2012

Growth on the Gold Line: Evaluating the Foothill Extension and the Potential of Transit-Oriented Development

Adam E. Russell
Pomona College

GROWTH ON THE GOLD LINE:
EVALUATING THE FOOTHILL EXTENSION AND THE POTENTIAL OF TRANSIT-ORIENTED DEVELOPMENT

Adam Russell

In partial fulfillment of a Bachelor of Arts Degree in Environmental Analysis,
2011-12 academic year, Pomona College, Claremont, California

Readers:
Prof. Char Miller
Prof. Richard Worthington

Acknowledgements

I would like to first thank my readers, Prof. Char Miller and Prof. Richard Worthington, for their immensely helpful assistance, feedback, and constructive criticism. From their guidance I learned to push myself to follow and pursue the topics that fascinate me in this sprawling-yet-interconnected world. I also owe much gratitude to my friends and family, who have supported me throughout my research and writing with encouragement and moral support. And finally, I would like to thank the Environmental Analysis department as a whole for the tremendous educational opportunities that have led me here, and for leading me to discover what kind of difference I want to make with my experiences at Pomona College.

Table of Contents

Chapter I. Introduction

On a spring morning in 2011, the Line 3 metro train from Moncloa pulled into Madrid's Sol station, emptying its passengers into the bustling subterranean station. As one of thousands of commuters, I followed the flow of people to exit the metro station, descended two enormous escalators, and just caught the latest *cercania*, a much larger commuter train. Twenty minutes later I found myself at my destination: Universidad de Carlos III in Getafe, a suburban campus located south of the capital city. I was not alone in walking from the Las Margaritas-Universidad *cercania* station to campus, as hundreds of students relied each day on Madrid's rail system as their transportation to and from class. The convenient, cheap, and comfortable ride usually took only fifty minutes from central Madrid.

The ease of movement in and around the city took me by surprise, and encouraged me to examine what makes Madrid's metro and commuter rail system so successful and user-friendly. The web of tracks constitutes Europe's second-longest urban rail system, behind London's Tube, with a 289 stations spaced over 291 kilometers.[1] Stations are spaced evenly throughout the city center and additional ones have even been added this spring to integrate more neighborhoods. This convenience reduces the number of cars, and thus traffic problems, within the center of the city and allows it to maintain its pedestrian-dominant culture. As with Sol, the major hub stations feature connections to the *cercania* system, which is controlled by the Renfe rail company, making it easy to travel faster to areas outside of the city. Metro expansions to suburbs in the north and south of the city, forming the MetroNorte and MetroSur systems

[1] Schwandl, Robert, "Madrid Metro," last modified 2006, http://www.urbanrail.net/eu/es/mad/madrid.htm.

respectively, have augmented the immediate reach beyond the city center. The overall result is a mixed-type rail system that is the world's fastest growing and its sixth longest.[2]

The direct comparison the mass transit struggles of Los Angeles was not lost on me as a student living in southern California. The Los Angeles metropolitan area is dominated by car traffic to the point where it is an inseparable part of its culture, while rail transit has struggled to prove itself as a feasible, needed option. While population of the Madrid metropolitan area is about five million people, the Los Angeles metropolitan area has risen to over twelve million, dictating an even greater need for effective mass transit.[3] What then, I wondered, were the differences in how these two rail systems have developed, and so differently? Obviously the urban geography is radically different for the two cities, with Madrid centered on its medieval origins and Los Angeles spread out to the valleys, driven by real estate developments and new conceptions and ideologies of how a modern city should look and feel. Instead of examining that difference, I asked "what would a functional, successful metro system in Los Angeles look like, and how would it affect the city, both culturally and physically?" What could Los Angeles do to achieve the ridership levels and convenience that are seen in Metro de Madrid?

To investigate these questions, I look to the current extension proposal of the Los Angeles Metro Gold Line. The light rail line currently runs from eastern Los Angeles, through downtown and Union Station, and out to Pasadena. Plans for the Foothill Extension of the Gold Line have it running eastward to Azusa in Phase 2A and to Montclair in Phase 2B.[4] The extension thereby seeks to link together the low-density sprawl and multiple city centers of eastern Los Angeles County to the existing rail transit system. As the next step in rail transit for

[2] Baker, Brian, "Madrid Metro: A thoroughly modern urban rail system," last modified August 2, 2011, http://www.citymayors.com/transport/madrid-metro.html#Anchor-High-11481.
[3] "Demographia: World Urban Affairs," last modified April 2011, http://www.demographia.com/db-worldua.pdf.
[4] "Phase 2A: Pasadena to Azusa," accessed September 15, http://www.foothillextension.org/construction_phases/pasadena_to_azusa/.

Los Angeles, then, is this expansion the right way to bring public transportation out from the city? What kinds of changes could occur in a San Gabriel Valley connected by light rail? The extension is occurring against the backdrop of an area notoriously married to cars, personal mobility, and freeway system. In order to properly understand the kind of impact the Foothill Extension will have on rail transit in the Inland Empire and Los Angeles, one must first examine the long-standing history that influenced its development and current transportation infrastructure and attitudes.

Laying Down the Tracks

The supreme irony of Los Angeles's current relation to rail is that the entire area was grown out of rail lines and once possessed an extensive and well-used system of interurban trains. Public transportation by rail was a driving factor that contributed much of the sprawl that one sees today in the city and the San Gabriel Valley. Decades before any of this was to take place, the city existed only as the Spanish-founded pueblo *la Reyna de los Angeles*, and was in existence for 105 years before the railroads first reached it in 1876.[5] This first railroad was established to connect the city with Wilmington, but was later incorporated to the Southern Pacific line from San Francisco as part of a deal to bring the line and its commerce opportunities through the basin. Reyner Banham identifies this deal as "the most important single event in the history of the area after the foundation of the pueblo."[6]

From this first major rail connection, the city began to expand in an axial fashion. Rail lines quickly were constructed to San Fernando, San Pedro, Santa Monica, Santa Ana, and San

[5] Richmond, Jonathan, *Transport of Delight: The mythical conception of rail transit in Los Angeles*. (Akron, Ohio: University of Akron Press, 2005.), 30.
[6] Banham, Reyner, *Los Angeles; the Architecture of Four Ecologies*, 2009 edition ed. (New York: Harper & Row, 1971), 59.

Bernardino.[7] With the introduction of the first electric rail car in 1887, the interurban railroad became a major force of transportation in the Los Angeles area. These created new options for residential and commercial development, allowing new settlers to spread beyond the city center but still never be too far from it. With the continued expansion of the lines, real-estate development, rather than pure demand, proved to be a driving force for the rise of the interurbans.[8]

This practice was exemplified by the business strategies of the most notable interurban system, Pacific Electric's Red Cars. The first Red Car line ran from Los Angeles to Long Beach and carried with it thirty thousand riders.[9] The establishment of the line transformed Long Beach and other areas that were stops on the line. Henry Huntington, who had incorporated Pacific Electric, used Huntington Land & Improvement to buy up land adjacent to the rail line, which would then be "subdivided and sold as suburban residential lots."[10] Huntington essentially served to unofficially plan the city's land-use and transportation as he extended the lines further out from the city. In a newspaper interview, he stated that "it would never do for an electric line to wait until the demand for it came."[11] Patterns such as these ensured that development would continue along the rail lines and helped establish Los Angeles as a different type of metropolis, one that featured open, low-density residential areas away from a city center.

