, buses, and rail to intersect will allow for ease of access between the two modes of transportation. In addition to the design, the architectural style will be similar to buildings nearby in order to fit in better with the surroundings.

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**Principles**

The proposed Red Line extension proposal is to help promote the connectivity between Los Angeles and Burbank. Both cities have goals to reduce traffic and encourage economic development and extending the line will help alleviate traffic on neighboring freeways and help spur economic development around nearby stations. In addition, it will adhere to Burbank’s goal of improving mobility while also maintaining its neighborhood integrity. In Los Angeles, it will help improve sustainability and improve accessibility for all its residents.
Figure 1-4: Map of Red Line Extension between North Hollywood to Burbank Airport with community boundaries
Figure 1-5: Map of Red Line Extension between North Hollywood to Burbank Airport with walkability access zones
Effective urban and environmental planning fosters sustainable physical and socio-economic growth by ensuring that projects align with the set developmental agenda. Authorities in California require all cities to draft a general plan, which embodies policies to guide decision-making regarding developmental aspects (Los Angeles City Planning, 2022). Such framework suggests land use and zoning, and allocation of government resources and communicates the community’s vision, priorities, and values. The general plan seeks to establish and achieve societal goals in the future. The city of Burbank has obeyed the State’s requirement by formulating a comprehensive and detailed plan to foster sustainability of the city developments, the Burbank 2035. The Plan includes the primary goal, specific vision, purpose, planning area, and plan organization and use.

The substantive development of Burbank city has prompted a comprehensive plan to guide projects in the area. The city of Burbank 2035, is valid for the next 20 years to foster a balance between quality of life, economic development, and environmental sustainability (City of Burbank, Community Development Department, 2013). Such a principle aims at ensuring that the city can maintain its growing population effectively without compromising the resources for future generations.

Burbank 2035 has a vision that involves all the city stakeholders and guides the overall decision-making processes. The vision entails planning for the known and apparent changes while “preserving our high quality of life for future generations” (City of Burbank, Community Development Department, 2013). These changes include physical development, social aspects like the increase in population, and its apparent implications like the increased demand for housing facilities and other elements. The critical component of the vision is the preservation of quality of life for future generations, indicating that every development agenda must depict a sustainability capacity. Such aspect is achievable through balanced development, community image and character maintenance, economic vitality, environmental equity, housing variety, and general sustainability, to mention a few elements.

Burbank 2035 is purposeful and critical in guiding developmental decision-making and implementation. The Plan helps Burbank meet the legal obligation as it is a requirement by the State government of California (City of Burbank, Community Development Department, 2013). It also shows City decision-makers on resource allocation by offering tenets of feasible developmental projects, determining the future physical city appearance and character of development. The concept ensures that every development project correlates with the community goals and upholds sustainability. Notably, the Burbank2035 reinforces inclusivity by making the interest of every stakeholder a priority. Overall, the Plan plays a pivotal role in ensuring that the development projects and every other aspect are effective and reliable for city dwellers' current and future generations.

Burbank 2035 covers all edges of Burbank City, implying that its principles are applicable across the area. The city covers 17.1 Square miles and lies in Los Angeles County, along the foothills of
Verdugo mountains, and borders San Fernando Valley to the west (City of Burbank, Community Development Department, 2013). Los Angeles and Glendale are the nearby urban centers, with the former approximately 12 miles from Burbank. The Burbank 2035 ensures that all regions in the city delimit meet the set developmental standards.

Burbank2035 has two main sections; the introduction, purpose, and goals and policies. While the former contextualizes the Plan’s aspects, the latter explores the anticipated future and each stakeholder’s specific responsibilities and requirements. Each element has the planning element, which specifies the approaches to implement the goals and the policies. By arranging the document into sections of aspects of urban planning like land use planning, individuals can quickly identify the specificities and explore the requirements. Such an element reinforces simplicity and cultivates the plan implementation.

**Land Use Plan**

Burbank2035 land use planning section explores the specific areas for certain developments to make the goals and policies feasible. The Plan allocates spaces to residential, commercial, industrial, and community facilities for four critical land use. These designations reflect the current and future city appearance by providing a developmental framework.

**Residential Land Use**

Residential land use planning in Burbank plays a critical role in ensuring that the construction projects effectively accommodate the population density and meet community goals and visions (City of Burbank, Community Development Department, 2013). Such zoning provides that the city has affordable houses for every individual regardless of their earnings. In Burbank2035, the residential planning and allocation follow the density patterns.

**Low-Density Residential**

The low-density residential accommodates 0 -14 units per acre and comprises single-family neighborhoods. This category has an R-1 zone that houses up to 7 units per acre and an R-2 that accommodates a maximum of 14 units per acre. The Plan has goals and respective policies that uphold the city’s culture and design.

**Medium Density Residential**

The medium density accommodates a maximum of 27 units per acre and constitutes the residential and medium populated buildings. Such structures exist in regions with security from encroachment by other forms of land uses like the commercials. The specific policies ensure that these buildings exist to maintain the city’s standards.

**High-Density Residential**

The high-density residential accommodates a maximum of forty-three units per acre. Besides the proximity to commercial regions and the capacity to accommodate many persons, the buildings are prestigious. The policies ensure that the real estate investors uphold the quality of life in operations.

*Figure 1-7: Lofts at NoHo Commons Apartment along Chandler Blvd*
Commerical

The commercial zone embodies the non-residential land use allocations, whose purpose is to spur economic development in Burbank city. These prime regions provide a space for investors to establish businesses to provide goods and services to city dwellers and regional and international visitors through trade. With the city’s primary goal being quality of life, the plan prioritizes commercials because they are critical sources of taxes that grow the city’s economy. Besides, setting land for commercial ensures that people can access primary products like food products, water, luxury goods like cars, or reinforcing quality lives. The revenue generated from these businesses plays a critical role in supporting infrastructural development, which is a crucial element for a sustainable society. The classification of the land-use practices in the plan highlights Corridor, Regional, Downtown, South San Fernando, Industrial, and Rancho commercials. The major ones are Corridor, Regional, Industrial, and Rancho.

Most of the development that stimulates economic development in a city is zoned as commercial. Typically, commercial zoning in higher-density areas brings in more traffic as the walkability of an area is much more prevalent. In areas where the role of private automobiles are generally limited due to the mix of uses on certain parcels of land, commercial corridors can thrive. Commercial zoning tends to have among the most relaxed standards out of all zoning designations.

**Corridor Commercial (Burbank)**

These land-use embodies businesses that meet the residents’ daily needs with easy accessibility. Although such premises might appear in a scattered pattern in the city, many form a linear scheme along the city streets. The buildings in these regions also offer residential services to individuals, especially those operating the different businesses on the roads. The Corridor Commercial Goal has eight policies that regulate corridor commercial buildings.

**Regional Commercial (Burbank)**

The regional commercial consists of businesses serving regional roles and is a leading employer to Burbank’s residents. They may be educational, industrial, entertainment, or retail zones, whose services extend beyond the local delimitations. Most enterprises are large-scale commercial establishments, and their res-establishments would be difficult. The Regional Commercial Goal has five policies that sustain well-developed centers that facilitate adequate employment opportunities, provide requisite services to the residents and outsiders, and garners enough revenue for the city.
**Public Facilities**

Public Facilities are addressed in the City of LA's Public Facilities and Services Element and the City of Burbank’s Land Use Element. Public Facilities are needed and may end up being expanded in the event of growing demand and growing population trends in order to keep a City sustainable. New housing units take up water, power, and sewage, and failure to keep up with demand for improved infrastructure could cause a strain on the City.

**Community Background**

**Plan Area**

The neighborhood of North Hollywood lies under the North Hollywood-Valley Village Community Area Plan. The plan encompasses the Valley Village, North Hollywood Redevelopment Area, Metro Rail, “NoHo” Arts District, and Valley-Laurel Plaza Regional Shopping Area (Los Angeles City Planning, n.d.). These areas depict the delimitation of the community plan and indicate the regions where the policies and goals are applicable.

**Role of the Community Plan**

Inclusivity is a critical element of the community plan as every community stakeholder plays an essential role in adopting and implementing initiatives. Individuals effectively understand the community’s needs, desires, and challenges and often offer objective suggestions that help in developing the community. Thus, the authorities engage every party from the planning to the implementation stages.

**Purpose of the Community Plan**

The community plan guides decision-making and resource allocation initiatives by prescribing feasible developmental projects for the Los Angeles cities. The program also guides the land use planning in the cities, ensuring that urban planners manage the city spaces effectively for a sustainable quality of life. For instance, the Plan provides that the available land is set to effectively meet residential and commercial purposes. It acts as a framework or a blueprint that ensures that every action in the Los Angeles community aligns with the goals and the visions.

**The Objective of the Plan**

The city coordinates development in the communities in Los Angeles and designates public and private land uses. The society plans also seek to ensure adequate and reliable housing facilities
for individuals in the communities, promote and sustain economic development, and reinforce balance between private and public developmental projects. Furthermore, the Plan strengthens density-based development to avoid congestion issues, sets a space for recreational purposes, and offers a framework to build a positive and attractive public image.

**Zoning Analysis**

Zoning plays a critical role in urban planning as it ensures the effective integration of developmental projects to create a suitable living environment. The Los Angeles City government uses zoning to prescribe land uses and the respective size and scale they can cover in a city (Los Angeles City Planning, 2022). Burbank has a comprehensive zoning plan that guides projects in the city.

Land use planning is intrinsic in any urban planning initiative. It defines the appropriate area for specific developmental activity and effectively offers a framework to handle urban problems like congestion and inadequate housing effectively. It induces a balance in the community by ensuring that economic development and sustainability resource utilization coexists and complements each other. Burbank2035 embodies a land use element that meets the legal requirements of land usage in Los Angeles and guides the execution of such development projects as road construction (City of Burbank, Community Development Department, 2013). Generally, the purpose of the land use element is to ensure that suitable projects occur in the appropriate space without compromising the quality of life for the current and future generations. Burbank2035 has different goals to reinforce effective and sustainable land utilization, ensuring quality of life, sustainability, community design, housing, and economic vitality.

**Zoning Trend**

The San Fernando Valley, originally developed as a sprawling area northwest of Los Angeles, has slowly progressed into a more urbanized area over the past half-century. Development in the southern part of the Valley has especially reflected this transition. Communities in the southern part of the San Fernando Valley tend to have a higher volume of higher density residential, commercial, and office development, and this is especially reflected on major thoroughfares in the North Hollywood neighborhood of Los Angeles and in the City of Burbank like Victory Boulevard, Burbank Boulevard, and Lankershim Boulevard.

A key reason for higher density development in the Valley is the increased volume and intensity in transit options provided by the Los Angeles County Metropolitan Transportation Authority (Metro). In 2000, Metro finished construction on the Red Line extension into the San Fernando Valley, providing a heavy rail connection from North Hollywood and Universal City to the rest of LA’s Metro Rail system. In 2005, Metro opened the Orange Line, which provided commuters a bus rapid transit (BRT) connection from North Hollywood to Woodland Hills, which opened the doors for potential transit-oriented development (TOD).

**North Hollywood Station**

North Hollywood Station is located approximately at the intersection of Lankershim Boulevard and Chandler Boulevard. The City of Los Angeles designates much of the area around the North Hollywood Metro Station as Community Commercial, especially along Lankershim Boulevard. This allows for all types of higher-density development. The North Hollywood Station area could potentially deliver mixed-use opportunities which would make residents of these projects in proximity to transit options.

