

DEVELOPMENT OPTIONS AROUND TRANSIT STATIONS

A Recommendations Report for Implementing the Monrovia Nursery Specific Plan
in Azusa, California





Compass Blueprint Program

This project was funded by the Southern California Association of Governments' (SCAG) Compass Blueprint Demonstration Project Program. Compass Blueprint assists Southern California cities and other organizations in evaluating planning options and stimulating development consistent with the region's goals. Compass Blueprint tools support visioning efforts, infill analyses, economic and policy analyses, and marketing and communication programs.

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This report is the product of their efforts and interests to implement the vision of the Monrovia Nursery Specific Plan to create a walkable mixed-use transit-oriented community.

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An artist's concept of the Monrovia Nursery Specific Plan. The transit neighborhood, as originally approved, can be seen in the southeast corner of the plan in a dark brown color.

On the cover: Conceptual renderings of the potential development scenarios for the Citrus Station. Renderings provided by Ganesh Ramachandran, 2008.

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Introduction

The City of Azusa is in the process of implementing the Monrovia Nursery Specific Plan (also known as the Rosedale Development), a 517.5-acre master planned community located adjacent to the future Metro Gold Line Extension.

A component of the specific plan's vision is to create a walkable mixed-use core, suitable for business or residential uses adjacent to a future Metro Gold Line light rail stop (Citrus Station) blending and connecting with adjacent residential neighborhoods and the emerging University District. To advance this vision, the specific plan provides for a shared pedestrian-oriented neighborhood core with small-scale retail/service businesses for transit riders, business park employees, and residents.

Within the Promenade District of the specific plan, there are three neighborhoods: the Transit Neighborhood, the Great Park Neighborhood, and the Garden Court Neighborhood. The Transit Neighborhood specifically calls for a mix of residential and commercial uses around the future Citrus Station. The specific plan identifies an objective to provide between 30,000 to 50,000 square feet of transit oriented commercial uses.

As the specific plan builds out, however, concerns about the market have risen about the feasibility of mixed-use development around the Citrus Station. While current rhetoric assumes mixed-use to be feasible near any transit station, the local market surrounding a specific station may dictate otherwise. Moreover, "mixed-use" is an over generalized term and provides little direction on the potential types of uses that may be appropriate or even possible.

Additionally, the majority of transit stations develop as sending zones, where large parking

structures are constructed to facilitate the movement of commuters from the station to another, primarily job-related destination. Few realize the potential inherent in a receiving transit station, where people travel both to and from the station. Job centers are natural receiving transit stations and maximize the benefits of public transportation. Still another type of transit station, the retail destination, would serve commuters while also capitalizing on the exposure of the commuters to the surrounding land uses, enabling the retail stores to capture the commuters' business at other times of the day and week.

The intent of this demonstration project is to examine the potential market demand for commercial development around the Citrus Station and identify the most appropriate mix of housing, commercial, and office uses depending upon how the transit station could be developed: as a sending zone, a receiving zone, or a retail destination.

Compass Blueprint Strategy

In 2001, the Southern California Association of Governments (SCAG) started a visioning process that culminated in a regional strategy to accommodate the coming growth while providing for livability, mobility, prosperity, and sustainability. This strategy, called "Compass Blueprint," promotes a stronger link between region-wide transportation and land use planning and encourages creative, forward-thinking, and sustainable development solutions that fit local needs and support shared regional values. The strategy is broadly based on the following four key "Compass Principles."

Principle 1: Improve Mobility

Principle 2: Foster Livability in All Communities

Principle 3: Enable Prosperity for All People

Principle 4: Promote Sustainability for Future Generations

Beginning in 2005, SCAG initiated the implementation phase of Compass Blueprint and began partnering with jurisdictions in Southern California to realize this growth vision on the ground. To date, over 40 demonstration projects have been conducted that exemplify the goals shared by the Compass Blueprint and unique visions of local communities.

Project Goals

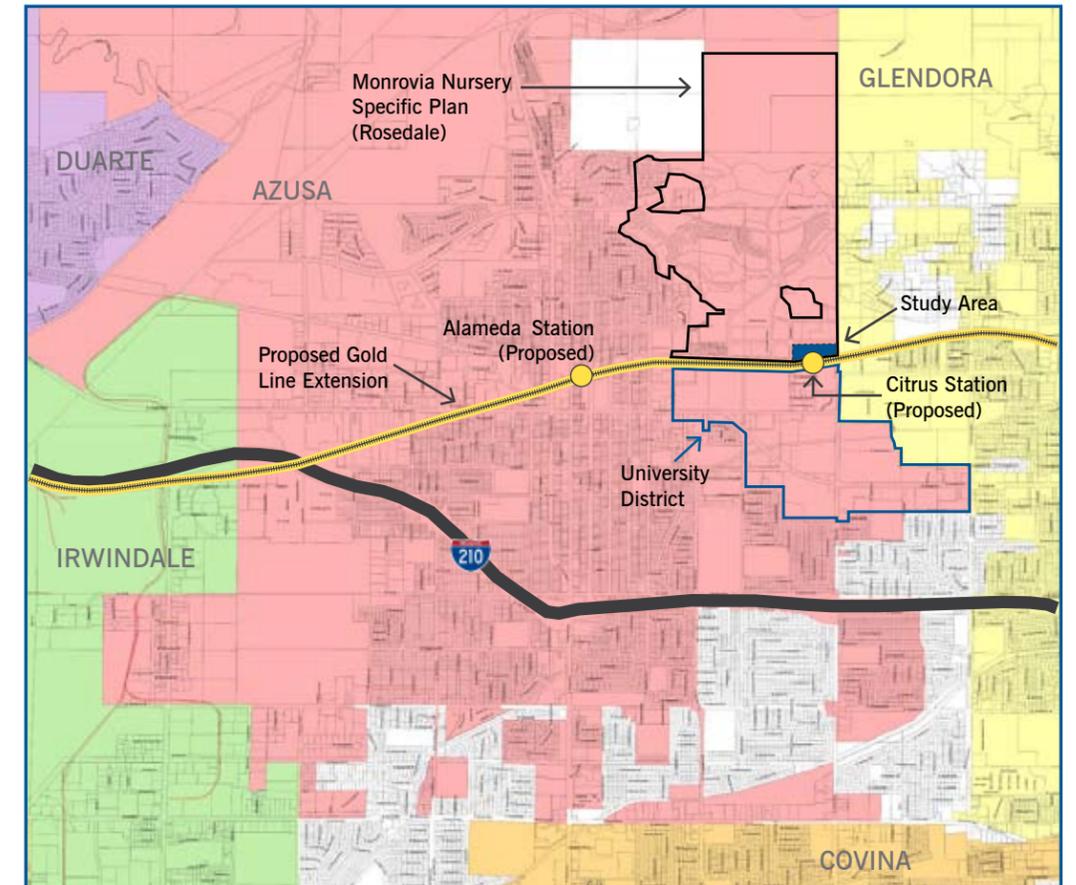
In addition to the Compass Principles, the demonstration project is driven by five specific project goals:

