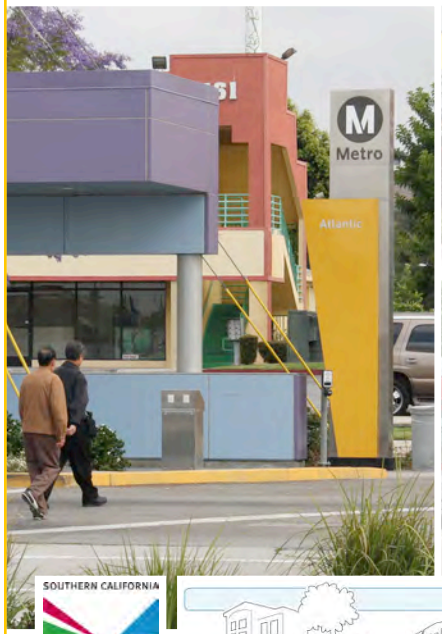
The SR 60 Gold Line Corridor

Connecting People • Creating Places • Achieving Prosperity



SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

COMPASS BLUEPRINT
building partnerships. serving communities.

SR 60 COALITION
Connecting Our Communities

June 2011

A Project of the:

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

On behalf of:

Montebello • Monterey Park • Rosemead • South El Monte • City of Industry • El Monte

SR 60 COALITION

Connecting Our Communities

Consultant Team:

The Madrid Consulting Group, LLC
www.madridcg.com

METCALFE ASSOCIATES
Urban Design
Development Planning

Robert F. Dannenbrink
Architecture and Urban Design

Planning in Motion
Hogle-Ireland, Inc.
www.hogleireland.com

Transportation Planning and Engineering
RTPG
the Rifkin Transportation Planning Group

COMPASS BLUEPRINT
building partnerships. serving communities.

June 2011

This is a project for the SR-60 Coalition, comprised of the cities of Monterey Park, Montebello, Rosemead, El Monte, South El Monte, and the City of Industry, with funding provided by the Southern California Association of Governments' (SCAG) Compass Blueprint Program. Compass Blueprint assists Southern California cities and other organizations with the evaluation of planning options and ways to stimulate development consistent with the region's goals. Compass Blueprint tools support visioning efforts, infill analyses, economic and policy analyses, and marketing and communication programs.

The preparation of this report has been financed in part through grant(s) from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) through the U.S. Department of Transportation (DOT), in accordance with the provisions under the Metropolitan Planning Program as set forth in Section 104(f) of Title 23 of the U.S. Code.

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of SCAG, DOT, the Coalition, or the State of California. This report does not constitute a standard, specification or regulation. SCAG and the consultants shall not be responsible for the City's future use or adaptation of the report.

Funding for this study was provided by a grant from the Southern California Association of Governments (SCAG) under its Compass Blueprint Program to the SR 60 Coalition. This project represented a collaborative effort between the SR 60 Coalition, SCAG, and the Madrid Consulting Group LLC team.

SR 60 Coalition Cities

City of Monterey Park

Mayor	Betty Tom Chu
Council	Mitchell Ing
	David T. Lau
	Teresa Real Sebastian
	Anthony Wong

City of Montebello

Mayor	Art Barajas
Council	Christina Cortez
	Frank A. Gomez
	Alberto Perez
	William M. Molinari

City of Rosemead

Mayor	Steven Ly
Council	Bill Alarcon
	Sandra Armenta
	Margaret Clark
	Polly Low

City of South El Monte

Mayor	Louie A. Aguiñaga
Council	Hector Delgado
	Angelica R. Garcia
	Joseph J. Gonzales
	Willhans Ili

City of El Monte

Mayor	Andre Quintero
Council	Juventino "J" Gomez
	Emily Ishigaki
	Norma Macias
	Patricia Wallach

City of Industry

Mayor	David Perez
Council	John P. Ferrero
	Roy Haber III
	Jeff Parriott
	Tim Spohn

Table of Contents

Page

I. SR 60 Gold Line Corridor Study 1
A. The SR 60 Compass Blueprint Demonstration Project Assignment 1
B. Organization of this Report 1
C. New Broader Definition of TOD 1
D. New Delineation of Transit Benefit Zone 3

II. Study Area Transit and Transportation Factors 6
A. Scope of this Section 6
B. SCAG SR 60 Corridor Growth Forecast (Population, Housing, and Employment) 6
C. SCAG SR 60 Corridor Population Projections 6
D. SR 60 Corridor Employment Projections SCAG TAZ Data 7
E. Employment Projections and Transportation System Overlay 12
F. SCAG Housing Projections 15
G. Regional and Corridor Trip Forecast Analysis 18
I. Public Transportation and Transit Dependency Factors 25
J. Housing and Transportation Cost Burdens 31
K. Greenhouse Gas CO_2 Emissions for SR 60 Corridor Coalition Cities 32

III. Economics Development and Redevelopment Analysis 34
A. Overview 34
B. Study Area Context 34
C. Demographic Data 39
D. Current Economic Base 48
E. Physical and Area Site Conditions 57
F. Development Opportunities Summary 63

IV. Urban Design, Connectivity, and Sustainability Strategies 83
A. Urban Design and Station Area Strategies 83
B. Regional Connectivity and Attractors 107
C. SR 60 Green Corridor Strategies 116

V. Implementation Strategies 118
A. TOD Community Development Vision 118
B. Collaboration and Promotion 118
C. Maximize the Transit-shed Planning Zone 119
D. Pursue all Funding Sources 119
E. Implement Early Investment Strategies 119
F. TOD Land and Development Regulations 119
G. Reinforce TOD Housing-Transit Connection 120
H. Strengthen the Economic Base/Transit Connection 120
I. Sustainable Development Policies 120

List of Tables

Table 1: Drive-shed Zones 3
Table 2: Population Projections 7
Table 3: Employment Projections 7
Table 4: Housing Projections 15
Table 5: Transit Use Forecast - SR 60 Corridor Cities Compared with SCAG Region 19
Table 6: Travel Modes 27
Table 7: Number of Workers per Family 28
Table 8: Vehicles per Household within Drive-sheds 29
Table 9: Population within 5- and 10-Minute Drive-sheds 39
Table 10: Housing Vacancy and Tenure within Drive-sheds 41
Table 11: Workers per Square Mile 43
Table 12: Workers by Industry 45
Table 13: Employment within the 10-Minute Drive-shed 46
Table 14: Employment by Occupation 47
Table 15: Employment Density 49
Table 16: Jobs/Housing Balance 51
Table 17: Daytime Occupations 53
Table 18: Daytime Populations 56
Table 19: Potential Vacant and Underutilized Land 62
Table 20: Potential Generation of New Jobs – Garfield TOD District 79
Table 21: Potential Generation of New Jobs – Town Center TOD District 80
Table 22: Potential Generation of New Jobs – Santa Anita TOD District 80
Table 23: Potential Generation of New Jobs – Peck TOD District 80
Table 24: Garfield TOD Development Program Summary 85
Table 25: Montebello Station TOD Development Program Summary 91
Table 26: Santa Anita Station TOD Development Program Summary 98
Table 27: Peck Avenue Station TOD Development Program Summary 106
Table 28: Summary of All Station Development Potential 107
Table 29: Largest Employers within Regional Study Area 109
Table 30: Cemeteries within Regional Study Area 110
Table 31: Major Court Facilities within Regional Study Area 110
Table 32: Major Colleges and Universities within Regional Study Area 110

Table 33: Major Hospitals within Regional Study Area 111
Table 34: Amusement and Theme Parks within Regional Study Area 112

List of Figures

Figure 1: SR 60 Corridor Study Area 2
Figure 2: Garfield Station 5- and 10-Minute Drive-shed Benefit Zones 4
Figure 3: Peck Station 5- and 10-Minute Drive-shed Benefit Zones 5
Figure 4: Population Base 2010 by SCAG TAZ Areas 8
Figure 5: Population Forecast 2035 by SCAG TAZ Areas 9
Figure 6: Employment Base 2010 by SCAG TAZ Areas 10
Figure 7: Employment Projections 2035 by SCAG TAZ Areas 11
Figure 8: Employment Base and Transportation System Overlay 2010 13
Figure 9: Employment Projections and Transportation System Overlay 2035 14
Figure 10: Housing Base 2010 by TAZ Area 16
Figure 11: Housing Forecast 2035 by TAZ Area 17
Figure 12: Drive Time to Work More than 1-Hour – 2010 23
Figure 13: Percentage of Workers Using Public Transit 24
Figure 14: Workers Who Bicycle to Work by ZIP Code – 2010 26
Figure 15: CO_2 Emissions per Household 33
Figure 16: CO_2 Emissions per Household with Autos 33
Figure 17: SR 60 Corridor Cities 35
Figure 18: SR 60 Garfield Station 5- and 10-Minute Drive-shed Benefit Zones 37
Figure 19: Peck Road Station 5- and 10-Minute Drive-shed Benefit Zones 38
Figure 20: SR 60 TOD Existing Land Use 58
Figure 21: SR 60 TOD General Plan Land Use Designations 59
Figure 22: Potential Vacant or Underutilized Properties 61
Figure 23: SR 60 Corridor Redevelopment Project Areas 66
Figure 24: Concept Sketches for USACOE Site 68
Figure 25: Garfield Station Opportunities 69
Figure 26: Montebello Town Center Opportunities and Constraints 71
Figure 27: Santa Anita and Peck Road Transit Stations Opportunities and Constraints 73
Figure 28: Pedestrian and Bike Sheds – Garfield Avenue Transit Station 76

Figure 29: Pedestrian and Bike Sheds – Montebello Town Center Transit Station 77
Figure 30: Pedestrian and Bike Sheds – Santa Anita and Peck Stations 78
Figure 31: Garfield Avenue Station TOD Plan 86
Figure 32: Garfield Avenue Station TOD Cross Section 87
Figure 33: Generic Complete Streets Cross Section View 87
Figure 34: Garfield Avenue TOD–Birdseye View 88
Figure 35: Garfield Avenue Station TOD—View into Plaza 89
Figure 36: Montebello Town Center TOD Plan 92
Figure 37: Montebello Town Center Station TOD—Cross Section View 93
Figure 38: Montebello Town Center Station TOD–Birdseye View 94
Figure 39: Montebello Town Center Station TOD—Birdseye View 95
Figure 40: Montebello Town Center Station TOD—View into Promenade 96
Figure 41: Santa Anita Avenue and Peck Road Station TOD Plans 99
Figure 42: Santa Anita Avenue Station TOD–Cross Section 100
Figure 43: Peck Road Station TOD–Cross Section 100
Figure 44: Peck Road Station TOD—Birdseye View 101
Figure 45: Santa Anita Avenue Station TOD—Birdseye View 102
Figure 46: Santa Anita Avenue Station TOD—View into Plaza 103
Figure 47: Peck Road Station TOD—View into Plaza 104
Figure 48: Linking Santa Anita Station to MetroLink and El Monte Bus Station 108
Figure 49: Major Attractors within Regional Study Area 113
Figure 50: Subregional Bus Routes 114
Figure 51: Regional Rail Lines 115

List of Exhibits

Exhibit 1: Transit Connectivity Index 12
Exhibit 2: Transit Use Forecast 19
Exhibit 3: Average Vehicle Miles Traveled 20
Exhibit 4: Commute Travel Times by Transit 21
Exhibit 5: Commute Travel Times by Non-Transit 21
Exhibit 6: Average Travel Time to Work 22
Exhibit 7: Workers Taking Transit or Walking or Biking to Work 25

Exhibit 8: Vehicles per Household 28
Exhibit 9: Median Household Income 29
Exhibit 10: Average Household Size 30
Exhibit 11: Population under Age 18 30
Exhibit 12: Population over Age 65 31
Exhibit 13: Families Living in Poverty 31
Exhibit 14: Housing and Transportation Cost Burdens by City and County 32
Exhibit 15: CO2 Emissions 32
Exhibit 16: Population per Square Mile 39
Exhibit 17: Median Household Income within Drive-sheds 40
Exhibit 18: Housing Density within Drive-sheds 40
Exhibit 19: Resident Workers per Square Mile 42
Exhibit 20: Resident Workers by Industry 44
Exhibit 21: Job Concentration within Drive-sheds 48
Exhibit 22: Daytime Population by Category 55
Exhibit 23: Average Block Size 63

The SR 60 Gold Line Corridor: Connecting People, Creating Places, Achieving Prosperity

I. SR 60 Gold Line Corridor Study

A. The SR 60 Compass Blueprint Demonstration Project Assignment

The Los Angeles Metropolitan Transportation Authority (Metro) is currently preparing a Draft EIR for two alternative extension routes of the Gold Line Eastside Transit Corridor Phase 2, one of which would parallel the south side of the State Route 60 Freeway (SR 60). The SR 60 Coalition, comprised of the cities of Monterey Park, Montebello, Rosemead, El Monte, South El Monte, and Industry, initiated a Southern California Association of Governments (SCAG) Compass Blueprint Demonstration Project (SR 60 Compass Study) to demonstrate the superior ability of the SR 60 alignment to achieve Compass Blueprint and Smart Growth objectives. The Compass study is intended to help Corridor cities and the region ***realize maximum benefits from the proposed SR 60 Light Rail Transit (LRT) and demonstrate innovative transportation planning and Smart Growth transit-related development***. Together with this report, visualization tools have also been developed to facilitate long-term ***multijurisdictional collaboration*** and generate interest among residents, property owners, government agencies, developers, and others to pursue initiatives that will benefit the corridor.

B. Organization of this Report

The report includes discussion of:

1. Transit and Transportation Factors
2. Economic Development and Redevelopment Analysis
3. Urban Design, Connectivity, and Sustainability
4. SR 60 Implementation

A separate Appendix document contains detailed reports and drawing supportive of key report data and recommendations.

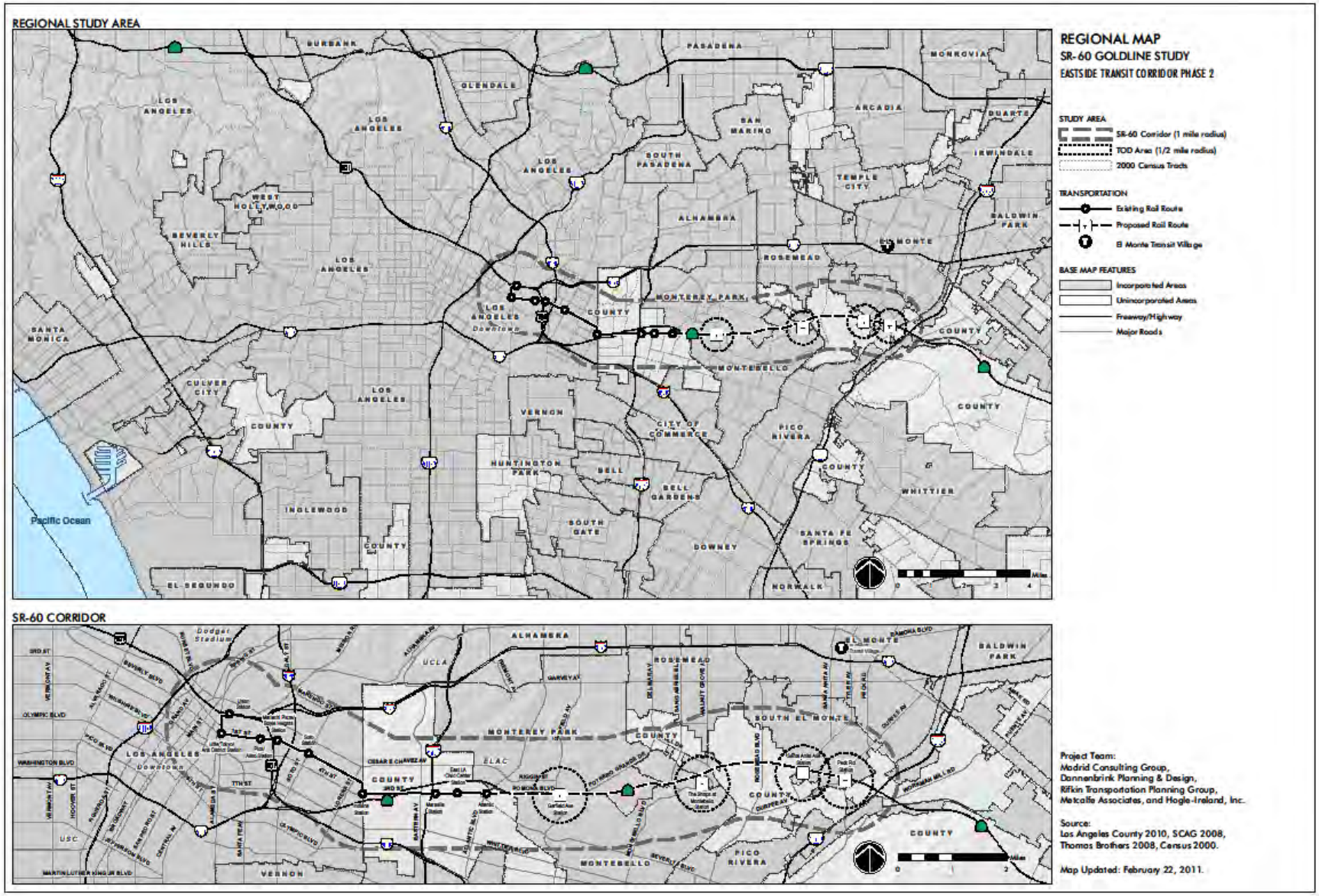
Figure 3 shows the SR 60 Corridor and its relationship to the region.

C. New Broader Definition of TOD

As determined in best practices research by entities such as the prominent transit think tank *Center for Transit Oriented Development* (CTOD), current transit-oriented development (TOD) planning redefines TOD in broader terms and sometimes referred to as "Transit Oriented Districts." This term assumes a comprehensive approach to TOD encompassing a wide range of community development goals, such as sustainability, walkable neighborhoods, Complete Streets Programs, and Smart Growth, all of which are focused on meeting goals of the SCAG Compass 2% program: redevelopment, transit-related affordable housing, and economic development. The overall goal is about maximizing TOD as a means to attain broad community development goals.

In addition, the Federal Transportation Administration (FTA) has espoused similar broad concepts as to how transportation planning and implementation programs can improve communities' quality of life, enhance environmental performance, increase transportation and housing choice while lowering costs, and support economic vitality. This commitment is also reflected in the recent formation of a new Federal interagency Partnership for Sustainable Communities committed to improving access to affordable housing, providing more transportation options, and lowering transportation costs while protecting the environment.

Figure 1: SR 60 Corridor Study Area



This SR 60 Compass Blueprint Study incorporates and embraces these new broader transportation planning goals. This report offers a new transit-led community development model that if successfully implemented, can produce significant economic, environmental, and social benefits for cities and regions.

D. New Delineation of Transit Benefit Zone

A transit system is only as effective as its ability to capture potential riders and better connect people, jobs, and commerce; equitably enhance transit poor areas; and better connect with activity centers. Employing "first mile/last mile" and "Complete Streets" (see Figure 33) programs can enhance the TOD catchment area and serve a larger segment of potential riders beyond just those within walking distance of a train or station; this approach also enhances the benefit zone of a particular transit station. First/last mile policies include addressing barriers to commuters who could potentially take transit but whose starting point or final destination cannot be conveniently accessed from the nearest transit stop/station due to distance, terrain, or real or perceived safety issues. Enhanced accessibility initiatives include improved connections such as walkable, convenient, safe, and more pleasant pedestrian ways; better bicycle routes and terminals; and additional access to transit (intermodal bus, shuttles, etc.). A good example of such first/last mile strategies are those under investigation by the City of Los Angeles and SCAG.

For this reason, this Compass Study effort utilizes various transit study areas: 1) the traditional 0.5-mile radius from a station, 2) 1-mile north/south radius along the transit line corridor, 3) cities and ZIP code areas along the SR 60 Corridor, and 4) the areas encompassed within a 5- and 10-minute drive times (drive-shed benefit zone) from the Garfield Avenue and Peck Road transit stations. (In this report similar polygon areas for the Montebello Town Center and Santa Anita Avenue stations are not shown since these areas are subsumed within these two drive-sheds.)

Table 1 and the following maps show the dramatic difference in potential transit benefit catchment areas between the traditional 0.5-mile radius TOD zone and the short drive-sheds. For example, the Los Angeles Central Business District (CBD) rich employment center is located within the 10-minute drive-shed of the Garfield Avenue transit station. To be clear, these catchment areas are calculated by drive times and associated distances, not areas to be accessed by means other than private autos (see Figures 2 and 3).

Table 1:
Drive-shed Zones

Stations	Garfield Station Drive-shed Benefit Zone		Peck Road Station Drive-shed Benefit Zone	
0.5-mile radius	5-Minute Drive Shed	10-Minute Drive Shed	5-Minute Drive Shed	10-Minute Drive Shed
0.79 Sq. Miles	11.59 Sq. Miles	85.17 Sq. Miles	9.72 Sq. Miles	78.49 Sq. Miles

The overall objective of establishing the enhanced catchment areas is to expand the potential transit investment-related benefits and development opportunities.

Figure 2: Garfield Station 5- and 10-Minute Drive-shed Benefit Zones

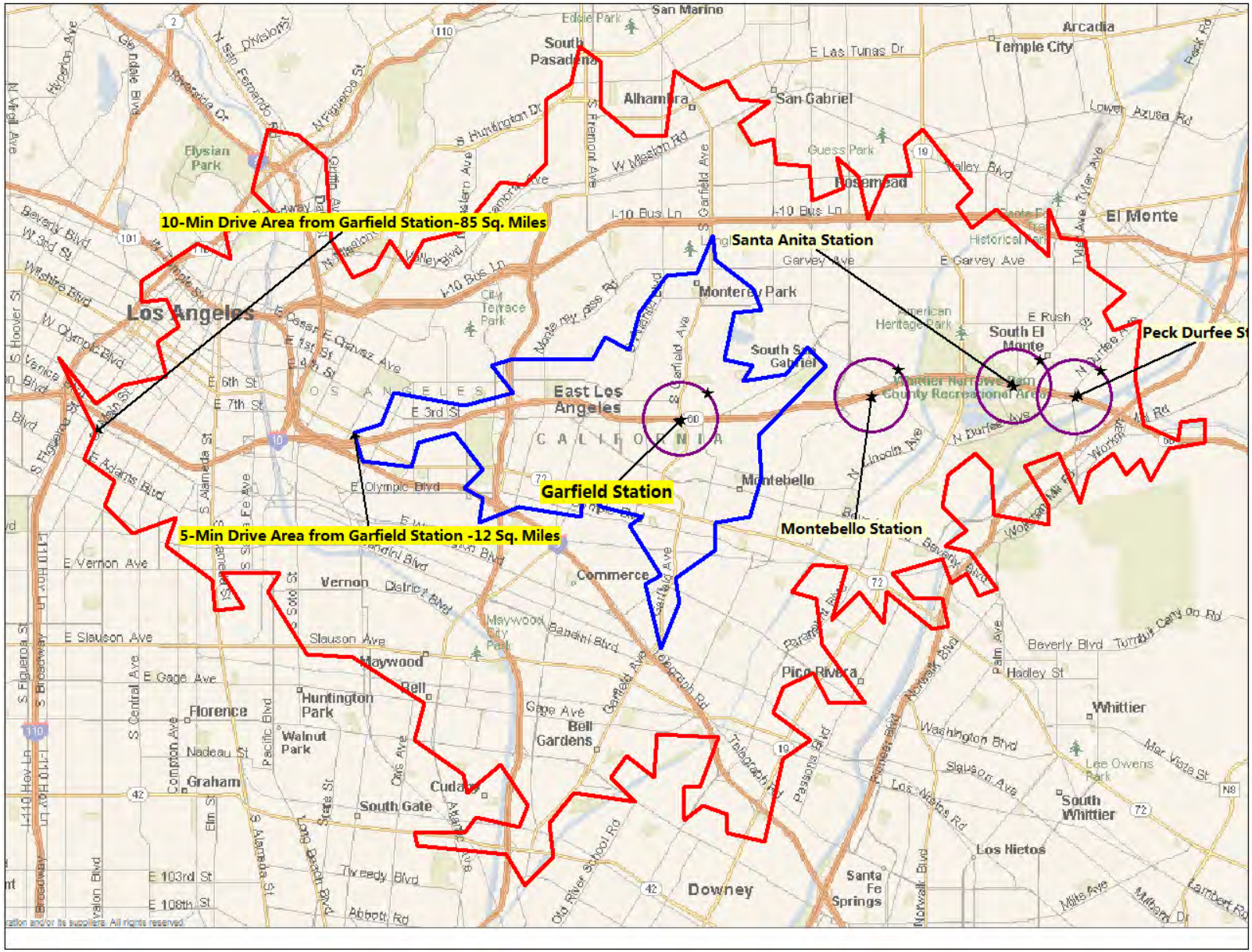
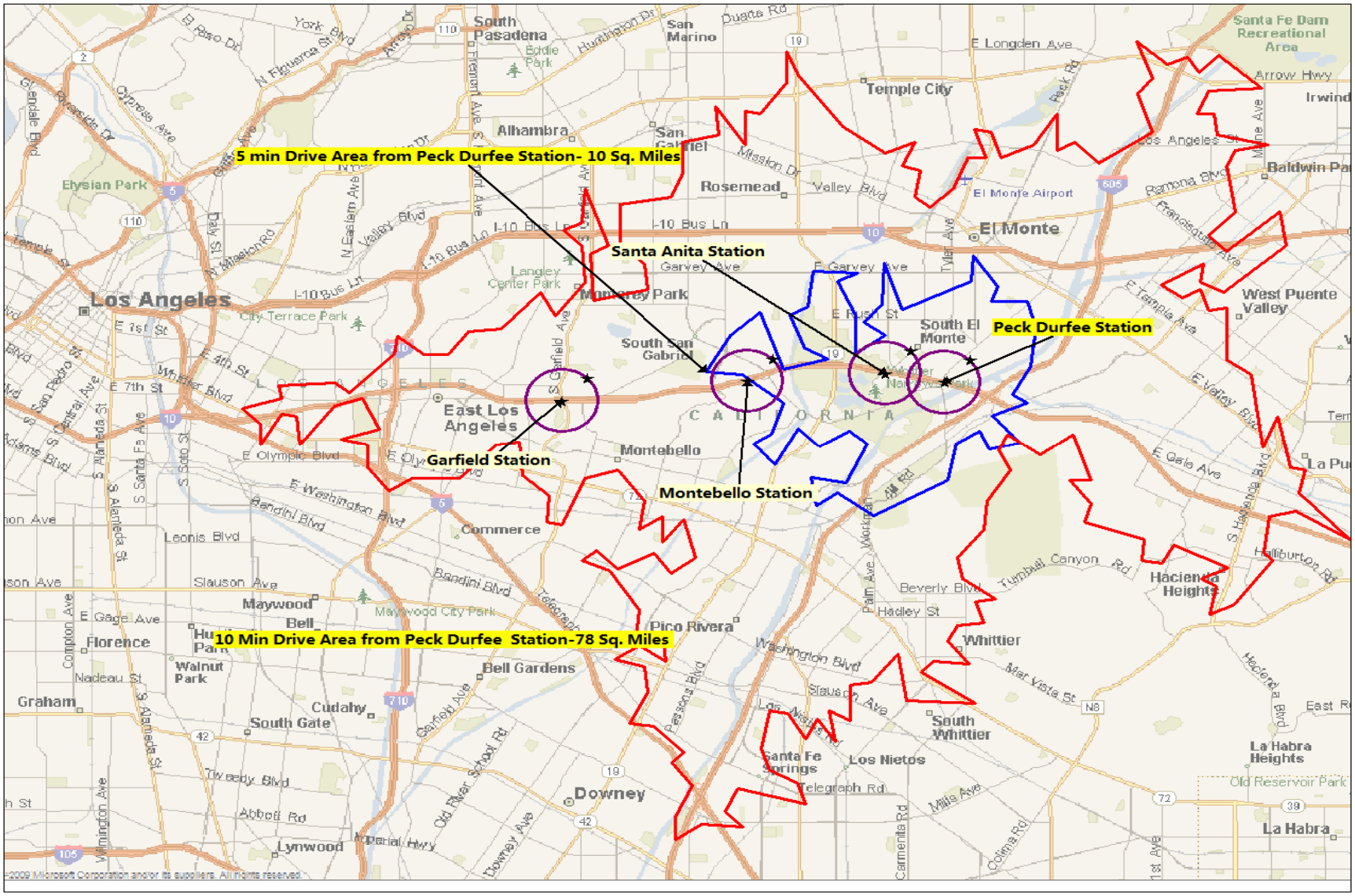


Figure 3: Peck Station 5- and 10-Minute Drive-shed Benefit Zones



II. Study Area Transit and Transportation Factors

A. Scope of this Section

This section discusses the following topics:

- SR 60 Corridor-level SCAG growth forecast (population, housing, employment)
- Employment projections and transportation system
- Regional SR 60 Corridor-level Trip Forecast Analysis
- Travel factors
- Transportation and transit dependency factors
- Housing and transportation cost burdens

B. SCAG SR 60 Corridor Growth Forecast (Population, Housing, and Employment)

SCAG baseline growth projections are calculated on the basis of historical population, housing, and economic trends, together with incorporation of future demographic and employment shift-share assumptions. The database is delineated geographically by traffic analysis zones (TAZ), which are areas that generally correspond to U.S. Census tracts. Raw data were collected from the 2002-2035 SCAG regional baseline growth forecasts. These regional data have been developed and applied to the various Compass Study areas by the consultant team. These forecasts represent the most likely growth in the absence of any explicit government input. Such government input refers to actions, plans, or development projects that are proposed or planned by local jurisdictions that are not incorporated into SCAG baseline growth assumptions.

Metro employs SCAG growth forecasts as one of the inputs to formulate transit ridership projections. In general, the higher the baseline growth factors, the higher the transit ridership projections.

The tables on the following page show the baseline population, housing, and employment growth forecast for the years 2010 and 2035. These projections are shown for the SR 60 Study Area Region, SR 60 Transit Line Corridor (one mile north/south of the line), SR 60 Corridor Cities, and the four proposed SR 60 Station 0.5-mile radii TOD zones (see following maps showing these areas).

SCAG growth projections were prepared before this SR 60 Compass TOD Study and the associated TOD development plans were formulated. This Compass Study proposes new policy-based assumptions and inputs into the projections consisting of extensive new redevelopment within the SR 60 Corridor cities. Such SR 60 Corridor growth over baseline figures should positively increase Metro transit ridership projections.

C. SCAG SR 60 Corridor Population Projections

Table 2 shows population growth for the various SR 60 Compass Study Areas. A significant finding is that population growth within the SR 60 Corridor and 0.5-mile TOD radii zones are projected to increase from 2010 to 2035 by a higher percentage than the larger SR 60 study area region.

A higher population growth figure translates into greater housing and jobs demand than projected by SCAG and thereby increased support for new TOD development, all else being equal. Moreover, the higher the growth rate, the higher the propensity for transit ridership given the study area's population transit-dependent demographic and economic factors discussed in this report.