Lankershim Boulevard, therefore, is a major corridor for higher density development, such
as office buildings, apartments, and mixed-use development, especially between Victory Boulevard and Magnolia Boulevard. However, the City of Los Angeles zoned the entire corridor of Lankershim Boulevard through the North Hollywood-Valley Village Specific Plan as Community Commercial, which allows flexibility on development as well as a mix of uses. In addition, the area bounded by Hatteras Street to the north, Cahuenga Boulevard to the east, Magnolia Boulevard to the south, and Tujunga Avenue to the west is known as the North Hollywood Arts District, which is meant to serve as a walkable urban village.

Victory-Vineland Area (North Hollywood)

Victory Boulevard is a major thoroughfare serving the entire San Fernando Valley. This arterial runs for 25 miles, spanning from the Ventura County line in the west all the way to Downtown Burbank in the east. Along this stretch consist of several different places of interest, including Fallbrook Center, Westfield Topanga, Pierce College, Reseda Park, the Sepulveda Basin Recreational Area, the Van Nuys Commercial Corridor Valley College, and the Valhalla Cemetery. Metro constructed the Orange Line to connect all these places together with the heavy rail Red Line.

Vineland Avenue is another major arterial cutting through the eastern San Fernando Valley. This thoroughfare begins on Ventura Boulevard, near Universal Studios and the Universal City Red Line Station. Vineland Avenue then travels north through the NoHo Arts District, the western edge of Burbank Airport, and the Sun Valley Recreation Center, where the thoroughfare becomes Sunland Boulevard continuing through Shadow Hills and the Sunland-Tujunga neighborhoods and ending at Foothill Boulevard.
Essentially, the bounds of these streets make this intersection a vital node for activity. The City of Los Angeles designated much of the area around this intersection as Neighborhood Commercial, indicating that most of the land usage would not be as dense, in comparison to areas like around the North Hollywood Station. While the corners all have existing development, it is likely that demographics trends and gradual urbanization patterns in proximity to this site may entice the City to consider rezoning and repurposing land. However, this can lead to implications with economic development due to the number of buildings and the number of tenants on each of these parcels.

For example, on the northeast corner sits mostly Neighborhood Commercial development, like a CVS Pharmacy, 99 Cents Store, Le Bon Patissier Bakery, Victorios Italian Restaurant, but there is also low-to-medium density residential, mainly townhomes. Towards the southeast also has Neighborhood Commercial, with a 7/11, Colemelati Ice Cream, and El Camino Pharmacy, but several single-family homes. In the southwest, there is also Neighborhood Commercial, with a McDonald’s, Chevron, Enterprise, Valley Limo and Town Car Service, and H&A Discount Furniture, as well as some single-family homes along Vicland Place. In the northwest corner, there is a lot of Neighborhood Commercial as well as Open Space to the west of it. Target, Popeye’s, Mis Burritos, Phoenix Grill Express, Fuguya Sushi, Foster’s Donuts, Hair Touch, Launderland Coin-Op Laundry, and Payless Shoe Source are the tenants to the northwest of the intersection, and the Open Space area is the Victory Vineland Community Center which is a bigger recreation facility.

Burbank Airport Southern Edge

The southern edge of Burbank Airport area is served by Empire Avenue and Vanowen Street, both of which are east-west arterials, only being separated by railroad tracks which are served by Amtrak and Metrolink. Vanowen Street runs to the south of the Amtrak/Metrolink tracks while Empire Avenue runs to the north. This connection allows for Amtrak and Metrolink passengers to walk over to the airport to catch flights with ease due to the airport’s proximity to the station. To the south of this area lies parcels of land zoned for General Industrial, mainly consisting of offices for land usage. Valhalla Cemetery, Fry’s Electronics, and several office buildings are also in proximity to the station.

Hollywood Way is another major arterial, connecting Burbank Airport to the Media District in the south. This thoroughfare is in proximity to the Burbank Airport South Amtrak/Metrolink Station as well as the Burbank Airport North Metrolink Station, which could serve as potential nodes for TOD. Given any potential commuter traffic, they can be within walking distance to any of these stations and commute to work with ease. Vanowen Street is another major arterial, which follows Victory Boulevard in traversing the entire San Fernando Valley from east to west. Empire Avenue is an arterial within the City of Burbank which serves the Burbank Empire Shopping Center which is a major mall which can accommodate high volumes of people.
Regional Context

The entire project area is situated within the San Fernando Valley, in the northern part of LA County and located northwest of Downtown LA. More specifically, the project stays in the neighborhood of North Hollywood and then turns towards the City of Burbank. Given the area’s historically car-dominated landscape, much of the Valley is not walkable. However, both cities of LA and Burbank have been aiming more towards increasing mobility and walkability, and LA County has aspired to make this region and the County more connectable.

History

Developed as a byproduct of the greater sprawling network of Los Angeles, the San Fernando Valley primarily depends on automobiles and overarching freeways as arterial linkages to the rest of the area. Due to the housing boom that stretched from World War II until the 1970s, the San Fernando Valley became prime real estate for suburban sprawl. Many of the ranches in the northern and western parts of the Valley were being converted to housing developments and tract homes.

However, the Valley was annexed as part of the City of Los Angeles far before much urban development took place. The annexation of the San Fernando Valley in 1915 allowed LA the ability to gain access to the water coming from Owens Valley from the Los Angeles Aqueduct. However, this came at the expense of the natural environment and the economy of the Owens Valley, once a beautiful valley known for its migrating birds and diverse, self-sustaining ecosystems.

From shifts in economic development from ranches to agriculture to manufacturing, the Valley seems to be dynamic. This is also reflected in trends to become more urbanized, especially in the southern parts. However, the landscape and zoning patterns in the Valley still tend to be very diverse, which can be either a positive or a negative attribute depending on the location and demographics of people.

The Metro Red Line was extended to its current terminus North Hollywood in 2000, and since, there have been considerations for new urbanization in the Valley. The Valley today has a lot of different ethnic enclaves that the City of LA and the broader LA County have to accommodate, and neighboring areas like Santa Clarita, Pasadena, and Orange County have been collateral for rapid population growth and the increased trend for more urbanized environments, which undertake a more open approach to walkability, mobility, and human scale.

Regional Analysis

The San Fernando Valley, as well as the cities of Burbank and Glendale have a number of places of interest, as seen in the map below (Figure 13). Not only are a number of these places visited by locals, but these places attract people from all over LA County as well as neighboring Ventura County. The streets in the San Fernando Valley are mainly distributed in a grid form, with major arterials being separated by a mile from each other, which allows for each of these major arterials to play a strong role in new urbanist and transit-friendly development. The Las Virgenes Canyon Open Space Preserve, Fallbrook Center, Westfield Topanga Mall, Pierce College, Reseda Park, Sepulveda Basin Recreational Area, the central core of Van Nuys, Valley Plaza Recreational Center, Victory Vineland Recreational Center, Valhalla Cemetery, the LA Kings Burbank Sports Center, and the Empire Burbank Town Center are all connected via one thoroughfare—Victory Boulevard.

In addition to streets, freeways also play an integral role in the regional development of the San Fernando Valley. US Route 101 (US-101), one of the major highways serving the Valley, travels...
through the southern periphery of the Valley—with this section also known as the Ventura Freeway—after the Cahuenga Pass to the south from Hollywood and Downtown LA, up to Thousand Oaks and the Conejo Valley, through the Conejo Grade to Ventura. State Route 118 winds through the foothills of the Santa Susana Mountains and connects LA to Simi Valley and the rest of Ventura County, running parallel with US-101 through its nearly entire route. State Route 134 (SR-134) and Interstate 210 (I-210) traverse west from Pasadena, where SR-134 travels through the rest of the southern part of the Valley holding the Ventura Freeway designation, passing by the Burbank Media District, while I-210 travels northwest passing through the Crescenta Valley. I-210 also travels east from Pasadena towards the San Gabriel Valley communities and into San Bernardino County.

Interstate 5 (I-5), the other major highway serving the Valley, travels in a southeastern pattern and connects the Valley to Santa Clarita and the Central Valley to the north as well as Downtown LA, the Gateway Cities, Orange County, and San Diego to the south. Interstate 405 (I-405) serves as a bypass to I-5, traveling through the Santa Monica Mountains and connecting the Valley to Santa Monica, Los Angeles International Airport (LAX), the South Bay communities, Long Beach, and Orange County. State Route 170 (SR-170) travels parallel to I-405 but links I-5 to US-101 for increased mobility in the eastern part of the Valley. SR-118 merges with I-210 at its eastern end in the Valley. SR-170 and I-405 merge with I-5 at their northern ends in the Valley while I-210 merges with I-5 at its western end in the Valley, after passing through Sylmar and the rest of the northeastern periphery of the Valley.

Amtrak and Metrolink both serve as regional rail operators in the San Fernando Valley. Metrolink’s Antelope Valley Line and Ventura County Line connect LA’s Union Station to the Antelope Valley and Ventura County, respectively. Amtrak operates the Pacific Surfliner and Coast Starlight services both through the San Fernando Valley, serving Burbank, Van Nuys, and Chatsworth at stations, where the Pacific Surfliner makes all stops on its route to San Luis Obispo whereas the Coast Starlight is one of Amtrak’s long-distance train routes, traveling from LA’s Union Station to Seattle, Washington, skipping several Southern California stations served by the Pacific Surfliner on its route until San Luis Obispo.

**Figure 1-14:** A map of the San Fernando Valley with the points of interest throughout the region
Chapter 2: Land Use and Infrastructure planning

Specific Plan Zoning Codes

Burbank Golden State District

The Golden State District is a 640 acre piece of land consisting of many industrial and commercial buildings to the east of Burbank Airport. For example, the businesses in the area include Marriott, Kaiser Permanente, UPS, and Fry’s Electronics. To the north, it borders the 5 freeway and Empire Ave. to the south. Currently, the area serves as a transportation hub for goods and people.

The Golden State Plan has three different components: the Station area plan, the Golden State Specific Plan, and the Environmental Impact Report. First, the Station area plan covers the High Speed Rail station that is expected to travel through the Golden State District. Second, the Golden State Specific Plan focuses on the recommendations for the Station area plan as well as “serve as the regulatory document for future land use, development, infrastructure, and public realm improvements” (City of Burbank). Third, the Environmental Impact Report serves as a way to assess the potential impact on the environment and recommend mitigations to limit the impact.