1. Define transit station role/typology
2. Assess market demand for commercial retail
3. Identify appropriate mix of land uses and create three development scenarios
4. Conduct a proforma analysis for each development scenario
5. Provide direction on how to develop the Citrus Station and other stations in the region

Ultimately, the results of this demonstration project will provide the City of Azusa and developers with a greater understanding of the amount and types of commercial and office development that can best take advantage of market demand and the connection between transportation and land use at the Citrus Station. The City needs to understand how the Specific Plan's long term vision can be achieved while respecting the current market.

This demonstration project will also provide other cities, developers, and interested stakeholders with an overall methodology for evaluating their transit station areas. Finally, the demonstration project will illustrate the importance of understanding what mix of uses is appropriate for a transit station depending upon the station type and surrounding uses.

Regional and Project Location





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Transit Station Typology

This demonstration project is focused on the areas in the City of Azusa surrounding the proposed Citrus Station within the Monrovia Nursery Specific Plan. The Specific Plan calls for a mixed-use core of land uses located near the Citrus Station.

An objective of this demonstration project is to identify specific land uses that would be appropriate for the mixed-use core and would compliment both the Citrus Station and surrounding master plan community.

As part of this assessment, the City of Azusa must consider the potential role of the Citrus Station in serving commuters and the surrounding community. One option is to tailor the station and surrounding land uses towards the station functioning as a suburban commuter station, sending riders to employment centers elsewhere in the San Gabriel Valley and Los Angeles County.

Alternatively, the station could act as a destination, receiving commuters, students, and other transit users attracted to nearby land uses such as Citrus College and Azusa Pacific University. A third option is the creation of a retail destination that could attract visitors from elsewhere in the region to shop at the retail stores, as well as associated retail employees.

This following discusses the general attributes of each station type and provides brief case studies from similar transit stations in Southern California and across the United States. Three types of transit stations are described, along with their primary uses and functions. The case studies will provide the City of Azusa with a better perspective of what types of development around the Citrus Station could be most conducive to promoting use of the proposed transit station.

Transit Context

The Metro Gold Line light rail system currently runs from Union Station in downtown Los Angeles to Sierra Madre Villa in Pasadena, with a total of 12 intermediate stations. The proposed Metro Gold Line Foothill Extension would add 24 miles to the system with new stations in Arcadia, Monrovia, Duarte, Irwindale, Azusa, Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair. The first segment of the extension includes the stations in Arcadia, Monrovia, Duarte, Irwindale, and Azusa. The second segment of the extension runs from Azusa to Montclair. The proposed Citrus Station in Azusa would be part of the Phase One extension.

The Monrovia Nursery Specific Plan is a 517.5 acre nursery site that is currently under development as the Rosedale Master Planned Community. The community is proposed to provide up to 1,250 single family and condominium homes, a K-8 school, a system of parks, open spaces and trails, and up to 50,000 square feet of commercial uses.

Azusa Pacific University and Citrus College are both located immediately across the rail line. Azusa Pacific University, the second-largest private Christian school in the country, hosts a total of over 9,000 students, faculty, and staff. A master plan indicates that Azusa Pacific University will expand significantly over the next 20 years, adding both students and buildings to the campus, including dorms to the western campus.

Citrus College occupies a 104-acre campus just south of the study area. The college, which currently serves more than 11,000 students, is also experiencing a major facilities expansion project.

Three Types of Transit Stations

The implementation of a new regional transit service and transit stations within a city provides an excellent opportunity for reshaping

development patterns and land types into a more sustainable, transit-oriented form. A transit station can serve as an important central element for a particular section or district of a city. Transit stations provide connections between major regional destinations and can create opportunities for economic growth.

With increasing population growth and traffic congestion in the San Gabriel Valley, transit is becoming more popular as an alternative to reducing traffic and accommodating the growing travel demands. The following is a short overview of the typical uses and functions of the three types of transit stations identified in the Introduction of this report: sending; receiving; and retail destination.

Overview on Transit Station Uses and Function

Transit stations vary in size and can fulfill a variety of roles depending on the transit services that stop at the station and the ability of the station to provide fast and efficient connections to nearby activity centers and trip generators. An

individual transit station may provide access to a single mode of transit service while others may serve multiple transit lines and travel modes.

The various different transit modes range from local bus services to rapid bus, light rail, and commuter rail. Other services that could be provided at a transit station, but are non-transit, include carpool services, van shuttle services, and bike facilities. Larger transit stations may function as multi-modal centers, where connections can be made between local transit buses, express buses, automobiles, and trains. Transit stations typically aim to provide an easy and accessible process for transferring between different modes of travel.

In addition to centralized transit centers, smaller, local transit stations are provided along each route. These transit stations generally serve one or two modes of transit, with some stations operating as

connection points with services that link to other systems and modes.

While the various types of stations offer different services and have different functions, the location of the station will also influence the way the station is used by commuters. Stations located near residential areas will be used primarily to move commuters from their homes to employment centers, educational institutions, and retail centers (sending station).

Stations located near employment centers and educational institutions are most often destinations for commuters arriving to go to work or school (receiving station). Similarly, stations located next to regional shopping centers or specialty retail centers will be used by passengers attracted to the retail shops either on their way to work or on their way back home (retail destination station).

Proposed Gold Line Extension and Transit Context





Sending Stations

Transit stations that are used predominately to send passengers to industrial or commercial areas are referred to in this report as sending stations. For a transit station to operate as a sending station, the land uses surrounding the station will generally be residential in nature. The development may include some retail shops that are tailored to serving the surrounding residential community, as well as limited employment.

As a result, many sending stations will generally provide all-day parking capacity and facilities for the commuters. Park-and-ride facilities enable passengers to arrive, park their cars, and transfer to the transit service for the trip to a job destination or educational institution.

Some examples of sending stations in Southern California include many of the Metrolink commuter rail stations in San Bernardino and the Inland Empire area, where the majority of the cities are suburban and many of the residents who live there commute to work in downtown Los Angeles. The stations in these areas provide all-day parking facilities and are located next to small retail shops such as coffee shops and convenience good stores that cater to the users of the station.