Table 2:
Population Projections

SR 60 Corridor Study Areas	TAZ Population		Change	
	2010	2035	Number	Percent
SR 60 Study Region	5,440,922	6,007,295	566,373	10.4%
Acres	363,618	363,618		
Pop Per Acre	15.0	16.5	1.6	
SR 60 Study Area Corridor 1-mile north/south Buffer	362,170	412,250	50,080	13.8%
Acres	36,656	36,656		
Pop Per Acre	9.9	11.2	1.4	
SR 60 Corridor Cities/ areas	522,086	604,482	82,396	15.8%
Acres	32,425	32,425		
Pop Per Acre	16.1	18.6	2.5	
All four SR 60 TOD Zones 0.5-Mile Radius	71,547	83,028	11,481	16.0%
Acres	10,771	10,771		
Pop Per Acre	6.6	7.7	1.1	

Source: SCAG TAZ Growth Projections 2010

D. SR 60 Corridor Employment Projections SCAG TAZ Data

Table 3 presents SCAG employment growth projections for the SR 60 Compass Study Areas. A solid finding is that the study area employment projections are comparable to regional study area growth rates, which SCAG reports as roughly 8% versus 9% for the region. These employment rates are supportive of new TOD development, given higher population growth and existing nearby business clusters and activity centers, together with and transportation network and connectivity. In addition, this factor creates a higher propensity for employee transit ridership given the demographic, occupational, and economic characteristics of workers and residents discussed in this report.

Moreover, SCAG projections do not include the jobs that could be created from the development program proposed in this Compass Study. As discussed later in this report, it is estimated that an additional 15,200 new jobs could be created at full development of the proposed TOD plans. These new jobs would synergize and enhance ridership and magnify TOD benefits. If even half of these jobs are realized, the SR 60 Corridor growth rates will far outpace regional study area increases.

Table 3:
Employment Projections

SR 60 Corridor Study Areas	TAZ Employment		Change	
	2010	2035	Number	Percent
SR 60 Study Region	2,826,394	3,072,491	246,097	8.7%
Acres	363,618	363,618		
Jobs Per Acre	7.8	8.4	0.7	
SR 60 Study Area Corridor 1-mile north/south Buffer	306,081	328,742	22,661	7.4%
Acres	36,656	36,656		
Jobs Per Acre	8.4	9.0	0.6	
SR 60 Corridor Cities/ areas	212,527	229,851	17,324	8.2%
Acres	32,425	32,425		
Jobs Per Acre	6.6	7.1	0.5	
All four SR 60 TOD Zones 0.5-Mile Radius	37,185	40,096	2,911	7.8%
Acres	10,771	10,771		
Jobs Per Acre	3.5	3.7	0.3	

Source: SCAG TAZ Growth Projections 2010

Figure 4: Population Base 2010 by SCAG TAZ Areas

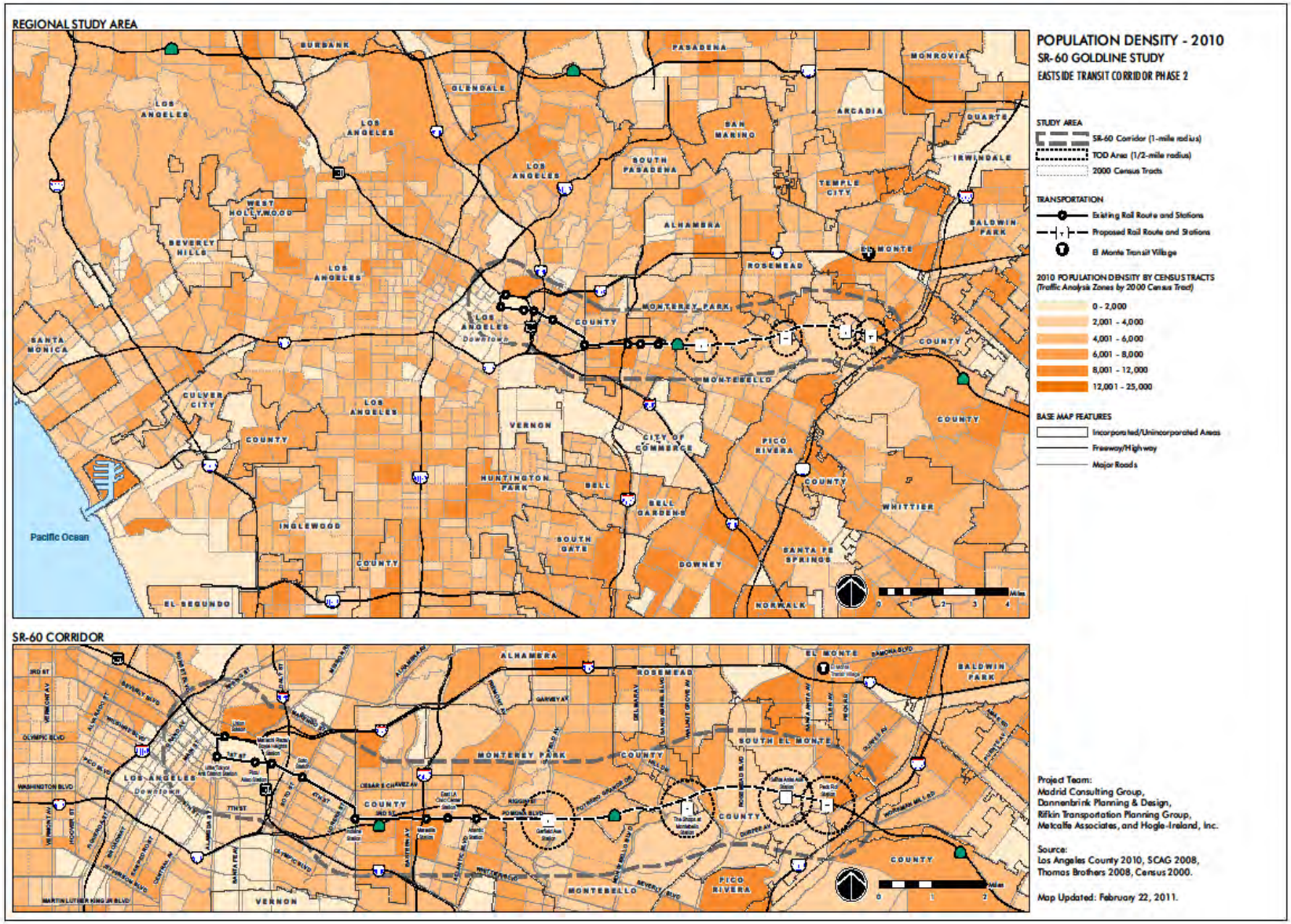
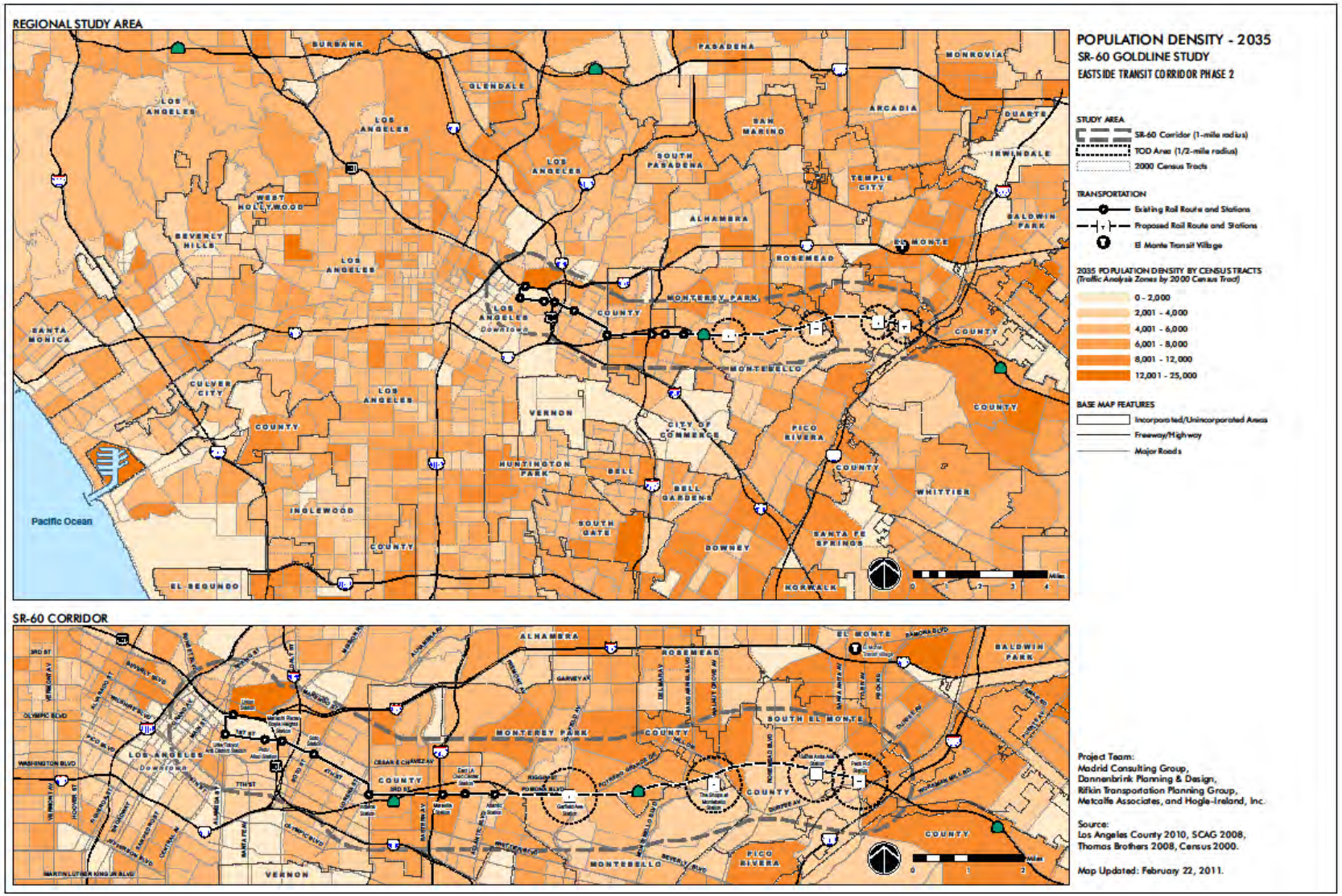
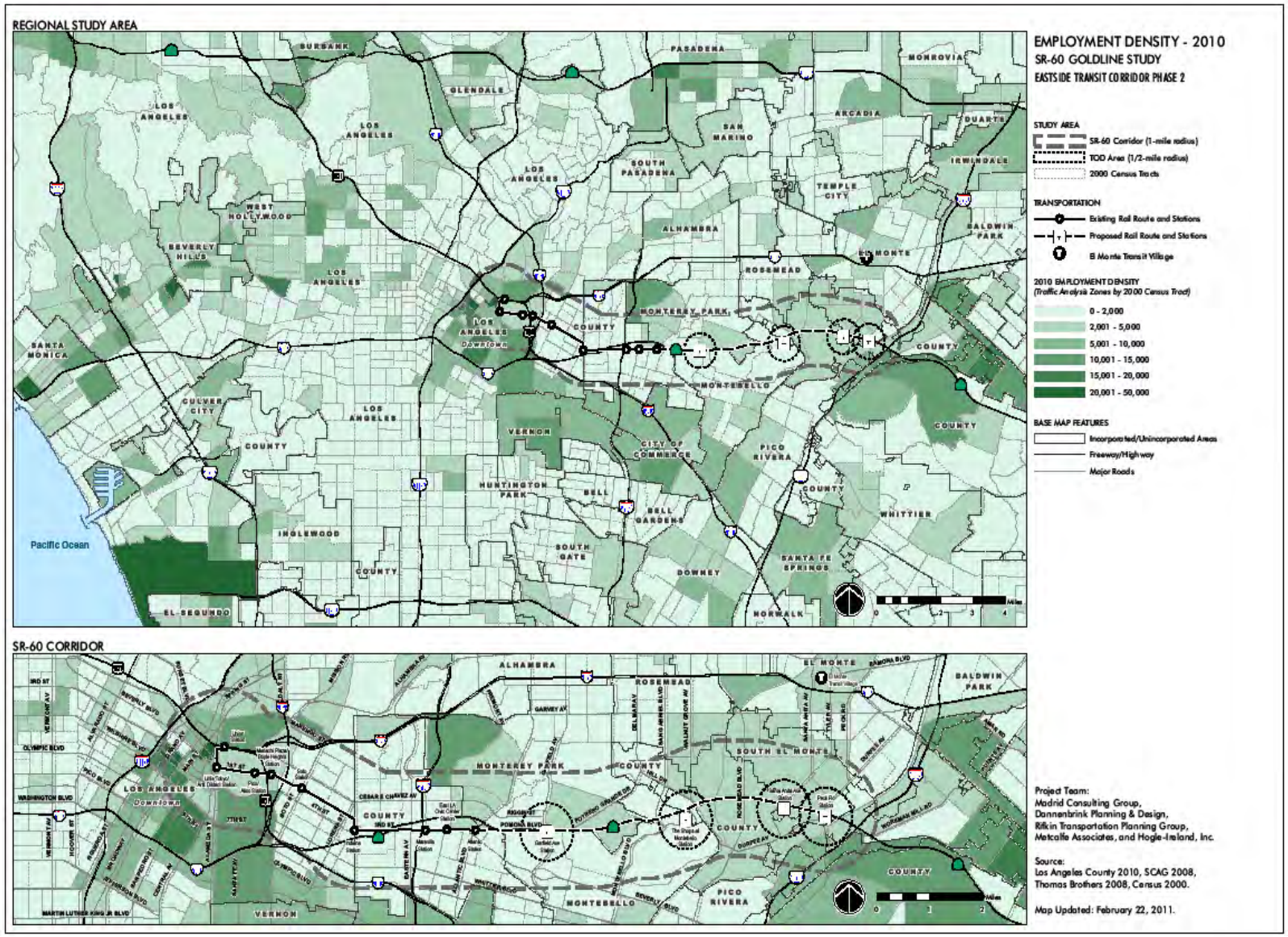


Figure 5: Population Forecast 2035 by SCAG TAZ Areas



Source: SCAG TAZ Growth Projections 2010

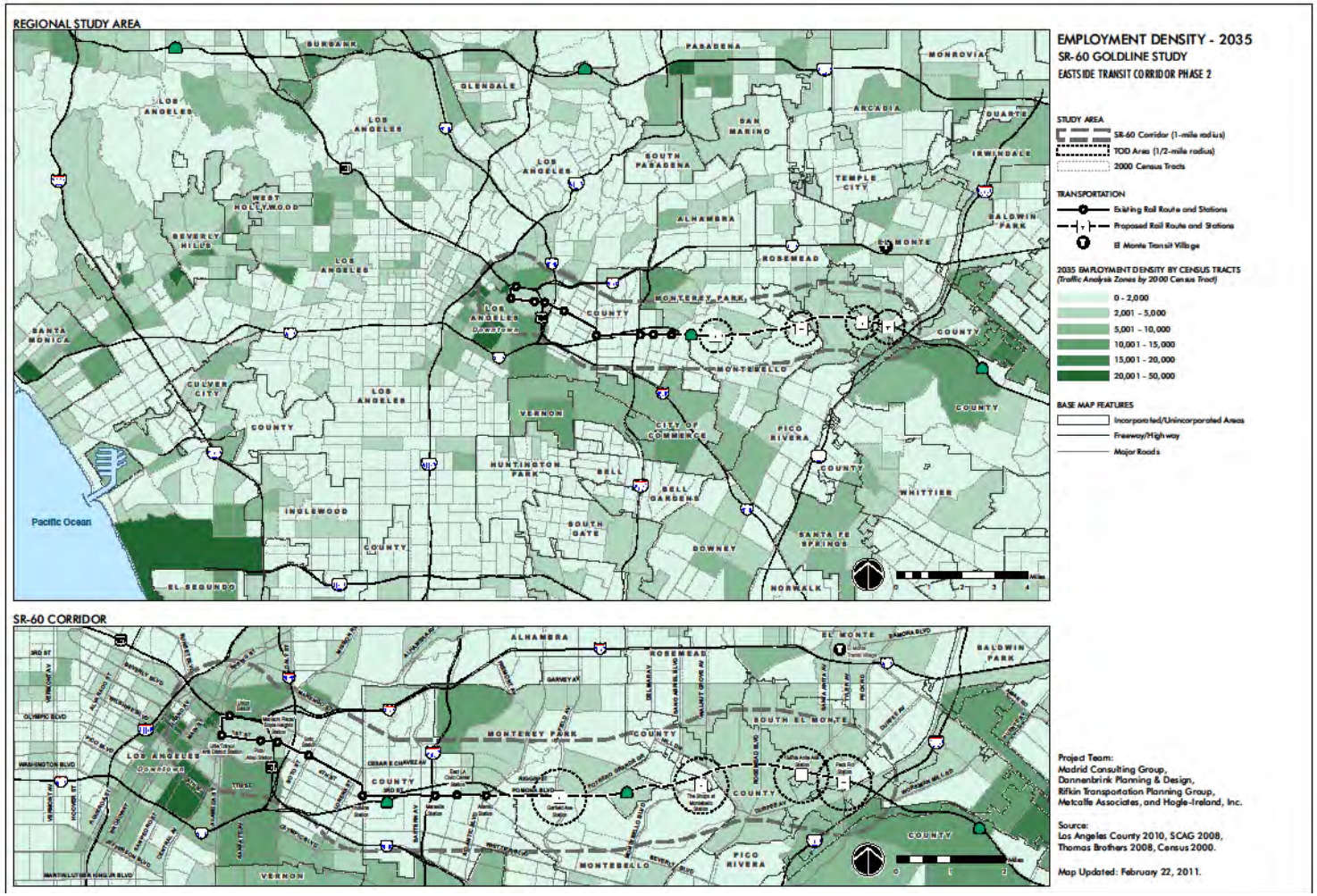
Figure 6: Employment Base 2010 by SCAG TAZ Areas



Source: SCAG TAZ Growth Projections 2010

As Figure 7 shows, greater employment density is projected to continue to define the SR 60 corridor along the south edge of the San Gabriel Valley over the study period 2010-2035.

Figure 7: Employment Projections 2035 by SCAG TAZ Areas



Source: SCAG TAZ Growth Projections 2010

E. Employment Projections and Transportation System Overlay

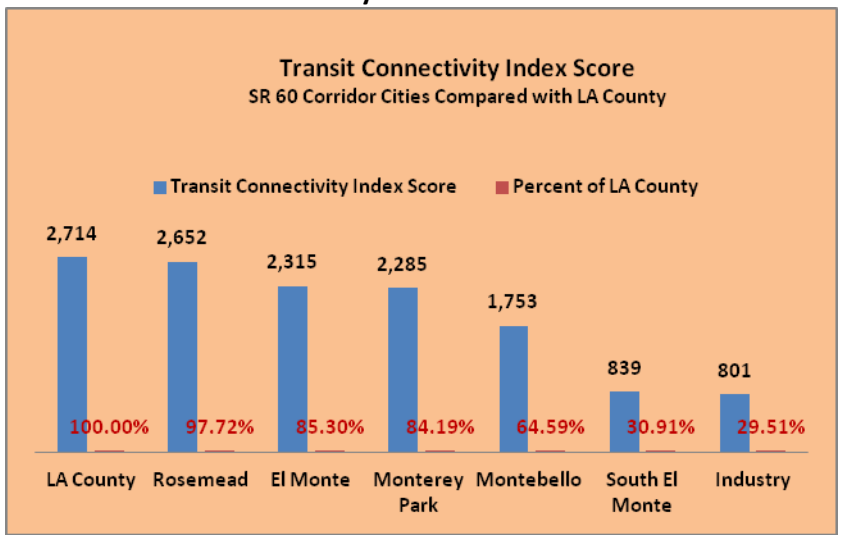
The following maps show the SCAG 2010 employment base and 2035 projections with the current transit service and the proposed routes at the SR 60 Corridor Cities level. The existing employment density is greatest along the SR 60 corridor defining the south edge of the San Gabriel Valley. Major employers in the corridor are connected to the proposed public transit route via a network of Metro regional and local buses, as well as the very successful Montebello Transit bus lines. Only three of the nine major employment centers (those with more than 1,500 employees) shown on the map are not well connected to the transit base. Connections to the larger regional employment centers (such as Downtown Los Angeles, Century City, etc.) can be made via Rapid Bus (Metro and Foothill Transit) serving the El Monte Transit Center near I-10 and Metrolink rail service on the I-10 and SR 60 corridors. The proposed extension of the Metro Eastside Gold Line, from its current East Los Angeles station is intended to significantly improve the access to those regional employment centers from the Corridor Cities.

Three of the four proposed transit stations are well connected to the existing local transit network, with the exception of the Peck road station. However, enhancement of accessibility features (i.e., pedestrian connection, bicycle access, employer transit shuttles, etc.), multiple transportation modes to this station, and completion of the SR 60 LRT will serve to connect this station to employment centers as well.

1. Transit Connectivity Index

Locating new jobs and housing in well-connected, transit-rich areas can significantly boost transit ridership levels and significantly reduce the number of long car trips. The Center for Neighborhood Technology (CNT) has developed a measure of transit service levels know as the Transit Connectivity Index (TCI). The index is based on the number of bus routes and train stations within walking distance for households in given census Block Group, scaled by the frequency of service. The greater the transit connectivity, the more likely that residents will take transit, developers will build near transit, etc. The data in the following table show that the SR 60 Corridor Cities of Monterey Park, Rosemead, and El Monte have a relatively high TCI score as compared with the Los Angeles County study area TCI baseline average score.

Exhibit 1: Transit Connectivity Index



The cities of South El Monte, Industry, and Montebello have lower scores, demonstrating a need for enhancing connectivity via systems, such as the proposed SR 60 light rail line.

Figure 8: Employment Base and Transportation System Overlay 2010

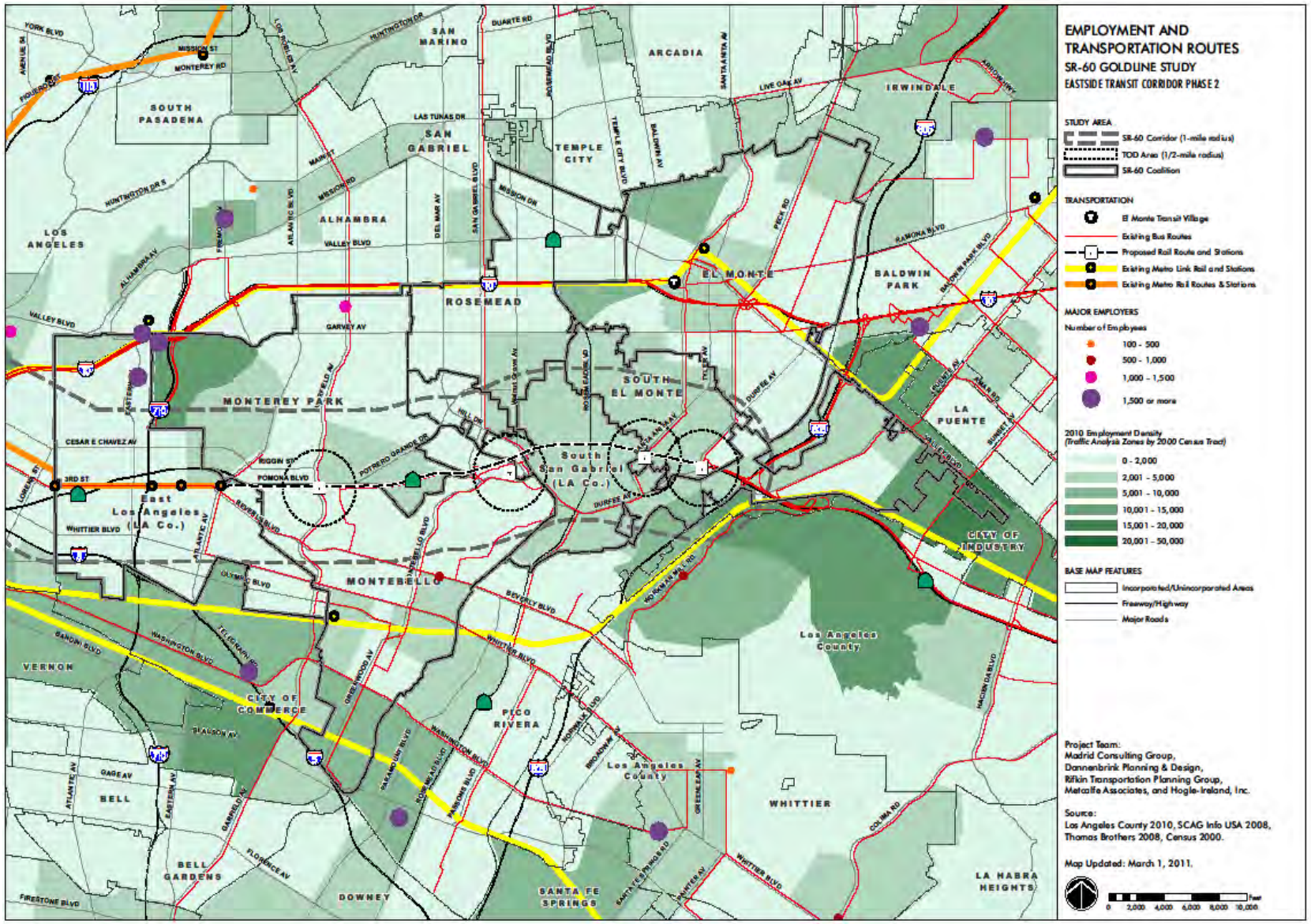
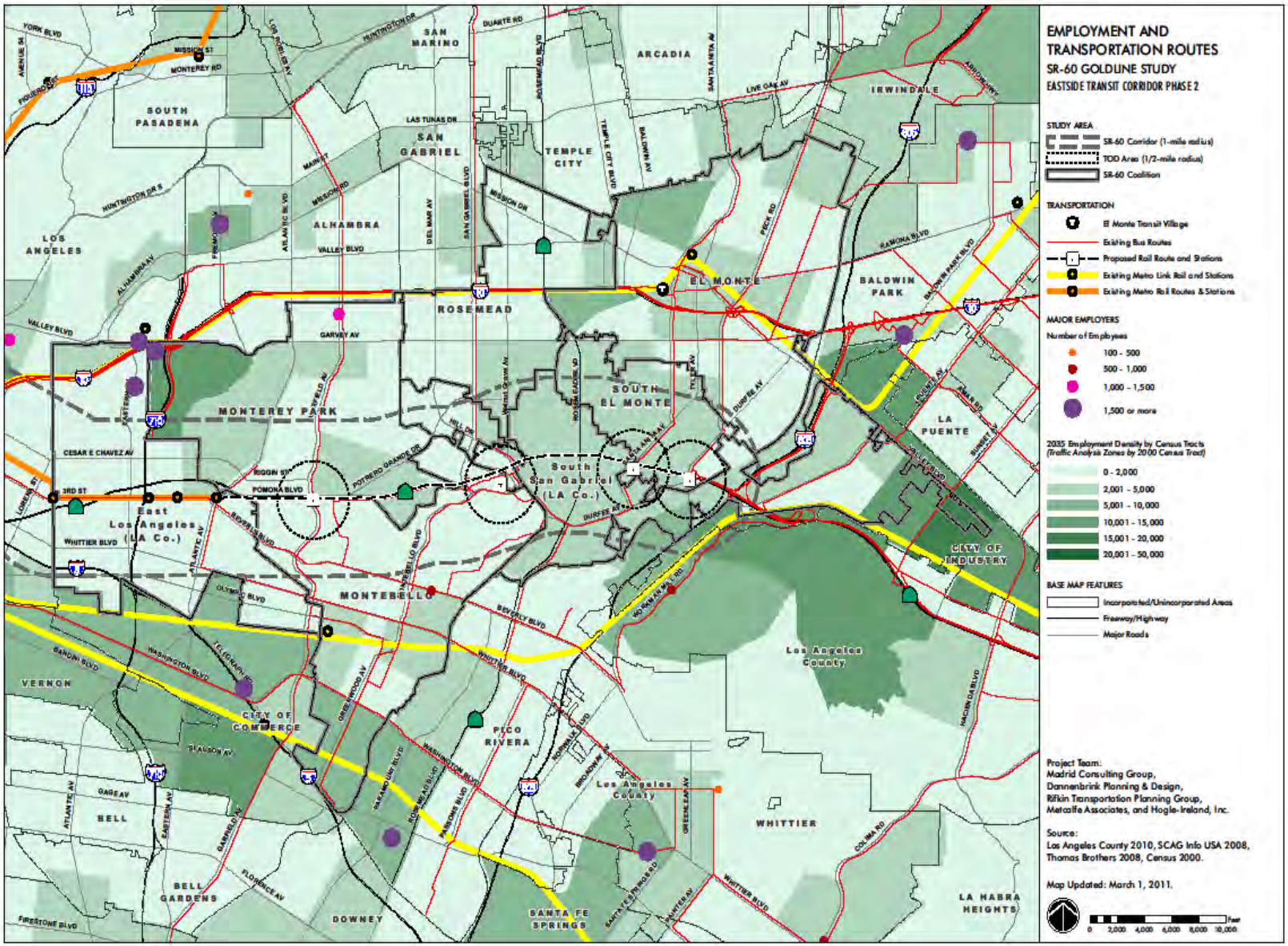


Figure 9: Employment Projections and Transportation System Overlay 2035



F. SCAG Housing Projections

Table 4 outlines SCAG's projections for housing growth within the SR 60 study areas between years 2010 and 2035. The corridor and TOD area growth rates are comparable or higher than the regional study area growth rates. However, these SCAG baseline projections do not include the approximately 3,100 new dwelling units that can be accommodated via this Compass Study within the Corridor Cities. Addition of these TOD zone housing units will produce a higher growth rate than the overall SCAG baseline growth rate. These additional housing units will serve multiple goals: helping cities meet their regional goals for housing production, affordable housing, and in particular, housing with easy access to transit. Greater residential development in these areas will produce a larger and concentrated population which in turn, can lead to higher ridership and greater market support for TOD development, given the local demographic and economic characteristics discussed in this report.