In the Golden State Specific Plan, they created several plans that fit in different parts of the future development of the area. The first plan they have is the Mixed Use TOD. The idea behind this plan is that it will serve as a base mixed-use TOD development. In this area, not all buildings will be replaced, but rather several buildings located at key intersections. Key intersections include Hollywood Way and Vanowen Street and San Fernando Blvd and Hollywood Way. In this plan, some guidelines they followed are as follows:
In the second area, they plan to have the Commercial and Flex TOD. This one is slightly different from the normal mixed-use TOD as one of the key factors is that it will not allow any residential uses. The Commercial & Flex TOD aims to redevelop the future terminal, parts of the car rental, and parts of the commercial area around Fry's Electronics. The commercial buildings will be smaller since large format retail is not allowed in this area. In this part of the plan, the guidelines are states as the following:

- Residential not allowed
- 2.75 FAR
- 3-5 story scale
- Office, R&D, media, wholesale, entertainment, hotels, restaurants, retail, flex, light industrial
- Large format retail prohibited

The third area consists of a mixed use corridor. This part focuses on redeveloping the commercial area around Empire Ave. into a mixed use corridor. There is a small section along San Fernando Blvd. that is planned to be mixed-use as well. The plan aims to increase development in the area. They aim to add several open spaces as well. In this plan the guidelines put forth goes as following:

- 60-120 du/ac (for vertical MU)
- 1.25-2.0 FAR
- 3-4 story scale north of Empire
• 6-8 story scale south of Empire
• Residential, commercial and mixed-use buildings permitted
• Offices, retail, restaurants, hotel, entertainment
• Transitions to adjacent residential

The fourth plan is the Golden State Employment. In this area, it will focus on job creation to help stimulate economic activity in the area. The majority of the designated area will be located in the northern section of the plan, centering around Winona Ave., Hollywood Way, Ontario St., and San Fernando Blvd. The other designated section will be located south of the airport in front of the cemetery. In this section the guideline are:

• Residential not allowed
• 1.75 FAR
• 1-3 story scale
• Industrial and commercial uses permitted
• No housing allowed
• Office, R&D, media, wholesale, entertainment, indoor recreation
• Retail + restaurant allowed as accessory use to land uses listed above

Fifth, is the Makers District. This section comprises a smaller section of the specific plan when compared to the other parts. In the center of the plan, it encompasses a section between Thornton St., Winona Ave., and Ontario St. The district will focus on smaller industrial and commercial uses such as office, R&D, media, wholesale, and more. The guideline for this district are:

• Residential not allowed
• 1.25 FAR
• 1-3 story scale TBD
• Industrial and commercial uses permitted
• No housing allowed, except live/work
• Office, R&D, media, wholesale, entertainment, indoor recreation, and restaurants

Figure 2-5: Example of a commercial building
Figure 2-6: Example of the low density buildings for the Makers District
Last but not least is the Residential area. In this area, it will focus mainly on multi and single family housing to increase the number of housing in the area. The site will be in the eastern section of the plan, centered around Naomi St. and Thornton St. The guidelines state the following:

- 14-43 du/ac
- Commercial not allowed
- Multi- and single-family
- 2-3 story scale in multi-family areas; 1-2 story in single
- Home offices and low-impact home businesses, ADUs
- Objective standards and guidelines that facilitate diverse house types
- Updated parking standards

All in all, the specific plan will be beneficial for our project since it aims to add around 3,500 to 5,000 new housing units in the area. Most of the housing will be compact which will help in making public transportation more viable in this situation since they will live in close proximity to the station. By extending the Red Line, it will connect commuters in Hollywood and Los Angeles to an economic activity center. With that in mind, the plan is that it will help facilitate more visitors and shoppers to the specific area plan. As a result of more people visiting the area, it will help stimulate economic activity by getting people to places they need to go.

Figure 2-7: Example of multi-story residential buildings for the Residential area

Figure 2-8: Current land uses of the specific plan study area
Demographics

Age and Race

Although their racial mix is considerably different, North Hollywood and Burbank have similar demographic distributions to Los Angeles County. According to the U.S. Census Bureau, North Hollywood’s population is relatively even, with roughly 12% classified as seniors (65 and over) and 17% as children (under 18). Burbank’s population distribution of 16% seniors and 18% children (U.S Census Bureau, 2020). On the other hand, Los Angeles County’s population distribution of 14% seniors and 22% children. North Hollywood’s racial and ethnic differs from the overall cities, with a white majority. Figure 22 shows that North Hollywood’s racial and ethnicity comprises 43% white population, 6% black population, 7% Asian population, 40% Hispanic population, and 3% two other races. Compared to Los Angeles County, North Hollywood’s racial makeup comprises more white, only 26% less than North Hollywood’s 43 % (U.S. Census Bureau, 2020). Burbank’s racial and ethnic makeup is majorly white with a 55% white majority, 24% Hispanic population, 3% black population, 12% Asian population, 4% two or more races, and 2% other races. However, Burbank’s racial and ethnic makeup is different from that of Los Angeles County, CA, which is 26 % white population, 48 % Hispanic population, 8 % black population, 15 % Asian population, and 3 % two or more races.

Household Income

According to U.S. Census, there are 54,342 households in North Hollywood, with 2.5 persons per household. There are 41,473 households with 2.5 persons per household in Burbank. Los Angeles County has 3,332,504 households, with three persons per household. The median household income at $59,466 annually, while the per capita income is $34,778 in North Hollywood. While Burbank’s household income of $79,212 is slightly higher than Los Angeles County’s household income, which is $71,358 (U.S. Census).
**Education**

According to U.S. Census, North Hollywood residents hold a high school degree about 17% of the population, while 30% have attained college and 27% have a bachelor's degree. Those who have attained postgraduate degrees compose 9%. On the other hand, 17% have not attained any degree. A significant number of the population has been to college. The number of individuals with bachelor's degrees is higher in Los Angeles County than in North Hollywood. Similarly, the number of individuals with postgraduate degrees is slightly higher in North Hollywood than in Los Angeles County (U.S. Census Bureau). For Burbank, about 93% of the population consists of people with high school grades or higher, 44% have bachelor's degrees, and 32% people attended some college, about 1.3 times higher than in Los Angeles County. Similarly, the percentage of postgraduate degrees is about 10 % higher than in Los Angeles County. Averagely, more residents of Burbank finish high school than in Los Angeles County, since in Los Angeles County about 44% consist of people with bachelor's degrees or higher, and 84% have high school grades or higher (U.S. Census Bureau).

**Transportation**

The majority of the working population in North Hollywood drives themselves to work, representing 74% of the working population. 7% by carpooling, 1% by walking, 6% by public transit, while 10% work at home (U.S. Census Bureau, 2020). Compared with Los Angeles County, the same commuting trend seems to be observed. In Los Angeles County, most workers commute by driving themselves and represent 72% of the total working population. However, the percentage of those who work at home in North Hollywood is slightly higher than in Los Angeles County. According to the U.S Census, about 74% of the working population in the Burbank community drive themselves to work. The percentage of people who drive alone in Burbank is about the same as in Los Angeles County, which stands at 72%. The rest of the population uses other means to get to work whereby 6% by carpooling, 2% by public transit, 1% by bicycle, 2% by foot, and 13% work at home. Compared to Los Angeles County, CA, there are differences in how people commute to work. In Los Angeles County, CA, 73% commute by driving themselves, 10% by carpooling, 5% by public means, 1% by bicycle, 2% by foot, 2% by other means, while 8% work at home (U.S. Census Bureau).
Mobility

Proper mobility is a necessary cornerstone to ensure people can get from point to point. Given Southern California’s history with being centered around the automobile, this has come to the entire area being plagued with circulation issues for decades to come. The City of Los Angeles implemented a plan for the amendment to its Mobility Element in 2035, which was initially adopted on August 11, 2015, and was most recently amended on September 7, 2016. (Mobility Plan 2035)

In 2008, the California State Legislature adopted AB 1358, The Complete Streets Act. This made it a requirement for cities to “plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban or urban context.” (Mobility Plan 2035) With this context in mind, the majority of cities in the State of California were told they needed to better satisfy transportation needs to better accommodate underserved communities.

The City of Los Angeles has identified a number of key forces in the shift of how circulation is being planned–changing demographics, transportation and land use connectivity, technology, the perception of streets as places, and equity and resource distribution. While the City has made strides in transportation dating back to its inception, a Mobility Element was not established for the City until 1999, when the Transportation Element was established. This element would evolve into the Mobility Element of the General Plan.

Since the main cornerstone of the project would be the extension to Burbank Airport (BUR), it is important to note the rationale. The City of Burbank is undergoing a number of projects to increase mobility throughout the area, including the widening of Interstate 5 (I-5), the new Empire Avenue interchange, and a replacement terminal for BUR. While these projects will increase the mobility around BUR for the short-term, it would still emphasize on the car dependent nature of LA County, and congestion levels could pick back up again. Public transit, however, can make people less dependent on their cars to get around and in the long-term, it would be cheaper. Gas prices are not cheap, and traffic congestion will not go away.

Sitting just to the north of the Amtrak/Metrolink station, BUR is one of the only airports in the United States with a direct connection to Amtrak. However, infrequencys and ticket fares for Amtrak and Metrolink trains make rail the least ideal way to get to BUR. An extension of the public transit network to this airport would allow commuters easy access from the airport towards more lucrative areas of Los Angeles, such as Hollywood and Downtown LA, all by the way of just one Metro route. With Burbank being connected to the LA Metro Rail system, this can strengthen Burbank’s identity as a growing media and technology hub.

The City of Burbank’s Mobility Element is meant to connect people to jobs, services, and recreation opportunities. The City acknowledges that it is a city mainly dependent on solo vehicle travel, as the entirety of LA County has historically been a region built off sprawling communities and automobile domination. The City acknowledges that this kind of mindset had its ripple effect with increased traffic congestion, which led to increased funding for better roads to better accommodate vehicular travel. These included widening lanes, adding lanes, and shifting the developmental focus onto vehicles rather than on people.

Burbank’s Mobility Element was drafted to prepare the City’s mobility system to adapt to new
challenges while maintaining its high quality of life, secure economic position, and equal access to opportunity. It is meant to serve as a tool to address coordination efforts among the local, regional, and state transportation plans to better resolve circulation issues. (Burbank2035) The Mobility Element is meant to identify circulation issues and resolve them by way of goals and policies which would not lead to costly delays.

One of Burbank’s main goals for mobility is the idea of balance, which is meant to serve as a way to achieve economic vitality while also preserving the neighborhood character. The following policies can be applied to a Red Line extension to Burbank Airport to ensure economic vitality is kept while also preserving the ability of Burbank’s technology industry to flourish.

- **Policy 1.1** Consider economic growth, transportation demands, and neighborhood character in developing a comprehensive transportation system that meets Burbank’s needs.
- **Policy 1.4** Ensure that future land uses can be adequately served by the planned transportation system.
- **Policy 1.5** Design transportation improvements to be compatible with the scale and design of existing infrastructure.
- **Policy 1.6** Use technology and intelligent transportation systems to increase street system capacity and efficiency as an alternative to street widening.
- **Policy 1.7** Ensure that the transportation system enables Burbank residents, employees, and visitors the opportunity to live, work, and play throughout the community.

Burbank’s goal for sustainability follows a similar concept—shifting its mobility and accessibility needs without diminishing the community’s values. The following policies in this goal will ensure this project will set an example for Burbank’s progression into more user-friendly modes of transportation.

- **Policy 2.1** Improve Burbank’s alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.
- **Policy 2.2** Weigh the benefits of transportation improvements, policies, and programs against the likely external costs.
- **Policy 2.3** Prioritize investments in transportation projects and programs that support viable alternatives to automobile use.
- **Policy 2.4** Require new projects to contribute to the city’s transit and/or non-motorized transportation network in proportion to its expected traffic generation.
- **Policy 2.5** Consult with local, regional, and state agencies to improve air quality and limit greenhouse gas emissions from transportation and goods movement.

While Burbank has its own transit network, including a bus route from North Hollywood Station to BUR, a Metro Rail connection linking North Hollywood Station to BUR would be viable given that rail transportation has been more frequent and efficient than bus transportation. If BUR is going to be expanding, then there will be a need to expand transportation accessibility to the airport as well. The following policies pertaining to Burbank’s convenient, efficient public transit network support the idea for a Metro extension to BUR.

- **Policy 4.1** Ensure that local transit service is reliable, safe, and provides high quality service to major employment centers, shopping districts, regional transit centers, and residential areas.
- **Policy 4.2** Use best-available transit technology to better link local destinations and improve rider convenience and safety, including specialized services for youth and the
elderly.

- **Policy 4.3** Improve and expand transit centers; create a new transit center in the Media District.
- **Policy 4.4** Advocate for improved regional bus transit, bus rapid transit, light rail, or heavy rail services linking Burbank’s employment and residential centers to the rest of the region.
- **Policy 4.5** Improve transit connections with nearby communities and connections to Downtown Los Angeles, West San Fernando Valley, Hollywood, and the Westside.
- **Policy 4.7** Integrate transit nodes and connection points with adjacent land uses and public pedestrian spaces to make them more convenient to transit users.
- **Policy 4.8** Promote multimodal transit centers and stops to encourage seamless connections between local and regional transit systems, pedestrian and bicycle networks, and commercial and employment centers.
- **Policy 4.9** Support efforts to create a seamless fare-transfer system among different transportation modes and operators.