The residential neighborhoods surrounding the transit station provide the market of commuters who use the station to travel to business centers, educational institutions, and regional shopping centers.

The commercial developments consisting of small retail shops cater towards the passengers who use the station either on their way to work or coming home to provide services that are necessary, accessible, and convenient. These types of land uses are beneficial to the station as they bring in customers, while the station serves as an amenity to the residents and small businesses in the area.

Receiving Stations

Receiving stations are transit stations that are generally located at or near employment centers, educational institutions, and regional shopping centers. They are destinations for commuters traveling from outlying, suburban transit stations to the nearby employment centers. Receiving stations typically experience greater ridership and passenger activity as the destinations near these stations attract riders from sending stations located throughout the transit system.

Receiving stations also typically provide fewer parking spaces as passengers will probably be traveling to the station using a transit service as opposed to an automobile. Land uses around the station will more often be office, industrial, and/or commercial employment centers.

Examples of receiving stations in Southern California are located in downtown Los Angeles, downtown Long Beach, and Santa Ana. These locations include large business districts, regional retail destinations, and other land uses that attract commuters. Union Station in downtown Los Angeles is a large-scale example of a receiving station, served by numerous regional transit services. The Santa Ana Depot, served by Metrolink and Orange County bus routes, is a smaller-scale example of a receiving station, providing a transit link to the Santa Ana Civic Center.

Receiving stations are generally larger than sending stations given that they may be served by multiple transit lines, and have the capacity to serve peak passenger volumes during commute hours.

Development around receiving stations tends to be oriented towards employment. In order for a transit station to operate as a destination, a sufficient amount of employment density should be located within walking distances of the station or be connected to the station by frequent and convenient transit services. Land use development surrounding receiving stations

typically consists of business centers and/or educational institutions.

Retail Destination Stations

Transit stations that are primarily used as destination points for major or speciality retail centers are referred to as retail destination stations. Retail destination stations are located at or near a major retail destination that draws residents from a large area to shop and access services. Other land uses may exist around the station, but it is the retail center that attracts the majority of the passengers arriving at that station. The station may be located where there is direct access to the shopping center, or be within a walkable distance of the center. Retail destination stations will generally experience a higher seasonal influx of passengers compared to sending and receiving stations, peaking with seasonal retail shopping patterns.

Examples of stations that are located near a retail center include the Fashion Valley Transit Center in San Diego, in which the station serves the retail center in a mixed-use setting despite nearby industrial and institutional land uses. Another example is the Metro Gold Line Memorial Park Station located in Old Pasadena. Located adjacent to one of the most popular shopping and entertainment destinations in Southern California, the station provides access to passengers who want to shop and also spend their time on other activities such as dining or watching a movie.

Land uses near retail destination stations consist of a strong retail center that will be able to attract passengers. Other land uses that complement the shopping center such as entertainment venues or parks may provide a greater incentive for passengers to travel to the area. Residential and other commercial land uses may also be located near retail destination stations, however, these land uses would be secondary in attracting trips to the station.

Sending Station Case Study

GROSSMONT TRANSIT CENTER La Mesa, CA

The San Diego Trolley is a light rail system that operates three routes in San Diego County: the Blue Line; Green Line; and Orange Line. The system covers 53.5 miles from the City of Santee north of San Diego to San Ysidro at the United States-Mexico border. The San Diego Trolley system has a total of 53 stations, with 5,000 plus parking spaces distributed at various trolley station park-and-ride lots.

The Grossmont Transit Center is located in the suburban town of La Mesa, approximately 13 miles east of San Diego. It is part of a transit oriented development project that includes multi-family housing above the station and some commercial retail shops at ground level. A bridge will be built to connect the station to the employment and entertainment centers nearby. The station functions as a sending station, offering two levels of structured parking and connections on the Orange Line and Green Line to and from downtown San Diego.

The City of La Mesa is similar to Azusa in that it is predominately a residential city with some commercial and light industrial in the downtown area. The average travel time to work is approximately 30 minutes, suggesting that a substantial portion of the residents commute outside of the city to work.



Grossmont Transit Center (La Mesa)



Grossmont Transit Center (La Mesa)



Grossmont Transit Center (La Mesa)



Receiving Station Case Study

BERKELEY DOWNTOWN BART STATION Berkeley, CA

The Bay Area Rapid Transit (BART) is a high-capacity rail service that connects San Francisco with cities along the East Bay. The Berkeley BART Station is located in Berkeley's mixed use, medium-density, walkable downtown area.

The City of Berkeley is located just across the bay from San Francisco and a few miles north of Oakland. In addition to the BART rail service, the Berkeley BART Station also features connections to several bus transit services. While a portion of the riders using the station are commuting to job centers in San Francisco, the station's primary role is that of a receiving station for people traveling to the nearby UC Berkeley campus. It is also often used by patrons of events taking place at the University, such as lectures, football games, and other athletic events.

The Berkeley BART station could serve as a template for the City of Azusa in creating a receiving station that is oriented towards serving nearby higher education facilities. Strong connections between the transit station and the University are provided via several local bus transit services operated by the University and regional operators. The City of Berkeley is also exploring ways to strengthen the pedestrian connection between the station and the University.

By promoting connections between Citrus Station, Citrus College, and Azusa Pacific University, the City of Azusa may be able to establish the station as a destination, receiving commuters from throughout the San Gabriel Valley. Surrounding land uses would be designed to meet the needs of commuters and students traveling to the station, while exploring opportunities for adding additional employment destinations near the station.



Berkeley Downtown BART Station (Berkeley)
source: Mary Jane Watson, 2007



Berkeley Downtown BART Station (Berkeley)
source: Seán A. O'Hara, 2008

Retail Destination Station Case Studies

MEMORIAL PARK STATION Pasadena, CA

The Memorial Park Station is an existing Metro Gold Line station located on the northern edge of historic Old Pasadena. In addition to the rail services operated by the Gold Line, the station is also served by Foothill Transit, Metro bus services, and City of Pasadena local bus services.

The station is situated beneath the existing Holly Street Village Apartments that were constructed in 1994 in anticipation of a light rail station at this site. It is surrounded by a variety of land uses, including commercial, residential, and institutional uses. However, the nearby retail commercial district in Old Pasadena serves as the primary attractor of passengers to the station.

The attraction of the Old Pasadena area is centered on its historic feel and unique retail experience. To create a similar condition around the Citrus Station, the City of Azusa would need to focus on attracting unique or specialty retail uses that would be capable of drawing patrons from beyond the city's borders. Instead of a generic regional mall retail destination, the smaller retail shops could be designed to fit in with the new Rosedale neighborhoods, while still being attractive to shoppers located outside of the City of Azusa.