The interaction of the interurban rail system pattern with the demand for new housing helped form the sprawling development arrangement that pervades the Los Angeles metropolitan area to this day. While sprawl is often associated with the local car culture and reliance of

[7] Brodsly, David, *L.A. Freeway, An Appreciative Essay*, (Berkeley: University of California Press, 1981), 68.
[8] Richmond, *Transport of Delight*, 15.
[9] Ibid, 16.
[10] Ibid, 16.
[11] Gottlieb, Robert, *Reinventing Los Angeles: Nature and Community in the Global City*, (Cambridge, Mass.: MIT Press, 2007),177-8.

freeways, the development patterns were first established by Pacific Electric. In fact, the routes and concrete channels that comprise the freeway system now lie where many of the Red Car routes once ran.[12] Migrants arriving after 1885 concentrated in some cases in the central downtown and pueblo area, but many others sought agricultural opportunities in the valley or settled in the towns created by land split in rail-real estate deals. Santa Monica, for instance, was first subdivided in 1875 by developers. The key reason for these settlement patterns was the convenience of being able to live on the periphery of the valley and be able to commute to the city. "But the greatest dispersive factor is… given a railway system it was as convenient to live in San Bernardino or Santa Monica as on the outer fringes of the central city, especially where those fringes were ill-served by any form of transportation, as they were after the railway age had begun."[13] The interurban trains allowed settlers the freedom to influence the creation of Los Angeles as a new kind of city, one without concentrated, crowded centers seen in the east. Commercial centers could still exist, but residents would not have to sacrifice living space to be able to access them. The reach and frequency of the Red Car interurban system was a great boon in considering this as an option for residency. At its peak in the beginning of the twentieth century, Pacific Electric ran six thousand cars every day on one hundred and fifteen routes that consisted of one thousand miles of track.[14] The unfortunate effect of the continued expansion of rail routes in to the 1920s was the growing frequency of accidents and schedule disruptions, caused in part by the growing competition of new automobiles.[15]

During the mid-1920s ridership began to peak on the Red Cars, but automobiles presented a growing challenge to transportation dominance in the Los Angeles area. As they

[12] Brodsly, *L.A. Freeway,* 4.
[13] Banham, *Los Angeles*, 61.
[14] Gottlieb, *Reinventing L.A.*, 178.
[15] Banham, *Los Angeles,* 65.

grew in popularity, automobiles brought with them a new way of considering transportation and urban development. Commuters who once relied on the Red Car rail lines could reach places previously inaccessible, imbuing automobiles as a representation of personal freedom and liberation. From a development standpoint, the growth of automobiles allowed people to settle away from rail stops, as the trend through 1919 was to only build roads five to six blocks away from stations.[16] With this new ability to bypass rail limitations, the focus on the downtown center as a destination was minimized and a new stage of sprawl began. This contest of transportation was quickly won over by automobiles, as they changed the make-up of the arena so quickly that rail could not adapt effectively. Urban centers, freed of the constraints of existing rail stations, expanded in a radial manner, eventually developing enough to create their own outlying commercial centers.[17] The automobile-rail competition was also characterized literally by conflicts over usage of downtown areas due to congestion. In 1920, this resulted in the Los Angeles City Council enacting a short-lived ban on automobile downtown parking during the day, exacerbating the competition.[18]

The changing physical geography and cultural attitudes were aided in part by the Great Depression, which put further pressure on Pacific Electric's ridership. From 1929 to 1934 the ridership numbers had dropped by more than thirty-five million passengers annually, and automobiles, previously split among class lines, became more of a "social necessity" as families refused to part with them.[1920] Later in the 1930s and early 1940s, the company was forced to sell off its lines in order to make a profit, and soon turned to investing in more successful bus transit

[16] Richmond, *Transport of Delight,* 22.
[17] Ibid, 23.
[18] Gottlieb, *Reinventing L.A.*, 179.
[19] Richmond, *Transport of Delight*, 24.
[20] Gottlieb, *Reinventing L.A.*, 179.

systems. This, coupled with the rail buy-outs of the National City Line, completed the shift away from commuter interurban lines toward bus and automobiles.[21]

By the 1950s the privately-run rail lines had finally been acquired by municipal entities, but it was too late to salvage the declining system.[22] The public consciousness was already dominated by and dependent on the parkway and freeway system. Parkways had been constructed since the late 1930s, beginning with the Arroyo Seco Parkway between Pasadena and downtown Los Angeles. The early priorities of parkways included emphasis on green landscapes that surrounded the roadways, effectively combining "transportation efficiency and aesthetic delight."[23] Over time this goal was abandoned in exchange for higher travel rates and more efficient thoroughfares, and parkways eventually gave way- through disputes- to high-capacity, multilane freeways.

Transit recommendations from the Transportation Engineering Board of that era highlight the changing attitudes and disputes regarding what will ultimately best serve the residents of Los Angeles. Speed of travel became a priority for commuters, and the Board incorporated the growing desire for personalized transportation that automobiles reflected.[24] Though the substitution of bus lines for rail cars was considered in 1939, the Board did not view it as cost-effective enough to warrant the change to lower-capacity bus cars. Instead, the focus of the recommendations was to establish a series of high-speed parkways for buses, a counter to the push for more car-centric freeways.[25] Ultimately the ideologies of freeways and automobile-

[21] Ibid, 181.
[22] Ibid, 183.
[23] Gottleib, *Reinventing L.A.*, 187.
[24] *A Transit Program for the Los Angeles Metropolitan Area*, (Los Angeles: Transportation Engineering Board, 1939), 6.
[25] Ibid, 7.

based planning were victorious, and the web of automobile transportation became part of Los Angeles culture.

Since the 1950s, the extreme dependence on the freeway system has worked to characterize life in the Los Angeles metropolitan area. David Brodsly quotes Joan Didion in saying that the freeway culture is "the only secular communion Los Angeles has."[26] Its existence, if not entirely sustainable, is a unifying one for residents. The freeway functions as a way to minimize distances between spaces and acquires its own feeling as part of the urban experience. According to Brodsly, it simultaneously provides the city with a "sense of place" as it also becomes a singular, limitlessly accessible entity: "the freeway" as opposed to any specific route.[27] At the same time, it may be argued that the freeway deprives the metropolitan area of the kinds of localized distinction of which, for example, Reyner Banham describes in his "four ecologies." Making freeways the focal avenues of movement separates people from interacting with and observing, by virtue of towering concrete walls, the geographies and cultural influences that make Los Angeles a unique experiment in urban styles. Ironically, in order to experience the diverse zones of the city, a certain degree of mobility is required. The experience then becomes a more personalized one, concentrated on destinations, and the process of travelling is delegated to that all-encompassing body of the freeway.

Today the freeway, proving its staying power and sprawling effects on development, remains the dominant transportation ideology in Los Angeles and the Inland Empire. However, since 1990 the Metropolitan Transit Authority has begun building a rail revival in an attempt to recover the lost metropolitan and interurban rail lines and fight the social and environmental

[26] Brodsly, *L.A. Freeway*, 37.
[27] Brodsly, *L.A. Freeway*, 37.

effects of traffic congestion. The Los Angeles Metro is currently comprised of five lines, averaging a total of 349,431 riders per weekday.[28] This new system is the next step in what Reyner Banham describes as the transportation palimpsest, where each stage of transit is overwritten on the prior one.[29] The interurban railways first established lines of transportation amongst then-developing urban centers and were in turn figuratively and literally paved over by parkways and freeways. The original sprawling development patterns remain, though, imbued with the values of personal mobility that arrived with automobiles. The dominance of the single-family home grew out of the ever-present desire to own one's personal property and escape the confines of the city, and the automobile permitted this style of residence to spread rapidly throughout Los Angeles County. With the San Bernardino corridor established, the Foothill Extension will bring a new public transit option to the existing east-west movement demands.

(Removed, map of Gold Line from Union Station with Phases 2A and 2B)[30]

The Extension plans (above) would not seek to overwrite the freeways, as has happened in past palimpsest shifts, but to complement them and decrease dependence on car usage. It does, however, create possibilities for new growth and development along that corridor. The freeway branches of the 10 and 210 that extend out into the Inland Empire have created demand for new, cleaner, and more accessible forms of mass transit, which is exactly what the MTA hopes to address with the Foothill Extension.

[28] Jager, Rick, "Facts at a Glance," LA Metro, accessed http://www.metro.net/news/pages/facts-glance/.
[29] Banham, *Los Angeles*, 73.
[30]" Project Definition Report: Gold Line Phase II- Foothill Extension," last modified May, 2005, http://www.foothillextension.org/images/uploads/Final_Project_Definition_Report_031005_part_1.pdf.

Chapter II. Creating Evaluation Criteria from Current Goals and Projections

Evaluating the promise of the proposed Foothill Extension begins with the identification of the project's goals. The exact points for evaluation will not necessarily stem from existing studies on other light rail transit projects, as the function of the extension is unique to the greater Los Angeles urban geography. Over the course of its approximately twenty-four-mile track, the line will cross eleven corridor cities and will not intersect with any existing metro lines.[31] As a whole, the extension serves to refine the east-west San Gabriel Valley corridor with more dynamic transportation options. By identifying the goals and expectations of the Foothill Extension plans one may lay a basis for evaluation of efficiency and effectiveness.