All in all, it seems like both the City of Los Angeles and the City of Burbank have similar goals in regards to mobility and that there is a desire to further connect Burbank’s own transit network to Metro’s transit network spanning throughout the entire County. With the Burbank Airport station located just south of the airport terminal, this could serve as a major source of economic vitality throughout all of LA County. This could increase the role BUR has in the region and could further put Burbank on the map as a hub for digital media, technology, and other economic development.
Figure 2-12: A map of all the street classifications throughout LA
Figure 2-13: A map of all the street classifications in the San Fernando Valley
Public Facilities

Emergency Services

Emergency services are addressed through the City of LA’s Public Facilities and Safety Elements regarding the City of Los Angeles and the City of Burbank’s Safety Element regarding the City of Burbank. Emergency services are integral public facilities for a city due to their efforts to keep residents safe. Having an adequate emergency response system is necessary to coordinate disaster preparedness and manage evacuation routes, and this can be done through adequate staffing, equipment, technology, and other resources.

The Los Angeles Fire Department (LAFD) is responsible for providing fire protection services for the City of Los Angeles. The LAFD Valley Bureau is responsible for all LAFD operations in the San Fernando Valley. There are three LAFD stations within the North Hollywood-Valley Village plan area. Station 60 near the North Hollywood Metro station, Station 89 in the northern part of North Hollywood, and Station 102 in the western part, near Valley College.

Burbank Fire Department (BFD) provides fire protection services for the City of Burbank. Burbank Airport is also served by its own fire department. BFD Station 13 also directly serves the airport, while BFD Station 14 provides adequate coverage near the airport as well as the rest of the Golden State Specific Plan Area. The training center for the BFD is also located within proximity to the specific plan area.

The Los Angeles Police Department (LAPD) is the primary law enforcement agency responsible for public safety in the San Fernando Valley. LAPD’s jurisdiction is throughout the entire City of Los Angeles. LAPD’s North Hollywood Station is located on Burbank Boulevard to the northwest of North Hollywood Metro Station. Due to ongoing homeless encampments, LAPD has been more active in patrolling the area surrounding North Hollywood station.

The Los Angeles County Sheriff’s Department (LASD) also provides law enforcement services for the San Fernando Valley as its jurisdiction is throughout the entire County. However, LASD usually sticks to patrolling unincorporated areas of the County as well as cities that contract LASD to patrol their jurisdictions. Policing within the Metro system is shared between LAPD and the LASD. Long Beach Police Department (LBPD) also provides some police services for several Metro Blue Line stations.

The Burbank Police Department (BPD) provides law enforcement services for the City of Burbank. Burbank Airport (BUR) also has its own law enforcement to ensure safety in and around BUR. BPD’s headquarters is located in Downtown Burbank, adjoined by a sheriff’s station.
Utilities

Utilities are a key part of regional infrastructure. Water, power, and sewage all fall under proper utilities to ensure buildings are all connected to a source. Each new development will have the possibility to require potential upgrades to existing systems to water, power, and sewage. As the largest municipal utility department in the United States, the Los Angeles Department of Water and Power (LADWP) is responsible for providing utilities to the City of Los Angeles and the surrounding area, while Burbank Water and Power (BWP) supplies utilities to the City of Burbank.

The water supply throughout the area is sourced from groundwater pumped, treated aqueducts, and imported water from the Owens Valley. (LA County Waterworks) The California Aqueduct spanning throughout the Central Valley and the Colorado River Aqueduct help supply water throughout all of Greater Los Angeles, as there are no clean water sources of their own. As Southern California is prone to droughts, it is important for a city and an entire region to have a sufficient supply of water in order to sustain its population.

Southern California Edison is the primary source of power throughout the area, with the cities of Los Angeles, Azusa, Pasadena, Burbank, and Glendale having their own water and power services. The greater Los Angeles area gets its power from a number of different sources, stretching from various different states, like the Copper Mountain Solar Plant and Don Campbell Geothermal Project in Nevada, the Milford Wind Plant and the Intermountain Coal Power Plant (IPP) in Utah, and Hoover Dam and the Palo Verde Nuclear Plant in Arizona.

Garbage Disposal

A proper sanitation system is vital to ensure sufficient waste management in a city. The City of Los Angeles has its own sanitation district while Waste Management (WM) provides garbage collection services for the City Burbank. Despite this, both jurisdictions operate at the same garbage disposal facilities as they can hold large amounts of waste. Despite the large area for waste storage, the issue of littering still is an issue throughout the entire Valley, especially in denser parts like North Hollywood and Burbank.

Part of the reason can be attributed to the lack of sufficient access to sanitation facilities, like landfills and yards, which contribute to the frequencies of garbage collecting. However, there is the Toyon Canyon landfill located near Griffith Park to the south of the project area as well as a landfill in the Sun Valley neighborhood, both of which serve both LA and Burbank garbage trucks. Scholl Canyon Landfill to the east and Sunshine Canyon Landfill to the north which also serve as landfills for the San Fernando Valley.

Parks & Recreation

Parks and recreational facilities are a core element in preserving the natural environment in an area. Greenspace has proven repeatedly to have a positive influence on the visual attractiveness of a neighborhood and the entire city altogether. These areas can attract large amounts of people in a community and can bring vibrancy to that community and provide a sense of place. However, in some cases, these areas can attract the wrong crowd which can cause the condition of these
recreational facilities to deteriorate over time. In North Hollywood, there are two key recreational facilities which are in proximity to the project areas—the North Hollywood Recreation Center and the Victory Vineland Recreation Center.

The North Hollywood Recreation Center is located within a quarter-mile from the North Hollywood Metro Station. The recreation center includes a skate park, hockey rink, indoor pool, playground, and basketball and tennis courts. This recreation center is part of the vast green space that spans on the west side of Tujunga Avenue between Chandler Boulevard and Riverside Drive, being split at Magnolia Boulevard. The amenities of the recreation center are located to the north of Magnolia Boulevard, although food trucks sometimes park to the south. The green area to the south of Magnolia Boulevard is meant to serve as more greenspace with some dirt trails throughout.

The Victory Vineland Recreation Center is located on the northwestern corner of Victory Boulevard and Vineland Avenue, just to the west of Target. The recreational center hosts an indoor facility and provides a green area, playground, and a basketball court, all connected by concrete pathways. Food trucks are also parked along Victory Boulevard to serve visitors. However, many of the facilities have seen some gradual deterioration and there may be demand for upgrades to the equipment.

The Burbank Airport area has little recreation. The Valhalla Cemetery is located to the south of Burbank Airport. While serving as a place to mourn the dead, the area is not seen as a potential place for recreation. However, there are smaller parks nearby, such as the Larry L. Maxam Memorial Park, Robert E. Gross Park, and Ralph Foy Park. However, none of these parks can be easily accessible from the project area.

**Transportation**

Transportation facilities help people access different places easier. These can consist of small, lighter facilities like bus shelters and bike shelters but can also be big buildings like a train station or an airport. Nonetheless, with transportation facilities come different standards to accommodate for these uses, and this is important as all routes that serve one particular area can easily provide easy mobility among all users with a proper facility.

The Burbank Airport, for example, is an important land use segment, as it accommodates air travel and is maintained by supporting facilities and land use regulations that restrict development to ease the flow of aircraft taking off and landing at Burbank. Burbank Airport is also connected...
Overhead power lines make up the majority of the electrical infrastructure that travels through currents. SoCal Edison and the LADWP are the agencies responsible for ensuring that electric currents are transmitted in a safe and efficient manner. While power lines are built above ground, they are not likely to present a hazard with construction of a new underground rail project, although the need to illuminate tunnels, stations, and underground facilities between stations would likely lead to consideration to upgrades to the existing power generation infrastructure.

The North Hollywood Metro Station also has subway entrances on both sides of Lankershim to enhance accessibility from buses to LA’s Metro Rail network. The Orange Line Busway (BRT) service follows Chandler Boulevard throughout the neighborhood of North Hollywood where it terminates to the west of Lankershim Boulevard, next to the west entrance for the Red Line. Most LA Metro bus routes serve east of Lankershim Boulevard, next to the east entrance for the Red Line.

**Infrastructure**

**Power Lines**

Overhead power lines make up the majority of the electrical infrastructure that travels through currents. SoCal Edison and the LADWP are the agencies responsible for ensuring that electric currents are transmitted in a safe and efficient manner. While power lines are built above ground, they are not likely to present a hazard with construction of a new underground rail project, although the need to illuminate tunnels, stations, and underground facilities between stations would likely lead to consideration to upgrades to the existing power generation infrastructure.

**Water Pipelines**

Any underground project can cause concerns for groundwater storage as well as soils and sewage. Any new facility would likely consume more water and would consider any upgrades to the water supply. However, there may be issues that arise with constructing stations through sewage pipelines that could ultimately impede on development. However, there are no sewage pipelines located within the project areas. With the soils, however, it would be likely that any loosening up of soil can lead to liquefaction and potential sinkholes to form. The southern part of the Valley has unstable soils that could lead to an environmental hazard with any manipulation of the ground that would be necessary to dig tunnels.

**Roads & Highways**

An understanding of the network of roads and highways throughout the San Fernando Valley is crucial for any circulation project in the area. While the major streets are laid out in a grid separated in hierarchy—with connector streets by quarter-mile blocks from arterials, minor arterials being separated by half-mile blocks from major arterials, and major arterials being separated by one mile blocks from each other, it seems evident that the San Fernando Valley was built as a sprawling area of Los Angeles.
North Hollywood Station is connected by Lankershim Boulevard and Chandler Boulevard. Lankershim Boulevard is a diagonal thoroughfare cutting through the NoHo Arts District and the rest of the commercial development in North Hollywood. Lankershim Boulevard has traffic flowing in two lanes each direction, giving vehicles the ability to travel in either lane. Chandler Boulevard is also classified as an arterial, with two lanes running in each direction. However, Chandler Boulevard is a divided road that runs in between Burbank Boulevard to the north and Magnolia Boulevard to the south. The Orange Line BRT route runs through the middle of Chandler Boulevard from North Hollywood Station to Coldwater Canyon Avenue, where it veers right, crosses the intersection of Burbank Boulevard and Fulton Avenue, and then continues west towards Sherman Oaks running parallel to Oxnard Street.

Lankershim Boulevard travels from its intersection with Ventura Boulevard and Cahuenga Boulevard to the south, near Universal City, all the way north to its intersection with San Fernando Road. Lankershim Boulevard provides access to I-5 in both directions, with some of the ramps also serving the highway via its intersection with Roscoe Boulevard and Tuxford Street. To the south, SR-134 has a westbound exit ramp to Lankershim Boulevard and an eastbound entrance ramp can be accessed via Riverside Drive. Further south, US-101 provides ramps in both directions for Lankershim Boulevard.

Since Lankershim Boulevard is a diagonal street, it intersects both Tujunga Avenue and Burbank Boulevard simultaneously. Tujunga Avenue is classified as a minor arterial in the City of LA's Mobility Element while Burbank Boulevard is classified as a major arterial. Tujunga Avenue, while a narrow street, provides access to not only the North Hollywood Recreation Center, but also the northbound lanes of SR-170–via the Riverside Drive exit–and northbound lanes of US-101, while the southbound lanes of both highways serve Tujunga Avenue–via the Riverside Drive exit for SR-170.

Lankershim Boulevard continues its diagonal through Victory Boulevard, where the two both intersect with Colfax Avenue. While intersections with more than two streets can seem complicated, this one sees Colfax Avenue's northern terminus and Lankershim Boulevard heading straight north. Like Tujunga Avenue—a mile to the east–Colfax Avenue is also classified as a minor arterial, having only one lane per direction by the moment it intersects with Lankershim Boulevard and Victory Boulevard. Colfax Avenue provides access to SR-170 via the Burbank Boulevard entrance and exit ramps.