Table 4:
Housing Projections

SR 60 Corridor Study Areas	TAZ Housing Units		Change	
	2010	2035	Number	Percent
SR 60 Study Region	1,755,386	2,024,129	268,743	15.3%
Acres	363,618	363,618		
Units Per Acre	4.8	5.6	0.7	
SR 60 Study Area Corridor 1-mile north/south Buffer	93,660	109,935	16,275	17.4%
Acres	36,656	36,656		
HU's Per Acre	2.6	3.0	0.4	
SR 60 Corridor Cities/ areas	134,019	153,270	19,251	14.4%
Acres	32,425	32,425		
HU's Per Acre	4.1	4.7	0.6	
All four SR 60 TOD Zones 0.5-Mile Radius	19,013	21,532	2,519	13.2%
Acres	10,771	10,771		
HU's Per Acre	1.8	2.0	0.2	

Source: SCAG TAZ Growth Projections 2010

Figure 10: Housing Base 2010 by TAZ Area

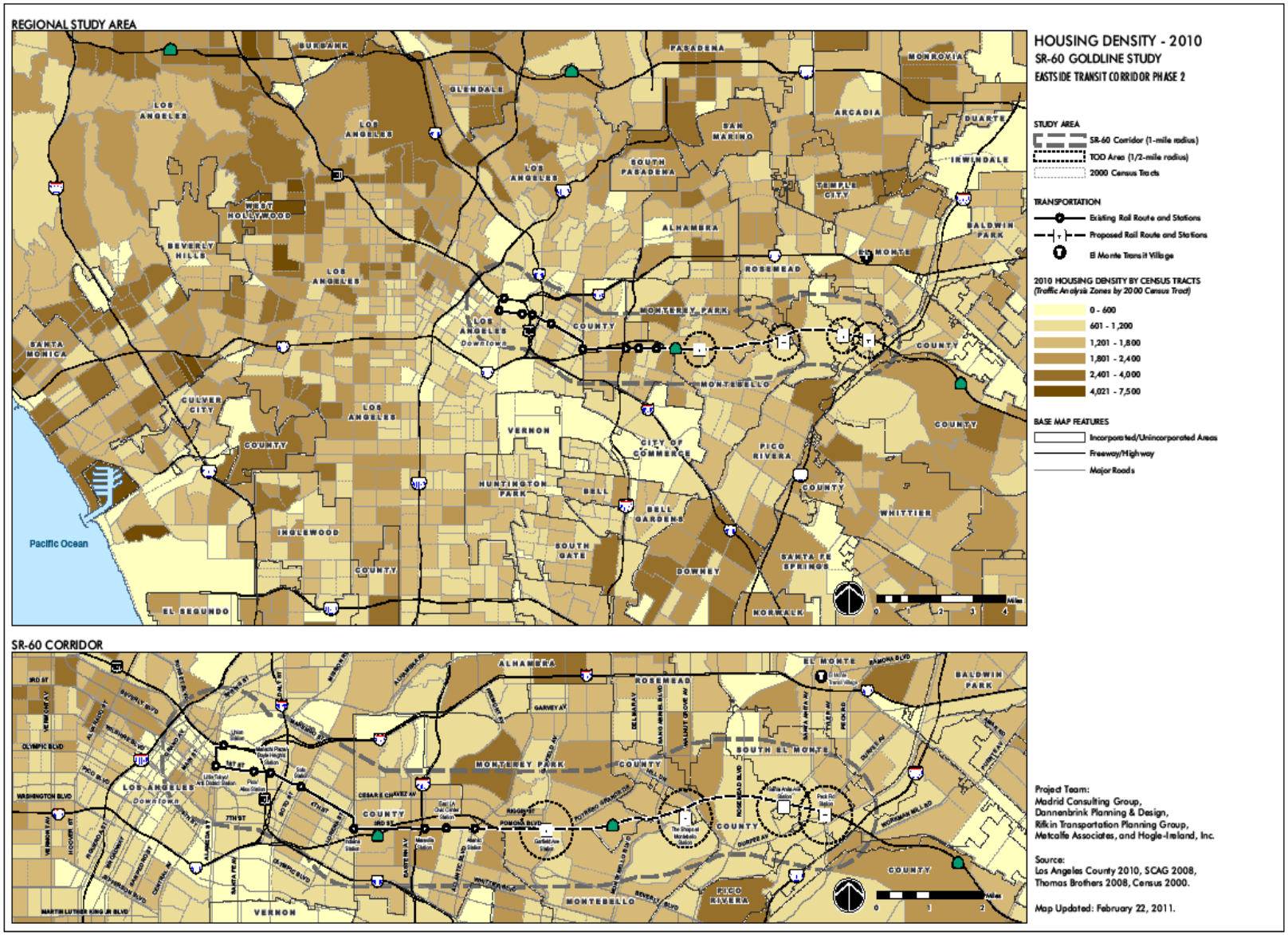
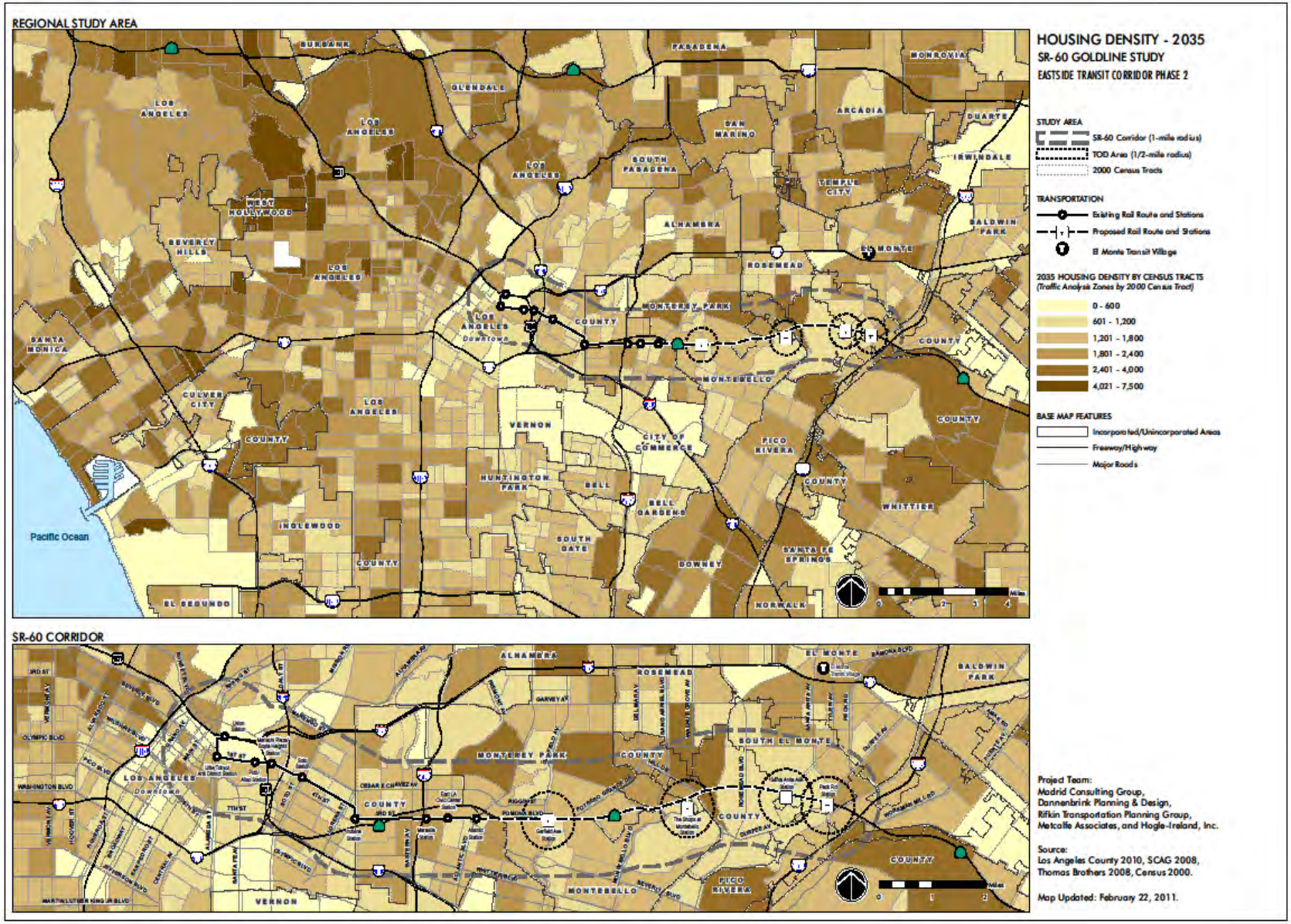


Figure 11: Housing Forecast 2035 by TAZ Area



G. Regional and Corridor Trip Forecast Analysis

The following is a brief analysis of baseline travel forecasts for the SCAG Regional 2010/2011 Transportation Plan, referred to as Trip Forecast Analysis (TFA). This analysis focuses on how the SR 60 transit corridor compares with the Southern California regional averages. These recent custom calculations were prepared by the consultant team based on SCAG outputs of its Regional Travel Forecast model. The raw forecasts are based on demographic, economic, and land use inputs, as well as assumptions of a transit network. These travel forecast data are generally used for overall transportation planning and as a basis for determining priorities for new transit projects.

This TFA analysis is important to the SR 60 Transit Corridor for the following reasons: 1) it provides a focused corridor-specific look at SCAG's region-wide forecasts, 2) it summarizes the propensity to travel by mass transit as compared to SCAG-region-wide travel average, and 3) this analysis utilizes the most current transportation data. These data are more current than that used in the Metro Alternatives Analysis for the Gold Line Eastside extension project. Among other factors, Metro will use this type data as a basis for selection of the final Goldine Eastside Extension transit route.

The baseline forecast starts with SCAG's population, housing, and employment forecasts, and tests the currently approved transportation systems. The currently approved transit network does not include the subject SR 60 Goldline Extension, which is under review.

The database is delineated geographically by traffic analysis zones (TAZs), which are areas that generally correspond to U.S. Census Tracts. The model simulates travel times from each TAZ area to every other TAZ. This simulation provides estimated demand for "produced" trips (origination points from each TAZ) and "attracted" trips (destination points such as jobs or shopping destinations) by expected mode of travel (transit, auto, etc.). The projected travel output data is presented in terms of "person," "vehicle," "truck" trips, and "transit" trips. The model can also distinguish peak-hour trips (generally commute hours) from other trips.

For the purpose of this SR 60 Compass Study, SCAG prepared a custom summary tabulation of the following items for each TAZ for the years 2003 forecasted to 2035:

- Production TAZ
- Attraction TAZ
- Person Trips – 24 hour
- Vehicle Trips – 24 hour
- Transit Trips – 24 hour

It is important to note that these projections do not include the additional travel (trips) related to the proposed Compass Study TOD development. The transit mode-split is defined as the percentage of travelers using a particular type of transportation. A transit mode split of 2% means that 2% of all person-trips (both sum of productions and attractions) are expected to be made via the transit mode. General factors that increase the transit mode use include demographic factors such as low income households, substantial housing costs as a percentage of overall income, low automobile ownership, elderly or young ages, high residential densities, and high employment densities. In addition, transportation connections that result in faster transit travel times yield higher transit mode utilization.

The entire six-county SCAG region is represented by 4,109 TAZ geographies. These are frequently summarized into larger Regional Statistical Areas (RSAs). The RSA summary output can help understand how the SR 60 Corridor Cities (Montebello, Monterey Park, Rosemead, So El Monte, El Monte, and City of Industry) compare to the SCAG regionwide baseline scenarios.

Conclusion

The propensity of persons to ride mass transit generally within 0.5-mile radius from all SR 60 transit stations is higher than the average for the entire SCAG region (2.98% SR 60 Stations versus 2.60% entire SCAG region). In addition, the findings indicate good connectivity to the region's existing transit network.

The propensity of persons to ride mass transit generally along the entire SR 60 Corridor is also higher than the average for the entire SCAG region (2.88% SR 60 Stations versus 2.60% entire SCAG region).

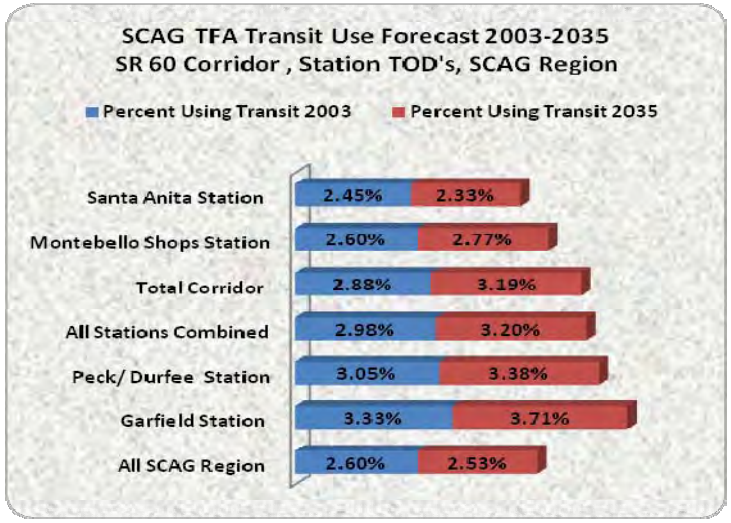
The projected growth in transit use over the forecast period (2003 to 2035) along the SR 60 Corridor is nearly equal to that for the entire SCAG Region (27.5% growth rate versus 30.7% SCAG Region). The projected growth for the Montebello Town Center Transit Station is significantly higher than the region (35.2% growth rate versus 30.7% for the SCAG region).

In summary, the finding that the transit mode-split at the SR 60 stations and along the SR 60 Corridor is higher than the average for the SCAG region provides important support for the SR 60 LRT.

Table 5:
Transit Use Forecast - SR 60 Corridor Cities Compared with SCAG Region

	2003		2035		Changes
Location	Transit Trips	Percent Using Transit	Transit Trips	Percent Using Transit	% Increase in Transit Use
Garfield Station Transit Trips	6,318	3.33%	7,539	3.71%	19.3%
Montebello Shops Transit Trips	2,937	2.60%	3,971	2.77%	35.2%
Santa Anita Station Transit Trips	1,561	2.45%	1,839	2.33%	17.8%
Peck/ Durfee Transit Trips	4,279	3.05%	5,384	3.38%	25.8%
Total Station Transit Trips	15,095	2.98%	18,733	3.20%	24.1%
Total Corridor Transit Trips	87,848	2.88%	111,969	3.19%	27.5%
All SCAG Region Transit Trips	3,033,414	2.60%	3,963,362	2.53%	30.7%

Exhibit 2: Transit Use Forecast



Source: Policy Map and Claritas 2010

H. Corridor Cities Travel Factors

In conformance with the SCAG Compass Blueprint Demonstration process, one major goal of the SR 60 Transit line is to reduce the vehicle miles traveled (VMTs) each day. When living closer to job centers is not financially realistic, ensuring that the regional transit network connects to these job centers can enable households to reduce auto dependence and live farther from where they work and ideally, in more affordable locations.

1. SR 60 Corridor Cities Average Travel Time and Number of Workers

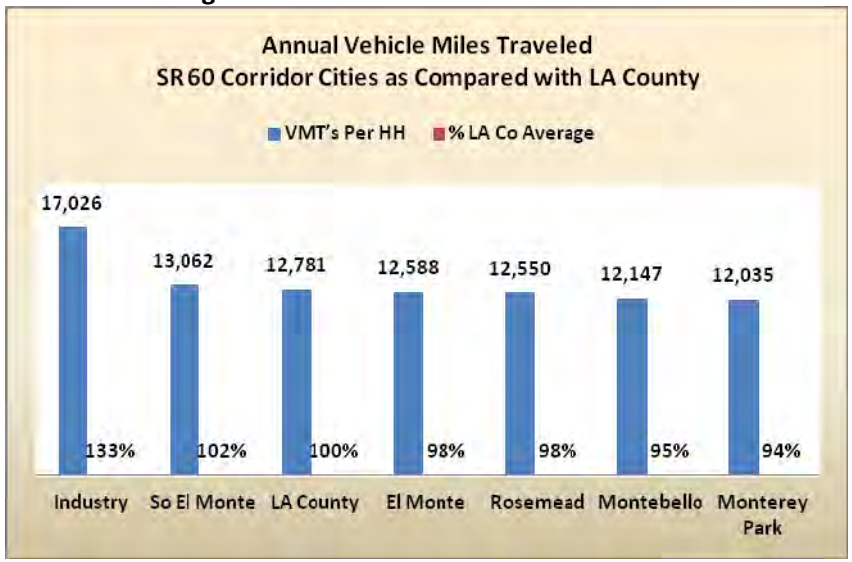
Average travel times were overlaid with the average number of workers data by Census tract. The results show that the study area has a high concentration of workers with commute times in the range of 28 to 35 minutes. The percentage of commuters who travel over one hour to work ranges between 7% and 11%. This statistic varies significantly when one looks at the data by mode of travel: The commute time for Corridor transit riders is 46.0 to 56.2 minutes compared to travel times for Corridor non-transit riders of 26.0 to 29.4 minutes. In each instance, the Corridor commute time is within the average of Los Angeles County baseline study area commuters (average of 51.2 minutes for transit riders and 27.8 minutes for non-transit riders).

The reported travel time for transit riders to key employment centers would improve dramatically with the extension of the Eastside Goldline along the SR 60 Corridor. For example, the transit trip to the existing terminus of the Eastside LRT (at Atlantic Boulevard Station) would be approximately 12-½ minutes on an alignment that has high average travel speeds (33.3 miles per hour), compared to other transit links (approximately 10 mph) which, when the Regional Connector is completed, would provide nontransfer transit service to Downtown and the Westside employment at 33.3 mph.

2. Vehicle Miles Traveled

VMTs represent the average annual miles traveled by auto by household, including commute travel and all other daily auto trips. Exhibit 3 shows annual average miles traveled by SR 60 Corridor Cities compared with Los Angeles County. Cities with higher than county baseline average VMTs such as South El Monte and the City of Industry indicate a need and also provide support for enhancing the existing transportation system via the SR 60 route. Even cities with an average number of miles traveled are still too high, given the need to comply with clean air mandates.

Exhibit 3: Average Vehicle Miles Traveled

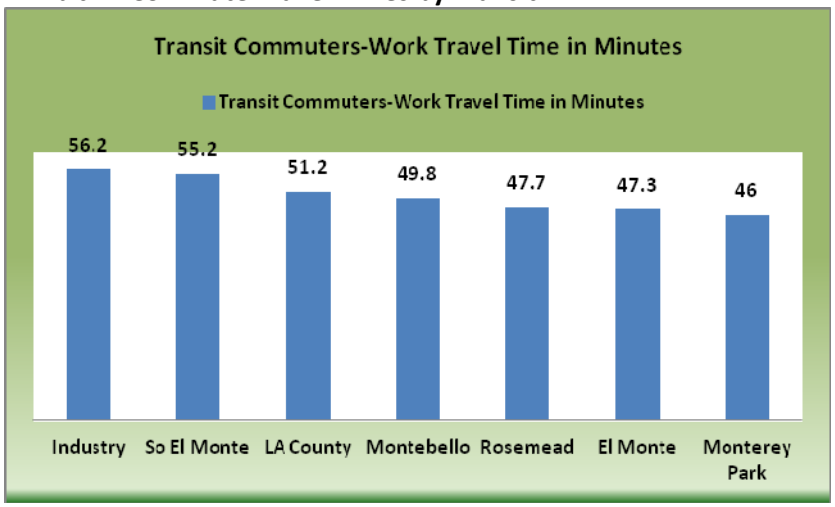


Source: CTOD 2008 Data

3. Travel Times to Work by Transit Commuters

Shorter commutes lead to cost savings in gas and other transportation expenditures (and reduce emissions). South El Monte and Industry have longer average travel times than Los Angeles County as a whole; the SR 60 system could serve to reduce these times.

Exhibit 4: Commute Travel Times by Transit

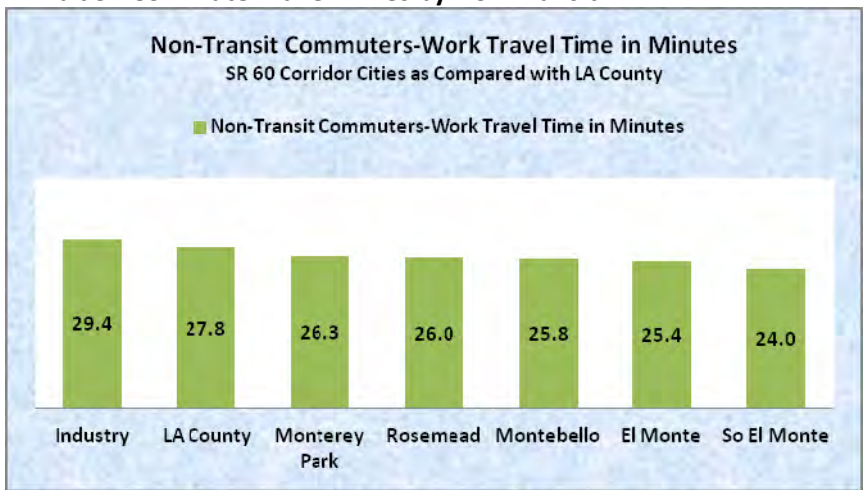


Source: CTOD 2008 Data

4. Travel Times by Non-Transit Commuters

Travel time to work refers to the total commute time calculated in minutes. From the U.S. Census, these figures represents the time it usually takes a person to get from home to work each day.

Exhibit 5: Commute Travel Times by Non-Transit



Source: CTOD 2008 Data

5. Total Average Travel Time to Work

Travel time to work, calculated in minutes, is derived from U.S. Census data and represents the time it usually takes a person to get from home to work each day. The elapsed time includes time spent waiting for public transportation, picking up passengers in carpools, and time spent in other activities related to getting to work. Shorter commutes lead to cost savings in gas and other transportation expenditures (and reduced emissions).

All Corridor cities except Industry have average travel times to work that are lower than the County study area baseline average. This finding suggests that jobs are relatively closer to home. This condition is further supported by the large number of jobs located within short drive time distances from the proposed transit stations, i.e., a 10-minute drive-shed from the Garfield Avenue Station encompasses approximately 241,513 jobs.

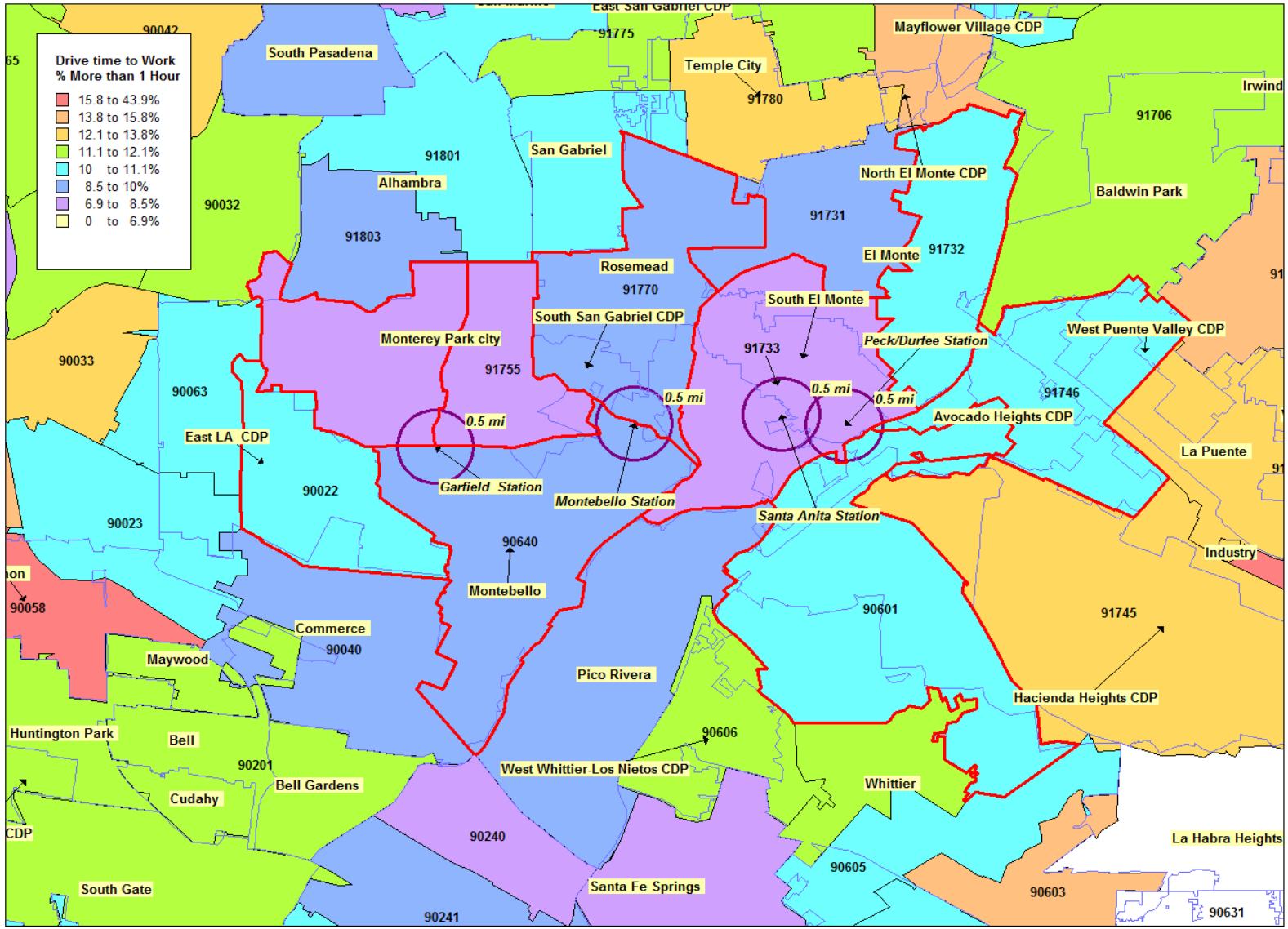
Exhibit 6: Average Travel Time to Work

Source: CTOD 2008 Data

6. More than One-Hour Average Travel Time to Work

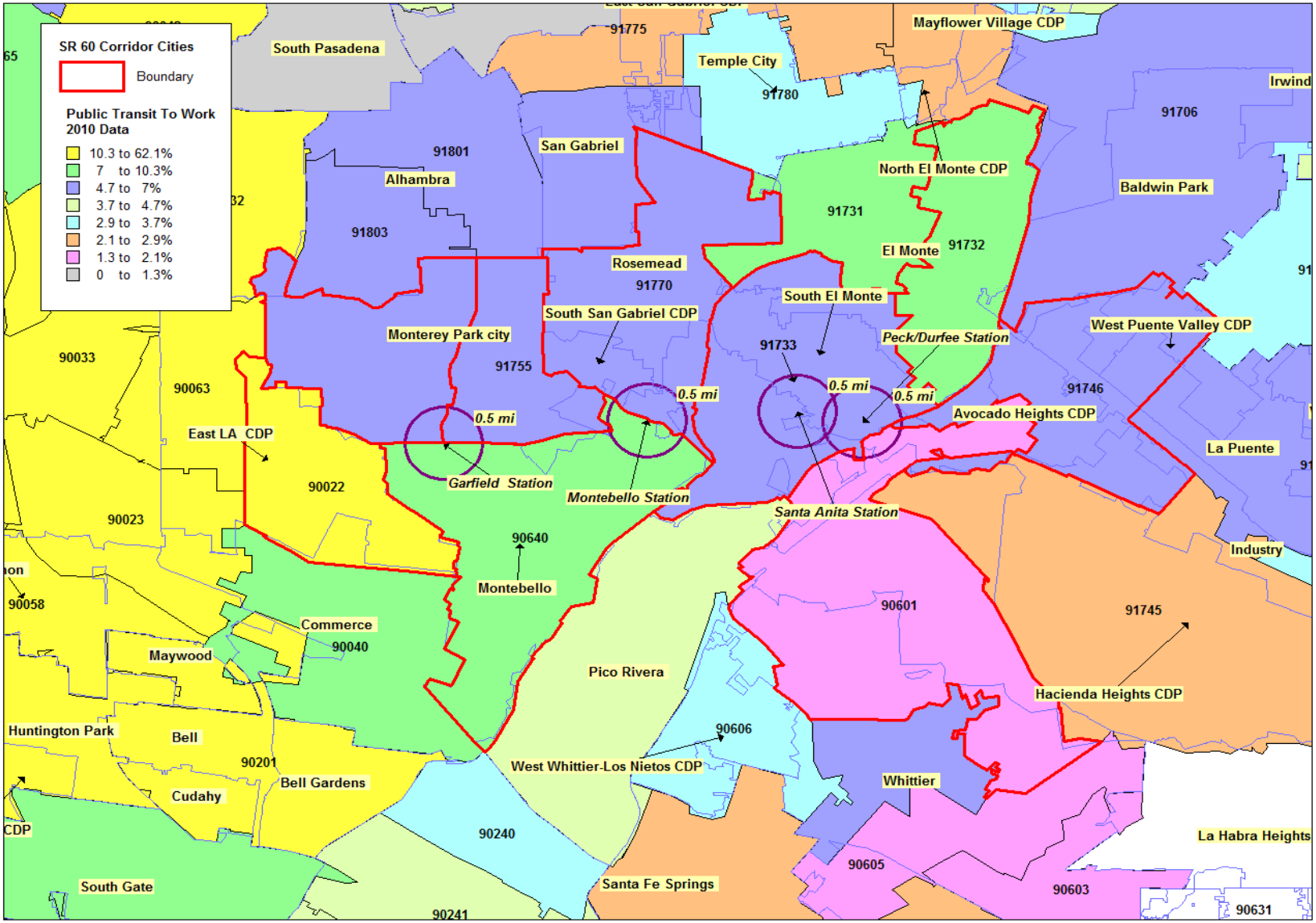
Figure 12 shows the percentage of workers who travel more than one hour to work, reported by ZIP code. Within the Corridor Cities, 7% to 11% of the travelers commute more than one hour. Transit systems such as the SR 60 LRT can serve to reduce travel times and help attain other transit benefits. Figure 13 displays the percentage of workers using public transit to get to work. It shows that workers employed at businesses within the Corridor Cities fall within the 5% to 10% who take public transit to work. This population is supportive of more transit, such as the proposed SR 60 LRT.

Figure 12: Drive Time to Work More than 1-Hour – 2010



Source: Policy Map and Claritas 2010

Figure 13: Percentage of Workers Using Public Transit



Source: Policy Map and Claritas 2010

8. Workers Who Bicycle to Work by ZIP Code – 2010

Similar to countywide statistics, bicycling to work is not prevalent within the study area. However, the City of El Monte has the highest percentage of commuters by bicycle (4% of workers compared with 1% for Los Angeles County). Metro has new aggressive policies to accommodate bicycling in the expansion of its transit system; hence, there is much greater potential for a significant increase in bicycle commuting supplemented by rail service through the initiatives of this project, with proportional decreases in VMTs.

I. Public Transportation and Transit Dependency Factors

1. Share of Workers Taking Transit, Walking, and Biking to Work

Although low compared with other modes of travel, several SR 60 Corridor Cities have higher a higher percentage of travel by transit, bicycle, or walking to work compared to Los Angeles County as a whole. In particular, note the higher percentage of bicyclists in South El Monte. Those cities with lower rates of travel by these modes can benefit from an enhanced transit system such as the SR 60 LRT system. Greater availability of transit can lower VMTs, reduce greenhouse gases, and help attain other Smart Growth, Compass Blueprint, and Federal Transportation Administration (FTA) Livability Program goals.