The Foothill Extension exists within a broader scale of increased transportation development, recently given new life by the passing of Measure R. Passed in 2008, the measure increases Los Angeles sales tax by half a percent in order to fund projects associated with "rail expansion, street improvements, traffic reduction, public transportation, and quality of life."[32] The language used in Measure R literature sets the stage for the realization of the Foothill Extension and the foundation of its goals. While the extension was proposed years before Measure R's approval, the initiative is listed as the project's main source of funding.[33] As the first Measure R-funded project to begin construction, the Foothill Extension became a visible embodiment of the planned changes and development that the measure seeks to bring to Los

[31] "Project Definition Report."
[32] "Your Measure R Dollars, in the Works," last modified November, 2009, http://www.metro.net/measureR/images/Measure_R_fact_sheet.pdf.
[33] "Metro Gold Line Foothill Extension- Fact Sheet," http://www.metro.net/projects_studies/foothill_extension/images/Foothill_Ext_Fact_sheet.pdf.

Angeles. This status adds another layer of goals and expectations within which the extension proposal exists and seeks to fulfill.

With the addition of these twenty-four miles of light rail transit, the Foothill Extension seeks to address accessibility issues by extending the metro system into the Inland Empire, thereby creating a more feasible alternative to the 10 and 210 freeway corridor. In order to examine the implications of the extension construction and determine if it represents a move toward a sustainable and convenient rail system, one must define the criteria for success as defined in the proposal itself. The Alternatives Analysis for Gold Line Phase II, written in January 2003, establishes broad goals on several scales, including land use, transit convenience, cost effectiveness, and environmental, for the project. These goals, divided into five categories, are represented in the following table:

Table 2.6
Goals and Objectives

Category	*Goal*	*Objective*
Land Use & City Vision	To locate stations that facilitate cities' visions for land use and development around transit stations and adjoining activity centers	Cities and transit providers to jointly select station locations that maximize transit use and further cities' plans for transit oriented development (infrastructure, parking, development, redevelopment, etc.)
	To create a system that creates/adds identity and attractiveness to San Gabriel Valley cities	To provide highly visible stations that represent the cities' senses of place
		To respect community architectural and urban design standards
		To provide safe access for pedestrians and bicycles
		To enhance community identity
		To take advantage of the high visibility of the Corridor to promote transit use
Transit Usefulness	To complement other existing transit in the corridor and optimize previous investments	To provide efficient intra-corridor service not currently met by Metrolink, Foothill Transit or the Pasadena Gold Line Phase I
		To make good use of the right-of-way already purchased by MTA

Table 2.6 Goals and Objectives		
Category	*Goal*	*Objective*
	To reduce auto dependency	To create a system with the capability of carrying at least 25 percent as many people as are carried in all I-210 travel during the day, and to offer a level-of-service capable of attracting this percent of travel.
	To improve mobility and provide connectivity to regional and local transit systems	To provide good connections to Metrolink, Foothill Transit, and to the Pasadena Gold Line Phase I at Sierra Madre Villa Avenue
	To implement a project within a reasonable period of time	To implement new transit service in the corridor by 2008.
Cost Effectiveness	To develop a cost-effective transit system	To incur capital costs of less than the cost of increasing the capacity of I-210 by 25%.
		To be capable of being operated and maintained at or better than the average cost of other rapid transit systems in Los Angeles County
Environmental	To improve air quality and preserve and protect the natural and man-made environment	To avoid potential impacts by utilizing existing disturbed right-of-way
		To avoid property acquisitions to the extent possible
		To work jointly with the cities to identify potential impacts and feasible mitigation measures in order to minimize impacts
		To reduce, not add to, tailpipe emissions
Study Process	To work collaboratively with local cities throughout the Alternatives Analysis process	To ensure that the desires, policies, and concerns of corridor cities and citizens are considered in the selection of the LPA
		To develop a public participation program in collaboration with corridor cities
		To listen to the community and explain how we have responded to comments as the study progressed

Within this analysis, some goals are to be prioritized over others. The timeliness of the project, for example, is mostly contextual to original planning steps: within the Project Definition Report, Phase 2A is identified with an intended project finish date of 2009, and Phase 2B with a finish date in 2014.[34] Currently, however, the 2A segment is projected to be completed in 2015- after a start date of June 26th, 2010- and the 2B segment is still being evaluated for an Environmental Impact Report (EIR) and has no projected finish date.[35] Certain

[34] "Project Definition Report."
[35] "Construction Phases," www.foothillextension.org/pasadena_to_azusa/.

other goals, such as reducing automobile dependency and improving air quality, overlap with each other. The stated goals provide insight into the priorities and expectations of Los Angeles Metro in implementing the expansion. The Alternatives Analysis identifies the San Gabriel Valley corridor's existing travel patterns and growing congestion. More specifically, it notes that more than two-thirds of the residents in the corridor also work there; thus there exists increased opportunity for effective public transit.[36]

Ridership projections provide insight into the cost-effectiveness of the Foothill Extension and its ability to reduce dependence on automobiles within the corridor. Exact ridership figures are not accurate portrayals of reductions in automobiles on the road, as many passengers may already be dependent on existing bus systems for transit. While projected ridership numbers are not yet promoted in materials from the Foothill Extension Construction Authority or the Metropolitan Transit Authority, the 2003 Alternatives Analysis predicts the addition of 11,900 new riders to the Gold Line as a result of the light rail options. This would culminate in a total of 1,575,500 daily trips within the region.[37] The lack of publicized ridership figures may itself be a conscious political decision from the Metropolitan Transit Authority. In his analysis of the Blue Line, Jonathan Richmond notes that the process of forecasting ridership for the Long Beach line yielded a lesson in accurate modeling: that the "need to make a large number of subjectively chosen assumptions defeats any pretense at 'accuracy' a model such as this might possess."[38] However, the Foothill Extension construction comes in the midst of boasted ridership gains on the Gold Line. In the past three years the Gold Line ridership has increased from 590,217

[36] "Gold Line Phase II- Alternatives Analysis," last modified January 9, 2003, http://www.foothillextension.org/images/uploads/Phase_2B_Document-Alternatives_Analysis_Report.pdf, 4.
[37] "Gold Line Phase II- Alternatives Analysis," 80.
[38] Richmond, *Transport of Delight*, 129.

monthly riders in 2009 to 987,691 in 2010. This includes sudden increase of 352,732 monthly riders just from 2009 to 2010.[39]

Though the correlation is not a precise one, the alternate side of ridership goals is reducing cars from freeways and automotive dependency in general. This has a plurality of effects, not the least of which are reducing emissions in a basin historically plagued by health-threatening air quality and diminishing the magnitude of rush hour congestion. The Alternatives Analysis, in comparing potential transit technologies, found that a light rail transit line would reduce daily single occupant vehicle person trips by 8,100 and vehicle miles traveled by 164,000.[40]

As the Foothill Extension brings riders to each of the corridor cities, there is potential for a reshaping of development and growth patterns. A major incentive of light rail construction is the potential for revitalization of downtown areas by high-density, mixed-use development. By incorporating a transit station into its planning, a city will be able to accommodate future growth in nearby centers, thereby alleviating congestion in single-family residential areas.[41] The Alternative Analysis, in summarizing conclusions provided by the twelve corridor cities upon their identification of station locations, plainly states that the Foothill Extension brings with it great potential for creating transit-oriented developments (TODs).[42] Each city classifies a blocks of the area surrounding the transit station- ideally within a half-mile radius, signifying a five-minute walk- as likely sites for mixed-use or commercial development driven by the light rail. The Monrovia TOD plan, for example, shows fourteen blocks north of the rail line dedicated to

[39] "Ridership Statistics," LA Metro, http://www.metro.net/news/pages/ridership-statistics/.
[40] "Gold Line Phase II- Alternatives Analysis," 80.
[41] "TOD Corridor Development Assessment Study," Gold Line Foothill Extension, http://www.foothillextension.org/images/uploads/Final%20Report.pdf, 4.
[42] "Gold Line Phase II- Alternatives Analysis," 83.

potential TOD, complemented by existing employment to the immediate south.[43] The plan emphasizes the creation of large areas of office spaces and high density residential units. While TOD is a major goal for and attraction to the light rail extension, the Alternatives report dictates the idea that every corridor city must work to achieve their own development through cooperation in the public sector, and that no city is guaranteed the creation of a "transit village." This approach will also hypothetically preserve the unique social and cultural nature of the areas surrounding each station.[44] As there is great variety in these areas, TOD will not be uniform. While the above example in Monrovia indicates large-scale development and re-zoning, the Claremont station shows only a few surrounding blocks with potential for TOD. This reflects current the current development status of the Claremont station area, which is already an established and cohesive commercial center.