SAN ANTONIO CALTRAIN STATION Mountain View, CA

Caltrain is a commuter rail line operated along the San Francisco peninsula and the Santa Clara Valley. The San Antonio Caltrain Station is located in the Crossings transit oriented development neighborhood in the City of Mountain View. While Mountain View is home to some employment centers, the station is located in the city's older area.

The station is located in walking distance of the San Antonio Shopping Center. The shopping center attracts shoppers from the cities of Los Altos and Palo Alto due to its close proximity and accessible public transit, making it an ideal example of a retail destination station. While some residential uses are located near the station area, the main attraction is the shopping center.

The Monrovia Nursery Specific Plan calls for commercial retail near the Citrus Station. Depending on the vision for this commercial retail development, the City of Azusa may look to the San Antonio station as an example of a retail destination station. The City of Azusa may decide to build a similar retail destination that would attract residents from neighboring cities, while still serving nearby residential neighborhoods.



Memorial Park Station (Pasadena)
source: Antonio Edward, 2006



Memorial Park Station (Pasadena)
© Salaam Allah, 2008



San Antonio Caltrain Station (Mountain View)
source: Marcel Marchon, 2007



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Market Analysis

A brief market analysis was conducted to estimate market demand for new retail building space in the Monrovia Nursery Specific Plan's Transit Neighborhood. The analysis considered the findings of recent market studies conducted by the City of Azusa and Azusa Pacific University.

Understanding Retail Markets Convenience Goods and Services

Generally, the goods and services that most people need on a regular basis (convenience goods and services) are found within close proximity to where people live. For these regular purchases, most consumers have a built up knowledge of where to go to get what they want, whether their discriminator is price and convenience (most often) or quality (on occasion).

Groceries, medicines, and hair care are typical convenience goods and services. Because convenience goods and services usually have low cost margins and high sales volumes, convenience retailers are located throughout an area, in close proximity to concentrations of households.

Comparison Goods

Consumers tend to compare goods across brands and across retailers for items they purchase infrequently or rarely. This habit of comparing induces retailers to locate in proximity to each other. It also rewards larger scale retailers who can stock many different brands of similar products.

Clothing, electronics, and furniture are quintessential comparison goods. Because comparison goods have higher cost margins and lower sales volumes and because consumers purchase these goods infrequently, comparison goods retailers tend to locate close

to transportation corridors to have access to a greater number of consumers.

Retail Trade Area

The trade area is the geographic area from which retailers draw 80 percent of their customers. For general planning purposes, the analysis assumes that convenience goods retailers draw 80 percent of the customers from a ½- to 1½-mile radius, or a 5 to 10 minute drive time. With pedestrians, the market area typically includes a ¼- to ½-mile walking distance. This analysis considered a one-mile radius trade area for convenience goods spending.

For comparison goods, a community scale trade area might include a 3- to 5-mile radius. A regional scale trade area might include a 5- to 12-mile radius. The analysis considered a 3-mile radius trade area for comparison goods spending because the site is not located on a major transportation corridor.

Retail Support Number of Households

The analysis evaluated consumer spending by households because the household is the basic functional economic unit. The analysis assumes that projections based on past trends would not account for the development entitled under the Specific Plan (currently referred to as the Rosedale Project) in the convenience goods trade area. The future number of households was adjusted accordingly. In contrast, it was assumed that projections for the larger comparison goods trade area would already account for such large projects. Accordingly, no adjustments were made for this trade area. See Table 1 for trade area households.

Market Potential

Market potential is the total amount of new retail building space that consumer spending by trade area households will support currently and in 2011. The estimates and projections are based on an analysis of consumer spending

Table 1: Number of Trade Area Households (2006/2011)

Year/Adjustment	Convenience Goods		Comparison Goods	
	Households	% Increase	Households	% Increase
2006	6,368	--	39,115	--
Rosedale Adjustment	1,250	--	0	--
2011	7,916	24.13%	40,746	4.17%

Source: The Planning Center, 2007, using data from Claritas, Inc., and the City of Azusa

Table 2: New Retail Space Market Potential (2006/2011)

Trade Area	2006 Supportable Space (SF)	2011 Supportable Space (SF)
Convenience Goods	25,240	51,016
Comparison Goods	282,768	314,845
TOTAL	291,124	345,806

Source: The Planning Center, 2007

Table 3: Planned Retail Development in the Trade Area

Planning New Retail Building Space	Size (SF)
Downtown North	230,000
Block 36	32,500
Foothill Center ¹	2,900
University District ¹	3,091
TOTAL	268,491

Source: The Planning Center, 2007
Notes: 1. Net increase after redevelopment.

Table 4: Market Demand for New Retail Space (2006/2011)

Trade Area	2006	2001
Market potential (SF)	291,124	345,806
Planned Supply (SF)	--	268,491
TOTAL	291,124	77,315

Source: The Planning Center, 2007

and opportunity gap data obtained from Claritas, Inc. See Table 2 for market potential.

The market potential assumes that the trade area captures 100 percent of its households' consumer spending. The actual capture by the demonstration project study area depends on numerous factors, especially on the potential for capture by competing facilities. Due to the limited scope of the market analysis, the potential for capture by competing facilities was not considered.

Planned Retail Development

Planned retail developments will capture part of the market potential for new retail building space. Table 3 identifies the amount of new retail building space in currently planned projects in the trade area.

Market Demand New Retail Space

The market demand for new retail building space—the amount of retail that the demonstration project study area can provide without undermining support for existing retailers—was calculated by subtracting the planned retail building space from the total market potential. The results are presented in Table 4.

Capture of Convenience Goods Spending

Because consumers typically patronize convenience goods retailers in close proximity to their home, the Azusa demonstration project site would likely capture a large share of the 1-mile trade area spending on convenience goods. If an 80-percent capture rate is assumed for convenience goods spending, the site should be able to accommodate 23,000 square feet of retail sales and services building space. This analysis does not account for spending by the trade area's daytime population (e.g., Azusa Pacific

students, staff, and faculty). A more detailed market analysis should be prepared to account for daytime population spending and to account for existing convenience goods retailers.

Opportunity for Comparison Goods

The data indicate a potential to create a comparison goods center specializing on apparel. Within a 3-mile radius of the project site consumer demand for apparel currently exceeds retail sales by \$36 million, and within a 5-mile radius the gap widens to \$44 million. Apparel spending constitutes 56.3 percent of the total support for comparison goods retail space. The magnitude of the apparel-retail gap warrants additional research to better quantify the actual market demand and to identify strategies to capture that demand at the demonstration project study area.