Exhibit 7: Workers Taking Transit or Walking or Biking to Work

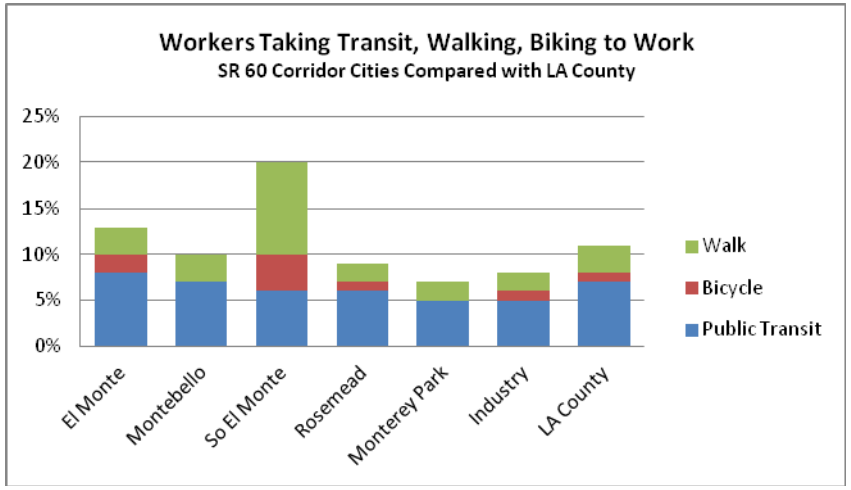
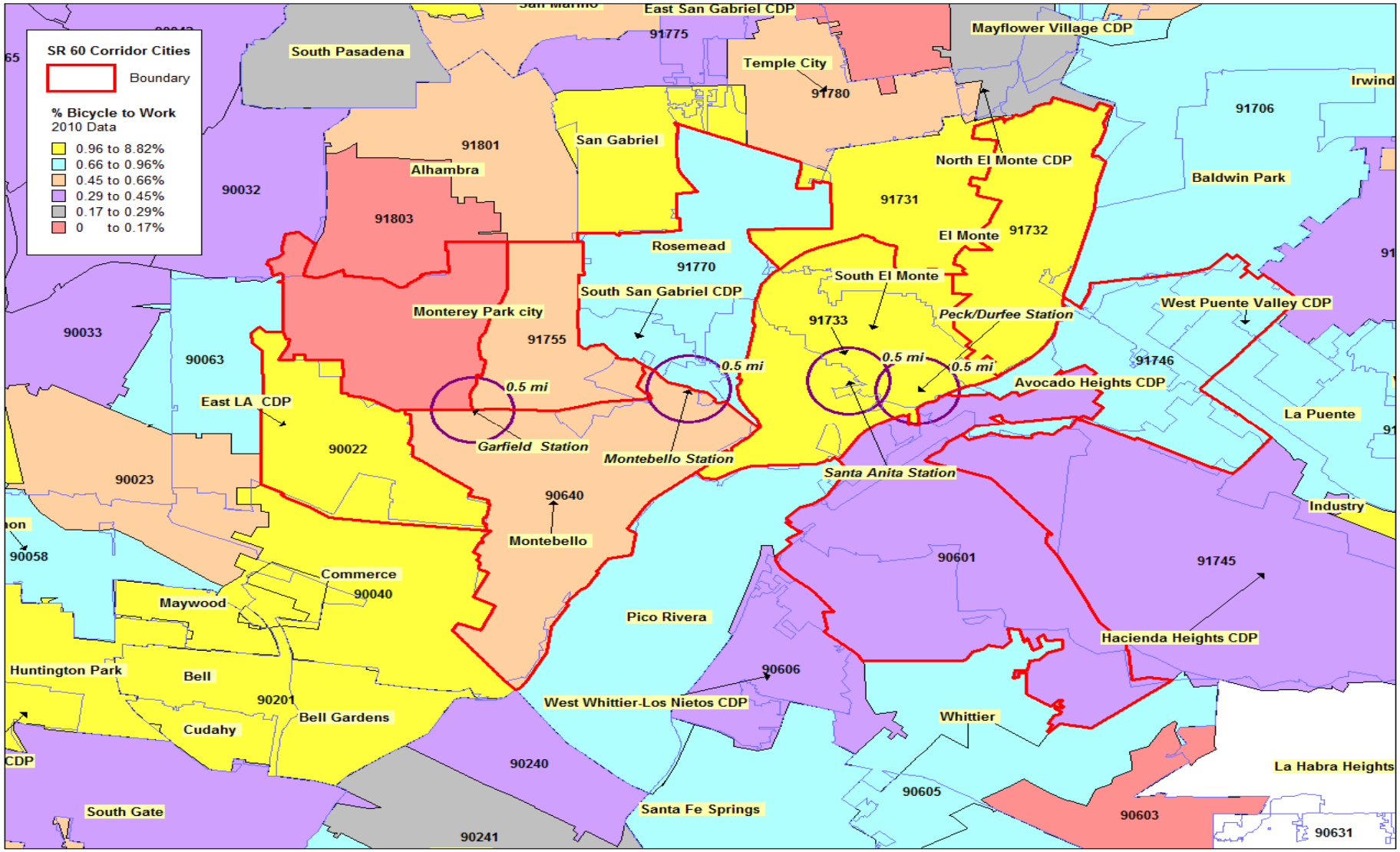


Figure 14: Workers Who Bicycle to Work by ZIP Code – 2010



Source: Policy Map and Claritas 2010

Table 6: Travel Modes

Travel Mode	Montebello	% Total	Monterey Park	% Total	El Monte	% Total	Industry	% Total	Rosemead	% Total	So El Monte	% Total	Los Angeles County	% Total
Drove 2010	20,879	86%	22,584	88%	17,596	83%	11,558	89%	20,754	87%	13,765	74%	3,504,268	83%
Public Transit	1,743	7%	1,269	5%	1,650	8%	700	5%	1,346	6%	1,169	6%	309,734	7%
Bicycle	111	0%	61	0%	411	2%	86	1%	217	1%	735	4%	29,606	1%
Walk	623	3%	564	2%	616	3%	218	2%	593	2%	1,873	10%	121,062	3%
Work at Home	682	3%	903	4%	481	2%	195	2%	510	2%	391	2%	182,082	4%
Other	240	1%	303	1%	494	2%	222	2%	425	2%	670	4%	62,176	1%
Totals	24,278	100%	25,684	100%	21,248	100%	12,979	100%	23,845	100%	18,603	100%	4,208,928	100%

Source: Policy Map/Claritas 2010

2. Number of Workers per Family

Approximately 20% of all families located within a 10-minute drive-shed of the Garfield Avenue or Peck Road Transit Stations have 3 or more persons who work, compared with an average of 15% for Los Angeles County. Moreover, 28% to 32% of all families within the Santa Anita Avenue and Peck Road 0.5-mile TOD zones have 3 or more workers. The implication is that:

- There is higher demand for public transportation to work given the demographic and economic factors for this populous region, as discussed in this report.
- More workers generate more driving and associated VMTs, thereby making a compelling argument for more public transportation.
- Given the area economics, the combined high cost of transportation by auto and housing create heavier burdens on these workers. Such a burden is reduced by providing more affordable housing near stations as proposed in the Compass Study.

Table 7:
Number of Workers per Family

Study Area	Garfield Station Drive-sheds				Peck Station Drive-sheds				Garfield Station		Montebello Station		Santa Anita Station		Peck Station		Los Angeles County	
Geography	**0 - 5 min**		**0 - 10 min**		**0 - 5 min**		**0 - 10 min**		**0.5 mile TOD**		**0.5 mile TOD**		**0.5 mile TOD**		**0.5 mile TOD**			
2010 Families by Number of Workers in Family	**29,782**		**164,182**		**8,821**		**133,772**		**1,215**		**926**		**422**		**972**		**2,206,250**	
No workers in Family	4,241	14%	20,600	13%	975	11%	15,790	12%	223	18%	136	15%	46	11%	105	11%	251,303	11%
1 worker	10,834	36%	57,094	35%	2,722	31%	42,712	32%	406	33%	276	30%	107	25%	248	26%	744,270	34%
2 workers	9,558	32%	55,498	34%	3,190	36%	47,229	35%	389	32%	375	40%	151	36%	308	32%	890,003	40%
3 or more workers	5,150	17%	30,989	19%	1,934	22%	28,041	21%	198	16%	140	15%	118	28%	311	32%	320,674	15%

Source: Synergos Technologies 3rd Quarter 2010

3. Vehicles Available by Household

The data show slightly more vehicles available per household for most Corridor study areas compared with Los Angeles County baseline data. However, there are also more workers per family/household than for Los Angeles County. Therefore, on a per capita basis, there is the same number or fewer vehicles available on average as compared with Los Angeles County. In addition, workers with fewer vehicles drive more miles and produce more CO_2 emissions. Combined with other transit dependency factors, this populous region should show a higher propensity to use public transit such as the proposed SR 60 LRT.

Exhibit 8: Vehicles per Household

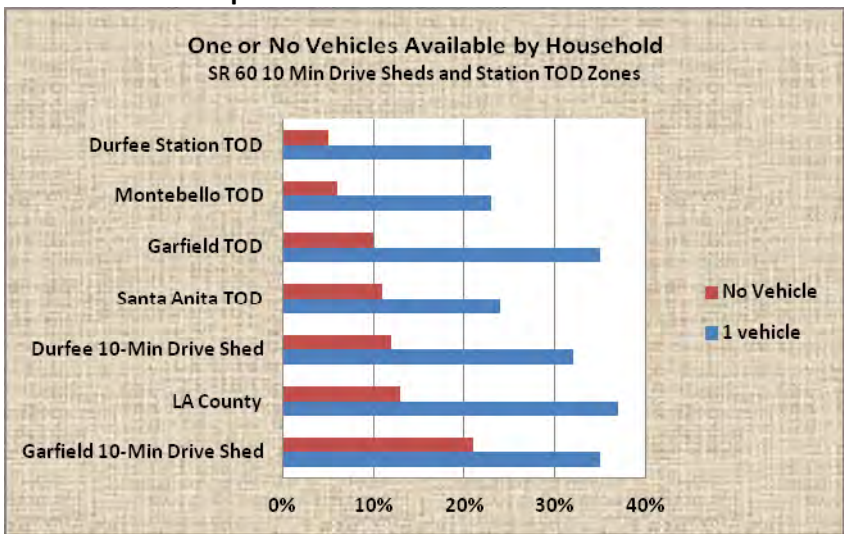


Table 8:
Vehicles per Household within Drive-sheds

Study Area	Garfield Station Drive-sheds				Peck Station Drive-sheds				Garfield Station		Montebello Station		Santa Anita Station		Peck /Durfee Station		Los Angeles County	
Drive Time	0 - 5 min		0 - 10 min		0 - 5 min		0 - 10 min		0.5 mile TOD		0.5 mile TOD		0.5 mile TOD		0.5 mile TOD			
	36,780	**%**	**211,253**	**%**	**10,252**	**%**	**162,022**	**%**	**1,517**	**%**	**1,213**	**%**	**492**	**%**	**1,083**	**%**	**3,237,411**	**%**
None	**6,279**	**17%**	**44,248**	**21%**	**1,278**	**12%**	**19,003**	**12%**	**156**	**10%**	**72**	**6%**	**52**	**11%**	**56**	**5%**	**412,346**	**13%**
1 vehicle	**13,029**	**35%**	**73,329**	**35%**	**3,045**	**30%**	**51,725**	**32%**	**524**	**35%**	**278**	**23%**	**117**	**24%**	**248**	**23%**	**1,188,682**	**37%**
2 vehicles	11,423	31%	60,630	29%	3,489	34%	55,704	34%	560	37%	575	47%	180	36%	344	32%	1,115,833	34%
3 vehicles	4,114	11%	22,332	11%	1,662	16%	23,351	14%	205	13%	210	17%	74	15%	272	25%	366,003	11%
4 vehicles	1,312	4%	7,527	4%	572	6%	8,540	5%	52	3%	64	5%	53	11%	121	11%	109,315	3%
5 or more vehicles	623	2%	3,187	2%	205	2%	3,699	2%	19	1%	14	1%	18	4%	42	4%	45,232	1%
Average Number of Vehicles Available	**1.55**		**1.47**		**1.8**		**1.78**		**1.7**		**1.97**		**2.02**		**2.27**		**1.61**	

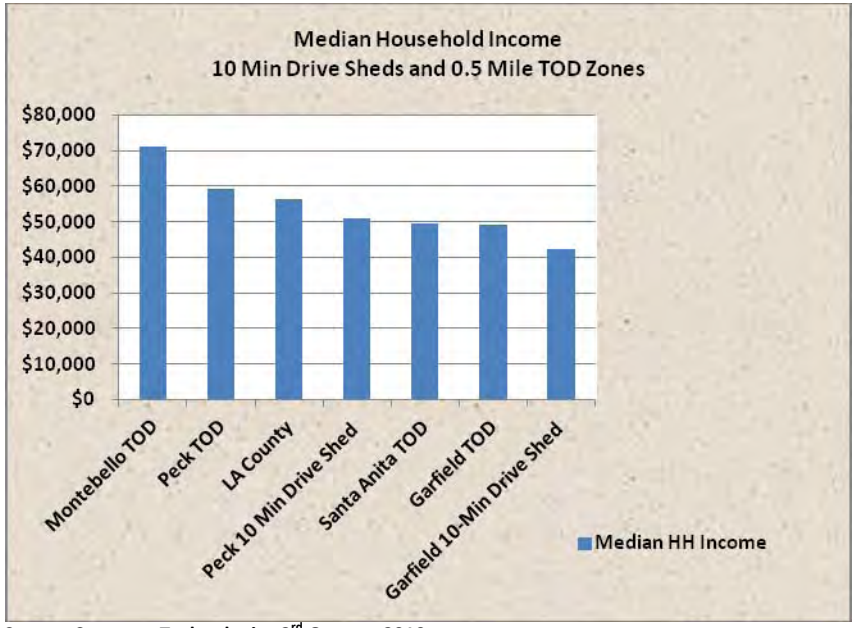
Source: Synergos Technologies 3rd Quarter 2010

4. Median Household Income

Virtually all SR 60 Study Area households have incomes lower than the Los Angeles County comparative baseline average. Lower-income households generally have a higher need and propensity to use public transportation/transit.

More public transportation such as the SR 60 LRT and associated affordable housing, as proposed in this Compass Study, can also reduce the true combined housing and transportation costs.

Exhibit 9: Median Household Income

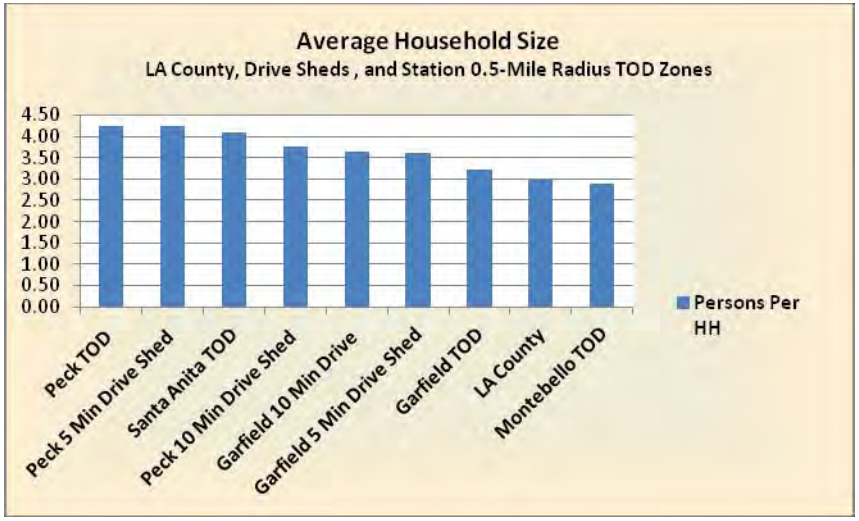


Source: Synergos Technologies 3rd Quarter 2010

5. Household Size

Exhibit 10 shows average household sizes for SR 60 study areas. The data show substantially larger household sizes than the baseline comparative county data. For example, the Peck Station area contains 4.25 persons per household, compared to 2.98 for Los Angeles County. More workers per family, lower incomes, fewer vehicles per capita, and household sizes illustrate a more compelling need for lower transportation and more affordable housing costs. This pressing need can be addressed in part with completion of the SR 60 LRT line and development of nearby TOD affordable housing.

Exhibit 10: Average Household Size

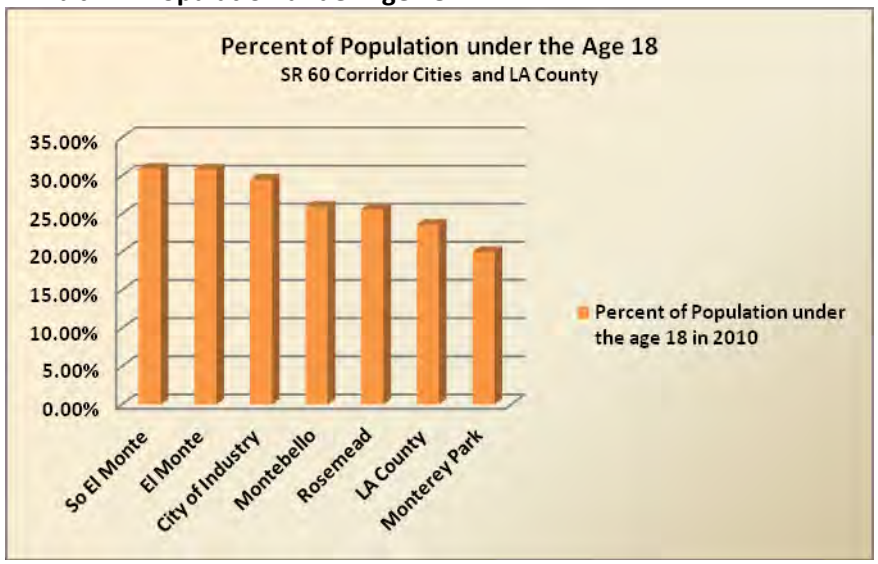


Source: Synergos Technologies 3rd Quarter 2010

6. Ages under 18 and Over 65 - By Corridor City and County

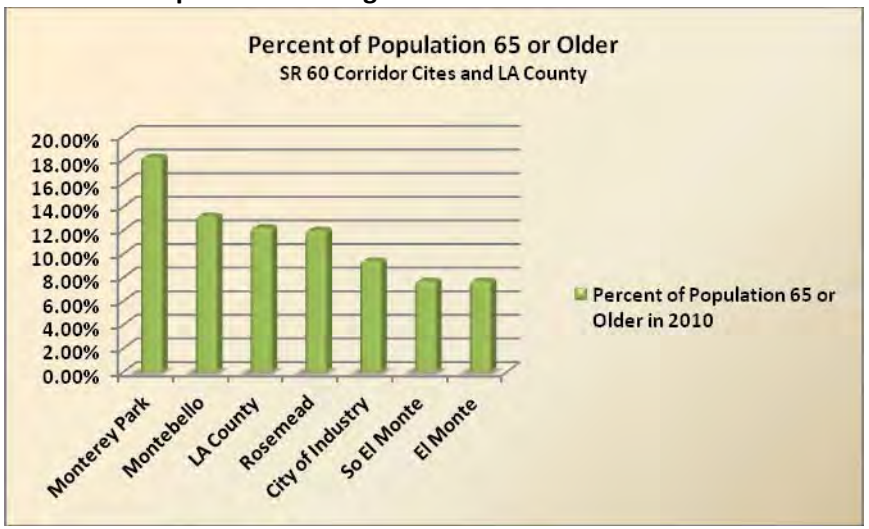
Virtually all SR 60 Corridor Cities have higher average percentages of their respective populations under 18 and over 65 years of age than Los Angeles County baseline comparative data. . Each of these population cohorts is more likely to use public transit. Specifically, Monterey Park, Montebello, and Rosemead have higher percentages of persons over the age of 65. In addition, all cities except Monterey Park have more persons under the age of 18 than for the County. These younger and older cohorts generally do not drive and therefore have a higher need and propensity to use public transportation.

Exhibit 11: Population under Age 18



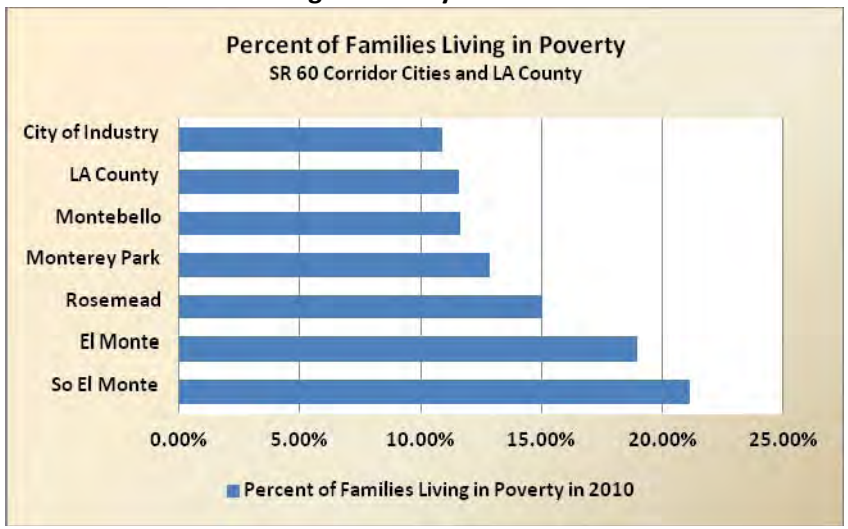
Source: Synergos Technologies 3rd Quarter 2010

Exhibit 12: Population over Age 65



Source: Policy map and Claritas 2010

Exhibit 13: Families Living in Poverty



Source: Policy map and Claritas 2010

7. Estimated Percent of Families Living in Poverty

All SR 60 Corridor cities except Industry have a higher percentage of families living in poverty than for the comparative County baseline study area. These families are less able to afford transportation by auto and thereby generate a higher demand for public transit. If they do own an auto, the combined housing and transportation cost consumes an inordinate share of total income between (46% and 59%). Therefore, it is important that SR 60 transit planner and decision makers take into consideration transit equity factors for those families living in poverty.

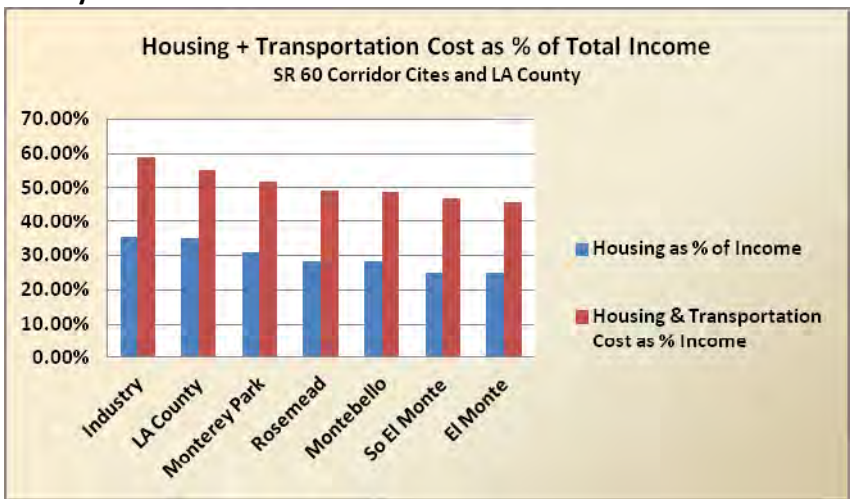
J. Housing and Transportation Cost Burdens

Affordable housing is a central theme espoused by Smart Growth, FTA Livability, and Compass Blueprint Demonstration goals. However, the true cost of housing also includes the cost of transportation since the two are linked. The Center for Neighborhood Technology (CNT) has developed a tool with which to measure true housing affordability known as The Housing + Transportation Affordability Index. An average supportable combined transportation and housing cost should be no more than 47% of total household income.

Exhibit 14 shows that combined housing and transportation costs consume from 46% to 59% of total household income for residents living within the SR 60 Corridor Cities. While many home buyers drive to qualify for lower-cost housing at the edge of the urban area, additional transportation costs can quickly eat up housing savings, especially as gas prices escalate. In addition, based on CTOD 2008 data,

drivers in the Corridor Cities of South El Monte and Industry drive more miles per year then do the comparative study area Los Angeles County drivers. Therefore, households that use public transit can generate more disposable income from cost savings. The combined effect of the SR 60 LRT and associated TOD affordable housing will help alleviate these cost burdens.

Exhibit 14: Housing and Transportation Cost Burdens by City and County



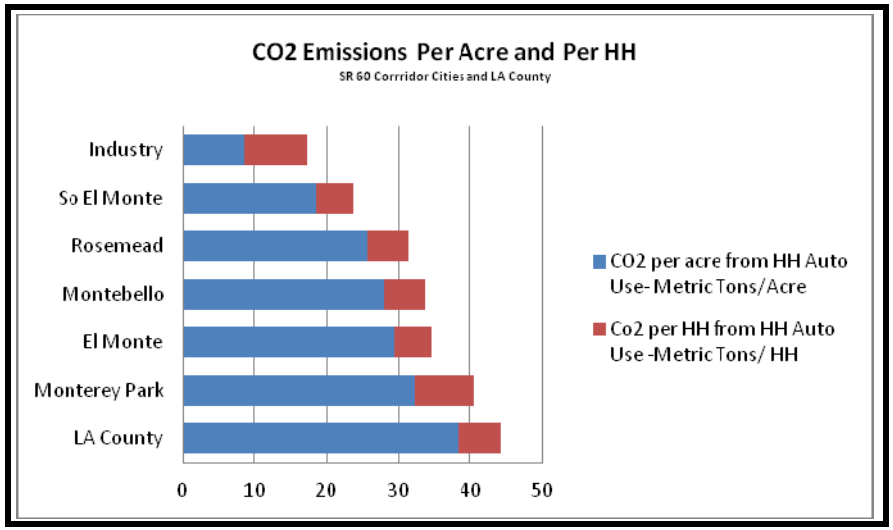
Sources: Center for Transit Oriented Development 2008 Data

K. Greenhouse Gas CO_2 Emissions for SR 60 Corridor Coalition Cities

1. CO_2 Emissions By Corridor City and County

SR 60 Corridor Coalition cities can employ land use strategies that encourage compact, dense mixed-use TOD development as a means to reduce vehicle miles traveled and in turn, help achieve greenhouse gas emission reduction goals required by Assembly Bill 32 and Senate Bill 375. Carbon dioxide (CO_2) is generated as a by-product of the combustion of fossil fuels or the burning of vegetable matter, among other chemical processes. Shown here are CO_2 emissions resulting from private automobile use. Exhibit 15 shows the CO_2 emissions per acre as compared with emissions per household auto use. The data are shown for Corridor Cities compared with Los Angeles County baseline data.

Exhibit 15: CO2 Emissions



Sources: Center for Transit Oriented Development –Center for Neighborhood Technology 2008 Data

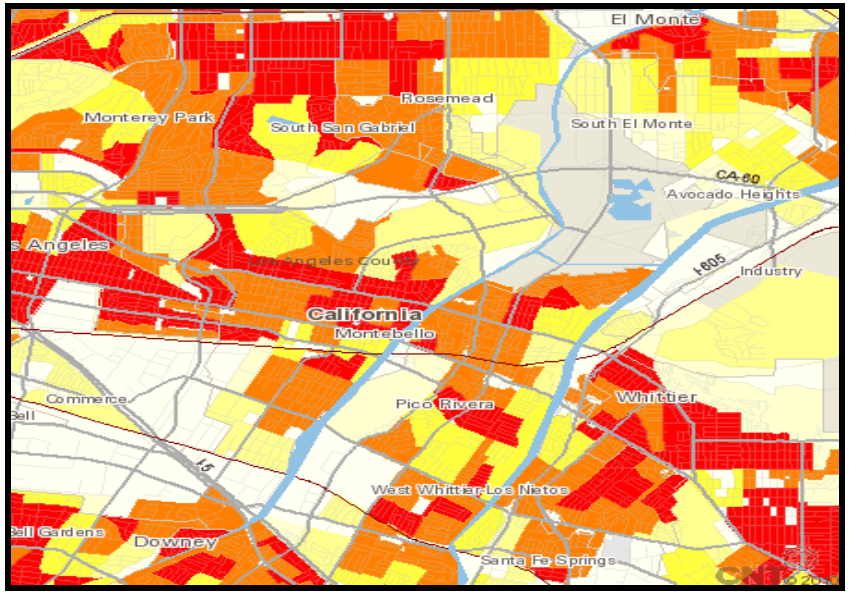
2. CO_2 Emissions per Acre from Household Auto Use

The following map shows CO_2 emissions per acre from household use for the subregion within which the SR Corridor Cities are located. These are calculated by U.S. Census block group and then divided by the total area of the block group. The data show that areas with higher residential density tend to produce more carbon dioxide per acre.

Figure 15: CO_2 Emissions per Household

Map Legend

	Data Not Available
	Less than 6 Metric Tons/Acre
	6 to 14 Metric Tons/Acre
	14 to 20 Metric Tons/Acre
	20 to 30 Metric Tons/Acre
	30 Metric Tons/Acre and Greater



Source: Center for Neighborhood Technology

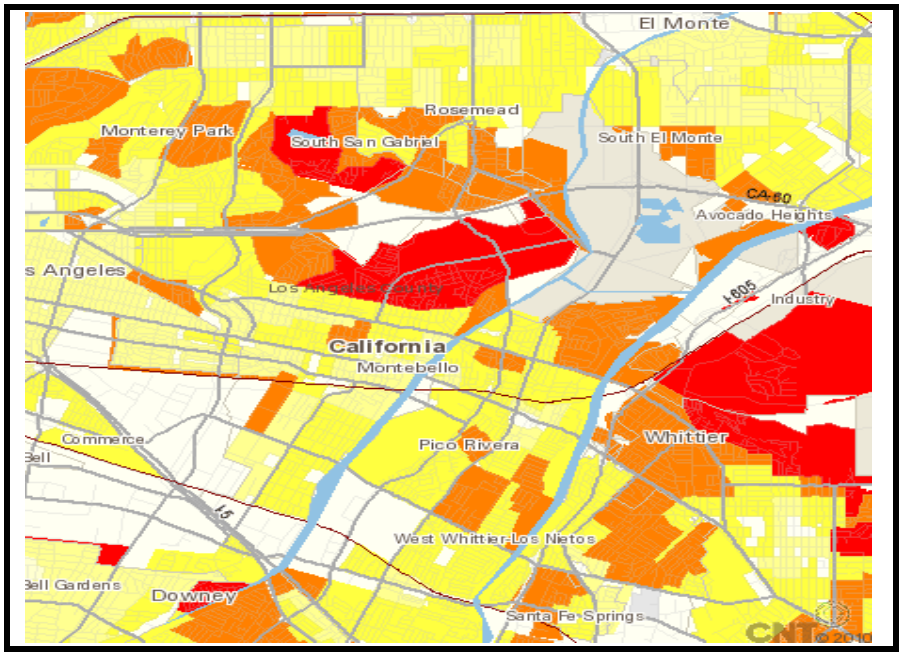
3. CO_2 Emissions per Household from Auto Use

Figure 16 shows CO_2 per household from household auto use. The map shows that areas with higher residential density have low average emissions per household. Comparing these figures with the previous CO_2 per Acre from Household Auto Use Map illustrates that location efficiency reduces per household CO_2 emissions. The denser the block group such as compact TOD areas the lower the average per household CO_2 emissions.

Figure 16: CO_2 Emissions per Household with Autos

Map Legend

	Data Not Available
	Less than 3.3 Metric Tons/HH
	3.3 to 5.1 Metric Tons/HH
	5.1 to 6.5 Metric Tons/HH
	6.5 to 8.6 Metric Tons/HH
	8.6 Metric Tons/HH and Greater



Source: Center for Neighborhood Technology

III. Economics Development and Redevelopment Analysis

A. Overview

The proposed extension of the Gold Line light rail line along SR 60, associated transit stations, broad-based transit-oriented plans, and related development program can catalyze public/private revitalization and redevelopment and provide a number of economic benefits.