` In 2006 the Foothill Extension Construction Authority released a detailed report of TOD opportunities in corridor cities. The *TOD Corridor Development Assessment Study* establishes guidelines for development of the approximately 1,200 acres adjacent to planned rail stations. The report sets a "performance definition" of TOD as its goal, stating that, in addition to nearby development, it seeks to influence how communities interact with the space and increase the feeling of "livability." This includes augmenting ridership, creating a mixture of development types, and increasing "location efficiency," the conjunction of bicycling, walking, and transit accessibility with varied, dense development.[45] From this definition the report emphasizes the human impact of TOD, especially within targeted mixed-income populations.

Specifically, the *TOD Corridor Development Assessment Study* identifies Arcadia, Monrovia, Azusa, Claremont, and Montclair as having the highest potential for short-term

[43] "Gold Line Phase II- Alternatives Analysis," 85 .
[44] Ibid, 23.
[45] "TOD Corridor Development Assessment Study," 25.

growth. The last two cities have, as of 2006, already passed significant plans and are beginning development efforts. This momentum may be due to the presence of existing Metrolink commuter rail stations in these cities. Irwindale and San Dimas, on the other hand, lack short- or mid-term TOD potential due to industrial surroundings and reluctance to further development policies, respectively.[46] Fortunately, the study suggests that focusing short-term development at certain stations and allowing them to become examples to other long-term sites ensures a "diverse, complementary, and economically vital" corridor.[47] While study paints a picture of high returns on TOD investment- about $43.50 to one public dollar- the current economic climate may negatively impact the actually outcomes. A second TOD study was started in 2010 in order to better evaluate development in light of these effects.[48] TOD goals for the Foothill Extension are numerous and unique in their association to each corridor city. Many of these projects, such as Irwindale will not come to fruition until long after the two phases are finished, while others, such as Claremont, have already been in development for years and have yielded visible results.

Beyond the operation of the Gold Line and its development effects, the Los Angeles County Metropolitan Transportation Authority includes construction and management jobs in its projections for benefits of expansion. Job creation has a unique contextual significance in the Foothill Extension given the high unemployment rate after the 2008 recession, as it can be used as a method of garnering public support for the plan. This is especially effective, as in 2009 Los

[46] "TOD Corridor Development Assessment," 34.
[47] Ibid, 35.
[48] "Transit Oriented Development Studies," Gold Line Foothill Extension, http://www.foothillextension.org/construction_phases/phase_2a_pasadena_to_azusa/transit-oriented-development-past-and-present/.

Angeles County was burdened with an unemployment rate of 12.5 percent.[49] In 2010 the Los Angeles Economic Development Corporation released a review of projected economic impacts of the first segment of the extension. The review projects a net gain of 6,900 jobs from the construction and management of the Foothill Extension. These will occur largely in the construction industry, but will also create significant gains in the retail trade, professional and scientific services, and accommodation and food industries.[50] From an investment of 490 million dollars, which include employment, construction, and real estate costs but exclude land acquisition costs, The LAECD projects a 930 total output into businesses.[51] The output figure is compiled from projections of direct revenue from hired firms and indirect revenue from businesses serving them and their employees. These construction jobs will be in short term, but continued opportunities lie in Phase 2B construction and construction spurred by induced TOD.[52]

As presented in Los Angeles County Metropolitan Authority documents and public information, the Foothill Extension is expected to be an effective public transit whose impacts extend beyond the creation of a new public transit option for the San Gabriel Valley. The extension faces expectations typical of light rail projects, such as reducing dependence on cars and spurring investment in TOD, as well as more localized ones like developing the character of corridor cities. In fact, the dominant discourse focuses more on the creation of rail transit within the San Gabriel Valley and less so on integration with downtown Los Angeles and parts father west. This may stem from the internal draw of employment commutes within the corridor cities mentioned in development and ridership projections and the desire to establish each stop as a

[49] Freeman, Cooper et al, "Economic Impact Study: Metro Gold Line Foothill Extension Phase 2A," Los Angeles County Economic Development Corporation, http://www.laedc.org/reports/consulting/2010_MetroGoldLineFoothillExtension.pdf, 4.
[50] Ibid, 3.
[51] Ibid, 3.
[52] Ibid, 5.

distinct place and destination. This overall context of these projections and expectations gives us an idea of what the ideal light rail transit along the San Gabriel foothills looks like and how to approach it critically.

Chapter III. Evaluating Development Potential

In creating a more expansive light rail transit system for Los Angeles County, developers and Metro run the risk of investing massive amounts of taxpayer money in a system that may not provide adequate services for commuters nor achieve its stated goals. The threats to the Foothill Extension's efficacy are rooted in a number of fallacies and assumptions that have pervaded other light rail projects, most notably the Blue Line. In his analysis of the construction and approval of the Metro Blue Line, which runs from downtown Los Angeles to Long Beach, Jonathan Richmond argues that failures in rail and transit planning stem from a form of logic that manipulates the symbols associated with light rail to create a cohesive myth.[53] Imagery and experiential evidence (i.e. invocations transit by supposedly clean, sleek rail cars contrasted with dirty, noisy buses) can often guide rail development to ignore proven facts and trends and to misplace resources. Though some of the symbols Richmond identifies can be found in the discourse surrounding the Foothill Extension, years of preparation in TOD and the unique make-up of the corridor cities suggests the project will succeed in avoiding the majority of these pitfalls.

The myths that Richmond describes come in the form of an emotional attachment to the idea of rail as a way of solving transit problems, especially in the context of Los Angeles, where development and jobs are not concentrated around a specific downtown area. His main argument focuses on the idea that light rail is ill-equipped to accommodate the low-density patterns of the area, but officials are reluctant to consider the alternative of expanding bus service due to an attachment to the idealized notion of light rail as sleek, attractive, fast, and clean. Discussion of rail implementation often takes the form of a vast metaphor of "balance," wherein

[53] Richmond, Jonathan. "The Mythical Conception of Rail Transit in Los Angeles," *Journal of Architectural and Planning Research*, (1996), 9

each transit mode has its own function, and the key goal is that of a "free flow" of traffic.[54] Within this, rail operates on a major artery role, and is only supplemented from transit centers by buses. If the flow is interrupted, for example, by the heavily congested freeways, new technology must be brought in or expanded. In improving the congestion of Los Angeles's freeways, Richmond notes that there is "no evidence that rail service will reduce highway congestion in Los Angeles" and that only 21 percent of Blue Line riders had previously driven.[55]

Unfortunately, evidence of romanticized ideas of rail transit in Los Angeles can still be found in the Foothill Extension and other current projects. Mayor Antonio Villaraigosa has positioned himself as a major proponent of complete revitalization of the city's rail system, pushing the 30/10 Plan to achieve thirty years of improvements in just ten. The mayor has acknowledged the difficulties of such a large-scale fast-tracking campaign but insists that "this is the most important thing that we can do to alleviate congestion and gridlock, to improve the quality of our air and to really vindicate the people's will for the need to address transportation."[56] The construction of the bridge that will create a graded crossing from the 210 median tracks south toward Arcadia has taken on a significance of a "gateway to the San Gabriel Valley" and seeks to become a major symbol for the project, as it is already dubbed the "Iconic Bridge."[57] The very image of the bridge, already well into construction, can be seen as a literally superseding the 210 freeway as it passes above it, establishing itself as a dominant choice for transportation in Los Angeles County. The bridge's distinctive woven aesthetic creates a clean, modern visual that solidifies the idea of rail as the future of mass transit. Furthermore,

[54] Richmond, Jonathan. *Transport of Delight*, 306.
[55] Ibid, 5.
[56] Bloomekatz, Ari B., "Villaraigosa wants transit projects on the fast track," articles.latimes.com/2009/oct/30/local/me-subway30.
[57] Hymon, Steve, "Future 'Gateway to San Gabriel Valley' moves forward," last modified November 16, 2011, http://thesource.metro.net/2011/11/16/future-gateway-san-gabriel-valley-moves-forward/.

informational literature on Metro's website supports an image of light rail cars racing along tracks nestled into forested corridor that emphasizes the environmental and clean aspects of the project.[58] These conscious choices made to shape the nature of discussion and public consideration of the Foothill Extension operate on many of the same basic symbols that Richmond discusses, but they are applied to a project that differs greatly from the Blue Line.