Victory Boulevard is classified as a major arterial under the City of LA's Mobility Element. It is one of the integral streets in the entire Valley as it traverses from edge to edge–from the edge of Burbank all the way to the Ventura County Line. The Regional Context section outlines all the points of interest that can be accessed by this thoroughfare. Victory Boulevard provides entrance and exit ramp access for SR-170 and I-405, which indicate this thoroughfare as a major one. Vineland Avenue also provides freeway access to SR-170's northbound lanes while US-101 provides exit and entrance ramps to Vineland Avenue for both directions, and SR-134 provides an eastbound exit ramp. The Zoning Analysis section also highlights why the Victory Boulevard intersection with Vineland Avenue is viewed as a crucial intersection with potential for an overhaul in development to bring a sense of vibrancy to the community.

Empire Avenue and Vanowen Street run parallel to each other in the area near BUR, only separated by the Amtrak/Metrolink right-of-way (ROW). Vanowen Street in the Valley communities is located a half-mile to the north of Victory Boulevard, and like that thoroughfare, traverses through nearly the entire Valley, from El Escorpion Park in the western edge of the Valley all the way to Buena Vista Street, which in its delight is a major arterial in the City of Burbank providing entrance and exit ramp access to I-5 in both directions. While Empire Avenue continues traveling through the
Bus Shelters

All major thoroughfares and most minor thoroughfares have Metro bus routes operating along them, many of which have bus stops at nearly every collector and arterial street that the respective thoroughfare they operate along intersects at. Due to Southern California’s warm climate, Metro and the City of LA came to a consensus that not all bus stops require an enclosed shelter. For example, while most bus routes serving North Hollywood Station can be accessed via the eastern side of the complex, bus routes 155 and 224 run along Lankershim Boulevard and serve the complex via open bus shelters.

At Victory Boulevard and Vineland Avenue, bus route 164 runs along Victory Boulevard and bus routes 90 and 162 run along Vineland Avenue. While there are enclosed shelters, the rest are open benches and not sheltered, which implies the need for upgrades to the existing bus infrastructure. While Vanowen Street does not have any bus routes during its section in Burbank, Empire Avenue has plenty of bus access. This is because bus routes stopping along Empire Avenue will not only connect to the airport, but to the Amtrak/Metrolink station as well. The transit center here only has two bus shelters and no benches which means that many people waiting to get on the bus may have to stand, which may be uncomfortable.

Metro Station & Tunnels

Currently, North Hollywood Station and Universal City Station are the only two underground metro stations in the Valley. The Red Line extension to BUR will call for two more stations—one located under the intersection of Victory Boulevard and Vineland Avenue and one located just to the south of BUR, where the now-abandoned Fry’s Electronics store used to be. Due to the need to keep this project consistent with the rest of the Red Line, both of these stations will be built with one single island platform, which will allow for cross-platform transfer from one train to the other.

With new stations, there would be a need for tunnels to connect them to the rest of the line. Tunneling raises concerns of its own, like the aforementioned natural risks of subsidence and liquefaction, potential debris needing to be cleared up as a result of unbalanced soils, increased traffic congestion, property damage, and the increasing cost per mile to tunnel. This project is anticipated to use a mix of cut-and-cover and deep boring in order to address these potential concerns, which would make these tunnels travel at anywhere between 40 feet and 60 feet below the surface. Cut-and-cover tunneling requires penetrating the surface, usually from a
Probably the biggest hindrance to the entire tunneling scheme is the Valhalla Cemetery, which is towards the planned station at BUR. Despite this, there is anticipation that the tunnels will likely be deep enough to not cause any sort of disruption, as most bodies do not get buried past 15 feet below the surface, depending on whether or not cemeteries stack bodies as a way to put multiple names on one grave site.

With that being said, the tunneling will continue north along Lankershim Boulevard via cut and cover, up until the intersection with Burbank Boulevard and Tujunga Avenue, where it will travel north along Tujunga Avenue, where it will gradually transition to deep boring. Once the tunneling reaches Oxnard Street, the line will turn northeast towards the intersection of Victory Boulevard and Vineland Avenue, where the first stop on the extension is. The line will continue northeast via deep boring where it turns to the east near Clybourn Avenue. The line may go deeper underground depending on the magnitude of concerns with the above cemetery, but the line will ultimately terminate just south of BUR, where passengers can connect to Amtrak and Metrolink or they can access the airport terminal. It is unlikely that there would be any extension of the Red Line past this point in the future. The Key Areas section regarding BUR details the rationale for this.
Sustainable and Healthy Community

An important aspect for communities in Los Angeles is the emphasis on sustainable and healthy communities. One of the many goals that Los Angeles has is to provide “a balanced, multi-modal, and sustainable transportation system that offers safe and efficient options for all users.” (City of Los Angeles, 2021, 10). Currently, the majority of people in Los Angeles commute to work, shopping, and other activities by using automobiles. Due to the number of cars on road, more than “50% of all fatalities” (City of Los Angeles, 2021, 11) have been pedestrians and cyclists. Other concerning automobile accidents include vehicle collisions which are also another contributor to fatalities. To address the overreliance on automobiles, using other modes of transportation will help by allowing commuters alternative modes of transportation. The proposed Red Line Extension will provide the citizens of Los Angeles with more accessibility to other parts of the city that otherwise would not be available. By instituting more connections at vital points, it will help public transportation become more viable. With people having more places to go with public transport, the plan is to help reduce the number of cars on the road. Having fewer people on the road will hopefully result in fewer automobile-related accidents.

In addition to reducing the amount of automobile-related accidents, implementing the Red Line Extension will also help reduce pollution. Pollution, whether it would be carbon dioxide, nitrogen oxide, toxic air pollutants, or others disproportionately affect children, the elderly, and low-income families as they are the ones most exposed to poor air quality. Consequently, people who are more affected by air pollution suffer from lung cancer, cardiovascular diseases, and other respiratory illnesses. With the Red Line Extension, the aim is to reduce the number of vehicles on the road, which would ultimately result in less pollution. Reducing the number of vehicles will help the City of Los Angeles achieve its goals of providing a healthier community.

The City of Burbank also has its own goals for creating a sustainable and healthy community. In order to provide a sustainable and healthier community, one of Burbank’s main goals is to invest in alternative modes of transportation. The first policy to achieve this goal is to “improve Burbank’s alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.” (City of Burbank, 2013, 4-3). In other words,
Another important goal that Burbank aims to do is to reduce the number of greenhouse gas emissions. In 2020, as much as 54% of all emissions can be attributed to on-road mobile transportation pollution (City of Burbank, 2013, 2-10). Due to the large proportion of emissions coming from road vehicles, providing alternative transportation is a way to reduce carbon emissions and other greenhouse gases. The main benefit is that heavy rail is able to move more people with fewer pollutants. Extending the Red Line will provide a more sustainable and healthier community by letting commuters use less intensive carbon-emitting transportation.
Chapter 3: Key Areas

North Hollywood Metro Station

Site Context

The infrastructure for the North Hollywood Metro station facility is already existing. North Hollywood Metro Station sits at the heart of North Hollywood and can give people a sense of a community. The City of LA aspires for North Hollywood to become more of a walkable environment, which is shown through the development here being much higher in density. The station sits just to the north of the Arts District which allows for more multi-modal transit throughout the area. The higher density trend is consistent on all bounds of the station site as for many people, they can access activity nodes by walking.

Based on the change in density and new urbanist principles being applied to planning in the North Hollywood community, it seems evident that North Hollywood is transitioning into a more urbanized area, especially within the North Hollywood Station area. Lankershim Boulevard is a major thoroughfare through North Hollywood, and it links both the Metro station and the NoHo Arts District. As an aspiration to make North Hollywood a more walkable community, it is safe to say that the corridor of Lankershim Boulevard to the north of the station could have potential to also transition to a more urbanized area, just like the area to the south.

Impacts

The impact it would have on the surrounding area will greatly benefit the people in the surrounding area. By extending the Red Line to Burbank Airport, the North Hollywood Station will be a connecting stop to Burbank Airport. With more connections, that will allow more people to be within range of using the metro. In addition, since North Hollywood is becoming more dense, it will benefit the station by adding more people living within a short distance to the station. North Hollywood Station is also connected to nine different bus lines and has bike access which makes it easier to travel locally from the station. By having more connections, not just the Red Line but also different modes of transportation, it will help more people gain easier access to using the Red Line.

Another important impact it will have is that it will help people travel without using a car. Since commuters who use the metro instead of a car will have more places to go, it serves as a viable alternative. The beneficial impact on these commuters is that it will save them money, reduce pollution, and reduce the traffic in the surrounding areas. By not owning a car, it will help them save money that would otherwise go to maintenance and gas. Furthermore, less traffic will also help with less pollution which improves the air quality in the surrounding area. By having more commuters use the metro instead of cars, it will make a positive impact on the community and the surrounding areas.

Considerations

Since Los Angeles is aspiring to make North Hollywood a more walkable neighborhood in the City, one thing to consider is allowing for more mixed-use development near the station core. Part of this may involve replacing parking lots with mixed-use projects. Currently, there is a proposal to replace the parking crater that contains over 1,100 parking spaces. Joe Linton from Streetsblog highlights this in an article, where Metro proposes the following aspects for the redevelopment of the North Hollywood Station area. (Linton, 2022)
• 1527 units of new housing, 311 of them (20 percent) affordable
• 105,000 square feet of retail space and up to 580,000 square feet of office space
• The existing bus plaza would be relocated to the west side of Lankershim Boulevard

While bus access will be consolidated with the Orange Line to the west of Lankershim Boulevard, this frees up more space to the east of Lankershim Boulevard. When the North Hollywood Station initially opened, Metro anticipated that many travelers would use the park-and-ride option due to the prominence of automobiles in the area. This would allow people to park their cars and commute via public transit towards Hollywood and the Downtown core. With the idea of making North Hollywood more walkable, Metro wants to do away entirely with the park-and-ride option. Joe Linton highlights the following key points as a rationale for Metro’s decision. (Linton, 2022)

• **A very small percentage of transit riders use park-and-ride.** Overall more than eighty percent of Metro bus/rail riders arrive by walking; less than four percent drive. Even specifically for rail riders, only about fifteen percent drive. Metro has spent hundreds of millions on parking to support very little ridership.

• **Park-and-Ride is bad for equity.** Per Metro surveys, 41 percent of Metro rail riders are in poverty, but only one percent of Metro rail park-and-ride users are.

• **Park-and-Ride is bad for the environment.** Plentiful car parking encourages riders to drive the first/last mile instead of busing, biking, or walking. This car trip negates much of the environmental benefits of the transit trip.
Figure 3-1: A map of the land uses around North Hollywood Station
Figure 3.2: A map of the general circulation around North Hollywood Station
Figure 3-3: A map of the bus service around North Hollywood Station
Figure 3-4: A map of the bike access around North Hollywood Station
Victory Blvd / Vineland Ave

Site Context

The intersection of Victory Boulevard and Vineland Avenue seems like a typical intersection in any suburban area. While in the neighborhood of North Hollywood, it seems like the further north traveled, particularly along Vineland Avenue, the more suburban it gets. Victory Boulevard runs in three lanes per direction while Vineland Avenue runs in two lanes per direction. Both of these streets have lanes solely for vehicular travel—there are no designated bike lanes or parking lanes.