Understandably, the Eastside Gold Line Extension is not planned to be completed for approximately 30 years. For this reason, future real estate market conditions are virtually impossible to predict. However, the SR 60 Coalition can establish planning policies and a framework that sets in place favorable and supportive development environments. The SR 60 Corridor Cities can identify and build on existing Corridor area strengths and opportunities and work over the long term to overcome any obstacles.

This report section therefore reviews the economic and physical site context and identifies development opportunities. Based on these opportunities, a conceptual development program is presented in the following contexts:

- Study Area Context
- Demographic Data
- Economic Base and Daytime Populations
- Physical and Site Area Conditions
- Opportunities and Constraints
- Resident Demographic Base
- Daytime Occupations
- Conceptual Development Program
- Economic Benefit

B. Study Area Context

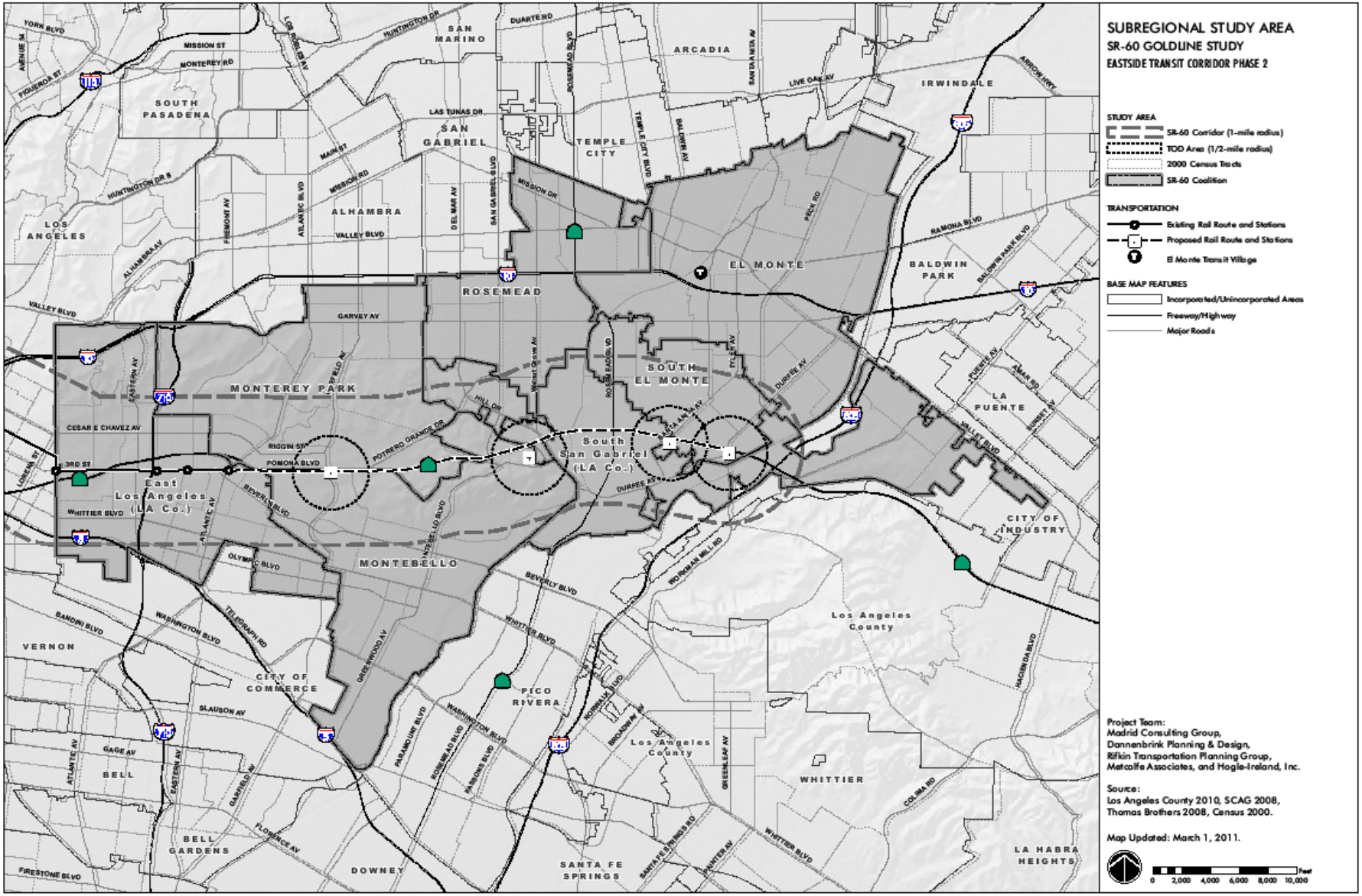
1. SR 60 Regional Context

Figure 17 show the location of the SR 60 Corridor Cities and the 0.5-mile station TOD zones in the context of a part of the greater Los Angeles region. These study areas are located in the southerly part of the San Gabriel Valley and connects to the West Los Angeles subregion through the Los Angeles Central Business District (CBD).

2. SR 60 Subregional Context

The cities of Monterey Park, Rosemead, Montebello, South El Monte, and El Monte are connected to this SR 60 corridor, with City of Industry, which has a large industrial employment base, in close proximity

Figure 17: SR 60 Corridor Cities



3. Drive-shed Transit Benefit Zone Study Areas

Land use planning for the SR 60 Corridor considers two critical conditions: 1) the area and boundaries of the 5- and 10-minute drive-sheds from stations, as these represent the first mile/last mile of any trip, and 2) the key demographics that relate to transportation and travel within these drive-sheds.

As previously discussed, a transit system is only as effective as its ability to capture potential riders and thereby better connect people, jobs, commerce, enhance transit poor areas, or to better connect with activity centers. Therefore, by employing access enhancing transportation strategies and Complete Streets (see Figure 33) policies, the benefits catchment area will be greatly magnified. A good example of such first/last mile strategies are those under investigation by the City of Los Angeles and SCAG, including a Smart Mobility demonstration project that proposes to link community colleges, vocational schools, public social services, and jobs with transit. Transit riders will be able to arrange to use the vehicle of their choice – ranging from electric bikes to Segways to car-sharing.

For this reason, this SR 60 Compass Study has offered a methodology that delineates the TOD planning zone beyond the traditional 0.5-mile walking area to a planning zone delineated by drive time polygons based on existing transportation roadways under normal traffic conditions. These drive time polygons are produced using the Tetrad Census GIS mapping software application.

3.1 SR 60 Garfield Station 5 and 10-Minute Drive-shed Benefit Zone Map

Literature on the development of TODs emphasizes the value of initiatives that connect potential transit users via a multitude of techniques that enhance the connections between the stations and surrounding neighborhoods or attractions. These techniques, known as last/first mile, expand the benefits of a line haul transit system. As indicated by employing last/first mile strategies and other enhanced Complete Streets (see Figure 33) program accessibility policies to transit stations, the benefits catchment area will be greatly magnified.

The benefits of these connections in the study area are illustrated. For example, a 10-minute drive time area (drive-shed) from the Garfield Avenue Transit Station encompasses 85 square miles, compared with 0.79 square miles within a 0.5-mile walking radius from the station. While walking distances are important considerations, larger TOD catchment areas tend to produce greater transit use and increased economic benefits.

3.2 Peck Road Station 5- and 10-Minute Drive-shed Benefit Zone Map

The 10-minute drive-shed area from the Peck Avenue Station in South El Monte encompasses 78 square miles, contrasted to the 0.79 square miles within a traditional 0.5-mile walking radius. The drive-shed area includes most of the industrial businesses in South El Monte, including properties along Santa Anita Avenue and Rosemead Boulevard, which present significant potential for reuse and development intensification.

Figure 18: SR 60 Garfield Station 5- and 10-Minute Drive-shed Benefit Zones

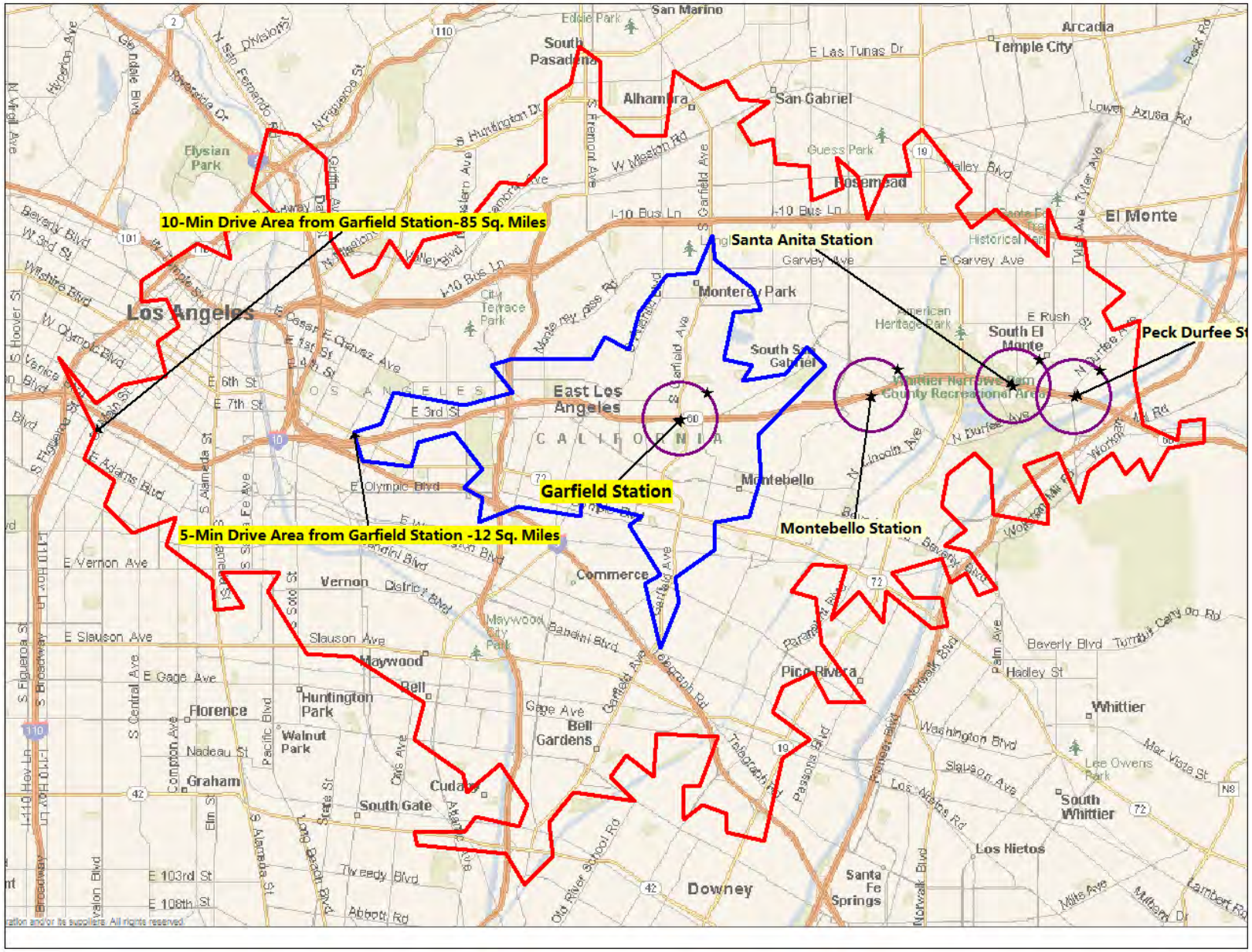
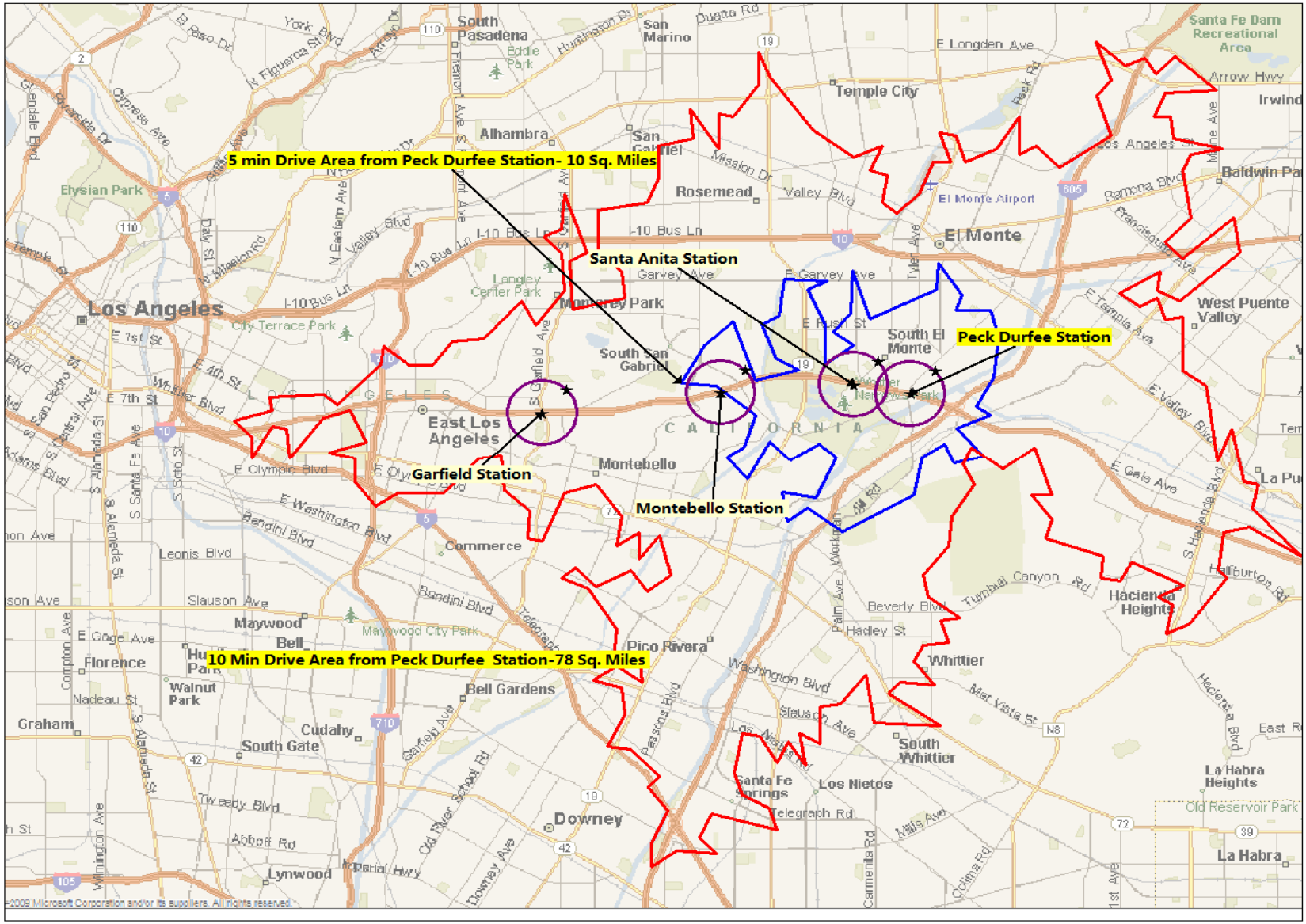


Figure 19: Peck Road Station 5- and 10-Minute Drive-shed Benefit Zones



C. Demographic Data

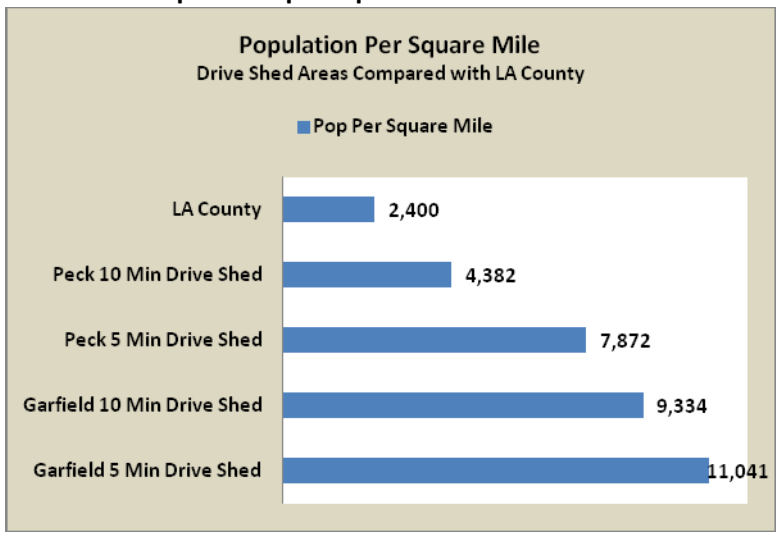
Exhibit 16 and Table 9 illustrate key demographic characteristics that support extension of transit service to the stations within the SR 60 Corridor. Populations are significant within the 0.5- and 10-minute drive-sheds and in particular, the data suggest employment-age populations.

1. Population Characteristics

There is a large resident population of 793,410 within the Garfield Avenue Station 10-minute drive-shed areas (8% of Los Angeles County total) or 614,041 persons (6% of County) when measured from the center point of the Peck Road Station. These figures overlap and so should be considered either or, not together.

Moreover, a significant finding is the population density per square mile (PSM). For example, within the Garfield Avenue Station 10-minute drive-shed, there are 11,041 PSM, compared with 2,400 PSM for the County.

Exhibit 16: Population per Square Mile



Another important note is that most Study Areas, except the Garfield and Montebello 0.5-mile TOD zones, have a younger population, with generally more children, than baseline comparative County averages. However, these same two TOD Study Areas have a significantly older population than the County. These two age groups generally have a higher need for public transportation.

Table 9:
Population within 5- and 10-Minute Drive-sheds

	Garfield	Garfield	Peck	Peck	Garfield	Montebello	Santa Anita	Peck	Los Angeles County
Population Summary	**0 - 5 min**	**0 - 10 min**	**0 - 5 min**	**0 - 10 min**	**0.5 mile ring**	**0.5 mile ring**	**0.5 mile ring**	**0.5 mile ring**	**Entire Co**
Population 2010	132,494	793,410	43,823	614,041	4,857	3,659	1,973	4,720	9,815,660
Square Miles (SM)	12	85	10	78					4,090
Pop Per Square Mile	**11,041**	**9,334**	**4,382**	**7,872**					**2,400**
2010 Median Age	33.9	33.3	32	33.7	37.1	42.7	34	34.1	35.5

Source: Synergos Technologies 3rd Quarter 2010

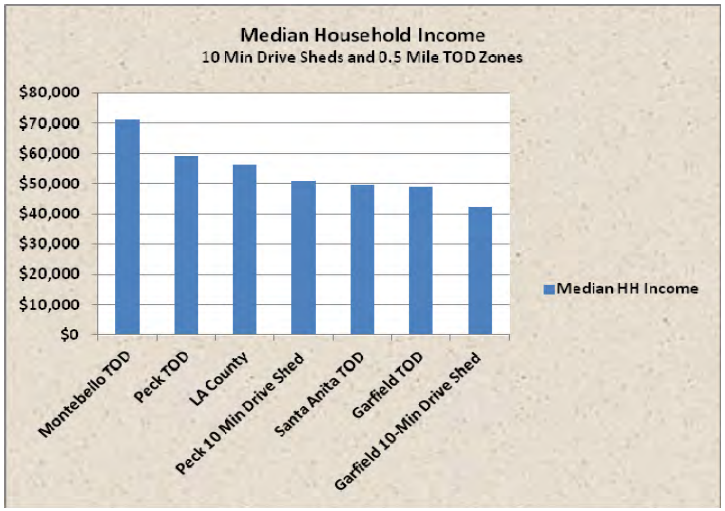
2. Number of Workers Per Family

There are more workers per household on average as compared with Los Angeles County. As previously discussed, this factor creates more demand for public transportation to work, given the demographic and economic characteristics of this population. In general, more workers near transit stations generate more market support for new development.

3. Household Income

Virtually all SR 60 Study Area households have incomes lower than the comparative County average household income. Lower-income households generally have a higher propensity to use transit. Lower-income households can also benefit greatly from reducing the combined high costs of transportation and housing. The inclusion of affordable housing helps reduce this cost burden as proposed in this Compass Study.

Exhibit 17: Median Household Income within Drive-sheds



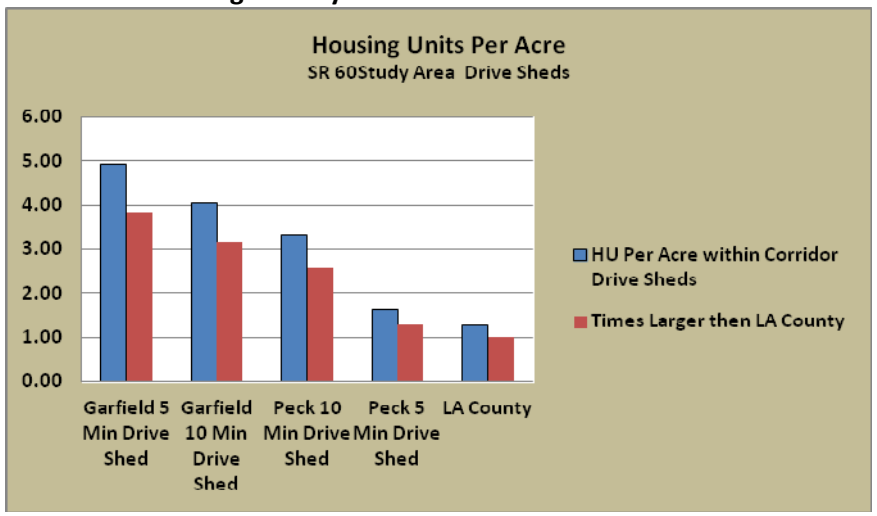
Source: Synergos Technologies 3rd Quarter 2010

4. Housing Stock

A remarkable finding with regard to the housing is density. The data show that all Compass Study drive-shed areas have a much higher housing density than does the comparative County study area. As indicated in transit literature, density is a key variable that allows communities to support a mix of uses and activities. At the core of transit-oriented development is the idea that people with a wide range of incomes can live and work in places with more transportation options, giving them the choice to take care of some their daily trips by using transit, walking and biking, rather than driving. Less driving produces fewer VMTs and associated CO_2 emissions.

In addition, the data show low vacancy throughout all study areas, indicating a need for more housing – and given the population characteristics, more need for affordable housing. This SR 60 Compass Plan offers such development programs.

Exhibit 18: Housing Density within Drive-sheds



Source: Synergos Technologies 3rd Quarter 2010

Table 10:
Housing Vacancy and Tenure within Drive-sheds

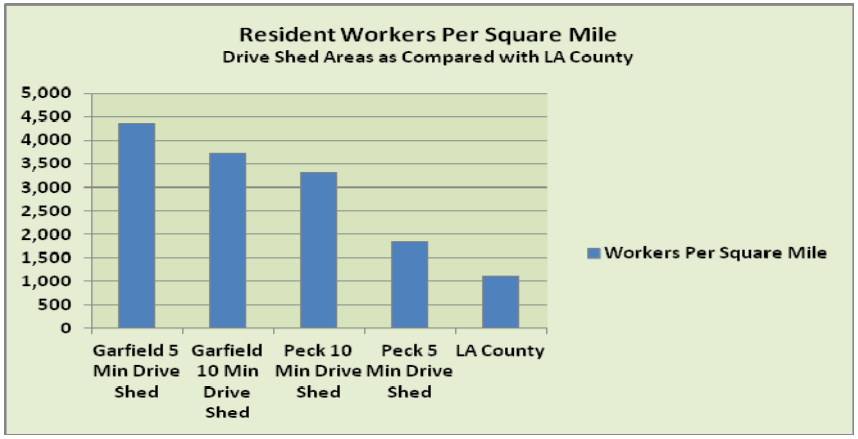
	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles County	
	0 - 5 min	**%**	**0-10 min**	**%**	**0-5 min**	**%**	**0-10 min**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**County**	**%**
2010 Housing Units by Tenure	**37,859**		**220,101**		**10,514**		**166,067**		**1,552**		**1,243**		**504**		**1,099**		**3,369,770**	
Vacant Housing Units	1,079	3%	8,848	4%	262	2%	4,045	2%	35	2%	30	2%	12	2%	16	1%	132,359	4%
Occupied Housing Units	36,780	97%	211,253	96 %	10,252	98%	162,022	98%	1,517	98%	1,213	98 %	492	98%	1,083	99%	3,237,411	96%
Owner-Occupied	16,636	44%	82,403	37 %	5,454	52%	87,274	53%	863	56%	951	76 %	377	75%	854	78%	1,554,147	46%
Renter-Occupied	20,144	53%	128,850	59 %	4,797	46%	74,748	45%	654	42%	262	21 %	115	23%	228	21%	1,683,264	50%
Median Housing Unit Value	$345,674		$329,836		$295,562		$326,702		$370,751		$349,329		$292,983		$293,231		$384,899	

Source: Synergos Technologies 3rd Quarter 2010

5. Resident Employment Characteristics

The labor market within the study area drive-sheds is huge. Moreover, the data show a dramatic finding with regard to the high number of resident workers per square mile (PSM). For example, there are 3,711 resident workers per square mile within the Garfield Transit Station 10-minute drive-shed compared with 1,111 workers PSM for the County. Research by the Center for Neighborhood Technologies (CNT) and CTOD has found that households that are near larger job centers, or have higher employment proximity, have lower VMT than those with lower access to employment. For example, on average, 2008 data show that El Monte, Rosemead, Montebello, and Monterey Park residents drive fewer annual miles than Countyresident on average. Moreover, if there are more jobs near the transit zone, residents will be more likely to have shorter commutes than people who live in places with low employment concentrations. Also, places with high employment may also have many local services and shopping opportunities which residents can access without driving long distances.

Exhibit 19: Resident Workers per Square Mile



Source: Synergos Technologies 3rd Quarter 2010

These employment concentrations, combined with high housing density previously discussed, are key variables that allow communities to support a mix of compact TOD uses and activities. At the core of transit-oriented development is the idea that people can live and work in places with more transportation options, giving them the choice of using transit, walking, and biking, rather than driving. Less driving produces fewer VMTs and associated CO_2 emissions.

Table 11:
Workers per Square Mile

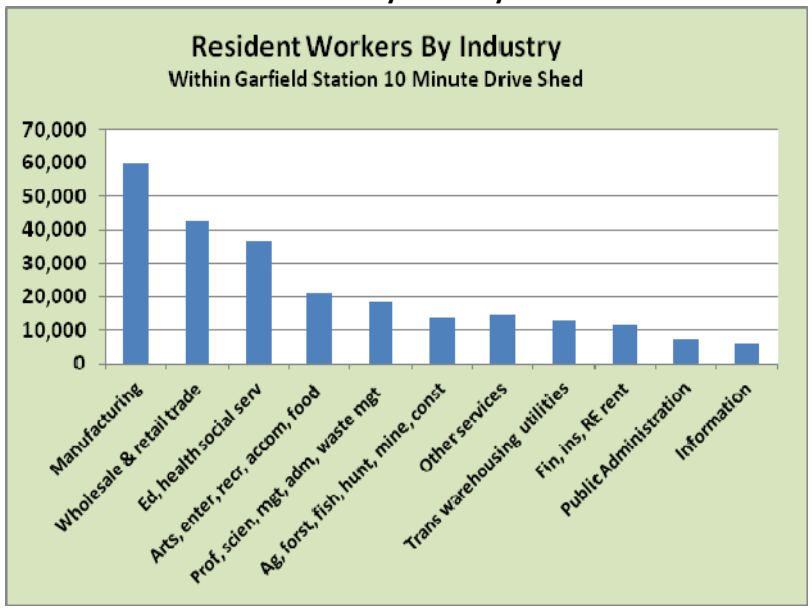
	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles County	
	0 - 5 min	**%**	**0-10 min**	**%**	**0-5 min**	**%**	**0-10 min**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**0.5 mile ring**	**%**	**County**	**%**
2010 Pop Age 16+ by Employment Status	**101,125**		**604,685**		**33,026**		**468,521**		**3,809**		**2,962**		**1,520**		**3,662**		**7,545,280**	
Labor Force	52,355	52%	315,456	52%	18,544	56%	260,084	56%	1,996	52%	1,763	60%	822	54%	2,049	56 %	4,545,281	60%
Square Miles (SM)	12		85		10	0	78										4,090	
Workers per Square Mile	**4,363**		**3,711**		**1,854**		**3,334**										**1,111**	
In Armed Forces	23	0%	149	0%	3	0%	134	0%	0	0%	0	0%	0	0%	0	0%	4,642	0%
Civilian, Employed	41,710	41%	243,875	40%	15,091	46%	211,954	45%	1,726	45%	1,588	54%	711	47%	1,614	44 %	3,716,970	49%
Civilian, Unemployed	10,623	11%	72,431	12%	3,450	10%	47,996	10%	270	7%	175	6%	111	7%	435	12 %	823,669	11%
Not in Labor Force	48,770	48%	288,229	48%	14,482	44%	208,437	44%	1,813	48%	1,199	40%	698	46%	1,613	44 %	2,999,999	40%
Unemployment Rate	20.30%		22.90%		18.60%		18.50%		13.50%		9.90%		13.50%		21.20%		18.10%	

Source: Synergos Technologies 3rd Quarter 2010

6. Employment by Industry

Exhibit 20 summarizes resident workers by the industry in which they work within the Garfield Avenue station 10-minute drive-shed. The data show that approximately 42% of all workers are employed in manufacturing, wholesale, and retail industries. In addition, 18% are employed in the education, health care, social services, and government industries. Understanding the local workers by the industries in which they work will help planners and potential developers plan future TOD development accordingly.

Exhibit 20: Resident Workers by Industry



Source: Synergos Technologies 3rd Quarter 2010

Table 12:
Workers by Industry

	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles County	
	0 - 5 min	%	0-10 min	%	0-5 min	%	0-10 min	%	0.5 mile ring	%	0.5 mile ring	%	0.5 mile ring	%	0.5 mile ring	%	County	%
2010 Employed Pop Age 16+ by Industry	**41,710**		**243,875**		**15,091**		**211,954**		**1,726**		**1,588**		**711**		**1,614**		**3,716,970**	
Ag, forest, fish hunt, mine, constr.	2,297	6%	13,823	6%	1,115	7%	12,117	6%	65	4%	61	4%	28	4%	53	3%	203,092	5%
Manufacturing	8,925	21%	59,606	24%	4,476	30%	47,620	22%	244	14%	200	13%	213	30%	395	24%	558,791	15%
Wholesale & retail trade	7,737	19%	42,588	17%	2,507	17%	37,440	18%	300	17%	266	17%	103	14%	290	18%	565,580	15%
Trans warehousing utilities	2,385	6%	12,688	5%	759	5%	12,331	6%	125	7%	85	5%	26	4%	67	4%	187,851	5%
Information	961	2%	5,619	2%	344	2%	4,996	2%	35	2%	93	6%	11	2%	57	4%	195,216	5%
Fin, ins, RE rent	2,271	5%	11,541	5%	597	4%	11,348	5%	145	8%	118	7%	36	5%	60	4%	257,011	7%
Prof, scien, mgt, adm, waste mgt	3,326	8%	18,453	8%	1,013	7%	16,959	8%	138	8%	135	9%	27	4%	101	6%	424,051	11%
Ed, health social serv	6,762	16%	36,765	15%	2,035	13%	34,099	16%	340	20%	388	24%	124	17%	364	23%	680,469	18%
Arts, entert, recreation, accommod food	3,140	8%	20,880	9%	941	6%	16,220	8%	144	8%	104	7%	41	6%	47	3%	306,770	8%
Other services	2,497	6%	14,629	6%	814	5%	12,055	6%	105	6%	66	4%	58	8%	91	6%	217,175	6%
Public Administration	1,410	3%	7,282	3%	489	3%	6,768	3%	84	5%	73	5%	44	6%	89	6%	120,964	3%

Source: Synergos Technologies 3rd Quarter 2010

7. Resident Workers by Industry Compared with Existing Jobs by Industry

The analysis below compares resident workers by industry with existing jobs by industry located within the 10-minute drive-shed from the Garfield Avenue Transit Station. Understanding the extent of gaps in the job market with resident workers by industry will help transit planners better assess the need for transit and other related transportation matters. There are gaps between jobs in certain existing industries and the skills by industry of resident workers. These workers can therefore benefit greatly from more public transportation/transit. Those industries supplying adequate jobs (balanced) that match worker industries is positive for first/last mile strategies and enhanced Complete Streets (see Figure 33) walking and biking options.