If desired, market demand could warrant the development of an apparel focused destination retail center. Because the demand comes from a larger community scale trade area, such a center could be located in the transit neighborhood or elsewhere in the City. A more detailed market analysis is needed to better understand the potential for a destination retail center, however, this initial analysis is adequate for developing potential scenarios in this demonstration project.

Market Study Findings

1. Trade area consumer spending might support up to 77,000 square feet of retail space.
2. If limited solely to convenience good spending by households within a 1-mile radius, the site could capture demand for 23,000 square feet of retail space, not accounting for student and faculty spending.
3. Consumer spending on comparison goods might support a destination retail center focused on apparel.



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Development Scenarios

Three development scenarios were developed based on the market analysis and the requirements contained in the Monrovia Nursery Specific Plan. The scenarios were also developed to illustrate how the site adjacent to Citrus Station could develop as either a sending, receiving, or retail destination station.

Site Context

The approximately 8-acre site is located within the Monrovia Nursery Specific Plan. One component of the specific plan's vision is to create a walkable mixed-use core adjacent to a future Gold Line light rail stop connected to surrounding residential neighborhoods and the emerging University District. To advance this vision, the specific plan provides for a shared pedestrian-oriented neighborhood core with small-scale retail/service businesses for transit riders, business park employees, and surrounding residents.

Within the Promenade District of the specific plan, the Transit Neighborhood specifically calls out for a mix of residential and commercial uses around the future Citrus Station. The specific plan identifies an objective to provide between 30,000 to 50,000 square feet of transit oriented commercial uses.

The total number of dwelling units permitted within the Monrovia Nursery Specific Plan area shall not exceed 1,250. There is no specific cap or target for the Transit Neighborhood, however, it is limited by a maximum density of 25 units per net acre permitted. Of the 8.18-acre site, a planned parking structure for the transit station covers at least one acre and the net acreage available for residential development might be reduced to six acres.

Accordingly, the specific plan would permit between 100–150 units on the site, although the count may go to 200 units if the density is calculated without accounting for the parking structure. The Environmental Impact Report for Gold Line identified

Aerial: Existing Conditions (2007)





a 350-space parking structure that would be integrated into the site. The 350 spaces would be intended to serve only the station, though it could serve other uses during nights and weekends.

Some of the initial designs for the parking structure and transit station placed the structure on the eastern part of the site. This demonstration project found that this eastern location hindered the efficient development of the site. Placing the structure on the western part of the site would improve possible connections between the retail uses and commuters, create more developable parcels for residential and mixed-use structures, and allow for a small east–west road. While the site could be developed with the parking structure located on the eastern side of the site, this demonstration project proposed conceptual site plans with a western location.

The following design guidelines and development standards can be found in the Monrovia Nursery Specific Plan. These regulations define the development envelope for the scenarios explored in this demonstration project.

Transit Neighborhood Design Guidelines

Building Types

- Range from single use retail, office, or residential to combinations of mixed-use with office over retail, residential over office, or residential over retail
- Mixed-use generally located near the Transit Plaza and along Promenade Street
- Mixed-use may be built as horizontal or vertical
- The following building types are permitted:
 - Type 1: vertical mixed-use with arcade
 - Type 2: Vertical mixed-use without arcade
 - Type 3: Live/work
 - Type 4: courtyard
 - Type 5: Residential attached (3-story)
 - Type 6: Residential attached (2-story)
 - Type 7: Residential detached

Street Pattern

- Generally in an interconnected grid pattern
- Buildings facing the promenade to have rear access private drives

Transit Plaza

- Will include seating area, water feature, information kiosk, and tree plantings
- Shall be defined by buildings on at least three sides
- Minimum of 30% of Transit Plaza shall be used for landscape planting

Shared Recreation

- A commonly shared recreation facility shall be provided within the Transit or Great Park neighborhoods
- Size and program should be related to adjacent residential, but should be at least one acre in size

Street Character

- All streets shall have curb separated sidewalks with minimum 5-foot parkway (except Promenade)
- All building types shall be rear loaded
- Street tree planting should be formal
- Tapered streets are encourage at intersections

Promenade Street Guidelines

- Homes face promenade with parkway separated sidewalks
- Transit plaza and residences portray an urban character
- Palms are utilized as well as canopy trees providing tree-lined street with canopy accents

Parking

- Parallel and angled parking is allowed
- Required parking should be located within 400 feet of the uses they serve
- Full parking credit shall be given for spaces located on adjacent public or private streets

Garages

- In neighborhoods with 21 du/ac or less, required garages for two cars shall have direct access to individual dwellings
- In neighborhoods over 21 du/ac one required garage shall have direct access to the dwelling. The other garage may be located nearby

Parking Courts

- Parking courts shall be open to surveillance from adjacent streets, sidewalks, and overlooking balconies on at least two sides.
- Surface parking lots shall be landscaped along the edges (8-foot minimum planting area)
- Within parking courts minimum one tree per four spaces in a single row

Attached Housing Design Guidelines

- One-story elements shall be incorporated into the majority of building elements facing public streets
- Dwelling adjacent to a public street shall take access from that street with an individual entry
- Primary dwelling access may not be taken from an alley
- Each dwelling shall have usable outdoor space (60 sq. ft. min./six-foot min. depth)
- Non-street facing dwellings shall orient to either a paseo or courtyard. The paseo shall have the following requirements:
 - 25-foot average width (15-foot min.) adjacent to two-story building
 - 30-foot average width (20-foot min.) adjacent to three-story building
 - 16-foot average patio to patio
- Interior courtyards:
 - 35-foot average width and depth (20 feet minimum)

Development Standards

Permitted Uses

- Most uses allowed in the Specific Plan are allowed in the Transit Neighborhood

Density

- Shall not exceed 25 units per net acre

Height

- Building height shall not exceed 45 feet with architectural features allowed to a maximum of 55 feet

Residential Off-street Parking Requirements

- Detached: two enclosed spaces, one guest space per unit
- Attached: two enclosed spaces, 0.3 guest space per unit
- Parking on-streets and driveways may be counted toward required parking
- Senior Citizen Apartments: one space per unit in carport, one guest space per four units

Commercial, Professional, and Institutional Off-street Parking Requirements

- One space per 250 sq. ft. of gross leasable floor area for all commercial uses
- Churches and community buildings: one space for every eight permanent seats or one space for every 100 sq. ft. of floor area used for assembly, whichever requires more spaces.
- Joint-use may be permitted with proof that hours of operation do not conflict

Streets

- Three roads form the boundary of the site: Palm Drive, Promenade Street, and Citrus Avenue. The sections for these roads can be found on pages 75 (Palm Drive and Citrus Avenue) and 76 (Promenade Street) of the specific plan

Scenario 1: Sending Station

Scenario 1 implements the concept of a sending station. The market study identified the potential for approximately 24,000 square feet of retail building space, with residents in the surrounding area providing most of that support and commuters providing ancillary retail spending.