According to Richmond, the poor ridership performance of the Blue Line and its inability to revitalize the downtown-Long Beach corridor epitomizes the mistakes of rail myth-based logic.[59] The use of symbolism on a city-wide scale led to the construction of a rail line that would prove to be ineffective in attracting riders or developers. A large portion of this fault can be found in the lack of proper pre-construction cooperative planning in areas along the Long Beach line. A decade after its opening in 1990, Blue Line stations were still surrounded by empty lots typical of lower socioeconomic urban areas.[60] The setting of the Blue Line created greater problems for TOD investment that would have likely induced greater ridership and rail-dependency. Metro failed to cooperate with municipalities to create zoning friendly to new businesses and high-density housing, investment was intimidated by social problems in the area, and contaminated sites confounded possible developers.[61] The choice of corridor laid the way for underperforming ridership and lack of later development impacts.

Furthermore, instead of locating stations closer to denser population centers, the line was laid on established right-of-way that remained from the Long Beach railroad line. Blue Line stations such as San Pedro and Washington are actually located in low-density zones, east of

[58] "Gold Line Foothill Extension," http://www.metro.net/projects/foothill-extension/.
[59] Richmond, Jonathan, "The Mythical Conception of Rail Transit in Los Angeles," 7.
[60] Loukaitou-Sideris, Anastasia. "A New-found Popularity for Transit-Oriented Developments? Lessons from Southern California," Journal of Urban Design (2009), 51.
[61] Ibid, 51.

more dense residential areas.[62] Reyner Banham's transportation palimpsest, in this case, did not carry over from the early years of Red Cars along the Long Beach route. Plagued by inner city decay, southern Los Angeles did not maintain the same development patterns that had fostered the line's construction and long-lasting maintenance in the early twentieth century. The logic behind this was that the existing right-of-way for light rail created a "path of least resistance" that facilitated easier construction and land acquisition.[63] This location problem leads to another complication in Blue Line ridership and ease of use.

One major fallacy in projecting ridership and travel times on the Blue Line was the lack of weight given to transfer times between bus and rail.[64] The grid-like, low density lay-out of southern Los Angeles neighborhoods means that only few people reside within walking distance of the station. In order to reach a station, residents wishing to commute to downtown Los Angeles must take a bus or drive. While rail travel time on the Blue Line to downtown was about the same as a bus ride with the same destination, transferring from a bus to the light rail station added on average about thirty to forty minutes.[65] The use of two transit modes doubles the potential wait time at each station, creating a high degree of uncertainty to be considered when considering transportation choices.

The story of the Blue Line highlights a progression of Richmond's rail-myth logic into poorly thought-out practices that hurt the line's effectiveness as alternative transportation. Anastasia Loukaitou-Sideris and Tribid Banerjee identify errors in the process, such as public officials who wished to "cut a ribbon every 1 to 2 months" and a lack of consideration for land usage in areas surrounding stations, that exacerbated the situation. In order for a rail project to

[62] "Los Angeles Maximizing Mobility Options: Population Density," http://www.scag.ca.gov/nonmotorized/pdfs/map10-PopulationDensity.pdf.
[63] Richmond, Jonathan, "Transport of Delight," 50.
[64] Ibid, 50.
[65] Ibid, 50.

be effective, it must seek to address any deficiency in the corridor lay-out through coordination in planning and community outreach. The long-term nature of transit development and difficulties in outreach and identifying areas with TOD potential slowed the planning process even after the Blue Line was constructed. Ultimately, the problematic areas were: planning, environmental, social and structural, and economic.[66]

Within each of those, however, Metro and Los Angeles County municipalities learned a lesson in how to anticipate the arrival of light rail and how it to capitalize on the momentum of transit construction. For example, before the Gold Line first debuted in 2003, servicing thirteen stations from Union Station to Sierra Madre Villa (Pasadena), Pasadena created plans for its stations and introduced zoning policies that would favor transit and mix-use development. These include reducing parking space requirements and creating higher density limits in areas surrounding the stations.[67] These policies have resulted in spaces such as such as the Mission Meridian Transit Village at near the Mission/Meridian station in South Pasadena, a high-mixed use, high-density space which incorporates duplexes, lofts, and retail spaces. Deemed an overall success and given a Charter Award by the Congress for New Urbanism, the village is a model for continued TOD along the Gold Line.[68] The previous successes in Pasadena represent encouraging momentum for greater desire for TODs and more sustainable development patterns.

Thus, as the Gold Line's Foothill Extension continues construction for Phase 2A and evaluation for Phase 2B, TOD potential must be addressed as the key to the extension's success and efficacy. Concentrated development and the creation of pedestrian-friendly, multi-modal

[66] Loukaitou-Sideris, Anastasia, and Tribid Banerjee, "The Blue Line Blues: Why the Vision of the Transit Village May Not Materialize Despite Impressive Growth in Transit Ridership," (2000,) 114.
[67] Loukaitou-Sideris, Anastasia, "A Newfound Popularity for TODs?," 61.
[68] Lau, Alex. "Transit oriented developments: Mission Meridian Village in South Pasadena," last modified February 3, 2009, http://www.examiner.com/community-in-los-angeles/transit-oriented-developments-mission-meridian-village-south-pasadena.

residential and business areas will work to achieve the project's stated goals directly and indirectly. While some of Richmond's imagery is evident in the discourse surrounding San Gabriel Valley light rail transit, TOD is an issue poorly represented by the example of the Blue Line. Instead, in the case of the Blue Line highlights the absolute need for prior planning for the arrival of the rail line. Poor location decisions initiated a problem in surrounding land use, as developers were uninterested in investing in a polluted area that was in fact less-densely populated than its surroundings. Coordinated planning efforts could have encouraged continued demand for and use of the Blue Line by identifying places appropriate for advanced zoning incentives and eventual development.

Transit Development with Purpose

In the goals and objectives of the Foothill Extension enumerated in Chapter 2, corridor unification and the establishment of city identities were among the first listed. What may appear as a separate issue from traffic congestion reduction and air quality improvement is actually integral to creating an attractive Gold Line extension. Each Gold Line station must be able to draw people to it, to have multiple nearby functions that are accessible from the metro and other modes of transportation. These functions may include, but are not limited to, offices, residences, retail, and open spaces. Creating mixed uses around Gold Line stations will work to establish character and identity in each corridor city, as municipality zoning ordinances can incentivize desired uses.

Part of life in an incredibly urbanized environment- as Los Angeles County's 88 separate municipalities do not necessarily qualify it to be classified as a "city" in whole- involves the great abundance of different functions and choices available at separate parts of the area.

Referring to city neighborhoods, urban activist Jane Jacobs writes that their ability to "draw [people] from a great pool" allows them to create "specialties and characters of their own."[69] Neighborhood functions, in this case, can be applied to the varying types of cities lying along the Foothill Extension. As part of this integrated rail corridor, each city is capable of creating a unique identity, such that Gold Line riders may identify the station areas with larger city personalities. By enumerating the qualities of ideal neighborhoods, Jacobs sets, in part, applicable goals for how transit-oriented development should approach new buildings. These goals are:

> "First, to foster lively and interesting streets. Second, to make the fabric of these streets as continuous a network as possible *throughout* a district of potential subcity size and power. Third, to use parks and squares and public buildings as part of this street fabric; use them to intensify and knit together the fabric's complexity and multiple use… Fourth, to emphasize the functional identity of areas large enough to work as districts."[70]

Taken together, these goals largely complement the goals and objectives specified in Chapter 2 through the Alternatives Analysis Report. The first goal may be derived by creating a variety of mixed uses within transit villages and in the surrounding areas. Creating a multitude of primary uses within a transit area, including offices, residences, and civic centers, ensures that people use the area for a variety of reasons, and gives residents and passengers alike a reason to recognize the area as a distinct place and to make it a personal destination on the Gold Line.[71] Letting a single primary use, such as offices or industry, dominate a transit-oriented village not only narrow its atmosphere and identity potential but limit the possibility of secondary uses. According to Jacobs, secondary uses are the functions and shops that are attracted to a neighborhood once it accumulates enough primary ones.[72] The overall effect is not only one that

[69] Jacobs, Jane. *The Death and Life of Great American Cities*, (New York: Random House, 1961), 116.
[70] Ibid, 129.
[71] Ibid, 163.
[72] Jacbos, *The Death and Life of Great American Cities,* 162.

creates atmosphere and community, but induces the arrival of diverse residents and stimulates a vibrant local economy without drawing dependence on any one certain group of people. This encapsulates the idea of communal sustainability that must be a focus when planning a transit-oriented development, especially in Gold Line stations that are removed from their respective established city centers. In order for a development to be sustainable it must attract usage via the Foothill Extension and influence

Jacobs' ideas ring true for planning and maintaining cohesive streets and neighborhoods, but in the context of the Gold Line one must integrate them into a framework more focused on changing transit usage patterns. A key phrase found in TOD literature is that the development must be transit-oriented, not transit-adjacent.[73] This means that building plans and uses must work to connect themselves to the transit station and other forms of public transit and stimulate reliance on the rail system for transportation. Building a shopping center near a station is not transit-oriented if it lacks adequate accommodations for pedestrians, uses too much land for parking spaces (and thus relies heavily on automobile traffic for business), and dominates the area as the only attraction. Applying Jacobs' diversifying and identity-building concepts not only achieves those goals, but also implicitly encourages a more walk-able, open, and transit-focused environment.