Table 13:
Employment within the 10-Minute Drive-shed

	10 Minute Garfield Station Drive-shed		Balance Factors		
Industry Sectors	Resident Employment by Industry	Existing Jobs by Industry	Over/ Under	Percent Match	Import/ Export
Prof, scientific, mgt, admin, waste mgt	18,453	20,582	2,129	112%	Balanced
Arts, entertainment, recreation, accommodations food	20,880	21,264	384	102%	Balanced
Manufacturing	59,606	58,542	-1,064	98%	Balanced
Public Administration	7,282	20,074	12,792	276%	Import
Wholesale & retail trade	42,588	58,490	15,902	137%	Import
Trans warehousing utilities	12,688	9,736	-2,952	77%	Export
Other services	14,629	10,806	-3,823	74%	Export
Information	5,619	4,088	-1,531	73%	Export
Fin, ins, RE rent	11,541	8,140	-3,401	71%	Export
Ed, health social services	36,765	22,614	-14,151	62%	Export
Ag, forest, fish hunt, mine, constr.	13,823	6,740	-7,083	49%	Export
Unknown		435	435		
Totals	243,874	241,511	-2,363	99%	

8. Employment by Occupation

One key to economic growth is ensuring that workers with a broad range of skills are offered stable access to major jobs centers. The Study Area drive-shed areas are major job centers (i.e., Garfield drive-shed contains 241,874 estimated jobs) and envelop a portion of the downtown Los Angeles Central Business District (CBD). Understanding the local workers by the occupations in which they work and the availability of such occupations within short distances from where they live will help transportation planners and developers better plan future transportation and related TOD development accordingly. More public transit will help bridge the gap between resident worker occupations and existing jobs in those occupations.

Table 14:
Employment by Occupation

	Garfield		Garfield		Peck /Durfee		Peck /Durfee		Garfield		Montebello		Santa Anita		Peck /Durfee		Los Angeles County	
	0 - 5 min	%	0-10 min	%	0-5 min	%	0-10 min	%	0.5 mile ring	%	0.5 mile ring	%	0.5 mile ring	%	0.5 mile ring	%	County	%
2010 Pop 16 and over by Occupation	**41,710**		**243,875**		**15,091**		**211,954**		**1,726**		**1,588**		**711**		**1,614**		**3,716,970**	
Mgt, Bus, Fin Operations	3,482	8%	18,287	7%	1,000	7%	18,507	9%	178	10 %	199	13%	45	6%	112	7%	503,419	14%
Professional and Related	5,445	13 %	29,699	12%	1,590	11%	27,086	13%	312	18 %	398	25%	64	9%	196	12%	770,984	21%
Healthcare support	722	2%	4,418	2%	276	2%	4,171	2%	19	1%	21	1%	12	2%	34	2%	62,224	2%
Protective service	672	2%	3,645	1%	167	1%	3,269	2%	54	3%	41	3%	12	2%	25	2%	68,067	2%
Food prep serving	1,911	5%	12,508	5%	521	3%	9,725	5%	78	5%	55	3%	28	4%	35	2%	157,705	4%
Bldg grounds clean and maintenance	1,609	4%	9,912	4%	654	4%	8,129	4%	55	3%	24	2%	25	4%	88	5%	139,159	4%
Personal care and service	1,417	3%	8,466	3%	496	3%	7,263	3%	80	5%	55	3%	37	5%	52	3%	116,131	3%
Sales and related	4,796	11 %	25,097	10%	1,311	9%	22,439	11%	250	14 %	212	13%	84	12%	125	8%	423,399	11%
Office and admin support	7,260	17 %	39,549	16%	2,262	15%	36,833	17%	324	19 %	299	19%	118	17%	381	24%	599,285	16%
Farming, fishing, and forestry	199	0%	999	0%	96	1%	812	0%	0	0%	0	0%	6	1%	5	0%	6,211	0%
Const, Extract, Maintenance	3,538	8%	21,606	9%	1,643	11%	19,061	9%	150	9%	111	7%	34	5%	143	9%	291,636	8%
Prod, Trans, Material Move	10,657	26 %	69,690	29%	5,073	34%	54,657	26%	225	13 %	172	11%	246	35%	418	26%	578,750	16%

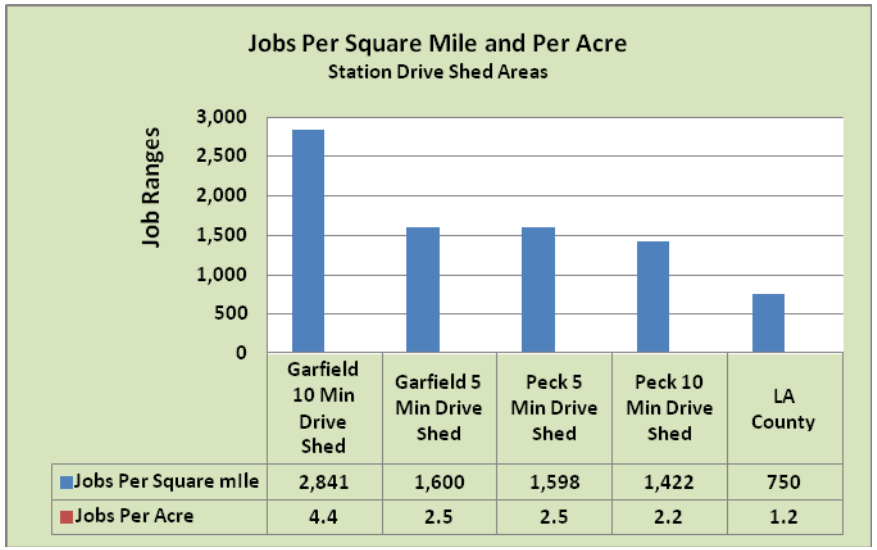
Source: Synergos Technologies 3rd Quarter 2010

D. Current Economic Base

Transit and TOD should be linked to economic development and jobs. Transit can an important play role in linking a diverse range of workers to their jobs, enhancing the quality of life that can draw a broader pool of knowledge-based workers, and supporting the economic health and growth of the local existing job centers. One key to economic growth is ensuring that workers with a broad range of skills are offered stable access to major existing job centers/clusters. To achieve predictable access and avoid conditions where congestion strangles economic growth, it is important to ensure that major existing job centers are well served and highly accessible to the regional transit network.

Exhibit 21 shows that within the 10-minute drive-shed of the SR 60 Garfield Station, there are 18,498 establishments and an estimated 241,513 employees. When measured from the center point of the Peck Station, there are 9,326 establishments and 110,938 employees (based on 2010 data). These figures overlap and should not be measured together. This connection to transit is not as evident when one considers only the traditional one-half-mile walking distance from proposed stations. This illustrates the critical importance for the Coalition Cities and other system planner to create the first/last mile connections from households and jobs outside of walking distances of the station area. Research shows that stations with significant employment clusters create opportunities for economic growth.

Exhibit 21: Job Concentration within Drive-sheds



	Garfield 10 Min Drive Shed	Garfield 5 Min Drive Shed	Peck 5 Min Drive Shed	Peck 10 Min Drive Shed	LA County
Jobs Per Square mile	2,841	1,600	1,598	1,422	750
Jobs Per Acre	4.4	2.5	2.5	2.2	1.2

Source: Synergos Technologies 3rd Quarter 2010

Table 15:
Employment Density

Study Area	Garfield Station		Garfield Station		Peck Station		Peck Station		Garfield 0.5 Radius		Montebello 0.5 Radius		Santa Anita 0.5 Radius		Peck 0.5 Radius		Los Angeles County	
Geography	0 - 5 min		0 - 10 min		0 - 5 min		0 - 10 min		0.5 mile ring		0.5 mile ring		0.5 mile ring		0.5 mile ring		County Wide	
Categories	Estab's	Empl	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp
All	**1,471**	**19,199**	**18,498**	**241,513**	**1,673**	**15,982**	**9,326**	**110,939**	**56**	**687**	**158**	**2,031**	**38**	**347**	**22**	**263**	**256,159**	**3,068,339**
Ag Forest Fish Hunt	3	45	29	264	4	12	14	84	0	0	1	4	0	0	0	0	591	3,873
Mining	0	4	7	164	0	0	3	77	0	0	0	0	0	0	0	0	153	3,270
Utilities	1	29	15	721	0	0	9	467	0	0	0	0	0	0	0	0	216	5,816
Construction	35	425	470	6,312	80	1,015	384	5,575	2	8	2	24	2	13	2	24	11,540	128,827
Manuf	67	2,181	2,157	58,542	289	4,744	903	21,499	1	43	6	262	3	59	1	25	13,761	325,500
Wholesale Trade	57	379	2,554	16,713	267	1,334	784	4,335	2	10	2	9	6	20	3	13	11,184	67,903
Retail Trade	267	2,465	4,950	41,777	394	2,946	1,953	18,938	11	151	57	810	9	30	4	36	44,073	466,179
Transp & Storage	19	415	365	9,015	24	395	166	3,410	1	29	1	120	0	1	0	0	3,754	102,893
Information	26	233	265	4,088	21	360	127	1,626	0	0	4	75	0	2	0	0	6,297	108,817
Fin & Insurance	98	1,493	592	5,831	47	276	452	4,193	2	49	7	120	0	3	1	8	14,202	131,283
RE Rental Leasing	35	196	337	2,309	26	157	245	1,368	3	26	5	21	0	1	1	7	10,246	73,797
Prof Sci Tech Services	131	1,111	1,101	9,360	85	471	647	5,319	6	34	10	58	2	7	2	21	31,634	302,578
Mgt of Cos &Enter	1	51	6	411	0	0	1	39	0	0	0	0	0	0	0	0	157	7,812
Admin Waste Remediation	54	979	453	10,811	43	446	274	4,531	1	14	5	34	1	5	1	3	8,973	166,141
Educational Services	55	942	296	4,541	22	151	228	2,802	4	58	5	43	2	10	1	6	6,487	114,218
Health Care Social Asst	233	3,305	1,210	18,073	70	867	959	11,198	3	40	18	145	3	55	1	56	32,554	361,254
Arts, Entert, Recreation	16	96	232	8,939	17	250	132	1,065	1	2	4	11	3	92	0	0	5,698	83,677
Accommod Food Serv	91	1,159	890	12,325	56	401	557	6,390	10	124	12	150	1	4	1	16	14,844	213,179
Other	192	1,368	1,496	10,806	164	1,084	1,064	8,653	9	75	15	66	4	12	2	9	29,633	202,412

Table 15:
Employment Density

Study Area	Garfield Station		Garfield Station		Peck Station		Peck Station		Garfield 0.5 Radius		Montebello 0.5 Radius		Santa Anita 0.5 Radius		Peck 0.5 Radius		Los Angeles County	
Geography	0 - 5 min		0 - 10 min		0 - 5 min		0 - 10 min		0.5 mile ring		0.5 mile ring		0.5 mile ring		0.5 mile ring		County Wide	
Categories	Estab's	Empl	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp	Estab's	Emp
All	**1,471**	**19,199**	**18,498**	**241,513**	**1,673**	**15,982**	**9,326**	**110,939**	**56**	**687**	**158**	**2,031**	**38**	**347**	**22**	**263**	**256,159**	**3,068,339**
Services																		
Public Admin	60	2,295	541	20,074	24	1,041	226	9,202	0	24	1	77	1	32	1	38	3,844	186,869
Military	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5,646
Unknown classification	31	29	532	435	41	32	198	168	0	0	3	2	1	0	1	1	6,314	6,395

Source: Synergos Technologies 3rd Quarter 2010

1. Establishments and Employees

CTOD Affordability Index research has determined that proximity to major job centers can significantly reduce the vehicle miles traveled each day. Within a 10-minute drive-shed from the Garfield Avenue and Peck Road stations, the region has approximately 28,000 employment establishments and 241,513 estimated jobs, as well as almost 241,513 housing units; these conditions create a balanced jobs/housing ratio of about 1:1. This balance supports TOD and lessens the need to travel by auto with the availability of public transportation. In addition, with connection of the SR 60 line to the existing network of rail, subway, and buses, economic development goals will be more achievable.

Research shows that a majority of new job growth nationally occurs near or within existing employment centers through expansion of existing firms. A large number of existing firms exist within the 10-minute drive-shed of the proposed SR 60 stations. This condition creates a compelling argument to concentrate future growth within the SR 60 Corridor Cities.

Employment concentrations, combined with high housing density previously discussed, are key variables that allow communities to support a mix of compact TOD uses and activities. As shown in the following chart, the jobs per square mile or per acre within the drive-shed areas are striking in comparison with the baseline figures for the County. For example, there are 2,841 estimated jobs per square mile, compared with 750 for Los Angeles County, and 4.4 jobs per acre as compared with 1.2 for the County. More jobs within the transit drive-sheds will generally allow for shorter drive times to work and permit alternative modes such as biking. As indicated earlier, places with high employment density may also have many of the local services and shopping resources that employees can access without driving long distances.

2. Jobs Housing Balance

Table 16 shows the jobs/housing balance for the SR 60 Study Area. The data show that the Garfield and Peck Station drive-shed areas are either jobs rich or balanced (one job for each housing unit). Areas with imbalance can be assisted by the 3,100 new dwelling units proposed by this Compass Study.

These employment concentrations, combined with high housing density previously discussed, are key variables that allow communities to support a mix of compact TOD uses and activities. If the SR 60 LRT system is implemented, it will allow more people to live near and work and vice versa, offering the choice of using transit, walking and biking, rather than driving. Less driving produces fewer VMTs and associated CO_2 emissions. These findings support the SR 60 LRT line.

Increasing the supply of housing near job clusters also helps promote economic development. Such a strategy can, in the long run, result in more job growth in these places by reducing the number of workers who have to commute long distances.

Good jobs/housing balance can produce travel and vehicle cost savings and reduced traffic congestions. Reduced traffic congestion creates lower business costs and higher productivity.

Table 16:
Jobs/Housing Balance

Study Area	Garfield Station	Garfield Station	Peck Station	Peck Station	Garfield TOD	Montebello TOD	Santa Anita TOD	Peck TOD	Los Angeles Co
Geography	**0 - 5 min**	**0 - 10 min**	**0 - 5 min**	**0 - 10 min**	**0.5 mile ring**	**0.5 mile ring**	**0.5 mile ring**	**0.5 mile ring**	**County**
Total Jobs	**19,199**	**241,513**	**15,982**	**110,939**	**687**	**2,031**	**347**	**263**	**3,068,339**
Occupied Housing Units	37,859	220,101	10,514	166,067	1,552	1,243	504	1,099	3,369,770
Jobs/ Housing Balance (Job/Housing Unit)	1:2	1:0.9	1:0.7	1:1.5	1:2.3	1:0.6	1:1.5	1:4.2	1:1.1
Rating	Jobs Poor	Job Rich	Job Rich	Balanced	Jobs Poor	Job Rich	Balanced	Jobs Poor	Balanced

Source: Synergos Technologies 3rd Quarter 2010

3. Daytime Occupations

As previously indicated, a key to economic growth is ensuring that workers with a broad range of skill sets are offered stable access to major job centers. According to CTOD research, some jobs, such as professional, scientific, and technical professions are more transit-oriented than others. Table 17 shows that there are an estimated 8,600 such jobs in computer, math sciences, architectural and engineering, and other sciences occupations within a 10-minute drive-shed from the Garfield Avenue Station and 4,200 such jobs when measured from the Peck Road Station. Overall, 35% of all occupations in the study areas consist of white-collar type jobs. In addition, CTOD research suggests that that fixed-guideway transit such as the SR 60 LRT line captures riders from both high and low wage earning jobs. Some of the jobs in the corridor are concentrated in what may be considered in major employment centers, such as the Kaiser medical facility. These centers can provide shuttles to the stations for added attraction to the potential transit ridership.

Understanding the daytime occupations and those occupations of the local workforce will help transportation planner and real estate developers' better plan future transportation and related TOD development accordingly. More public transit will help bridge the gap between resident worker occupations and existing jobs in those occupations. For those occupations that match worker occupations will bode well for first/last mile strategies and enhanced walking and biking options.

Table 17:
Daytime Occupations

	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles Co	
Occupations	**0 - 5 min**		**0 - 10 min**		**0 - 5 min**		**0 - 10 min**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**Entire Co**	**%**
All Daytime Employees	**19,199**		**241,513**		**15,982**		**110,939**		**687**		**2,031**		**347**		**263**		**3,068,339**	
White Collar	6,729	35%	59,241	25%	3,351	21%	29,670	27%	168	24%	414	20%	94	27%	95	36%	952,526	31%
Management occupations	1,112	6%	12,856	5%	878	5%	6,497	6%	36	5%	96	5%	19	6%	16	6%	179,705	6%
Business and financial operations occupations	816	4%	7,231	3%	454	3%	3,919	4%	23	3%	66	3%	9	3%	9	3%	133,384	4%
Computer and mathematical science occupations	289	2%	3,243	1%	233	1%	1,611	1%	5	1%	19	1%	4	1%	4	1%	59,867	2%
Architecture and engineering occupations	230	1%	3,660	2%	281	2%	1,770	2%	7	1%	12	1%	4	1%	4	1%	51,522	2%
Life, physical, and social science occupations	165	1%	1,702	1%	96	1%	834	1%	1	0%	8	0%	2	1%	2	1%	22,477	1%
Community and social services occupations	602	3%	3,817	2%	161	1%	2,231	2%	10	1%	25	1%	6	2%	4	2%	70,313	2%
Legal occupations	213	1%	1,103	0%	29	0%	480	0%	6	1%	5	0%	1	0%	1	0%	42,162	1%
Education, training, and library occupations	1,119	6%	7,855	3%	345	2%	4,005	4%	54	8%	44	2%	14	4%	16	6%	115,644	4%
Arts, design, entertainment, sports, and media occupations	293	2%	6,543	3%	234	1%	1,448	1%	15	2%	46	2%	2	1%	5	2%	67,890	2%
Healthcare practitioners and technical occupations	1,365	7%	8,159	3%	469	3%	4,832	4%	7	1%	66	3%	25	7%	27	10%	143,890	5%
Healthcare support occupations	527	3%	3,071	1%	170	1%	2,043	2%	4	1%	27	1%	8	2%	8	3%	65,672	2%
Category	**Garfield**		**Garfield**		**Peck**		**Peck**		**Garfield**		**Montebello**		**Santa Anita**		**Peck**		**Los Angeles Co**	
	0 - 5 min		**0 - 10 min**		**0 - 5 min**		**0 - 10 min**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**Entire Co**	**%**
All Daytime Employees	**19,199**		**241,513**		**15,982**		**110,939**		**687**		**2,031**		**347**		**263**		**3,068,339**	
Blue Collar	12,399	65%	181,631	75%	12,594	79%	81,044	73%	519	76%	1,615	80%	252	73%	166	63%	2,101,566	68%
Protective service occupations	429	2%	4,566	2%	169	1%	1,747	2%	3	0%	28	1%	11	3%	6	2%	54,297	2%
Food preparation and serving related occupations	1,135	6%	12,191	5%	497	3%	6,104	6%	108	16%	136	7%	27	8%	15	6%	197,840	6%
Building and grounds cleaning and maintenance occupations	508	3%	6,747	3%	380	2%	2,732	2%	25	4%	36	2%	14	4%	7	3%	97,113	3%
Personal care and service occupations	497	3%	3,468	1%	182	1%	2,134	2%	26	4%	30	1%	31	9%	4	2%	81,109	3%

Table 17:
Daytime Occupations

	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles Co	
Occupations	**0 - 5 min**		**0 - 10 min**		**0 - 5 min**		**0 - 10 min**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**0.5 mile ring**		**Entire Co**	**%**
Sales and related occupations	2,077	11%	37,594	16%	2,502	16%	15,058	14%	114	17%	608	30%	38	11%	30	11%	406,808	13%
Office and administrative support occupations	3,875	20%	39,712	16%	2,539	16%	19,457	18%	109	16%	347	17%	51	15%	43	16%	587,458	19%
Farming, fishing, and forestry occupations	19	0%	399	0%	16	0%	104	0%	0	0%	2	0%	0	0%	0	0%	2,894	0%
Construction and extraction occupations	434	2%	6,365	3%	863	5%	4,909	4%	4	1%	29	1%	13	4%	19	7%	110,292	4%
Installation, maintenance, and repair occupations	661	3%	9,044	4%	868	5%	5,270	5%	35	5%	54	3%	12	3%	14	5%	129,617	4%
Production occupations	1,641	9%	39,950	17%	3,211	20%	14,656	13%	48	7%	175	9%	37	11%	17	7%	241,467	8%
Transportation and material moving occupations	1,123	6%	21,595	9%	1,366	9%	8,873	8%	47	7%	170	8%	18	5%	11	4%	192,671	6%
Military	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	5,645	0%

Source: Synergos Technologies 3rd Quarter 2010

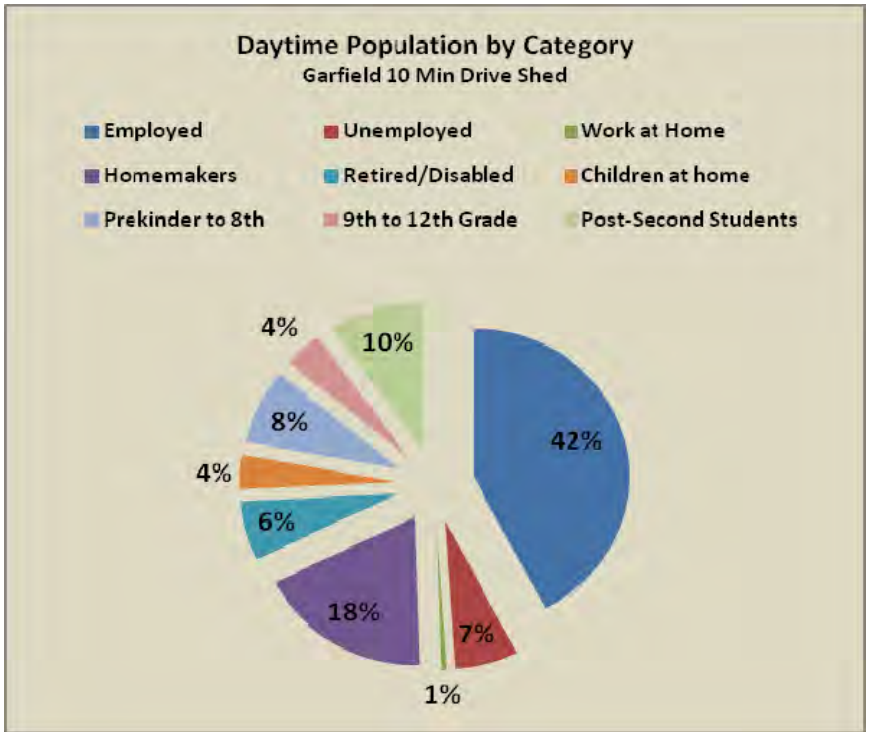
4. Current Daytime Population

An impressive finding is that there is a daytime population of approximately 570,000 persons within the 10-minute drive-shed from the Garfield Avenue transit station. Daytime populations consist of such groups as employees who may or may not live in this area, homemakers, students, and others. Many of these population segments are transit dependent. For example, low-income homemakers, students, and disabled or retired persons who may not drive. Previous sections have also documented high employee and worker densities per square mile and per acre.

By providing a wide variety and enhanced transit modes people can choose to make required daily trips by transit, walking, or biking rather than driving. Density is the key variable that allows communities to support a mix of uses and make TOD successful. To the extent more people use transit and reduce auto travel expenses more household income is available for housing. More transportation choices may lead to less car ownership and use and therefore fewer VMT.

In addition, the transportation sector is frequently seen as an important means for helping the area meet its sustainability goals because of its relationship to global warming, pollution, employment access, and household costs.

Exhibit 22: Daytime Population by Category



Source: Synergos Technologies 3rd Quarter 2010

Table 18:
Daytime Populations

Category	Garfield		Garfield		Peck		Peck		Garfield		Montebello		Santa Anita		Peck		Los Angeles Co	
	0 - 5 min		0 - 10 min		0 - 5 min		0 - 10 min		0.5 mile ring		0.5 mile ring		0.5 mile ring		0.5 mile ring		Entire County	%
Daytime Population	**80,838**		**569,949**		**42,081**		**338,757**		**3,047**		**5,778**		**1,093**		**1,520**		**10,000,884**	
Children at home	3,209	4%	21,061	4%	2,129	5%	16,279	5%	220	7%	322	6%	66	6%	113	7%	532,553	5%
Retired/Disable persons	5,561	7%	36,925	6%	3,747	9%	28,628	8%	339	11%	991	17%	125	11%	241	16%	942,131	9%
Homemakers	14,270	18%	103,978	18%	8,351	20%	66,870	20%	739	24%	909	16%	244	22%	355	23%	1,888,619	19%
Prekindergarten to 8th Grade	7,132	9%	46,520	8%	4,749	11%	36,426	11%	473	16%	646	11%	135	12%	244	16%	1,179,784	12%
9th grade to 12th Grade	3,552	4%	22,902	4%	2,289	5%	17,587	5%	226	7%	231	4%	63	6%	103	7%	538,586	5%
Post-Secondary Students	22,688	28%	56,365	10%	2,025	5%	36,835	11%	178	6%	222	4%	65	6%	102	7%	888,950	9%
Work at Home	411	1%	3,089	1%	250	1%	2,056	1%	23	1%	58	1%	8	1%	15	1%	138,253	1%
Employed	19,199	24%	241,513	42%	15,982	38%	110,939	33%	687	23%	2,031	35%	347	32%	263	17%	3,068,339	31%
Unemployed	4,815	6%	37,596	7%	2,559	6%	23,137	7%	162	5%	368	6%	39	4%	85	6%	823,669	8%

Source : Synergos Technologies 3rd Quarter 2010

E. Physical and Area Site Conditions

This section discusses development opportunities facilitated by virtue of existing land characteristics, General Plan, and zoning conditions.

1. Existing Land Use Data

Within the Corridor Cities, considerable commercial and industrial land exists near the proposed transit stations (see Figure 20). Remnant agricultural and underutilized or vacant properties present opportunities for land use intensification and urban TOD-level development. Given that the Eastside Goldline extension is planned as a 25- to 30-year project, ample time is available to allow for land use planning, zoning, and other actions to facilitate transformation and redevelopment.

2. General Plan Land Uses

Most of the SR 60 Coalition Cities have completed General Plan updates within the past 5 years, with these plans recognizing the benefits of concentrating more intense development near the freeway (see Figure 21). In addition, city leaders have established land use policies that are supportive of Smart Growth principles. Where General Plan land use policy maps do not specifically designate properties for mixed use, the cities have indicated their willingness to undertake the changes necessary to facilitate development over the long term consistent with SCAG Compass objectives. For example, South El Monte is reexamining designations along Santa Anita Avenue north of SR 60 and surrounding the proposed Santa Anita Station. Montebello is engaged in community discussion regarding future use of properties along the entire SR 60 frontage between Via Campo and San Gabriel Boulevard.