Because the surrounding areas provide most of the support for retail uses, the retail must be visible and easily accessible to area residents. For commuters and the transit station to benefit, however, commercial uses must be located near, if not between, the transit platform and the kiss-n-ride and parking structure.

To address this dilemma, the scenario plans the majority of the supportable retail—15,000 square feet—in a traditional convenience-scale retail center located at the site’s northwest corner. Additional ground-floor retail, with lofts above, lines the west side of the transit plaza. The transit plaza provides open plaza space adjacent to the transit platform where mobile kiosks can provide convenience goods to the morning and afternoon rush of transit commuters.

The entrance and parking for the corner retail center will induce neighborhood residents to enter the interior of the transit neighborhood. The surface parking especially provides visibility to the transit plaza and its retail. This visibility will keep area residents aware of the mix of commercial uses along the transit plaza and promote their patronization.

Implementation of this scenario will require attention to the architectural form to reinforce the presence of commerce in the interior of the transit neighborhood. Likewise, site landscaping should compliment, not interfere with, the need to promote visibility from the corner retail center to the transit plaza and its row of commercial businesses.



The development pro forma for this scenario suggests a development feasibility gap of \$1.2 million, or 1.3 percent. This magnitude of a gap suggests that enhancements to the design, modifications of product mix, or some level of public incentive could make this scenario viable.

Scenario 2: Receiving Station

Scenario 2 implements the receiving station concept. For transit to operate with less of a public subsidy, public policies need to encourage two-way traffic, rather than just loading local residents on a bus or train to ship them somewhere else for the day. The commuter student populations at Citrus College and Azusa Pacific University should bestow some destination use on the Azusa metro station. To enhance the station's attraction of riders, Scenario 2 plans 180,000 square feet of office space. Capitalizing on the daytime office population and assuming some spending from college students, this scenario increases the amount of retail from that in scenario 1 to 31,000 square feet—still a modest proposition.

This scenario proposes two 3-story office buildings on both sides of the southern half of the transit plaza. These buildings provide groundfloor retail on both sides of the plaza, while the second and third stories provide 60,000 square feet of office space. A transit lobby between the plaza and the metro platform connects the two retail/office buildings. The parking structure provides parking for this building.

Although not shown on the plan, the parking structure could be directly connected with this building, channeling commuters through the retail lobby on their way to the metro platform.

This scenario also plans for three sets of townhouses. The western set of townhouses could include live/work units, providing a quasi-commercial edge along the eastern side of the transit plaza.

Scenario 2 plans a second office building with 120,000 square feet of offices in three stories. The office space lies on top of a single level of podium parking, providing parking spaces specifically designated for this office building. The design incorporates first-level courtyards, opening the buildings up and promoting the use of natural lighting.

Although this demonstration project did not include a market analysis for office space, Grubbs & Ellis' first-quarter-2008 Office Market Trend report for Los Angeles County qualified the San Gabriel Valley office market as "tight" with a vacancy rate of 6.6 percent, the lowest in the seven Los Angeles County sub-markets.

While this vacancy suggests that speculative office development might be warranted, the site's developer should probably first approach Citrus College and Azusa Pacific University about long-term lease for classrooms and office space. Attracting college students to the transit neighborhood would provide additional support for retail businesses. The educational institutions could capitalize on the public relations value of providing transit-oriented classrooms. Finally, the townhouses could provide faculty residences.

Scenario 3: Retail Destination Station

Scenario 3 implements the retail destination station concept. Many retail businesses want to locate at intersections of major arterials that provide not only auto accessibility but also visibility. Comparison goods retailers rely heavily on the visibility value, because the choice to shop for comparison goods is usually a deliberative rather than a spontaneous decision.

Retail locations that commuters stop and look at every day (i.e., at or near major intersections) provide value to comparison goods retailers. The retail destination station concept capitalizes on the visibility value of a station location where many metro riders will look at the retailers,

and displays while the train stops every day to load and unload passengers.

The concept does not intend to necessarily capture riders' immediate spending as much as it intends to create a retail center that those riders will think of when they decide to go shopping for comparison goods in the evenings or on the weekends. While a stop-off on the home commute might bring some shoppers, one should expect most of the shoppers to actually drive to the center outside of their normal working day.

Additionally, the commuters do not provide the only support, as the retail stores should be targeted to address a hole in the retail market. The market study found \$36 million in unmet demand for apparel within three miles of the site, and \$54 million within five miles. This scenario suggests creating an apparel niche market. Similar markets have developed in Balboa Island and in La Jolla, California.

Scenario 3 provides 13,000 square feet of ground-floor retail on the west side of the transit plaza, with two floors of office space above the retail. Another 15,000 square feet of groundfloor retail front the east side of the transit plaza, with two-story residential lofts above the retail. This scenario also allows for two 15,000 square foot retail boxes to replace the convenience retail center proposed in the other scenarios on the site's northwest corner. Live-work townhouses provide additional commercial uses along the eastern edge of the transit plaza.

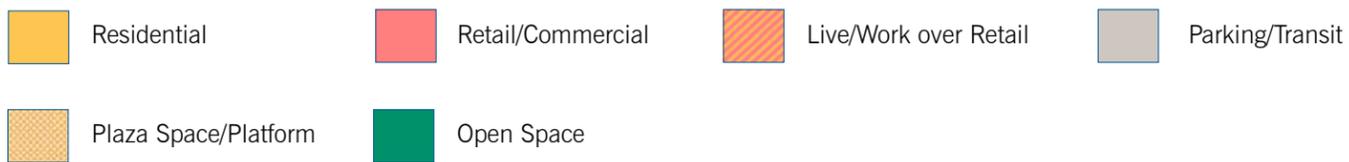
To capitalize on visibility, the transit plaza's landscaping would consist primarily of low-level shrubbery, with some tall palm trees that have little view impact. The south walls of the parking garage, offices, and lofts-over-retail provide an excellent opportunity for onsite advertising.

Because the site does not lie on a major auto-arterial, developing it to capture the unmet apparel demand will challenge the site's developer and require an unorthodox approach.