Despite stated momentum and popularity from recent successes on the metro system, TODs in Los Angeles County still face significant policy, economic, and cultural challenges. Like much of the county, the San Gabriel Valley is comprised of town mostly organized around single family homes. The preference for lower-density housing creates a cultural tension against the higher densities employed around transit stations. Loukaitou-Sideris points to the Mission

[73] "City of Monrovia Station Square Transit Village Transit Oriented Development," http://www.uli-la.org/files/MonroviaTAP_Web.pdf, 3.

Meridian Transit Village as a successful attempt to address this problem: the planning created a "blend" of densities, with lower densities farther from the station that give the area a more integrated feeling.[74] Community-based fears about density, namely the traffic that it may generate, also lead to barriers such as Los Angeles County's high requirements for parking. While recent surveys have shown a decrease in high density area residents relying on cars for commuting- including an eleven percent increase in public transit from 2006 to 2008-, many county ordinances still require high numbers of parking spaces per building square foot.[75] Setting the policy for spaces involves balancing the dangers of encouraging driving with excessive spaces or angering residents and business-owners with too few.[76] Loukaitou-Sideris proposes several possible solutions for this impasse, such as "giving residents the option of purchasing a unit with or without parking; developing maximum parking standards for TODs; exploring the potential for shared parking, and allowing developers to satisfy parking requirements by leasing parking spaces in adjacent structures."[77] Additionally, developers often have to face the pressure of market forces when zoning TODs. The smaller, targeted businesses that they hope to attract may not necessarily be able to compete with the high rents, and larger corporate tenants can create spaces that lack pedestrian-friendly features.[78] These challenges can push TODs to become merely transit-adjacent properties and endanger their effectiveness in encouraging transit usage. While the Gold Line boasts certain TOD successes, the Foothill Extension corridor still faces these barriers in each city's attempt to implement or create their TOD proposals.

[74] Loukaitou-Sideris, 62.
[75] "Creating Successful Transit-Oriented Districts in Los Angles," http://latod.reconnectingamerica.org/sites/default/files/LA_TOD_Final_Chapter_IV.pdf 73.
[76] Loukaitou-Sideris, 64.
[77] Ibid, 66.
[78] Ibid, 63.

Station Focuses

In evaluating the Foothill Extension's potential for changes in growth patterns along the San Gabriel Valley, it is inefficient to analyze in depth each individual station. In order to address the successes, potential, and issues that many of the corridor cities embody and face, this study focuses on a few typologies made evident in the Gold Line Construction Authority's "TOD Corridor Development Assessment Study." While making recommendations for each city, the report categorizes each city into "near-term, short-term, and long-term" development possibilities.[79] Claremont, which has implemented major TOD changes in the last four years, provides a look at successful, existing development, while Monrovia's plans provide insight for questions facing other near- and short-term TODs. In contrast, Irwindale is a unique case of a relatively recently incorporated, low-density city that falls into the long-term planning category.

Claremont

From its historic origins as a rail town in 1887, Claremont has the good, transit-oriented fortune of locating its main business and retail center around the station that currently services Metrolink but will eventually incorporate the Gold Line.[80] That said, however, the arrival of the commuter rail spurred a round of transit-oriented development that currently stands as a potential guideline in urban design for other corridor cities looking to follow suit. The "TOD Corridor Development Assessment Study" notes that due to Metrolink presence, Claremont is one of few corridor municipalities primed for short-term opportunities in TOD planning, albeit on a smaller scale due to existing development.[81] A multitude of businesses, retail outlets, and other primary

[79] "TOD Corridor Development Assessment Study," 30.
[80] "History of Claremont," http://www.ci.claremont.ca.us/ps.cityprofile.cfm?ID=1705.
[81] "TOD Corridor Development Assessment Study," 33.

uses lie within a half-mile of the station, including a recent business and residential expansion to the west.

The Claremont station, also referred to as the Claremont TransCenter, is located approximately at 1st Street and Harvard Avenue and is directly adjacent to a mixed use, multi-story building which is home to retail stores and a credit union on the ground floors and offices on the upper ones. These immediately provide travelers with a variety of destinations, personal and professional. Access to the south of the tracks is blocked, but continuing north across 1st Street lies the East Village: a dense collection of restaurants and stores situated along pedestrian-friendly streets. Farther to the west, though, are the focal results of recent TOD-inspired expansion. Finished in 2007, the West Village features more modern buildings that house restaurants and retail outlets on the ground floor and a mix of retail, business, and residential units on the second.[82] The open space behind the stores creates an outdoor courtyard with a fountain and sculptures and shared outdoor seating for businesses. Another notable feature of the West Village is the restoration of the Packing House. Completed in 2007, the structure was used for lemon packing from the 1920s to 1972, but now houses a variety of businesses and restaurants.[83] The renovation preserves the original industrial style of the building, cementing a historical awareness to visiting patrons.

Farther west is the Village Walk, a collection of 173 residences comprised from duplexes, town houses and apartments.[84] In a similar fashion, an apartment complex is currently being completed to the immediate south of the station. Both of these housing plans provide walkable access to the station and the stores and amenities of the Claremont Village, reducing

[82] "Claremont Village Expansion Fact Sheet," last modified February 9, 2008, http://www.thevillageclaremont.com/exp_07jan.html.
[83] "Packing House Re-use Criteria," http://www.ci.claremont.ca.us/download.cfm?ID=18054.
[84] "Claremont Village Expansion Fact Sheet."

dependence on cars thereby automotive congestion in the Village area. For those transferring transportation modes, two parking garages and one bus transit-oriented lot lie along 1st Street. The parking garage adjacent to the Packing House provides space for those visiting the new shopping centers and surrounding attractions while preserving space for other land uses. Likewise, a garage on College Avenue and 1st Street creates space for travelers transferring from the car to Metrolink. This space also services those using the bus hub station located to the east on College and 1st, which creates intermodal connections to six separate Foothill Transit bus lines.[85]

Overall, though the expansion was driven by the Metrolink service, the Claremont Village and TransCenter station represents a first wave of TOD along the Foothill Extension corridor. Development patterns close to the station demonstrate a focus on mixed retail and business use and pedestrian and bus access. The Packing House renovation incorporates Claremont's historical aspects to create a visible attraction, while the Village West expansion creates open, public space and options for retail and business outlets. The TOD project has managed to incorporate high density housing into the historically single-family home-style surroundings while preserving a "small town" aesthetic. The Village Walk, less than a half mile from the station at Harvard Avenue, is kept relatively separate from retail in the Village area, and yet is close enough to be accessible by pedestrians. This avoids incorporating mixed residential use into the city planning, thereby circumventing ideas put forth by Jane Jacobs about the role of people in creating safe and well-used streets.[86] In contrast, the new apartment complex being constructed south of 1st Street may have some potential to change the immediate feel of the station area by adding residents who more visibly depend on the rail and bus system for transit

[85] "Transit Centers," http://foothilltransit.org/TransitCenters.aspx.
[86] Jacobs, *The Death and Life of Great American Cities,* 43.

and are adjacent to the Village businesses. Due to the existing development, there are actually few opportunities for Claremont to change in anticipation of the Gold Line.[87] Upon the Foothill Extension Phase 2B opening, it is likely that the Claremont Village will be an early destination for riders and a source of inspiration for other cities planning their respective TODs around the Gold Line.

Monrovia

As the second stop on Phase 2A of the Foothill Extension, Monrovia faces pressure to create an attractive transit village surrounding its station. Located near the intersection of Duarte Road and Myrtle Avenue and two blocks south of the 210 Freeway, the station is close to the historic Sante Fe Depot train station.[88] While the depot reflects Monrovia's origins as a rail-based town, its redeveloped, denser downtown area is not situated near the rail right-of-way and is, in fact, north of the 210 Freeway at the intersection of Myrtle and Lemon Avenue. Fortunately, a Technical Assistance Panel performed by the Urban Land Institute of Los Angeles notes that there is strong potential for redevelopment and the creation of a transit village that could function as a "intermodal hub."[89] All together, Monrovia highlights many of the promise and issues that face other municipalities that are currently planning their respective TODs.