Figure 20: SR 60 TOD Existing Land Use

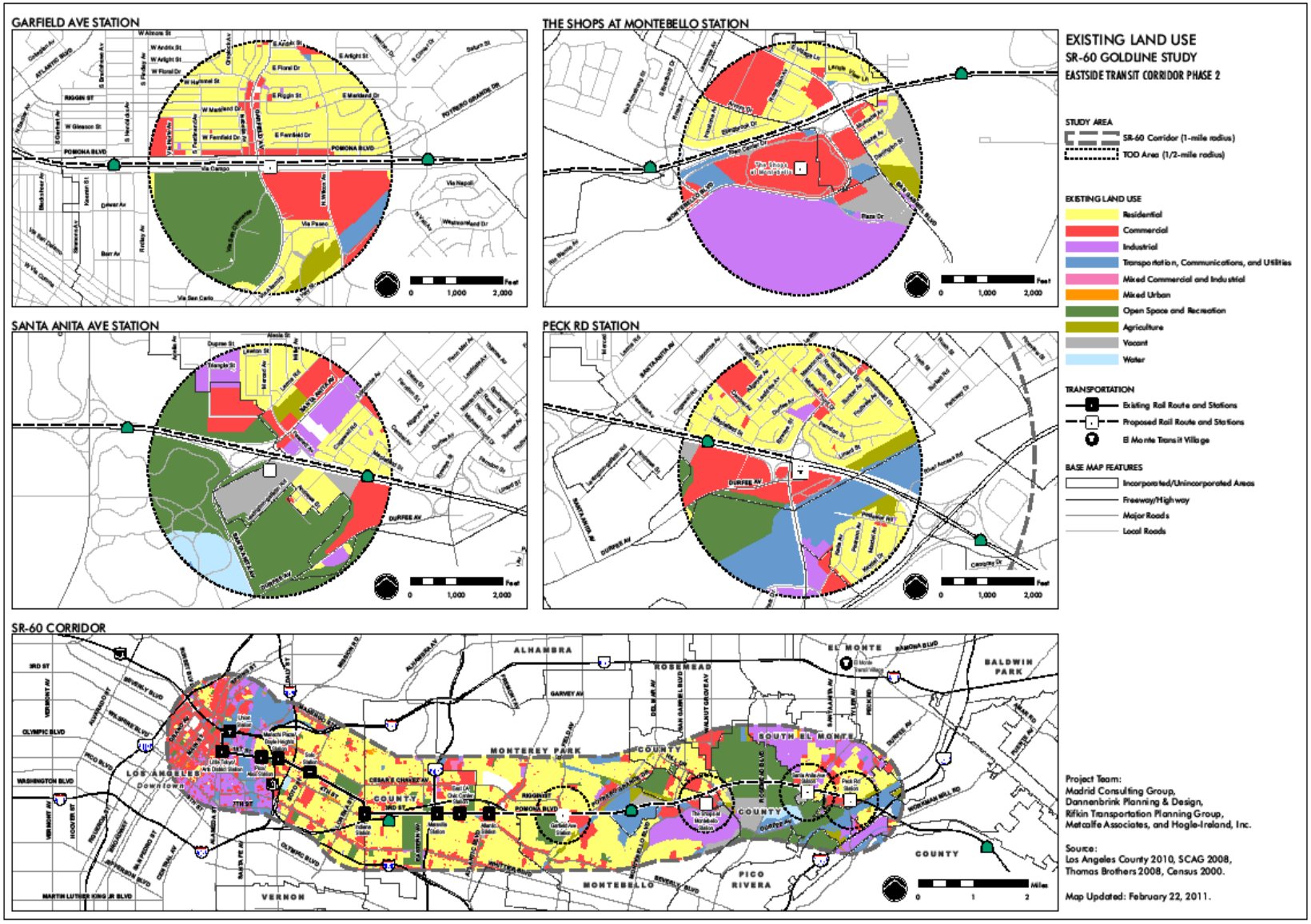
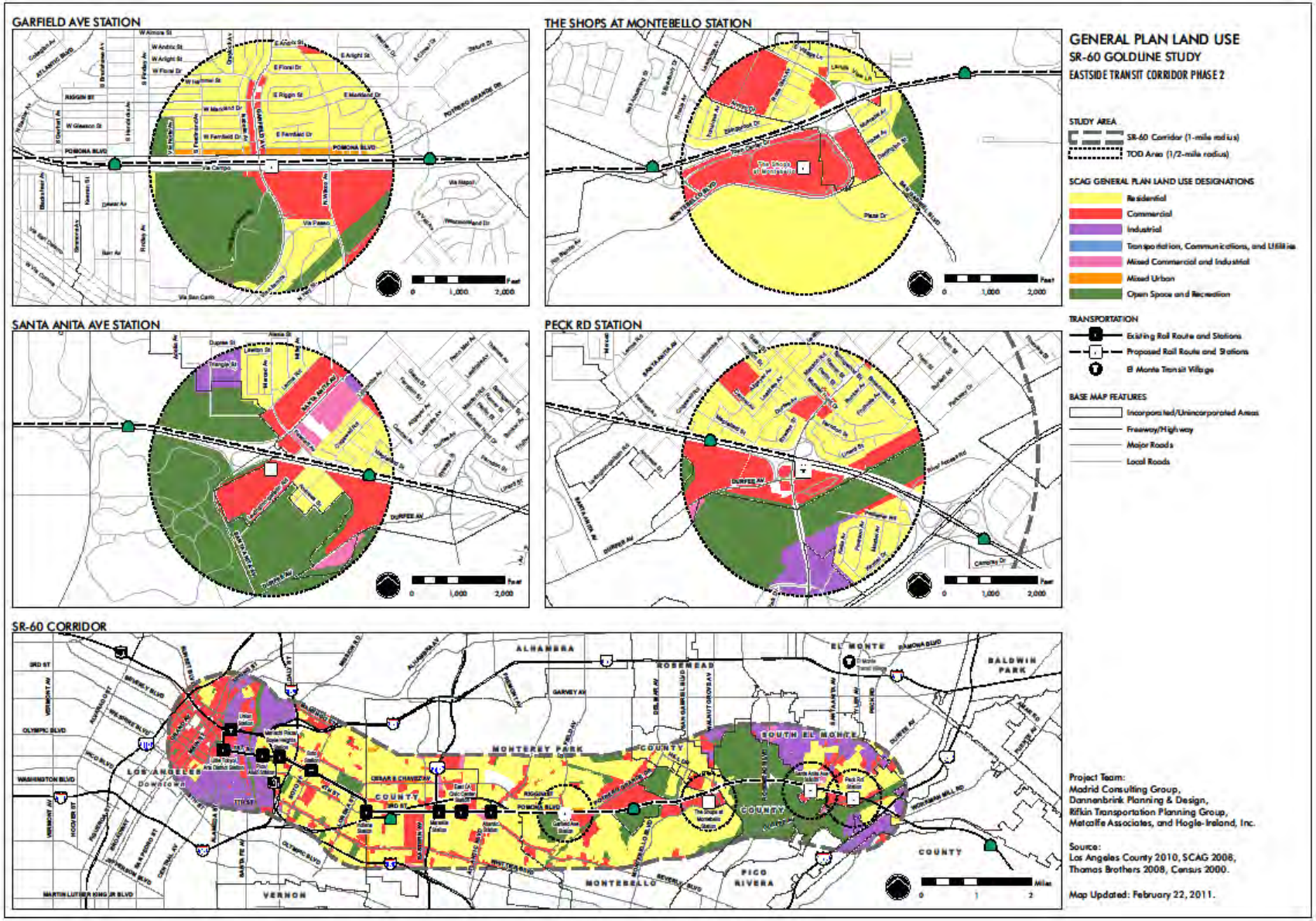


Figure 21: SR 60 TOD General Plan Land Use Designations



3. Transit-Supportive Underutilized Land Availability

The potential to attain Compass, FTA Livability, and Smart Growth goals is influenced in part by the availability of developable land. Figure 22 shows potential land availability for each 0.5-mile area TOD zone. For example, prospects may exist for parcels owned by Southern California Edison that might become available for new uses as SCE continues to restructure its regional electric power delivery system, parcels owned by the federal government that might be repurposed over the long term, and aging commercial and industrial uses.

Over the long term, market forces will create significant opportunities for private redevelopment initiatives. Many vacant, underutilized, obsolete land uses and publicly owned properties exist within 0.5-mile TOD zone, with substantially more properties within the 10-minute drive-sheds. As shown below, on a more detailed level, assessor parcel data show that SR 60 Corridor cities generally are not land constrained. Development in conjunction with the SR 60 transit system and comprehensive TOD planned areas can serve to attain Compass, FTA Livability, and Smart Growth goals.

Low Floor-Area Ratio Land Availability

Another indicator of potential development land over the long-term is low floor-area ratios (FAR). The following table identifies parcels located within the SR 60 Corridor Cities study area that have a FARs of less than 25% (buildings occupy less than 25% site coverage) and are at least 2 acres in size. In addition, many of these sites are government owned and under appropriate conditions, may be sold for private development. While these properties may be in use today, over the long term (25 to 30 years), these underutilized sites have great potential for reuse and redevelopment.

Figure 22: Potential Vacant or Underutilized Properties

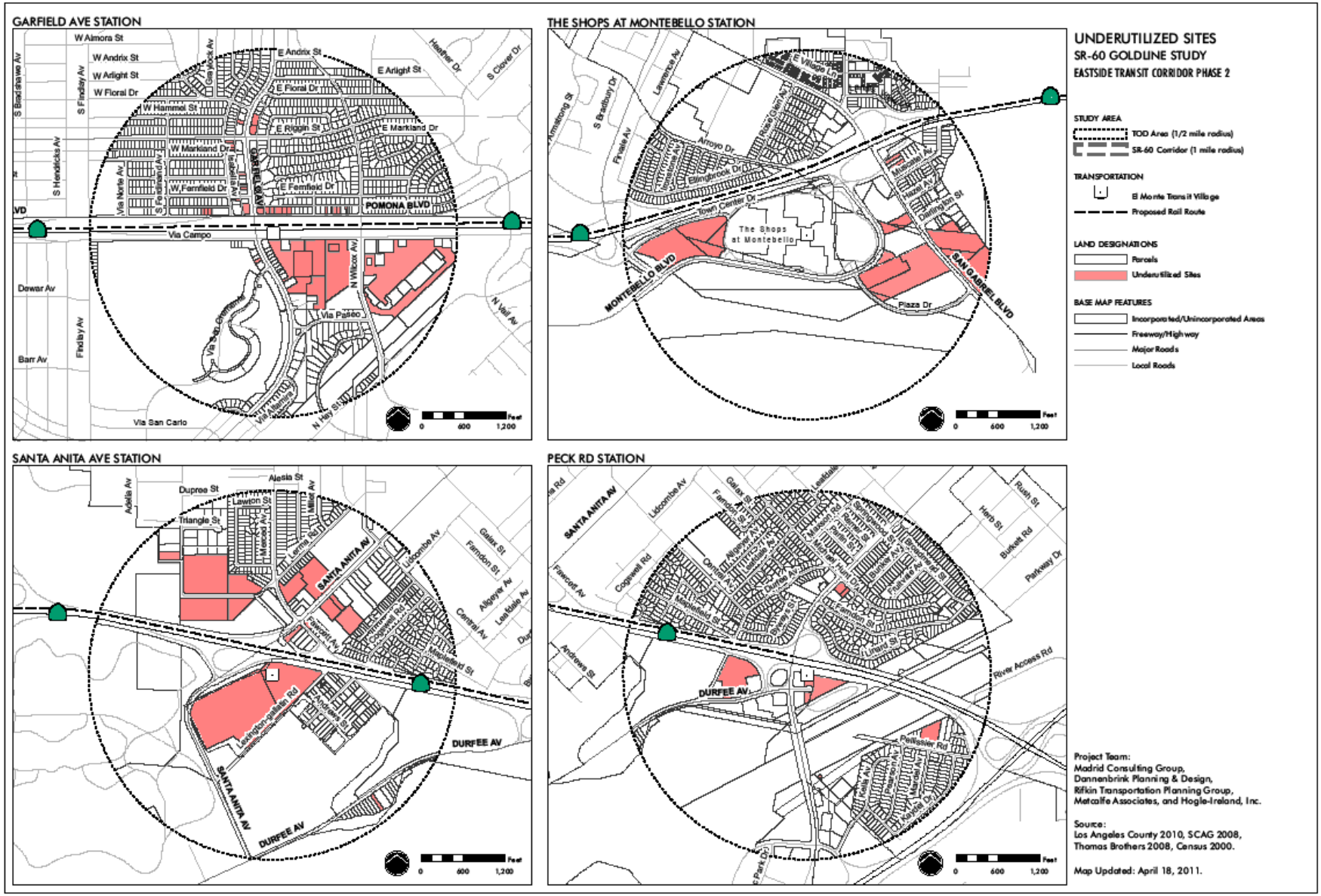


Table 19: Potential Vacant and Underutilized Land

CITY	ZIP	ZONING	LAND_USE	LOT SF	FAR
LA PUENTE	91746	LCCR*	MISCELLANEOUS	432,551	0.0%
MONTEBELLO	90640	MNR1*	UTILITIES	5,058,623	1.3%
MONTEBELLO	90640	MNRAO*	INDUSTRIAL (NEC)	3,800,174	0.0%
MONTEBELLO	90640	MNRAO*	INDUSTRIAL (NEC)	3,800,174	0.0%
MONTEBELLO	90640	RMC3*	COMMERCIAL (NEC)	747,490	0.0%
MONTEBELLO	90640	MNC2*	PARKING LOT	656,449	0.0%
MONTEBELLO	90640	RMC3*	COMMERCIAL (NEC)	550,163	0.0%
MONTEBELLO	90640	RMC3*	COMMERCIAL (NEC)	368,518	0.0%
MONTEBELLO	90640	MNR1*	UTILITIES	304,441	0.0%
MONTEBELLO	90640	MNC2*	SHOPPING CENTER	294,897	11.9%
MONTEBELLO	90640	RMC3*	COMMERCIAL (NEC)	288,367	0.0%
MONTEBELLO	90640	RMC3*	PARKING LOT	168,142	0.0%
MONTEBELLO	90640	RMC3*	OFFICE BUILDING	165,528	15.7%
MONTEBELLO	90640	RMC3	COMMUNICATION FACILITY	149,411	7.7%
MONTEBELLO	90640	MNC2*	PARKING LOT	133,294	0.0%
MONTEBELLO	90640	MNC2*	AUTO SALES	117,612	17.5%
MONTEBELLO	90640	MNR1*	GOLF COURSE	115,007	0.0%
MONTEBELLO	90640	MNRA*	UTILITIES	109,771	0.0%
MONTEBELLO	90640	MNR1*	FEDERAL PROPERTY	106,879	0.0%
MONTEBELLO	90640	MNR1YY	UTILITIES	101,495	0.1%
MONTEBELLO	90640	MNR1*	FEDERAL PROPERTY	98,533	0.0%
MONTEREY PARK	91754	MPR1*	FEDERAL PROPERTY	435,600	0.0%
SOUTH EL MONTE	91733	SERS*	MUNICIPAL PROPERTY	3,014,788	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	2,903,274	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	829,818	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	829,818	0.0%

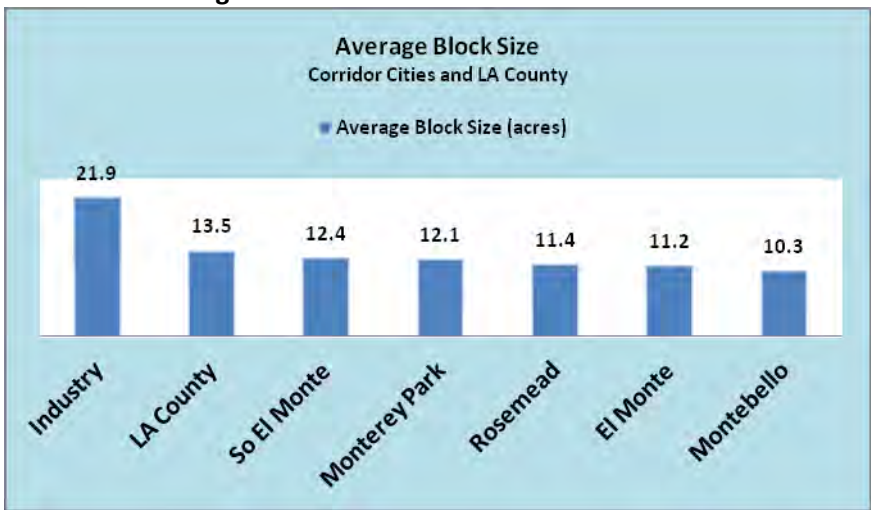
Table 19: Potential Vacant and Underutilized Land

CITY	ZIP	ZONING	LAND_USE	LOT SF	FAR
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	829,818	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	821,106	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	821,106	0.0%
SOUTH EL MONTE	91733	SERS*	FEDERAL PROPERTY	518,364	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	461,736	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	420,354	0.0%
SOUTH EL MONTE	91733	LCM1*	AUTO SALES	381,586	13.0%
SOUTH EL MONTE	91733	LCOS*	FEDERAL PROPERTY	339,498	0.0%
SOUTH EL MONTE	91733	LCCR*	TAX EXEMPT	315,374	0.0%
SOUTH EL MONTE	91733	SEC*	GOLF COURSE	231,304	2.2%
SOUTH EL MONTE	91733	LCA1*	FEDERAL PROPERTY	226,948	0.0%
SOUTH EL MONTE	91733	SERS*	UTILITIES	211,266	0.0%
SOUTH EL MONTE	91733	SERS*	FEDERAL PROPERTY	192,100	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	183,823	0.0%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	183,823	0.0%
SOUTH EL MONTE	91733	SEM*	LIGHT INDUSTRIAL	151,149	1.0%
SOUTH EL MONTE	91733	SEM*	LIGHT INDUSTRIAL	121,532	6.0%
SOUTH EL MONTE	91733	SEM*	LIGHT INDUSTRIAL	106,278	16.4%
SOUTH EL MONTE	91733	SEM-RS*	MOBILE HOME PARK	101,059	0.6%
SOUTH EL MONTE	91733	SEC*	MOTEL	99,748	16.7%
SOUTH EL MONTE	91733	LCCR*	FEDERAL PROPERTY	94,090	0.0%

Block Sizes

According to CTOD research, block size plays an important role in creating walkable, bikeable neighborhoods. The chart below shows that all cities except Industry have average block sizes comparable to Los Angeles County study area baseline. In addition, with careful site planning and design, larger parcels and blocks may be subdivided into smaller, walkable, pedestrian-oriented sizes. Also, blocks containing cul-de-sacs can be made more accessible and walkable by punching through with existing streets. These concepts are reflected in the Compass Study and TOD plans.

Exhibit 23: Average Block Size



F. Development Opportunities Summary

The following section presents a summary of the key land use, physical, demographic, and economic opportunities previously discussed which support new TOD development.

1. Drive-shed Transit Benefit Zone Study Areas

A transit system is only as effective as its ability to capture potential riders, and to connect people, jobs, and commerce with other activity centers. Implementing first mile/last mile policies and Complete Streets (see Figure 33) programs and enhancing connections can greatly magnify the TOD catchment area and related development benefits.

2. Population Density

There is high population density within the drive-shed study areas. For example, the population within the Garfield Station 10-minute drive-shed is nearly 4 times greater than for the Los Angeles County comparative baseline study area. . Larger populations provide stronger market support for new development.

3. Workers per Family

There are more workers per family or higher density within the Study Areas; in general, more workers near transit stations generate more market support for new development.

4. Household Income

Higher incomes provide greater support for new development, all else being equal. For example, incomes within the Peck Station 10-minute drive-shed are 91% of the Los Angeles County baseline median income, and those within the Montebello Town Center Station 0.5-mile TOD zone exceed the County average by 27%.

5. Housing Stock

There is high housing density within the drive-shed study areas and low vacancy, based on 2010 data. In general, low vacancy helps support

demand for more housing. Within the Garfield and Montebello 0.5-mile TOD radius, homes have values within 91% to 96% of the County baseline comparative median price data, based on 2010 values. Higher home values also help support new development.

6. Resident Labor Market

A large force is supportive of new business formation and expansion. Business growth is supportive of new TOD development. This factor is illustrated by the size of the Garfield Avenue Station 10-minute drive-shed labor force (315,000 workers) and the high worker density.

7. Employment by Industry and Occupation

There are many existing jobs and occupations that match the local workforce skills within the drive-shed study areas. Future TOD development can expand existing businesses and build upon this rich economic base.

8. Existing Economic Base

Large employment centers and clusters exist today within the study area drive-sheds. For example, within the 10-minute drive-shed of the SR 60 Garfield Avenue Station, there are ***18,498 establishments*** and an estimated ***241,513 employees.*** When measured from the center point of the Peck Road Station, the data show ***9,326 establishments*** and ***110,938 employees*** (based on 2010 data). There is also high employment density: 4.4 jobs per acre for the Garfield Avenue Station 10-minute drive-shed, compared with 1.2 jobs for Los Angeles County baseline figures. New TOD real estate development is facilitated by a larger existing economic base.

9. Site Availability

Significant opportunities exist for redevelopment over the long term based on the availability of underutilized land. Such land may become available for development on the basis of large ownership assemblages, vacant status, obsolete uses, low FAR ratios, government ownership, and locations within active redevelopment project areas.

10. General Plan Land Uses

Most of the SR 60 Coalition Cities have completed General Plan updates within the past 5 years, with these plans recognizing the benefits of concentrating more intense development near the freeway. City leaders have established land use policies supportive of Smart Growth principles. Where General Plan land use policy maps do not specifically designate properties for mixed use, the cities have indicated their willingness to undertake the changes necessary to facilitate development over the long term consistent with Compass Blueprint objectives.

11. Incentive Zones

Significant areas in Corridor Cities are located within Redevelopment Project Areas (see Figure 23). Redevelopment provides significant tools and resources with which to implement TOD development plans.

12. Multimodal Freeway Potential

The state of the art is to develop multimodal freeway corridors–especially as the interstate highway systems reaches the end of their design lives. Transportation agencies throughout the United States are faced with problems of traffic congestion, energy consumption, poor air quality, and ineffective land use. Simply shoe-horning fixed rail of rapid transit into the freeway is not an optimal way to address these issues. A

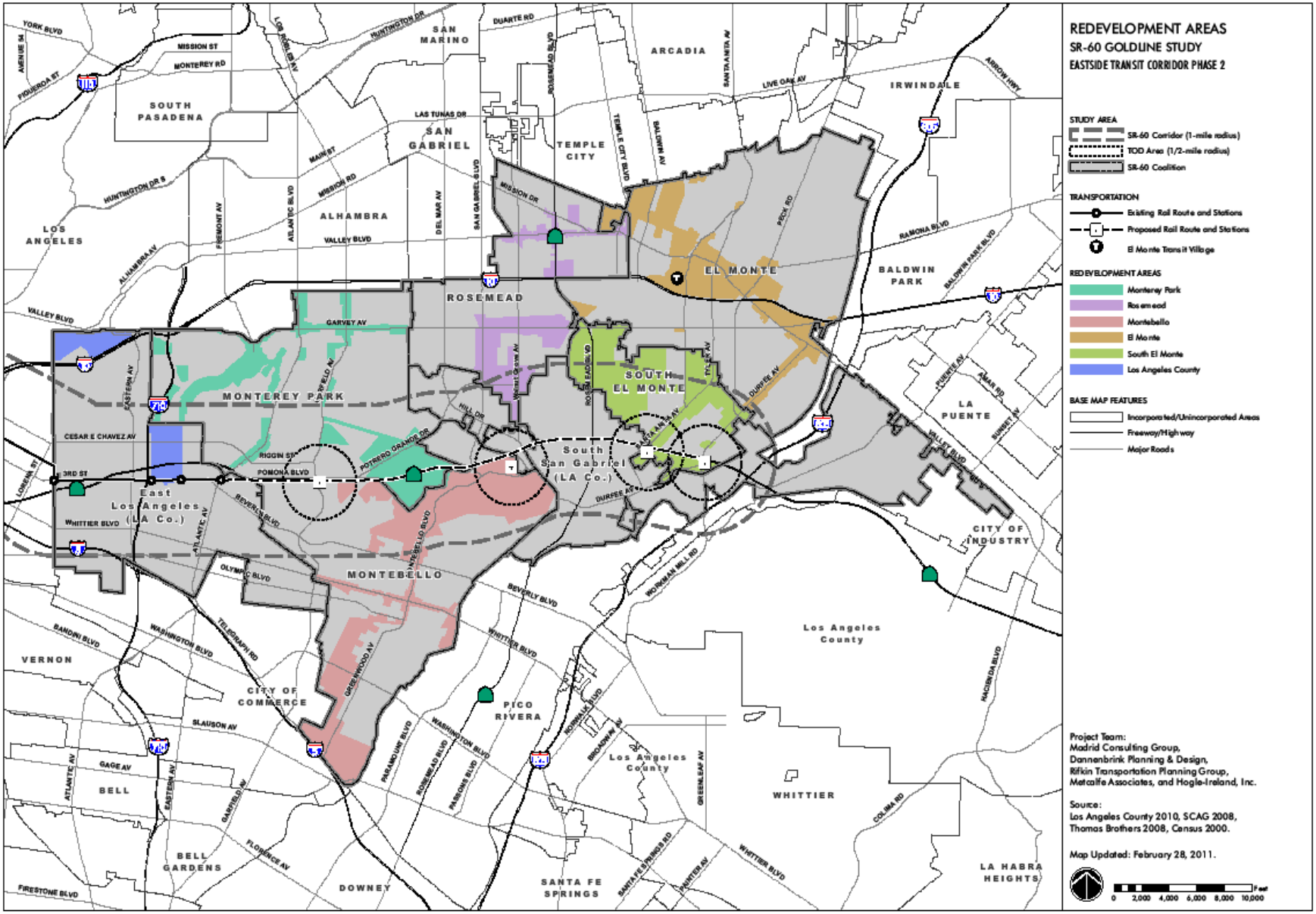
report prepared for the Transportation Research Board (January 2010) titled “Making Transit Work in Mutimodal Freeway Corridors” identified opportunities for improving travel services within freeway corridors by incorporating transit.

This new paradigm is defined as follows:

- Multimodal Facilities = Highways + Transit + Pedestrians + Bicycles
- Corridor = Multimodal Facilities + Surrounding Land Uses
- Multimodal Corridor “New Paradigm” = Optimized Combinations of Multimodal Facilities and Land Uses

In this regard, the Compass Study development plans seek to incorporate these principles. Some of these conclusions are illustrated and reinforced by the Metro Alternatives Study for the Gold Line Eastside Extension. For example, use of the SR 60 freeway right-of-way will produce minimum negative community, visual, and aesthetic impacts. This alternative requires the lowest property acquisition costs since much is vacant.

Figure 23: SR 60 Corridor Redevelopment Project Areas



13. Opportunity to Develop USCOE Flood Easement Area

The city of South El Monte has been informed by the U.S. Corps of Engineers regarding the agency's requirements for development of property under its jurisdiction at the Santa Anita Avenue Transit Station. Development restrictions generally include no buildings for human habitation, grades that are elevated, and the ability of the site to retain water in the event of major flooding. . Conceptual developments plans have been prepared that comply with these requirements. As illustrated in Figure 24, various conceptual options have been prepared that actually enhance the site's water retention capacity, helping to better meet the Corps' flood control responsibilities.

14. Physical Site Opportunities

This section discusses the potential development opportunities arising from the existing physical built environment and land characteristics.

14.1 Block Sizes

Factors supporting local walking and biking are just as important as factors supporting transit use. Most trips are made for the purpose of accomplishing daily needs such as shopping, services, child day care, and other day-to-day activities. To the extent these trips can be made accessible without a car will significantly reduce auto dependence.

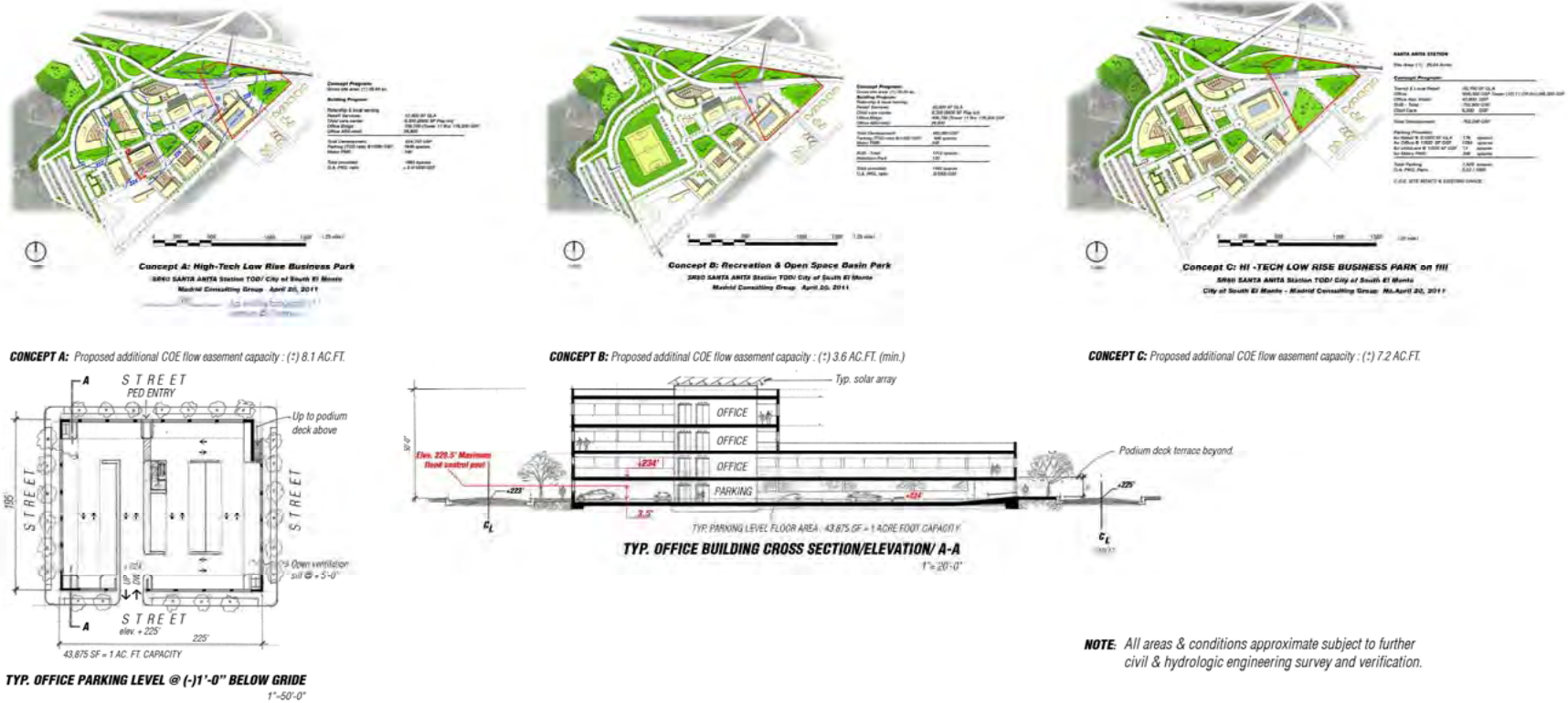
In this regard, a smaller block size provides a more walkable and bikable environment. Except for the City of Industry, all Corridor Cities have block sizes comparable to Los Angeles County baseline average block sizes.. These factors support the creation of more walkable/bikable areas enhance mobility, increase access and transit ridership. The primary exception is the instances where cul-de-sacs have been created to separate automobiles access on the arterial system from low-density residential development.

14.2 Garfield Avenue Station TOD

Primary opportunities (see Figure 25):

- Potential for new "focal place" plaza defined by transit supportive uses and park-and-rise (PNR) structure with direct pedestrian bridge link from station in the southeast quadrant.
- Potential new east-west pedestrian scaled street (extension of Via San Clemente) as "spine" for small block mixed-use retail/office uses on north side and multifamily residential podium courts on south side (beyond 500-foot freeway setback for new residential).
- The existing higher-density residential area at the south side of a church/school is within 10-minute walk to station.
- Potential for expanded depth parcel at southwest quadrant for mixed-use retail/office and multifamily residential podium courts, exploiting the golf course open space amenity.
- Potential for Complete Streets (see Figure 33) improvements on Garfield, Pomona and Via Campo (east of Garfield), incorporating on-street bike lanes and enhanced pedestrian amenities.
- Enhancement of Garfield underpass of SR 60 by potential widening for safety-enhanced sidewalks, lighting, bikeways, bollards, and possible art work on walls.
- Opportunity for multistory offices at both corners of Garfield at Pomona Avenue as a gateway into Monterey Park.
- Acquisition of selected residential lots, at key locations, to provide access points to east side of Garfield, via short paseos through commercial zone, to vastly expand ridership accessibility to Metro station.
- Transformation of 100-foot parcel depth with rear alleys bordering Garfield and Pomona Avenues into several alternative scenarios.

Figure 24: Concept Sketches for USACOE Site



NOTE: All areas & conditions approximate subject to further civil & hydrologic engineering survey and verification.