Indeed, trying to fill all of the planned retail space with national chains will probably not be possible. A more appropriate strategy would try to attract one or two unconventional chain retailers and to fill the remaining space with single or small chain retailers. A word-of-mouth publicity campaign could augment traditional center advertising and promotion. Although establishing this type of niche center would be challenging, there is a significant amount of spending waiting to be captured.

Site Plans and Proformas

The following pages provide conceptual site plans and proforma results for each of the three scenarios.



Scenario 1: Sending Station

Building Type	Height	Units/SF	Parking
RESIDENTIAL	--	170	--
Stacked flats over podium	4 stories	132	2/du; single-level podium; 0.3 guest ¹
Rear-loaded townhomes	3 stories	30	2/du; attached parking; 0.3 guest ¹
Live/work lofts over retail	3 stories	8	2/du; attached parking; 0.3 guest ¹
RETAIL	--	24,000	--
Convenience Retail 1	1 story	15,000	4/1,000 GSF; surface ²
Convenience Retail 2	1 story	9,000	4/1,000 GSF; surface ²
PARKING GARAGE	--	--	420 spaces
Parking Garage	3 levels + terrace	--	420 spaces ³

Notes:

1. Guest parking provided by on-street parking.
2. Retail parking provided by surface and excess spaces in parking garage.
3. A total of 350 spaces are estimated to be needed for Citrus Station transit riders.

PROFORMA RESULTS

DEVELOPMENT COSTS

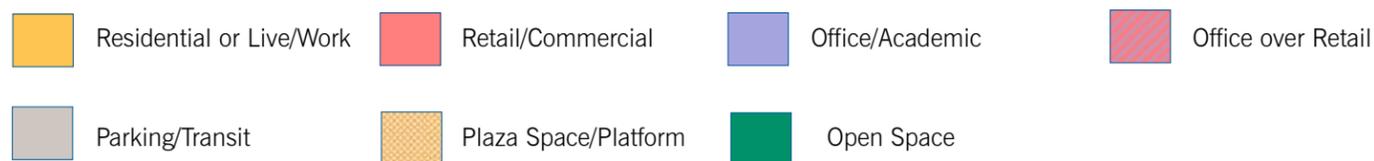
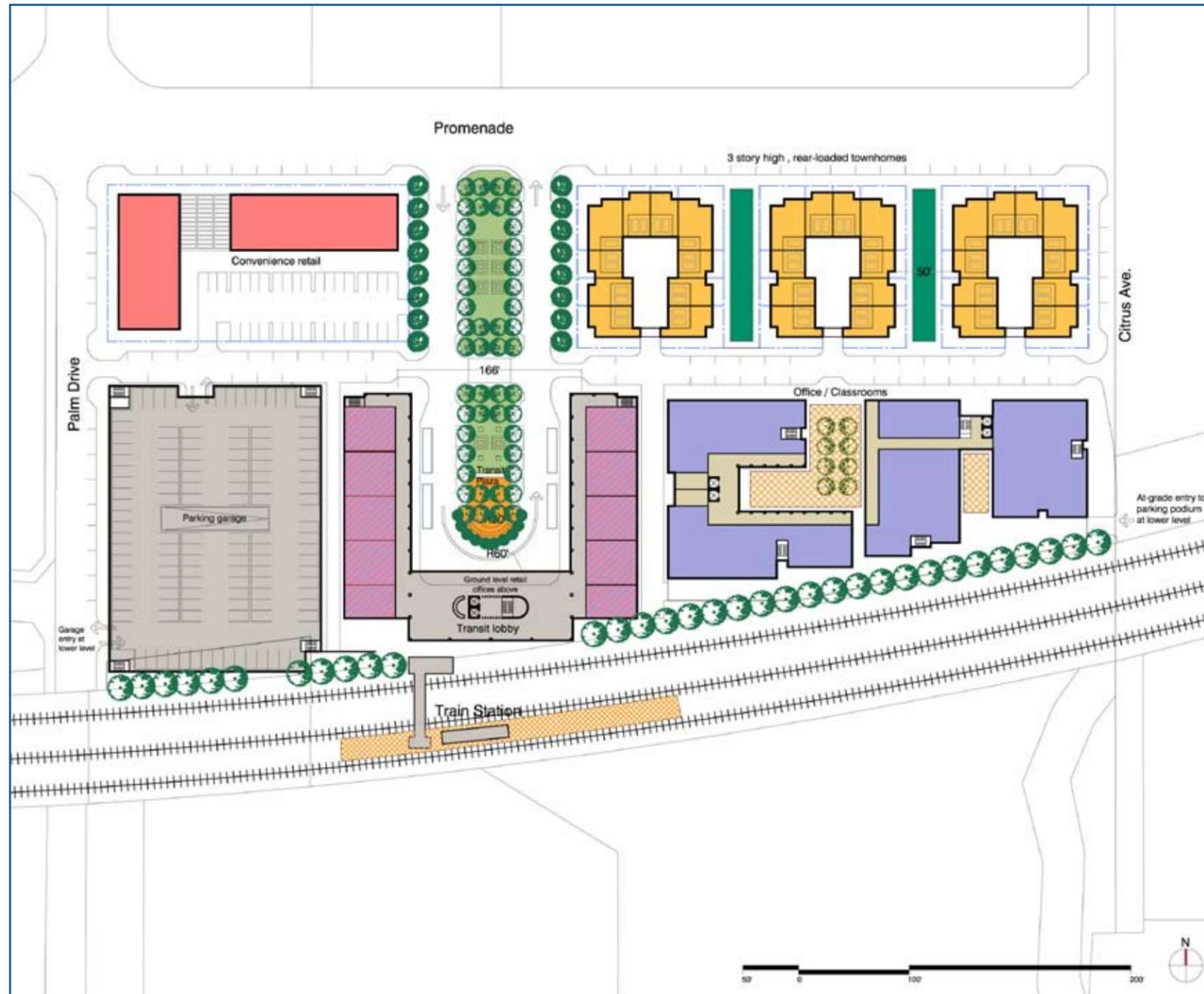
Land acquisition	\$15,678,115
Hard construction	\$51,171,504
Soft construction	\$7,675,726
Financing	\$8,833,151
Developer profit	\$11,367,068
Total Development Cost	\$94,725,564

PROJECT REVENUES

Sale of residential units	\$89,010,000
Sale of retail units	\$ 4,462,500
Total Project Revenues	\$93,472,500

DEVELOPMENT FEASIBILITY GAP - \$ 1,253,064

Retail square footage	24,000
Estimated annual sales	\$ 5,214,330
Projected Azusa sales tax revenue (0.75%)	\$39,107