Bus routes 90 and 162 run along Vineland Avenue and bus route 164 runs along Victory Boulevard. Bus route 90 travels from North Hollywood station up north on Vineland Avenue and then follows Sunland Boulevard and Foothill Boulevard where it stops at several streets in La Crescenta and Glendale. It then turns right on Verdugo Road, travels south along there until Verdugo Road turns into Glendale Avenue, and then ends at Downtown LA. Bus route 162 runs along Vineland Avenue from North Hollywood Station and then turns left on Sherman Way traveling west along that thoroughfare. Route 162 continues along Sherman Way until the West Hills Hospital, on the other end of the Valley, where the route terminates. Bus route 164 runs from the Downtown Burbank Metrolink station in the east running along Front Street and Magnolia Boulevard. The route then continues along Victory Boulevard for the rest of the duration of its route, until in West Hills—when it turns north onto Valley Circle Boulevard, then east onto Vanowen Street, and south onto Platt Avenue, where the route has a layover.

Impacts

Our project aims to extend the metro line two more stops from North Hollywood to Burbank airport. Victory Boulevard and Vineland Avenue will greatly impact the proposed new metro line station. The two roads carry metro lines through the city, which will impact the new metro line stations. The new stations will help ease the traffic on Vineland Avenue and Victory Boulevard, thus saving people time. People will be making regular visits to malls and shopping centers along the avenue and victory boulevard because of the accessibility that the new stations will enhance. There is no bus station all through Vineland Avenue or Victory Boulevard, and the new stations will greatly benefit the people around the place. The new station will be advantaged because there are residential areas at the start of the two streets, and there are no bus stations or other stations that facilitate the residents except the upcoming metro station. The avenues are very quiet and peaceful, which is why the new station’s success is guaranteed.

The two roads are busy and are seen to have only private vehicles in most cases, which means that those who prefer public transport will use the new station. In the area, most of the population is below the poverty line, meaning they would rather use a metro line for transportation than a taxi, which is far more expensive. Victory Boulevard and Vineland Avenue will be the main connection between the people and the station, which is why they are very important to the new station. People working in the commercial sector will find it more effective to go home using the new metro line station because it is nearer to the avenue and victory boulevard. Victory Boulevard and Vineland Avenue could also positively impact the new station because those who would like to board a metro after doing some shopping will go through the malls and other shops along the streets as they go to the station. The new stations will greatly help the riders near the area because of their accessibility and affordability. Vineland Avenue and Victory Boulevard are...
the main streets that lead people to the new station. Thus it is very important to the success of
the new station.

Considerations
As mentioned before, the number of transportation options around this area seems to be weak.
There is virtually no bike access in this area and the area is another automobile-dominated area
of the Valley.

Most of the impacted people in this area will be working-class citizens. In addition, the poverty
level in this area is relatively high in comparison to the rest of the North Hollywood neighborhood.

Deteriorating facilities are also a major consideration for the area. In order for this area to have
high accessibility, the facilities need to be in better condition. The Victory Vineland Recreation
Center is a perfect example of this. Overtime, a lot of the infrastructure in the facility has
deteriorated, and currently a lot of the amenities have been closed either due to rain damage or
due to criminal activity.

Crime is also a major factor in this area. Many sources suggest this area is a relatively bad
part of the San Fernando Valley. In addition, with the Red Line in general, crime seems to be a
problem. The Red Line has a higher crime rate than any other Metro route in the city of LA, as
noted by the LAPD. The nearest police station is the LAPD North Hollywood Division’s police
station, which is a ways away from this area, closer to North Hollywood station if anything.
Figure 3-5: A map of the land uses around Victory/Vineland
Figure 3-6: A map of the general circulation around Victory/Vineland
Figure 3-7: A map of the bus routes running along Victory Boulevard and Vineland Avenue
Burbank Airport Station

Site Context
The Burbank Airport site is located in the heart of transportation and commercial activity. In addition to being surrounded by businesses, warehouses, and an airport, it is also in close proximity to many residential areas. In relation to the entire area, the proposed station is located within the Golden State Specific Plan. The location of the proposed station will be south of Vanowen Street, near where the Fry’s Electronics used to be. This street is a three-lane street that runs parallel to Empire Avenue and the Amtrak and Metrolink ROW. This corridor hosts important entrances and exits to BUR itself. Furthermore, it is within range of Empire Avenue’s Bus Route 165 stops and car parking. Vanowen Street also consists of unprotected bike lanes but is mostly used by motor vehicle traffic.

Impacts
Due to the increased traffic from public transportation and the narrow thoroughfares that exist along Vanowen Street and Empire Avenue, increased traffic volumes would likely be a major impact. This is due to the increased number of pedestrian volumes taking public transit as well as from the increased number of transit options in the area. This could result in some issues regarding traffic congestion, as there may be more traffic from automobiles and buses alike.

However, the Los Angeles area will finally have a Metro line that provides a direct connection to an airport. Currently, no LA airport has a direct connection to LA’s Metro system. While the Green Line does have a station near LAX at the Aviation/LAX station and the under construction Crenshaw Line has a station near LAX at the Aviation/96th Street station, both of these stations still require commuters to find a way to travel from these facilities to the airport. The Red Line will remove this problem as the proposed BUR station will be within a 1/2 mile walking distance from the southern part of the airport terminal.

Considerations
A major consideration would be to build either a skybridge or a tunnel connecting the station to the airport terminal. However, BUR is planning on building a new terminal which would add more gates and increase the square footage of the overall terminals, which can potentially allow for a direct walkway between the station and the terminal. It would also be likely that the Amtrak/Metrolink station would be connected too in order to make a major intermodal transportation hub for the airport. The airport’s transportation hub is currently spread out with buses, Amtrak/Metrolink, and the Red Line all being quite a distance from each other.

In addition, a Red Line extension to BUR would likely mean that BUR would be the Red Line’s terminus permanently. This is due to the geography of the Red Line and how it currently travels southeast from North Hollywood through Hollywood and Downtown LA before terminating at Union Station. An extension of the Red Line past BUR would bring the Red Line further to the east in which there likely is little to no demand for. An extension from BUR to the Sylmar Metrolink station would require the tunnel to curve for most of its route, not providing any room for other stations.
Another consideration is the potential for California High Speed Rail. While the original plan for the high speed rail corridor from LA to San Francisco would pass through Burbank, it is uncertain where in Burbank it would stop at. It would be unlikely that there could be a connection from the Metro Red Line to the original planned high speed rail system. However, due to plans to indefinitely truncate the high speed rail system, consideration for the high speed rail system is not necessary for this project.
Figure 3-8: A map of the land uses around BUR
Figure 3-9: A map of the general circulation around BUR
Figure 3-10: A map of the bus routes and bus stops around BUR Airport.
Figure 3-11: A map of the bike access around BUR
Figure 3.12: A map of the rail access around BUR

Legend

Access Point
Metrolink
Amtrak
Amtrak/Metrolink Station
Bus Shelter

Rail Access Map: Burbank Airport
Chapter 4: Case Studies

Chicago Blue Line

The Chicago Blue Line is the only rapid transit line that connects O'Hare International Airport to downtown Chicago. As the third-largest city in the United States and the third busiest airport, the Chicago area serves as a major aviation hub in the country. To keep the traffic flowing, the Blue Line served as many as 26.5 million people in 2019. However, in 2020, the number of riders dropped to 8.6 million people due to the pandemic (CTA, n.d.). As time passes since the start of the pandemic, people are slowly starting to return to using public transport once more.

During the 1950s there were plans already plans to connect the airport to downtown, but it would be a while before the actual construction began. However, during the 1970s as air travel grew, there became an increasing need for other modes of travel. In March of 1980, Chicago was eventually able to start the project and finished the line on September 3, 1984. The O’Hare station was completed with three tracks and two island platforms. In addition, there is an open mezzanine that functioned as a connection from the station to the airport as well as dealing with the fare controls (Chicago “l".org: Stations - o'hare, (n.d.). The walls of the station are covered with curved glass blocks in various patterns and colors. Much of the Blue Line follows I-90 and Milwaukee Avenue between O’Hare Station and downtown Chicago.

Modernization

Currently, Chicago’s Blue Line is receiving a massive upgrading process to help modernize its aging infrastructure. Starting in December 2013, a $492 million new plan called Your New Blue sought to improve 12.5 miles of track and station between the Grand and Cumberland Stations. In addition, the plan also included upgrading the signal stations at Jefferson and O'Hare Station. The modernization plan was intended to improve the quality of the commute due to the increasing number of people using the Blue Line. In fact, the numbers showed that in 2013, ridership increased 33% within the last ten years (Chicago “l".org: Stations - o’hare, (n.d.). The process of modernization is still an ongoing process and is expected to complete around 2023.
Accessibility and Mobility

The accessibility and mobility of transit stations are dependent on the connectivity of the stations. O'Hare Station has two bus route connections within the airport: bus routes 330 and 332. These two bus routes are considered Pace busses which are essentially express buses with extra perks. Closely outside the airport is Rosemont Station which serves as a hub for numerous other bus routes such as the 284, 600, 603, 605, 606, 610, 616, and 895. Many of them travel north-south direction before connecting with other bus routes that travel parallel to the Blue Line.

Project Goals / Reasoning

Going off the success of the Kennedy extension to Jefferson Park, the Chicago Transport Authority (CTA) became convinced to continue the plan for extending the line to O'Hare International Airport. The main goal of the project was to connect O'Hare International Airport to the city of Chicago. Originally, people thought that only airport workers would use the Blue Line, but that was not the case. It exceed expectations once it opened as many people, not just airport workers, used the line for their daily commute. These included air travelers, visitors, and local commuters since it only takes around 45 minutes from O'Hare to downtown. In addition to extensive ridership, many businesses sprung up near the rail stations as it was an opportunity to be near a transportation network. Not only did businesses come, but also entertainment and dining venues opened up near the stations as well (Staff, 2004). To this day, the Blue Line remains one of Chicago's successful transit lines because of its link between the airport and downtown.

Key Takeways

The main takeaway from this project is that the success of this rail line can be emulated in Los Angeles. In 2019, the Los Angeles Red Line had around 41.7 million passengers which is nearly double the amount of ridership compared to the Chicago Blue Line. However, like the Blue Line, the Red Line also suffered a significant blow in ridership due to the pandemic. Before the pandemic though, the Red Line has slowly been declining since its peak in 2013 at 51 million passengers (Metro Ridership, n.d.). To reverse the decline in passengers, learning from other cities can help make the Red Line a viable option for commuters once more. Like Chicago, Los Angeles is a major city with large amounts of urban sprawl. In both cities, being able to effectively utilize the connection from downtown to the airport and vice versa can help visitors reach areas in between as well as both ends. Connecting the Red Line to Burbank Airport will help increase ridership and allow for the possibility of transit-oriented development around the stations.
Figure 4-4: CTA Rail “L” system map train routes
Denver RTD A Line

Denver’s Regional Transportation District (RTD) consists of a network of bus and rail lines connecting the Denver metropolitan area. Denver’s RTD operates a number of bus routes, 8 light rail lines, and 4 commuter rail lines. The A Line is a commuter rail line connecting Denver Union Station (DUS) to Denver International Airport (DIA). This rail line makes a total of 6 intermediate stops in between Denver’s Union Station and Denver International Airport, running near Interstate 70 (I-70) for most of its route. Most of the stations are built at grade-level.

The A Line was the designation given to the East Corridor, following years of proposals, environmental review, the publishing of an Environmental Impact Statement (EIS), and construction, which led to its completion and opening in 2016. The City of Denver and RTD refer to the A Line as the East Corridor project during drafting and construction. The East Corridor project was one of several proposed projects of the Northwest Regional Corridor (NWR), and there is a supplementary FasTracks Plan to fill in major gaps with more bus and rail transit.