Monrovia's proposed transit village comes as the next stage in decades of successful redevelopment. In 1969 the city created the Monrovia Redevelopment Agency (MRA) and began to revitalize the downtown section of the city four years later, creating 800 low- to moderately-priced housing units and attracting jobs and investment.[90] In 2002, the MRA

[87] "TOD Corridor Development Assessment Study," 31.
[88] "City of Monrovoia Station Square Transit Village- Transit Oriented Development," 7.
[89] Ibid, 11.
[90] "The Best of Times," http://www.ci.monrovia.ca.us/monrovia-redevelopment.

reassessed its project area to incorporate the twenty-five-acre Gold Line station area, where it has proposed developments for "up to 450,000 square feet of office space, up to 40,000 square feet of retail space, [and] a maximum of 700 residential rental units."[91] Despite this large-scale of proposed development, the Urban Land Institute notes that all demand for building space should be considered in relation to the recent economic downturns. Both demand for new retail and office space within the San Gabriel Valley has been "soft," but the popularity of apartments in Old Town Monrovia demonstrates some demand for more high-density housing. The higher-than-average rents of the Old Town apartments reflect its proximity to the many amenities nearby, something which potential transit village units lack and must overcome or create.[92] While the transit village is far south of

Conditions of current and short-term demand for development caused by the 2008 economic recession dominate many of the Urban Land Institute's warnings made and challenges identified in their Technical Assistance Project. Though redevelopment in the station area was planned for a short-term timeframe of two to three years, the study suggests that one of three to five would be more appropriate.[93] This reflection must be considered for all stations planning TODs in the near future in order to avoid initial failures of development investments. As noted in Chapter 2, the TOD report provided by the Gold Line Construction Authority was released in 2006, and an updated, more accurate one incorporating the recession was started in 2010. Extrapolating the Urban Land Institute's lesson, however, would be a safe policy for current corridor TOD plans. The Institute recommends a "market driven development plan" in which Monrovia divides the lots into "bite-sized development parcels with flexible entitlements" so that

[91] "City of Monrovia Station Square Transit Village- Transit Oriented Development," 6-7.
[92] Ibid, 8-9.
[93] Ibid, 13.

as the market improves developers may purchase and build up land incrementally.[94] The station area map provided demonstrates how each parcel, twelve total in the recommended model, can be zoned for a specific use but sold off individually in smaller units.

(Removed, map of Monrovia TOD area showing parcel subdivision)[95]

Also, in reaction to the housing market, the Institute recommends that Monrovia re-examine the housing densities of the transit village and possibly lower them in order to create zoning that may be more favorable to the market preferences when the area is ready to be developed.[96] Given these suggestions, the study acknowledges the need of the area to create its own identity and attract passengers, residents, and businesses by creating a few key amenities in addition to the Gold Line station. Due to both the lack of surrounding green, public spaces and the proximity of the 210 Freeway, the proposed focuses are a recreational park along the length of the metro right-of-way and an intermodal transit station.[97] Drivers from the freeway can change to the metro and bus system quickly due to its highly accessible and visible location from the freeway. The park seeks to address the lack of public space by introducing a central shared location for recreational and meeting purposes. This would open up the potential crowding caused by office buildings adjacent to housing and retail. While a "dumbbell effect," an effort to drive development in the space between the transit village and Old Town Monrovia, had been considered as a possibility for connecting Monrovia, the division that the 210 Freeway creates

[94] "City of Monrovia Station Square Transit Village- Transit Oriented Development," 14.
[95] Ibid, 14.
[96] Ibid, 14.
[97] Ibid, 14.

essentially negates this.[98] Instead, one focus of the intermodal hub could be subsidized, more frequent buses between the north and south parts of the town, thereby counteracting some of the pedestrian accessibility, if not the visual, issues of the division.

As a corridor city with short-term plans for transit-oriented development, Monrovia brings to light issues and lessons that can be applied to corridor cities in similar development planning situations. By considering missing elements in the area surrounding the Gold Line station, cities can create better station identities and bring more balance to neighborhoods. Also, potential challenges, such as nearby freeways, can be co-opted to provide better access and hopefully higher ridership to the bus and metro transit systems. Most importantly, the Technical Assistance Panel emphasizes that current momentum toward TODs needs to be reconsidered for a slightly later timeframe in order to avoid poor market demand for retail and office space. In order to ensure that development can occur when conditions are most favorable for long-term success, corridor cities should begin parceling land into packets and examining demand for densities in order to create appropriate zoning guidelines.

Irwindale

As an example of a corridor city considering transit-oriented development in the long-term, Irwindale suffers from limited immediate possibilities around its future Gold Line station. Due to its history as a mining town, the zoning directly adjacent to the Irwindale station is largely industrial- and business-oriented, with little opportunity for large-scale development. The station is bordered by the 210 Freeway, an industrial brownfield site to the west, and warehouses to the east, and is separated from the residential areas to the southeast. While in Irwindale, the future Gold Line right-of-way follows the 210 Freeway closely on its southern

[98] "City of Monrovia Station Square Transit Village- Transit Oriented Development," 12.

side before crossing a bridge northeast to Azusa. This proximity creates further difficulties when seeking space to construct a cohesive transit village or retail space. For these reasons, TOD possibility exploration within the Irwindale community has only recently begun.[99] The Foothill Extension Construction Authority TOD Report, however, identifies the lack of immediate action as a positive attribute for the corridor due to the long-term nature and demands of TODs. As a select few cities implement development around their light rail stations, momentum will build for later projects in spaces lacking available short-term land.[100] Land opportunities do exist near the Irwindale station, particularly in the gravel fields to the north, so it is conceivable that with long-term planning and major infrastructure changes the development pattern could take advantage of hypothetical pressures emanating from developed corridor cities. Future development aside, Irwindale's station may provide a valuable connection point between bus transit, light rail, and the freeway transportation options with nearby industrial and warehouse jobs. Though the city has no current plans for a TOD near its station, Irwindale, like the other long-term TOD option, Montclair, plays an important role in providing opportunity for expansion and land use redevelopment farther in the future.

[99] "TOD Corridor Development Assessment Study," 10.
[100] Ibid, 35.

Chapter IV. Significance and Conclusions

Over the next twenty-five years, the San Gabriel Valley's population is projected to increase from 1.9 million to 2.5 million, and the jobs within two miles of the Gold Line Foothill Extension will increase by 40 percent.[101] With this growth comes increased demand for cleaner, more accessible transit options and new residential developments. The Foothill Extension seeks to provide a new transit option to residents of the corridor cities and integrate them into the larger network of rail that runs through Los Angeles County. Corridor exists along Reyner Banham's transportation palimpsest: early days of interurban rail established the development patterns between San Bernardino and central Los Angeles and was later supplanted by the current system of freeways, helping to further the east-west movements along the San Gabriel Valley. William R. Black writes that since urban sprawl with "localized flows" is efficient, it is actually better to consider the actual dispersed flow of movement as the challenge of sprawl.[102] This was a point of consideration for the Metropolitan Transportation Authority when choosing the proper technology for extended public transportation in the area. The east-west corridor features both intra- and inter-corridor trips, heavy truck use, and heavy congestion that threatens to spill over into adjacent freeway corridors.[103] While many of the towns along the San Gabriel Valley corridor have histories as rail towns, they have expanded to meet their physical limits with low density residential areas dependent on cars for movement. Unfortunately, this grid development pattern creates an inherently difficult problem for a light rail extension seeking to bring clean transportation to residents of the valley.

[101] "City of Monrovia Station Square Transit Village- Transit Oriented Development," 8.
[102] Black, William R., *Sustainable Transportation: Thoughts and Solutions*, (Guilford Press: New York, 2010), 134.
[103] "Gold Line Phase II- Alternatives Analysis."

What becomes apparent in investigating the Foothill Extension is that changes to residential and commercial development patterns within Los Angeles County would increase the attractiveness and potential ridership of public transit. Transit-oriented developments have progressed from planning failures in the early stages of the Blue Line to an important part of rail construction anticipation, most notably along the Gold Line in the last decade. As the two Foothill Extension phases are implemented over the next eight years, corridor cities will have an opportunity to reshape their development patterns. Unlike light rail applied to western Los Angeles County, the Extension corridor features large amounts of infill land available for new, revitalized growth. Not only will transit-oriented planning create a base of potential rail and bus riders, but it is also an opportunity for the corridor to create sustainable communities and emphasize a sense of identity and place. Each can work in turn, too, to encourage greater rail transit by creating destinations in offices and attractions.