Scenario 2: Receiving Station

Building Type	Height	Units/SF	Parking
RESIDENTIAL	--	30	--
Live/work townhouses	3 stories	30	2/du; attached parking; 0.3 guest ¹
OFFICES/ACADEMIC	--	180,000	--
Offices and classrooms	3 stories	120,000	3/1,000 GSF; 1 level podium ^{2,3}
Office over transit lobby	2nd & 3rd stories	60,000	3/1,000 GSF ^{2,4}
RETAIL	--	31,000	--
Convenience retail	1 story	15,000	4/1,000 GSF
Retail in transit lobby	1st story	16,000	4/1,000 GSF ⁴
PARKING	--	--	520 spaces
Parking Garage	3 levels + terrace	--	520 spaces ⁵

Notes:

1. Guest parking provided by on-street parking.
2. Office assumes a 25 percent reduction in parking need from the typical 4/1,000 GSF ratio based on an assumption of the number of employees and students using transit to travel to work or school.
3. Office parking provided in one level of podium parking and excess parking available in parking garage.
4. Parking for office space and retail in or over transit lobby provided by parking garage.
5. A total of 350 spaces are estimated to be needed for Citrus Station transit riders.

PROFORMA RESULTS

DEVELOPMENT COSTS

Land acquisition	\$15,678,115
Hard construction	\$52,457,754
Soft construction	\$ 7,868,663
Financing	\$ 9,664,373
Developer profit	\$11,682,123
Total Development Cost	\$97,351,029

PROJECT REVENUES

Sale of residential units	\$23,350,000
Sale of retail units	\$9,222,500
Sale of office units	\$69,696,000
Total Project Revenues	\$102,268,500

PROJECT PROFIT **\$ 4,917,471**
 (in addition to developer's 12% return)



Scenario 3: Retail Destination Station

Building Type	Height	Units/SF	Parking
RESIDENTIAL	--	120	--
Stacked flats over podium	4 stories	78	2/du; single-level podium; 0.3 guest ¹
Rear-loaded townhouses	3 stories	20	2/du; attached parking; 0.3 guest ¹
Live/work townhouses	3 stories	10	2/du; attached parking; 0.3 guest ¹
Live/work lofts over retail	2nd and 3rd story	12	2/du; attached parking; 0.3 guest ¹
RETAIL	--	58,000	--
Apparel Retail	1 story	45,000	4/1,000 GSF ²
Convenience Retail	1 story	13,000	4/1,000 GSF ²
OFFICE	--	26,000	--
Office above retail	2nd and 3rd story	26,000	4/1,000 GSF ³
PARKING	--	--	520 spaces
Parking Garage	3 levels + terrace	--	520 spaces ⁴

Notes:

1. Guest parking provided by on-street parking.
2. Retail parking provided by a combination of on-street parking and excess parking available in parking garage. Scenario assumes peak retail activity takes place on nights and weekends, when all 520 spaces in parking garage are available. Otherwise, excess parking in garage sufficient during normal business hours to provide parking for retail.
3. Parking for office space provided by parking garage.
4. A total of 350 spaces are estimated to be needed for Citrus Station transit riders.

PROFORMA RESULTS

DEVELOPMENT COSTS

Land acquisition	\$15,678,115
Hard construction	\$46,076,904
Soft construction	\$ 6,911,536
Financing	\$ 8,558,789
Developer profit	\$10,530,729
Total Development Cost	\$87,756,073

PROJECT REVENUES

Sale of residential units	\$63,247,000
Sale of retail units	\$17,255,000
Sale of office units	\$10,067,200
Total Project Revenues	\$90,569,200

PROJECT PROFIT (in addition to developer's 12% return)

\$ 2,813,127



Conclusions

The future Citrus Station could and should be developed as a mixed-use transit node. The incorporation of a variety of land uses would not only reinforce the vision adopted by the City of Azusa, but would also enhance the property's value to the market.

Three scenarios were presented in this demonstration project to explore how a transit station could be developed as a mixed-use node using three transit station typologies: sending station, receiving station, and retail destination station.

The first scenario reflected a sending station where residents and commuters use the station to travel to other destinations. The appropriate mix of uses for a sending station would consist primarily of residential homes, a small amount of retail, and the transit station area (including parking).

A brief market study confirmed that sufficient demand is present to justify approximately 24,000 square feet of retail to be mixed with 170 residential units. An evaluation of the current market indicates that this scenario would be almost feasible, with an estimated feasibility gap of \$1.2 million, or 1.3 percent. This magnitude of a gap suggests that enhancements to the design, modifications of product mix, or some level of public incentive could make this scenario viable.

The second scenario considered the mix of uses appropriate for a receiving station. Receiving stations are transit stations that are generally located at or near employment centers, educational institutions, and regional shopping centers. They are destinations for commuters traveling from outlying, suburban transit stations to the nearby employment centers.

With the station's proximity to Azusa Pacific University and Citrus Community College, the project area could logically develop as an extension of one or both of these institutions. The appropriate mix for a receiving station should include a major employment use such as an office complex, ancillary retail and neighborhood serving commercial, and possibly live/work units. Non-live/work residential units could also be appropriate, however, the intent is to provide as much employment generating uses as possible to create a draw for commuters.

Scenario 2 includes 180,000 square feet of office space, 31,000 square feet of commercial/retail, and 30 live/work units. An evaluation of the current market indicates that this scenario would be feasible, with an additional value of nearly \$5 million beyond the developer's expected 12 percent profit.

The third scenario evaluated the mix of uses appropriate for a retail destination station. Retail destination stations are located at or near a major retail destination that draws residents from a large area to shop and access services. Other land uses may exist around the station, but it is the retail center that attracts the majority of the passengers arriving at that station.

Scenario 3 includes 58,000 square feet of retail, 26,000 of office space, and 120 residential units (of which 22 are live/work). An evaluation of the current market indicates that this scenario would be feasible, with an additional value of nearly \$3 million beyond the developer's expected 12 percent profit.

Accordingly, this demonstration project found that the Citrus Station could likely be developed in accordance with any of the three transit typologies in the current market. There are no market or physical constraints to fully realizing the City's vision for mixed-use development at the Citrus Station.

Ultimately, this demonstration project found that for transit to require lower public subsidies, trains and buses need to carry commuters in two directions. For this reason, suburban communities with transit stations should first consider the feasibility of developing employment around transit stations—understanding that even with transit, a majority of employees would likely drive to work. Retail and residential can then be planned into the mix. While the context and conditions surrounding each station will vary, suburban communities should consider sending-only stations as a matter of last resort.