Project Goals

The City of Denver and RTD highlight the East Corridor as a necessity to expand public transit across the Denver metropolitan region. The East Corridor rail project would be complemented alongside improvements along I-70 in the eastern part of the metropolitan region. These transportation improvements would benefit Denver’s eastern neighborhoods as well as the City of Aurora and commuters going to/from DIA. The University of Colorado A Line’s Environmental Evaluation outlines the following needs as reasons to why this project is a necessity, based on the following parameters:
• **Need 1: Improve mobility**  
  – Mobility improvements are needed to provide alternatives to congested single occupant vehicle (SOV) travel for project study area residents, employees, and visitors.

• **Need 2: Provide consistent and reliable transit travel times**  
  – Unreliable automobile travel times are anticipated both from day to day and throughout the day (peak versus off-peak) in 2035. Travelers will also experience unexpected delays due to accidents or inclement weather. An option such as rail transit would provide more consistent, reliable, safe, and congestion-free travel on its own dedicated and protected right-of-way (ROW).

• **Need 3: Enhance regional connectivity**  
  – The Denver metropolitan region currently has gaps in multi-modal regional transit connectivity. FasTracks is primarily a plan to fill in major gaps with fixed guideway transit (rail) and bus rapid transit. The NWR Corridor would link with seven other RTD rail corridors at DUS.

• **Need 4: Provide an affordable transit investment**  
  – Any transit improvements must be affordable within the FasTracks budget. In addition, the associated operating costs must be realistic and reasonable for RTD to assume the service. In 2004, the FasTracks Plan allocated $565.1 million (in year of expenditure dollars) for NWR Corridor capital costs out of the overall $4.7 billion system-wide budget. The 2009 RTD Annual Program forecasts the NWR Corridor Project capital costs at $641.1 million.

• **Need 5: Reinforce local and regional transportation and land use plans**  
  – The NWR Corridor is part of the 122-mile system of new rail transit facilities proposed within the regional FasTracks Program. To assess potential local community acceptance of the NWR Corridor Project, regional and local plans were reviewed. Local plans for communities along the proposed rail alignments were found to be in support of commuter rail serving their jurisdiction. Plans found to be in support of the NWR Corridor:
    ○ FasTracks Plan (RTD 2004);
    ○ 2035 MVRTP (DRCOG 2007);
    ○ Adams County Comprehensive Plan, 2004;
    ○ Adams County Transportation Plan, 1996;
    ○ Adams County Transit Oriented Development and Rail Station Area Planning.
Guidelines, 2007;
○ Adams County Clear Creek Valley Transit Oriented Development Plan, 2009;
○ Westminster Comprehensive Plan, 2004;
○ Original Broomfield Neighborhood Plan, 2008;
○ City and County of Broomfield Comprehensive Plan, 2005;
○ City of Broomfield Strategic Plan, 1998;
○ The Highway 42 Revitalization Area Comprehensive Plan, 2003;
○ Downtown Louisville Framework Plan, 1999;
○ Boulder Transit Village Area Plan, 2007;
○ City of Boulder Transportation Master Plan, 2003;
○ Boulder County Comprehensive Plan, 1978;
○ Gunbarrel Community Center Plan, 2004;
○ Longmont Multi-Modal Transportation Plan, 2005; and
○ Longmont/RTD Station and Transit Oriented Development (TOD) Analysis, 2005.

Project Takeaways

Limit Regional Connectivity

The first major takeaway from this project is the fact that there is a limited amount of regional connectivity in Denver. The Environmental Evaluation and EIS both point out that the existing transportation system in the East Corridor does not have sufficient capacity nor does it have proper facilities to handle the increased travel demand within the corridor and region, specifically to maintain connections among major activity centers within the corridor, which would prompt the need for this project. Based on the Denver Regional Council of Governments (DRCOG) 2030 travel demand forecast, there will be more than ten million daily trips in the project area. This is one of the main reasons for the project, which could also be applied to the Red Line Extension through Burbank, as there is a lack of sufficient transportation connections between Downtown LA, the Valley and the City of Burbank. An extension of the public transportation network can improve circulation throughout the southeastern part of the Valley and limit congestion on nearby freeways, especially I-5, SR-134, SR-170, and US-101, as well as on major arterial roads.

Increased Transportation Demand

Like most cities in the western United States, Denver has seen a substantial growth in population and employment. These growth factors have been heavily influenced by the development of DIA and other areas, resulting in increased travel demand in the corridor. The Project EIS states that population and employment in the project area increased by about 20 percent between 1996 and 2001. The influence of DIA and other development in the corridor is expected to continue as population is projected to increase 75 percent and employment is projected to increase 71 percent between 2001 and 2030.

The City of Los Angeles has seen a similar trend with its population and economic development. The City is currently in a phase where there is an increase in transportation demand. Most of the City and perhaps all of LA County is still not connected to Metro’s transit network and automobiles seem to still be the only way for people to get around. The majority of residents throughout LA County use the automobile to get to and from work, and with the population of many areas in LA County increasing, there is more of a demand for better transportation infrastructure.

The Red Line has the highest ridership out of all of Metro’s rail lines, although this could be due to the higher passenger capacities on the Red and Purple Lines as they are heavy rail lines, in
contrast to the Blue, Green, Gold, and Expo light rail lines. Nonetheless, the high ridership of the Red Line signifies a role it has as a public transit line linking two major areas of development—the San Fernando Valley and the Downtown Core. The City of LA also has a plan to increase its transportation network by 2028, in preparation for when the City hosts the Summer Olympics in 2028, dubbed “28 by ’28”.

**Lack of Reliable Alternate Modes of Travel**

Highlighted by concerns on the limited regional connectivity, the lack of reliable alternate modes of travel also was a point mentioned in the Project EIS. The East Corridor serves a growing number of users ranging from commuters and tourists from outlying areas and DIA to local traffic within the project area. The demand from these users is more than the existing transportation infrastructure can efficiently carry. Transportation options are limited to auto travel and existing limited fixed-route bus service. Travel time on I-70 is unreliable because of increased highway congestion.

This is also reflected with travel times on freeways in the Los Angeles area, as previous reasons highlight that while there is a growth in population, there is not necessarily a growth in transportation and the reliability of modes of travel seems to only diminish over time. All of this seems to put a factor on the increased demand for alternative modes of transportation rather than private automobiles. Traffic congestion on LA’s freeways is a problem and many sources point the finger at the City’s lack of alternate modes of travel. One project in the area that is aimed to alleviate this issue is the ongoing widening of I-5. While this may allow the freeway to accommodate more cars at a given time, this can also come at a cost of tax revenues, displacement, and diminishing of aesthetics, while the benefits will fade given years of no expansions to alternate modes of transportation.

**Increased Travel Times in the Region**

The Project EIS also indicates that there are increased travel times throughout the entire Denver metropolitan area. Rapid transit in the East Corridor would offer residents, workers, and commuters a reliable and efficient alternative to single-occupant vehicle travel in a corridor with significant congestion and long travel times that are expected to increase. As estimated by DRCOG’s 2030 travel demand model, without improvements, the travel time is expected to more than double from 2001 to 2030.

This can also be applied to the City of Los Angeles, where no expansion to the public transit infrastructure to complement the population and employment growth has only led to an increase in traffic congestion and an increase in travel times. LA County has proven year after year that there is a direct correlation between increased traffic congestion and increased travel times, which can also be attributed to the City’s limited public transit network.

There are only so many road thoroughfares to get into and out of the central core of the City. With an increase in the population will lead to an increase in demand for transportation accessibility, but without the supplementary increase in supply of transportation accessibility, more people will find themselves commuting via private automobile, which would further congest LA’s expansive freeway system.

**Limited Transportation Options for Underserved Populations**

The Project EIS points out that the expansion of Denver’s transit network was necessary to accommodate communities that have previously been underserved by the City. Throughout the public scoping process it was apparent that there is a strong demand and need to better serve
the populations in the East Corridor with improved transit. These include individuals without access to vehicles and minority, low-income, and elderly populations. The minority population in the study area neighborhoods is 76 percent, while 28.4 percent is low income. These numbers are considerably higher than the figures of 25.5 percent for minority populations and 14.8 percent for low-income populations for all of Colorado.

This problem does not only persist throughout this corridor, but it is a common trend for all low-income communities in LA County. Southeast LA is still a heavily underserved part of the I-5 corridor through LA County, and a lot of freeway expansions seem to only do more harm for the Southeast LA communities rather than good. Historically, many underserved communities have only been harmed through projects like freeway widening as these projects require the government seizing land, which has especially affected low-income communities and communities of color, both of which are still underserved with the lack of reliable and efficient transportation options.

Bus routes are also not so user-friendly in LA, buses arrive once every 45 minutes and bus trips between Burbank and Central LA can be as long as 1-2 hours one way, a subway route can cut this commute time in half, at the least. Metrolink in the area only connects people from Burbank to Downtown LA. Extending the Red Line to Burbank can also allow people to take the Orange Line bus rapid transit (BRT) route from Woodland Hills to North Hollywood to connect with Red Line trains to the airport.

The central core of the City of LA does not have a direct rapid transit connection to an airport, while Metrolink and Amtrak connect riders from Union Station to Burbank Airport, but these trips can be expensive for one way, a Metrolink trip from Union Station to the Burbank Airport Station costs $6, while the same trip on Amtrak’s Pacific Surfliner costs $11. LA Metro’s one way fare costs $1.75 and for the day pass it is $3.50, and this fare is consistent for the entire distance traveled. The significant price difference can incentivize people to take the Metro rather than Metrolink or Amtrak, especially for low-income groups who are underserved when it comes to transportation options. Metrolink trains are also very infrequent, and service is mainly concentrated during the morning and evening rush hour periods, whereas Metro trains operate more frequently. The frequency of Metro trains would only increase with an expansion to Burbank Airport, which can better serve residents throughout the Valley.

Conclusion

Both the City of Denver and the City of Los Angeles are relatively similar when it comes to population trends and characteristics. They are both cities on the West Coast, they both have recently introduced public transit networks, and a large percentage of the population demographics in both cities have historically been underrepresented. While the city of Denver has taken strides to connect its airport with the rest of the City, Los Angeles is still in the process of doing so. Unlike with Denver, the City of LA has multiple airports that offer regularly scheduled flights—Los Angeles (LAX), Burbank (BUR), John Wayne (SNA) in Orange County, Ontario (ONT) in the Inland Empire, and Long Beach (LGB) serving the City of Long Beach. As LAX is a busy airport, one of the busiest in the world, there are some concerns with airport capacity. Most world-class cities have a known primary major airport as well as a secondary major airport, while LA only has a primary major airport but several other airports in the region that are not as significant. With proper expansion to the public transit network to better serve the City’s secondary airports, there is potential for people to look at LA in a more favorable light.
Hong Kong Mass Transit Railway

The Hong Kong airport railway, also called, the Mass Transit Rail (MTR) was widely considered one of the world’s best railroads in safety, dependability, customer service, and cost-effectiveness. Aside from its Hong Kong, China, and other regional railway activities, the Hong Kong airport railway was involved in various business activities such as residential and industrial development, property subletting and management, advertising, communications networks, and international consultancies (Zhang & Hou 2018). The MTR Corporation was founded in 1974 as a government-owned organization to develop, function, and preserve a large transportation railway scheme for Hong Kong’s community transportation requirements.

The Airport Express was one of seven lines operated by the MTR Corporation. Since the 1960s, the British Hong Kong government had recognized the necessity for an urban mass transportation train system to meet one of the world’s most populous cities (Lo, 2014). Four railway lines were designed, with alignments comparable to today’s modern Kwun Tong Line, Tsuen Wan Path, Island Line, and projected Shatin-to-Central Link. The government opted to administer the system through the Mass Transit Railway Limited, which the government entirely controlled. With the construction of the Wan Chai O Line in 2002, the MTR network extended to different residential neighborhoods (with a branch added in 2009). The Disney land Line, the globe’s only devoted metro path for Disneyland, officially opened in 2005, along with Disneyland Park. The Hong Kong MTR was well-known for its cleanliness, use, safety, and dependability (Yeung, 2008). By 2005, all subway stations had platform screen doors installed. LED illumination was used on train route maps to highlight train position and transfer information. Most transfer stations offer cross-platform connections.