Given this great potential for a new growth and transit paradigm, corridor cities must continue to research and prepare appropriate TOD planning. The 2008 economic recession has heavily impacted the feasibility these plans, as shown in the Technical Assistance Panel for Monrovia's transit village.[104] Due to this, cities must be cautious when moving forward in the short term. Until the demand for retail and office space return, they should act on adjusting zoning incentives and creating land parcels in order to prepare the area for tenants and buyers. Even cities that do not expect TODs in the short term, such as Irwindale and Montclair, should be aware of the efforts of other corridor cities' efforts in order to absorb spillover demand for housing and business space.

In addition, Metro should seek to codify equity and mixed-income housing as tenets of its public transit goals. TODs traditionally run the risk of attracting more affluent residents, who

[104] "City of Monrovia Station Square Transit Village- Transit Oriented Development," 8.

are more likely to own multiple cars and not rely on the transit system.[105] For those of a lower-income, living in close proximity to a rail station would be much more beneficial since their housing and transportation costs comprise a larger proportion of the household budget. While not listed as an explicit objective in the alternatives analysis, the Gold Line Construction Authority TOD Report does identify mixed-income housing as a desirable outcome of TODs. The report notes that it has several positive effects on transit systems and TODs, such as stable ridership, relief of gentrification pressures, and more access to job opportunities.[106] Good urban design involves the integration of diverse demographics by creating numerous types of housing units and thus many options for different income levels. The MTA should work closely with municipalities to ensure that they account for this in TOD planning and construction.

In conclusion, the Foothill Extension establishes not only a new mass transit option for residents of the San Gabriel Valley but also creates opportunities for a shift in growth patterns along the corridor. The high potential for TODs in most corridor cities supports the idea that denser commercial and residential growth along the Gold Line will lead to sustainable urban revitalization, create a sense of place for each corridor city, and encourage stable transit preference adjustments in favor of the Foothill Extension.

[105] Loukaitou-Sideris, "A New-found Popularity for Transit-Oriented Developments?" 63.
[106] "TOD Corridor Development Assessment Study," 27.

Bibliography

A Transit Program for the Los Angeles Metropolitan Area. Los Angeles: Transportation Engineering Board, 1939.

Baker, Brian. "Madrid Metro." City Mayors. http://www.citymayors.com/transport/madrid-metro.html#Anchor-High-11481 (accessed October 15, 2011).

Banham, Reyner. *Los Angeles; the Architecture of Four Ecologies*. 2009 edition ed. New York: Harper & Row, 1971.

Black, William. *Sustainable Transportation: Problems and Solutions*. New York: Guilford Press, 2010.

Bloomekatz, Ari. "Villaraigosa wants transit projects on the fast track - Los Angeles Times." Featured Articles From The Los Angeles Times. http://articles.latimes.com/2009/oct/30/local/me-subway30 (accessed November 12, 2011).

Brodsly, David. *L.A. freeway, An Appreciative Essay*. Berkeley: University of California Press, 1981.

"City of Claremont -- History of Claremont." City of Claremont -- Home. http://www.ci.claremont.ca.us/ps.cityprofile.cfm?ID=1705 (accessed December 3, 2011).

"City of Monrovia Transit Square Village Transit Oriented Development." Urban Land Institue of LA. www.uli-la.org/files/MonroviaTAP_Web.pdf (accessed November 15, 2011).

"Creating Successful Transit-Oriented Districts in Los Angeles." Los Angeles Typology and Case Study Project.

latod.reconnectingamerica.org/sites/default/files/LA_TOD_Final_Chapter_IV.pdf (accessed September 10, 2011).

"Demographia: World Urban Areas." Demographia. www.demographia.com/db-worldua.pdf (accessed October 15, 2011).

Freeman, Gregory, Christine Cooper, and Myasnik Poghosyan. "Economic Impact Study: Metro Gold Line Foothill Extension Phase 2A." Gold Line Foothill Extension. www.laedc.org/reports/consulting/2010_MetroGoldLineFoothillExtension.pdf (accessed October 26, 2011).

"Gold Line Phase II- Alternatives Analysis." Gold Line Foothill Extension. www.foothillextension.org/images/uploads/Phase_2B_Document-Alternatives_Analysis_Report.pdf (accessed October 25, 2011).

Gottlieb, Robert. *Reinventing Los Angeles: Nature and Community in the Global City*. Cambridge, Mass.: MIT Press, 2007.

Hymon, Steve. "Future â€œGateway to San Gabriel Valleyâ€• moves forward | The Source." The Source. http://thesource.metro.net/2011/11/16/future-gateway-san-gabriel-valley-moves-forward/ (accessed November 18, 2011).

Jacobs, Jane. *The Death and Life of Great American Cities*. 1961. Reprint, New York: Random House, 1992.

Jager, Rick. "Facts at a Glance." LA Metro. http://www.metro.net/news/pages/facts-glance/ (accessed September 25, 2011).

Lau, Alex. "Transit oriented developments: Mission Meridian Village in South Pasadena - Los Angeles community | Examiner.com." Examiner.com. http://www.examiner.com/community-in-los-angeles/transit-oriented-developments-

mission-meridian-village-south-pasadena/ (accessed November 27, 2011).

Loukaitou-Sideris, Anastasia, and Tribid Banerjee. "Blue Line Blues: Why the Vision of the Transit Village did not Materialize Despite Impressive Growth in Ridership." *Journal of Urban Design* 5, no. 2 (2000): 101-125.

Loukaitou-Sideris, Anastasia. "A New-Found Popularity for Transit-Oriented Developments? Lessons from Southern California." *Journal of Urban Design* 15, no. 1 (2010): 49-68.

Metro Gold Line Foothill Extension Construction Authority. "Project Definition Report: Gold Line Phase II- Foothill Extension." Gold Line Foothill Extension. www.foothillextension.org/images/uploads/Final_Project_Definition_Report_031005_part_1.pdf (accessed October 14, 2011).

"Metro Gold Line Foothill Extension- Fact Sheet." LA Metro. www.metro.net/projects_studies/foothill_extension/images/Foothill_Ext_Fact_sheet.pdf (accessed October 25, 2011).

"Packing House Re-use Critieria." Claremont Village Expansion Area Specific Plan. www.ci.claremont.ca.us/download.cfm?ID=18054 (accessed December 3, 2011).

"Phase 2A: Pasadena to Azusa." Metro Gold Line. http://www.foothillextension.org/construction_phases/pasadena_to_azusa/ (accessed October 15, 2011).

"Population Density." Los Angeles Maximizing Mobility Options. www.scag.ca.gov/nonmotorized/pdfs/map10-PopulationDensity.pdf (accessed November 26, 2011).

Richmond, Jonathan. "The Mythical Conception of Rail Transit in Los Angeles." *Journal of Architectural and Planning Research* Forthcoming (1996): 1-30.

Richmond, Jonathan. *Transport of delight: the mythical conception of rail transit in Los Angeles*. Akron, Ohio: University of Akron Press, 2005.

"Ridership Statistics." LA Metro . http://www.metro.net/news/pages/ridership-statistics/ (accessed October 26, 2011).

Schwandl, Robert. "Madrid Metro." urbanrail.net . http://www.urbanrail.net/eu/es/mad/madrid.htm (accessed September 21, 2011).

"TOD Corridor Development Assessment Study." Gold Line Foothill Extension. www.foothillextension.org/images/uploads/Final%20Report.pdf (accessed October 23, 2011).

"The Best of Times." City of Monrovia, California. http://www.ci.monrovia.ca.us/monrovia-redevelopment (accessed December 3, 2011).

"The Village Claremont - Expansion Fact Sheet." Claremont Village in Claremont. http://www.thevillageclaremont.com/exp_07jan.html (accessed December 3, 2011).

"Transit Centers." Foothill Transit. http://foothilltransit.org/TransitCenters.aspx (accessed December 3, 2011).

"Transit Oriented Development Studies." Gold Line Foothill Extension. http://www.foothillextension.org/construction_phases/phase_2a_pasadena_to_azusa/transit-oriented-development-past-and-present/ (accessed October 26, 2011).

"Your Measure R Dollars, in the Works." LA Metro. www.metro.net/measureR/images/Measure_R_fact_sheet.pdf (accessed October 25, 2011).