The MTR network was compared using the measurement of adjacent nodes. Even though that would include many of the same terminals in their top 10, some of the networks key stations were missing. Tsim Sha Tsui, for example, was placed third, indicating its importance as a transit station between both the Tsuen Wan Line (TWL) and the West Rail Line (WRL) (Zhang & Hou 2018). Although its reasonably long transfer time diminished its value in terms of centrality, which concentrated on the shortest pathways, its position as a transit station increased the number of plausible ways of providing an alternate transfer option (Yeung, 2008). When the network’s transfer role was evaluated, the topological benefits of this station became apparent, as it might be seen as an essential transition node between two optimization radial lines.
Figure 4-12: The MTR System Map, with the Airport Express service colored in teal
Key Points

MTR’s unique vertical integration Hong Kong business strategy seamlessly combines train service with neighborhoods above stations, optimizing land use, contributing to city growth, and being financially and ecologically sustainable for the long term. MTR’s staff, both inside and outside Hong Kong, are dedicated to serving neighborhoods with quality, professionalism, and continual progress. Lo, (2014), the Hong Kong Mass Transit Rail (MTR) system is one of the most effective, safe, dependable, and inexpensive. Its vast network, which connects Hong Kong Island to Kowloon and the New Territories, handles nearly 4 million people each day.

The Metropolitan area of Burbank and rail transit needs emphasize Hong Kong as a requirement for expanding public transportation throughout the Burbank urban core. The Hong Kong railway project would be supplemented by enhancements to the urban areas of North Hollywood and Burbank (Zhang & Hou, 2018). These mobility enhancements would help Hong Kong’s districts, as well as Hong Kong and the rest of China, as well as travelers to and from terminals.

In another regard, the MTR is unique: it is a productive transit system. While most of the world’s metropolitan rail systems are heavily subsidized by government subsidies, Hong Kong’s MTR Corporation (MTRC) operates at a considerable profit. Despite the passenger, this profit is produced by implementing rail infrastructure with urban growth rather than traveler tickets or advertising. Surprisingly, Zhang & Hou (2018), the MTRC has also been a real estate investor since its founding in the 1970s.

The Hong Kong airport railway is dedicated to delivering cutting-edge smart mobility to improve passenger journeys. The MTR Mobile app provides railway and other information, functions, and news. It affords MTR Malls and station shops and a variety of cultural content. Passengers can earn and reimburse MTR Points for attractive rewards through the “MTR Points” loyalty scheme. The “Next Train” function has been expanded to include the light rail network. “Trip Planner” now suggests three different routes (Lo, 2014). Furthermore, “Traffic News” can notify passengers via push notifications of any service disruptions and their preferred courses.

Its characteristics include malls, residential and business towers, hotels, apartment complexes, and parking lots, and it is always planned in connection with the stations. Given their proximity to terminals in this densely populated public transportation city, the properties’ value is unquestionably high. The MTRC profits from this method: more riders equal additional shopping equals higher rent equals increasing network equals extra riders. There are a few rail systems in the world that are not funded by the state. Lessons may be drawn from Hong Kong’s MTR; however, it appears that economic expansion, high real estate values, and urban density are all factors.
Accessibility and Mobility

The Hong Kong airport railways promote ease of access and also mobile while decreasing reliance on automobiles. It is great because MTR is commercially feasible, with low tickets and excellent service. MTR’s achievement in improving accessibility may be seen in their degree of usage, as passengers prefer to utilize them instead of personal vehicles (Lo, 2014). MTR trains in Hong Kong are famous for their performance and value, wonderfully meeting the state’s accessibility needs; they transport over 80% of the nine million monthly journeys.

A contrast of MTR per inhabitant subway and vehicle mileage run in Hong Kong to others in London as well as Singapore, on the other hand, reveals that not solely availability that influences MTR utilization or connectivity in Hong Kong.

From the outlined and investigated reports of the expansion of MTR in Hong Kong over the previous numerous centuries, confirmation was established that the great degree of convenience on quantity communal transportation in the region was accredited to the terrestrial usage rule of emerging dense population from Burbank, Hon Kong and North Hollywood (Lo, 2014), highly populated settlement, additional conveyance guidelines of yielding extraordinary importance to the growth of bulk transportation amenities and giving directions to certify the economic feasibility of privately worked on MTR, particularly the pioneering tactic of incorporating the expansion of communal conveyance facilities, voyagers flexibility, convenience, and possessions to adventure their interaction.

Since most travels required the use of multiple forms of transportation, Hong Kong established cross transportation networks and addressed lateral convergence as a critical element of every urban flexibility plan (Zhang & Hou 2018). Transportation intersections were constructed to build connecting stages between various forms of transportation, therefore improving access and expanding the scope of a communal transportation network on both the larger scale the city, the area, and far beyond and the neighborhood scale including the North Hollywood and Burbank. Tackling the connectivity dilemma required a change in thinking in urban design, emphasizing dense communities as well as blended-use as a means of increasing connectivity and reducing the need for vehicles entirely (Lo, 2014). Given that the goal of maneuverability was to get proximity to locations, events, facilities, and products, urban design should be based on residents.

The Convenience of MTR to the airport

In comparison, the necessary roadway investments to appropriately manage predicted peak-hour traffic loads are enormous, potentially causing significant disruption and displacement in urban areas; therefore, creating the mass transit rail gives people easy convenience since there are no traffic jams (Zhang & Hou 2018). Although airports are significant producers of rail traffic, they do not sustain a high enough traffic volume to offset the enormous cost of construction or overcome public opposition to the future expansion of high-capacity road networks in metropolitan areas. It is becoming clear that in many situations, it will be economically and emotionally impossible to build enough roads to deal with the aviation access issue or enough airport parking lots to fulfill
MTR terminals offer convenient places for commuters to appreciate a wide range of goods on offer, including everything from meals to fashion, beauty products, books, banking, grocery stores, laundry service shops, shop renovations, and travel services, whether commuters are going to or from work and school or are out to appreciate leisure activities (Lo, 2014). With millions of passengers passing through MTR stations every day, occupancy rates have always been high. Shopping centers, duty-free shops, ATMs, public car parks, and park and transportation services for passengers are more user-friendly amenities along the railway alignment.

When it comes to time spent and time sensitivity, MRT delivers convenience to the users without any difficulties. This demonstrates that the shortest path computation may not correctly reflect the role of transfer nodes within the network (Zhang & Hou 2018). Consequently, the proposed metrics that incorporate the features of travelers’ route selection preferences are more beneficial. Route diversity metrics give a complete topological analysis by identifying susceptible stations based on visitors’ route choices. When analyzing the most dangerous areas, these fragile stations are critical targets for future growth and rebuilding efforts.

Based on transporting goods for people or goods that need to be taken by plane, the MTR gives sufficient space for both the goods and the goods’ owner. It, therefore, enhances the convenience of exchange of goods and services from different people from different walks of life. It also enhances trust among people since they are assured of delivering whatever I intended to be delivered in time. The convenience of MTR gives it positive impacts all over the nations that it passes from or drops to, thus enhancing its brand name. People using this means of transport to the airport also attest to its convenience and cost.

Our analysis assesses the distributive gains in accessibility and resilience that will arise from future metro network extensions at various phases, limiting our attention to the spatial scale. The effects of technology lines are attributed to the area in particular and matters of social equity, such as discrepancies in MTR demands based on different types of work and average income (Lo, 2014). First, at the start of every transport network project, spatial scales take precedence since cities are the main focus rather than individual passengers. Second, analyzing the social equality consequences of future growth might be difficult since this type of study would need to predict the social demands and method choices of diverse groups and changes in the economy and hence the future congestion impacts, which may alter practice after completion.

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The aggregate analysis shows that the circumferential segments are critical to the network’s backbone but are prone to interruption due to insufficient redundancy. The MTR network is compared using the measure of distance vector. While they featured the same station in the list, others of the network’s stations were missing (Zhang & Hou 2018). Although its reasonably long transfer time diminishes its value in terms of centrality, which emphasizes the shortest pathways, its position as a transit station increases the number of plausible ways it provides an alternate transfer option. When the station’s transfer role is evaluated, the geometric benefits of this station become apparent, as it may be seen as an essential transfer node linking two
Another takeaway to the research work is that MTR’s effectiveness could be replicated in Burbank. In 2010, MTR carried around 30 million individuals, nearly twice the capacity of others (Yeung, 2008). To counteract the ridership loss, Burbank and North Hollywood could render the rail line a decent alternative for travelers once more. North Hollywood, like Hong Kong, is a big metropolis with extensive urban growth. Having the capacity to successfully use the link from uptown to the aerodrome and conversely in both locations might assist tourists access regions somewhere between the both ends. Linking the Red Line to North Hollywood and Burbank airport would boost capacity and enable for transportation growth all around terminals.

In the case of Hong Kong, the MTR network is quickly expanding to other cities for instance the North Hollywood and Burbank, resulting in progressive improvements in route variation and decreases in travel time. Analysis of the effects of new lines at the nodal, relational, and network levels and their geographic distribution, interpretation, and modifications could be done. The increasing MTR network to North Hollywood and Burbank steadily increases route diversity and decreases travel times at the network level, with minor differences in spatial equality.

The primary key conclusion from this research is the reality that geographical connection to Hong Kong is minimal. According to the Environmental Assessment on Regional Connection, the current transport network in Burbank needs additional potency and infrastructure technology to accommodate the volume of travel needs within the route and geographical area, particularly to service and community between all of main facilities within the route, which would necessitate the demand for such a project (Zhang & Hou 2018). If Hon Kong successfully connects its Mass Transport Rail to North Hollywood as well as Burbank aiport, travel need in the study area is expected to exceed 10 million daily trips.

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The linkage of the Hong Kong mass transit rails would seek to meet the requirements of its customers, from within Hong Kong, Burbank and North Hollywood, treat its workers with dignity, and minimize its environmental effect, all while making a constructive contribution to the communities it serves. Projects in these areas especially in North Hollywood are essential to MTR’s philosophy of corporate responsibility (Lo, 2014). Maintaining strong safety regulations across all operations and initiatives is the foundation of MTR’s operations. This includes staff, customers, partners, contractors, and anyone else who can access MTR facilities from all the three cities of Burbank, Hong Kong and North Hollywood.

When the repercussions of interruption in the enlarged and present networks are compared, the data reveal that the extra lines would not minimize disruption costs but may occasionally increase them (Zhang & Hou 2018). This conclusion stresses the need to connect susceptible areas of the current network with the resilience advantages of new lines and summarises the worth of new lines at various stages of the intended expansions. This could be done by joining the lines, the new ones to the North Hollywood and Burbank. A lingering issue is a relative weight that should be assigned to relevance dimensions when prioritizing projects. This is difficult to answer precisely and may require a political debate.

Addressing the social inclusion impacts of future growth may be difficult because this type of analysis would necessitate forecasting the demands and method choices of different groups, consequences of land use and flow patterns, and thus the traffic effects in a future scenario might change in exercise after construction of connectivity. Although route variety measures and influences the sustainability provide essential information about the characteristics and
growth of urban commuter rail networks, the study should include a planner’s point of view, which focuses on station and line abilities (Zhang & Hou 2018). The earlier publications did not incorporate travel demand from North Hollywood and Burbank since the primary focus was the route variety dimension to estimate the potential of new metro lines in Hong Kong. Future differences in passenger demand need investigation. Future fluctuations in passenger demand require examination from various angles, and various states, leading to findings that differ from those of the preceding studies. The study direction will be explored when operational and scheduled evidence becomes available.
References