CONCEPT A SUSTAINABLE SITE DESIGN		AC.	(%)
Total office bldg.parking footprint:	353,126 SF	8.1	
Total on-site bldg. footprint (G.C.):	482,226 SF	11.07	(37)
Roadways R.O.W.:	452,600 SF	10.4	(35)
Total landscaped permeable open space for recharge w/ bioswales w/ recreation & parks:	356.292 SF	8.2	(28)
	TOTAL:	29.64	(100)

CONCEPT B SUSTAINABLE SITE DESIGN		AC.	(%)
Total office bldg.parking footprint:	158,416 SF	3.6	
Total on-site bldg. footprint (G.C.):	261,716 SF	6.0	(20.2)
Roadways R.O.W.:	338,200 SF	7.76	(26.2)
Total landscaped permeable open space for recharge w/ bioswales w/ recreation & parks:	691,202 SF	15.87	(53.5)
	TOTAL:	29.64	(100)

CONCEPT C SUSTAINABLE SITE DESIGN		AC.	(%)
Total office bldg.parking footprint:	314,351 SF	7.2	
Total on-site bldg. footprint (G.C.):	466,551 SF	10.7	(36)
Roadways R.O.W.:	404,600 SF	9.3	(31.3)
Total landscaped permeable open space for recharge w/ bioswales w/ recreation & parks:	420,967 SF	9.6	(32.4)
	TOTAL:	29.64	(100)

Preliminary Study: **SANTA ANITA STATION/TOD USACOE FLOW EASEMENT ENHANCEMENT POTENTIALS**

City of South El Monte . Whittier Narrows Regional Park **Madrid Consulting Group** No.1004-1 APRIL 28,2011

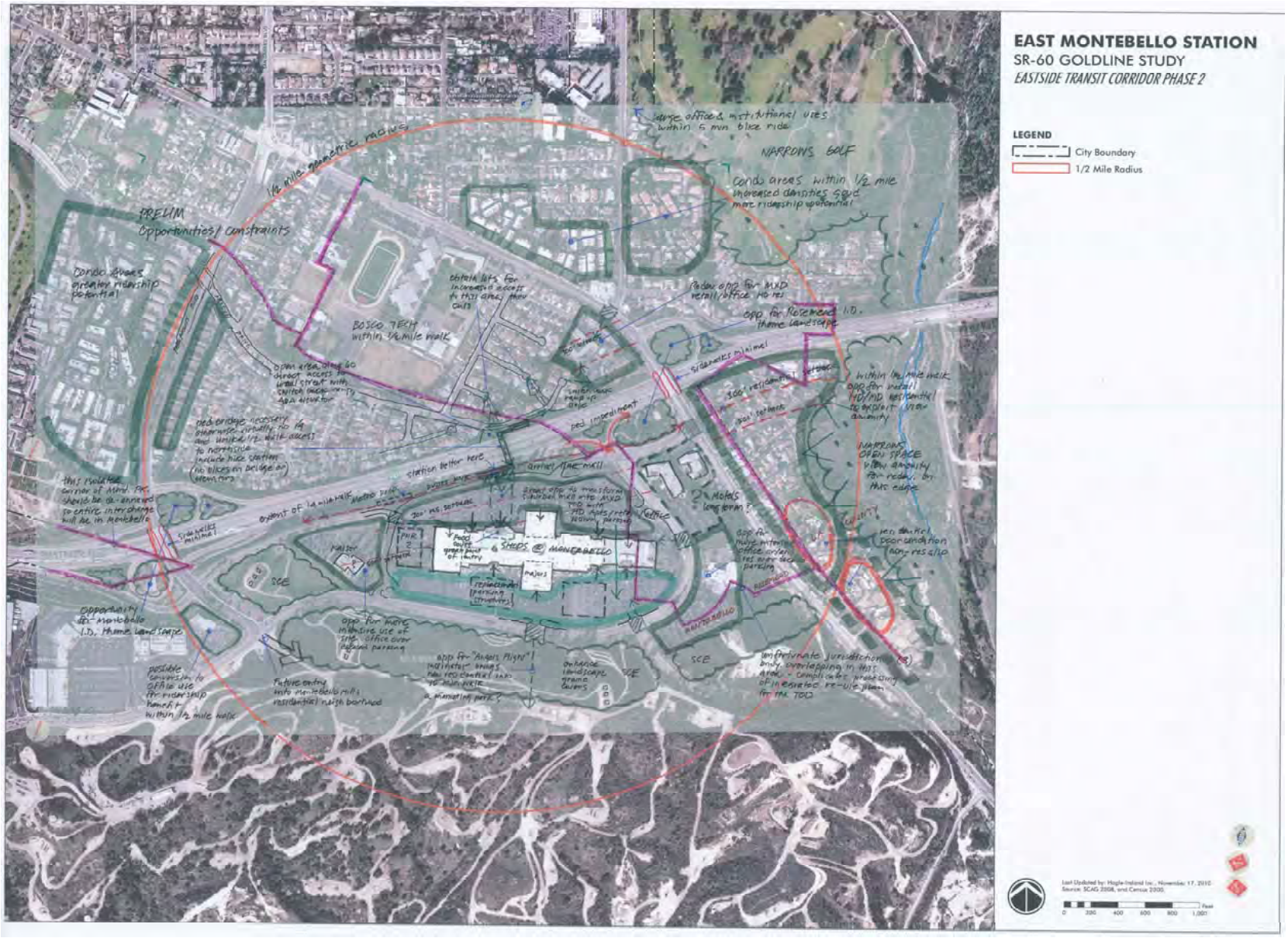
Figure 25: Garfield Station Opportunities

14.3 Montebello Town Center Station TOD

Primary opportunities (see Figure 26):

- Archetypal suburban mall offers excellent prospect for creating true "Town Center" with new infill uses to complement retail mall and enhance ridership potential.
- Moving Metro's proposed station location approximately 800 feet easterly offers better linkage connection to mall in conjunction with new infill uses via pedestrian promenade and parking for PNR, replacement spaces, and new commercial.
- To overcome north side ridership limitation (i.e., ½-mile TOD), a pedestrian bridge from station can link over SR 60 to northside neighborhoods at location where freeway frontage right-of-way is contiguous to the local street.
- Selective acquisition of single-family lots can substantially expand ridership access due to many closed street patterns.
- Larger hotel directly adjacent to mall can be expanded by adding structured parking to better serve travelers and potential business visitors.
- Underutilized parcel south of hotel could become office complex with landmark potential and amenity views into Whittier Narrows open space from this overlook elevation.
- Existing Kaiser medical office site could be expanded with enhanced access from Metro station.
- A funicular railway (similar to Downtown's Angels Flight) across the Southern California Edison right-of-way could link the proposed 1,200-unit residential development on the hill south of the mall, bringing these residents within 10 minutes of station and adding marketing "icon" feature.
- South side of mall could incorporate multifamily residential podium courts and multistory apartments, along with replacement parking, adding on-site residential ridership and additional customer base for shops. (Residential precluded from north side due to 500-foot freeway setback to buffer from noise and air quality impacts).
- Area east of San Gabriel Boulevard offers potential for small block "village character" for mixed uses-retail, live/work, office podium courts, and multifamily podium courts exploiting view amenity of adjacent Whittier Narrows open space (area in Los Angeles County jurisdiction).
- Freeway interchanges at Paramount and San Gabriel Boulevards (in Montebello and Rosemead, respectively) could be landscaped with different theme palettes that provide civic identity images at these gateways off SR 60.
- A small existing retail complex with declining uses on the north side of SR 60 at San Gabriel Boulevard could be redeveloped to better provide services to this area, which contains several higher-density condominium complexes and the Don Bosco High School within a 10-minute walk of the station via proposed pedestrian bridge.

Figure 26: Montebello Town Center Opportunities and Constraints

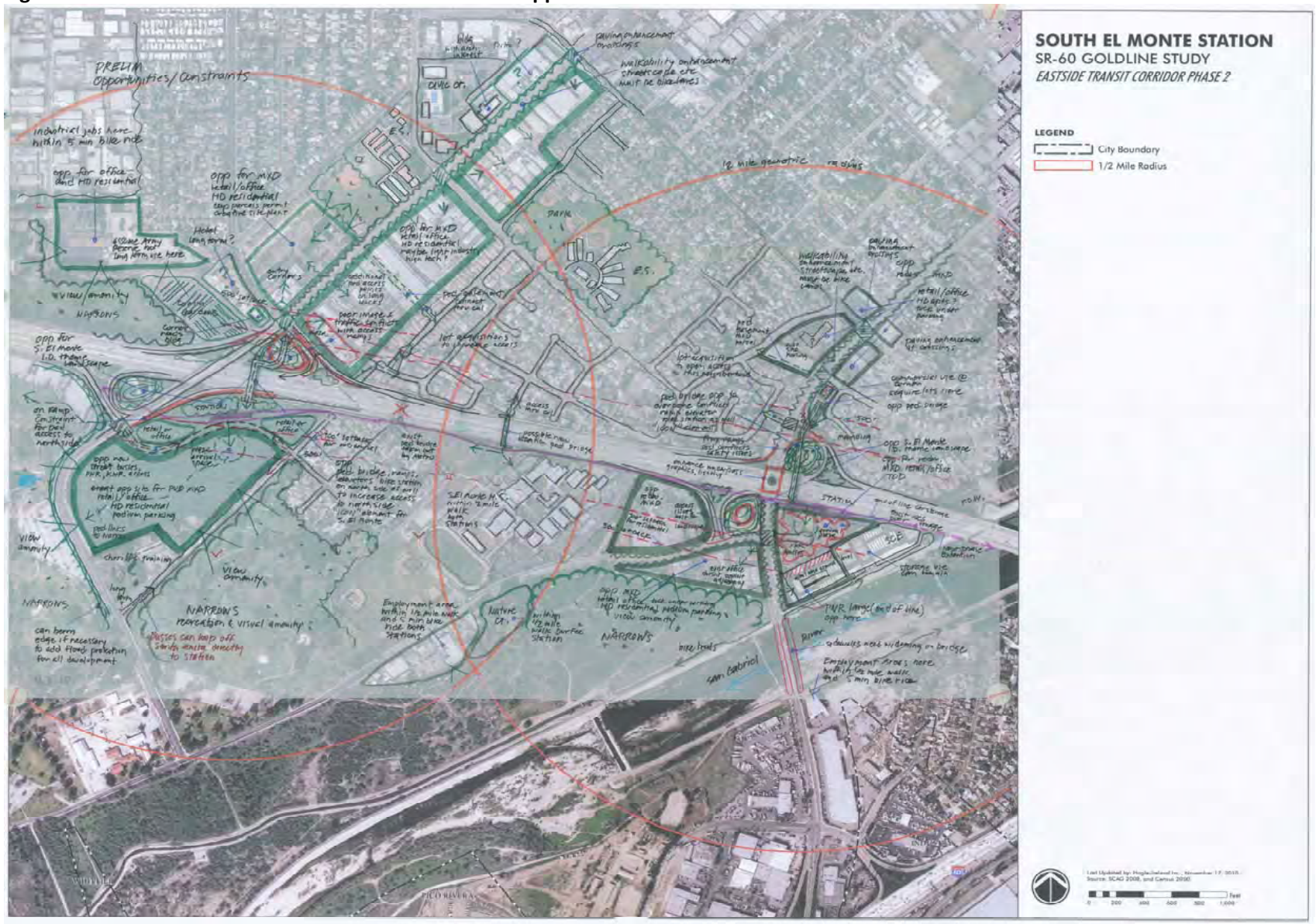


14.4 Santa Anita Avenue Station TOD

Primary opportunities (see Figure 27):

- Large 30-acre site contiguous to the station offers opportunity to capitalize on Metro access with transit-supportive uses and a public focal place.
- New street connecting to station can provide access to PNR and commercial use parking, as well as local and ridership-serving retail uses.
- With residential prohibited, high technology office uses in small block, easily walkable increments can exploit amenity views into the adjacent Whittier Narrows open space.
- To overcome walking distance to north side, a pedestrian bridge can connect station to the north side on a mounded fill open space with view overlook, civic identity landscape at this interchange, with both elements creating icons for this South El Monte gateway.
- The deep industrial parcels on the north side can be transformed into smaller block increments for walkability, with mixed-use retail and office and a better pedestrian scale. Increments can be phased over long time periods.
- Paseo connections through selective acquisition of key single-family lots can overcome the impediments of the existing cul-de-sacs and vastly expand pedestrian ridership potential in these areas with the internalized street patterns.
- The northwest side of Santa Anita Avenue also has potential for mixed-use development with the adjacent Shively Park amenity.
- Portions of these deep parcels along both sides of Santa Anita Avenue could incorporate multifamily podium courts as transition to existing single-family neighborhoods and add more residential ridership.
- Higher intensities of office and mixed-use could occur at the gateway corner (Santa Anita and Merced/Fawcett) and across street from Civic Center at Central Ave.
- Santa Anita Avenue can be transformed into a Complete Street, with on-street bike lanes and pedestrian amenities.
- The existing Army Reserve Center on Lerma Road could be redeveloped into an office park with overlook into Whittier Narrows open space within a 5- to 10-minute walk to the station via the pedestrian bridge.
- The existing pedestrian overpass to link South El Monte High School to north side neighborhoods can be relocated to serve both the Gold line alignment and the school.

Figure 27: Santa Anita and Peck Road Transit Stations Opportunities and Constraints



14.5 Peck Road Station TOD

Primary opportunities (see Figure 28):

- Area immediately adjacent to the station, while confined, can become a focal place plaza with retail/office uses, a major end-of-line PNR with added capacity to serve commercial uses, and access via adjacent SCE right-of-way. Existing Durfee cul-de-sac can be shortened to serve as entry for "kiss-and-ride" (KNR), access as well as for local shuttles.
- The southwest corner Durfee and Peck can include several uses: an additional PNR structure which may be warranted to increase capacity here, also accessed through the SCE right-of-way, with retail on street level edges and multifamily podium courts and child care. Direct views are afforded into the Whittier Narrows open space.
- The large site with free-standing uses and miniature golf could become a major office complex, with a tall tower, to add jobs base and provide a strong landmark element at this end-of-line station.
- The site, confined by access issues (northwest corner of Peck and Durfee) can become a mounded overlook park with special civic identity landscape.
- To overcome safety issues for pedestrians headed to and from the station via the north, a pedestrian bridge can arise from the station over SR 60 to a mounded overlook park with extended (handicap accessible) ramp (over all freeway ramps) down to street level. (The two overlook sites with civic identity landscape straddling the freeway and the pedestrian bridge can become strong icon elements at this gateway into the City of South El Monte.)
- Acquisition of a key single-family lot on west side of Peck Road can open access and expand ridership to these north side neighborhoods.
- An existing senior housing development could include new commercial pad sites and a new short local street with townhomes as transition to link Peck Road to the single-family neighborhood to the west.
- Corners flanking the intersection of Peck and Michael Hunt Road could be variously redeveloped for retail, office, or live/work uses as a transition to the adjacent single-family neighborhood.
- Peck Road and Durfee Avenue can become Complete Streets (see Figure 33) with on-street bike lane and pedestrian sidewalk amenities.

15. Walking Zone Analysis

An important technique employed by this study was evaluation of access to stations by measuring walk lengths in terms of actual walking path distances and routes, rather than utilizing an overly simplified one-half-mile radius superimposed over each station.

This analysis depicts the actual walking path distances from proposed stations that a pedestrian can cover (at average speed) in 5 minutes (1/4 mile) and 10 minutes (1/2 mile) walking on street sidewalks or paseos. Bicycle travel is also shown (at average speed) in 5 minutes, which dramatically illustrates the vastly expanded accessibility for this mode of travel. Connecting the ends of these various routes for each time/distance creates a "polygonal" shaped zone as opposed to a pure, "as the crow flies" circle radius. Pedestrian bridges proposed at some stations, as well as pedestrian paseo access through acquired key single-family lots, are incorporated into the analysis to expand access.

This Metro Goldline LRT alignment along the south side of SR 60 provides great opportunity for direct, contiguous transit-supportive development and place-making at these nodes. However, where stations are not directly adjacent to north-south connecting streets (over or under SR 60), pedestrian bridges must be utilized to provide ridership access to the north half of these TODs.

As discussed throughout this report, the incorporation of first mile/last mile strategies and Complete Streets (see Figure 33) programs help expand the TOD catchment areas. In addition to more accurately defining and expanding the TOD zones by walking and biking, other modes such as shuttles, trolleys, etc. greatly enhance and the drive-shed catchment area. Larger TOD zones magnify and enhance TOD and related community development benefits.

15.1 Garfield Station TOD

Expanded access on the north side can be achieved through selected acquired lots (east side of Garfield Avenue within the City of Monterey Park) to provide paseos into these internalized street patterns (with the assumption that the underpass on Garfield Avenue will be enhanced for pedestrian safety, convenience and attractiveness).

15.2 Montebello Town Center Station TOD (See graphic exhibit)

Figure 29 shows access to the north side provided by the pedestrian bridge over SR 60. Without it, there would be virtually no ridership access even at the 10-minute distance to the north half of TOD.

15.3 Santa Anita Station TOD

The pedestrian bridge over SR 60 connecting to the north side creates safer foot travel and expands accessibility to the north half of the TOD overlapping the Civic Corridor Downtown (see Figure 30). Selective single-family lot acquisition on the north side greatly extends walking accessibility and ridership to the neighborhood on east side of Santa Anita Avenue.

15.4 Peck Station TOD

The pedestrian bridge over SR 60 provides safer foot travel and extends the accessibility to the north half of the TOD (see Figure 30). Just one acquired single-family lot on west side of Peck Road opens this entire neighborhood to ridership otherwise cut-off by the internalized street pattern.

Figure 28: Pedestrian and Bike Sheds – Garfield Avenue Transit Station

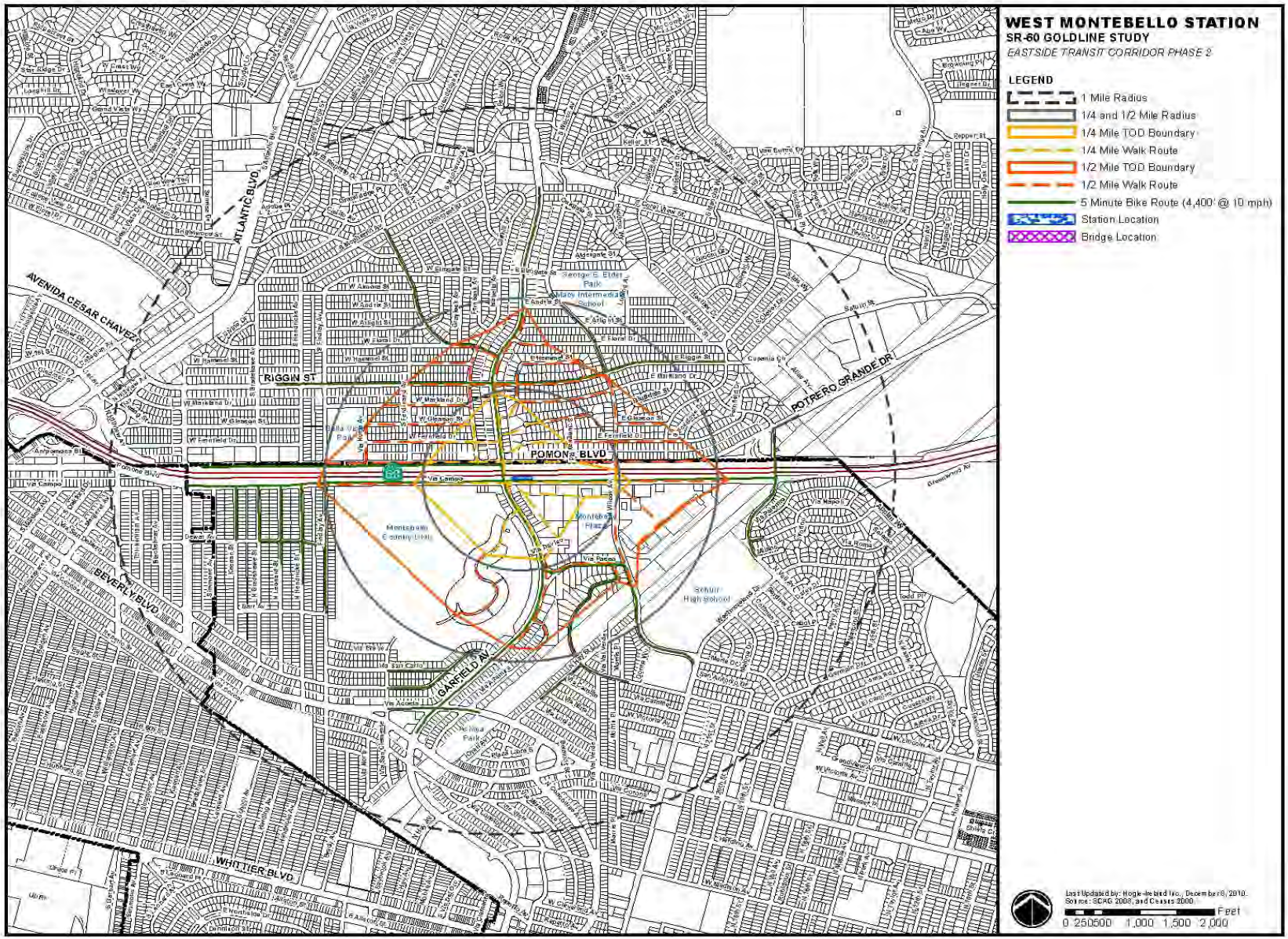


Figure 29: Pedestrian and Bike Sheds – Montebello Town Center Transit Station

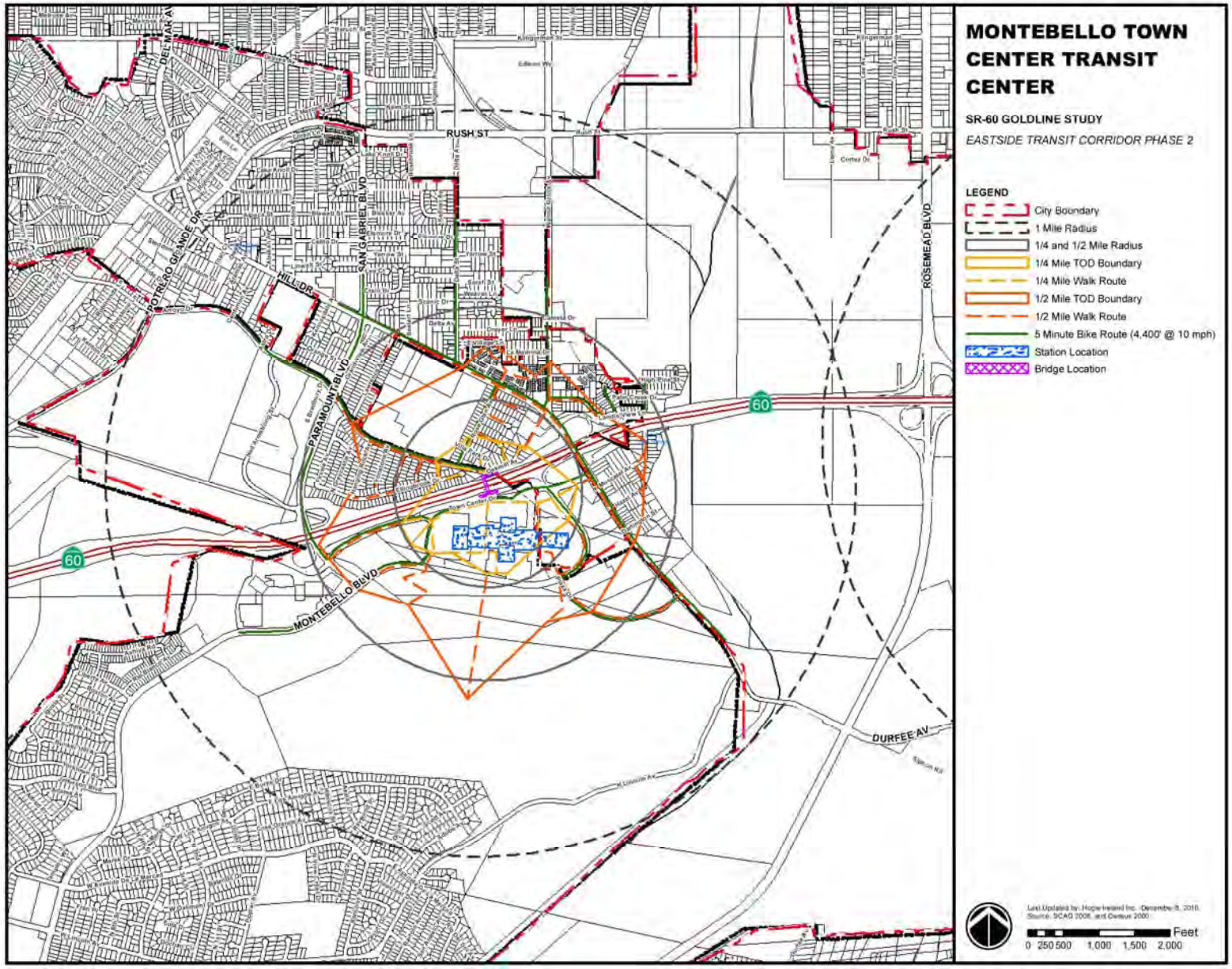
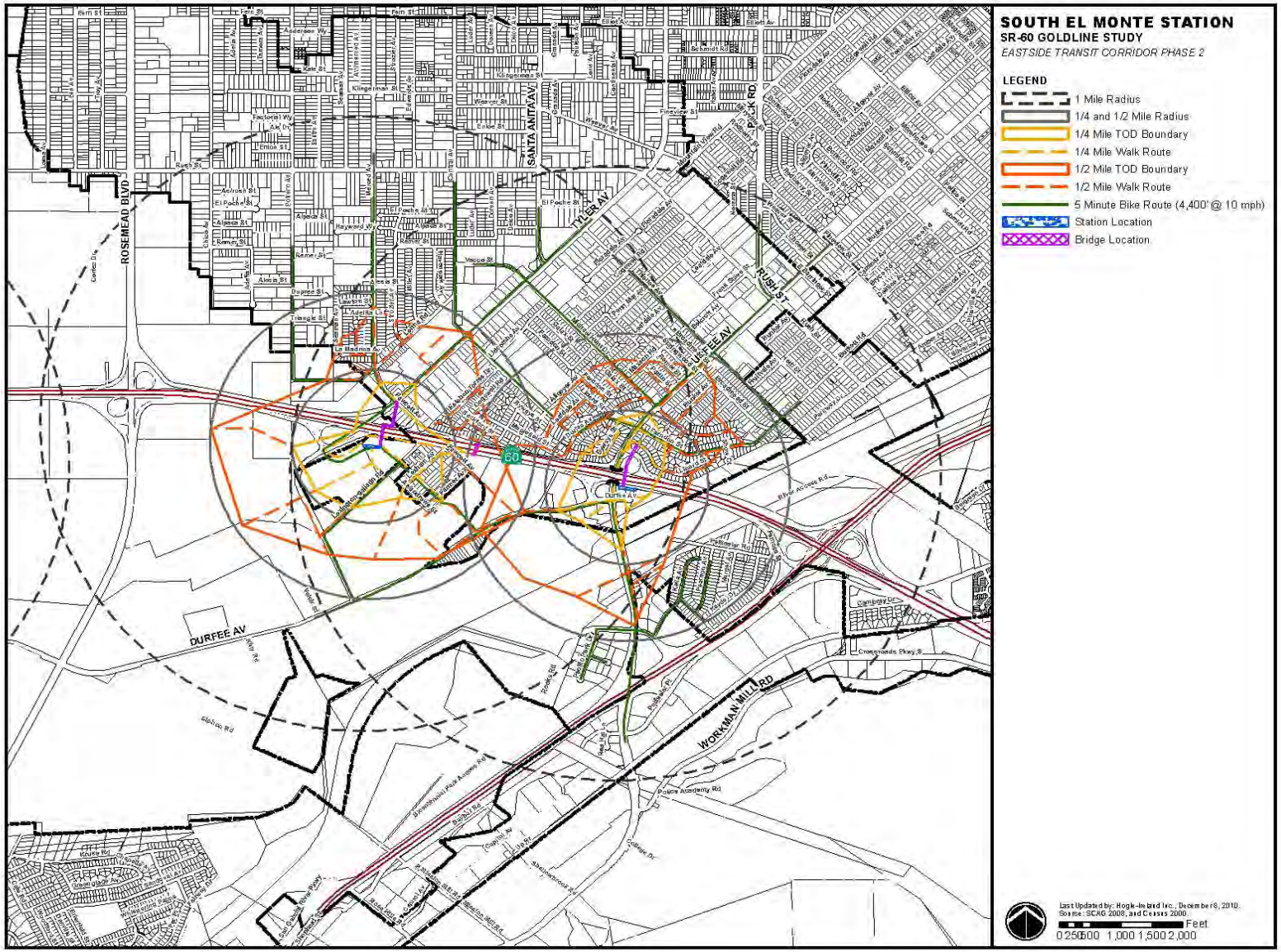


Figure 30: Pedestrian and Bike Sheds – Santa Anita and Peck Stations



16. Metro Alternatives Analysis Study SR 60 Opportunities

The Alternatives Analysis Report completed by Metro highlights a number of other opportunities for the SR 60 Corridor.

- Development of the SR 60 Transit Alternative will produce minimum negative community impacts.
- The SR 60 system has the lowest property acquisition costs of improved land since much is vacant.
- The SR 60 has the lowest negative impact on community cohesion since planned within the existing public freeway right-of-way.
- The SR 60 system has been determined to have the lowest level of negative visual and aesthetic impacts to the community.
- The SR 60 system will provide increased accessibility to parkland and the Whittier Narrows recreation area.

17. Benefits of SR 60 TOD

17.1 Key Economic Benefits

Research has shown that there are a variety of potential direct and indirect economic and fiscal benefits that would result from implementation of the SR 60 LRT line and development of the proposed TOD development, such as:

- Planning and construction period spending: capital investments and related economic and fiscal benefits
- On-going expenditures and associated economic benefits during SR 60 transit operations
- Economic and fiscal impacts of the proposed new residential and commercial development (new job development is shown in next section)
- Enhanced access resulting in broader market for business and broader job options for workers
- Shifted consumer expenditures from vehicles and fuel to more locally produced goods supports local economies
- Greater business economies of agglomeration by clustering complementary land uses and activities enabled by more public transportation and increased accessibility
- Increased local property values due to improved community livability and accessibility
- Travel and vehicle cost savings, reduced traffic congestions which creates lower costs, more business productivity, and more regional business growth from indirect impacts
- More worker productivity due to more public transportation and reliability
- Affordable workforce housing, which creates construction jobs, attracts employers and employees, increases consumer spending (more buying power), increases government revenues, and lowers the risk of foreclosure
- Decreased cost per rider with the addition of more public transit
- More transit encourages less auto ownership and produces less related cost, thereby increasing more household disposable income

Table 20:
Potential Generation of New Jobs – Garfield TOD District

Garfield Station TOD	New SF Proposed	SF Per Employee	Estimated # Employees
Child Care Center	4,000	1,131	4
Ridership and Locally serving Retail Plaza	217,000	383	567
Office	828,100	319	2,596
Subtotal	**1,049,100**		**3,166**
City of Monterey Park North Garfield Corridor			
MXD/Adaptive Re-use Retail w/Office above	120,000	351	**342**
Subtotal Estimated Jobs			**3,508**

Source: Institute of Transportation Engineers, US Dept of Energy, San Diego Assn of Governments - May 13, 2008

Table 21:
Potential Generation of New Jobs – Town Center TOD District

Shops at Montebello Town Center TOD (East Montebello)	SF	SF Per Employee	Estimated # Employees
Child Care Center	3,200	1,131	3
Ridership-serving and Retail/Entertainment Expansion*	187,300	383	489
Office*	1,249,330	319	3,916
Hotel Expansion*	37,500	1,020	37
Total Estimated Jobs			**4,445**

Source: Institute of Transportation Engineers, US Dept of Energy, San Diego Assn of Governments - May 13, 2008

Table 22:
Potential Generation of New Jobs – Santa Anita TOD District

Santa Anita Station TOD (West South El Monte)	SF	SF Per Employee	Estimated # Employee
Child Care Center	6,300	1,131	6
Ridership-serving Retail Plaza	51,900	383	136
Office/Hi-tech Business Park	766,500	405	1,893
Subtotal	**824,700**		**2,034**
North-side SR60 Santa Anita Avenue Civic Corridor to Central Avenue			
Locally-Serving Retail Services	179,100	588	305
Office	1,006,500	319	3,155
Subtotal	**1,185,600**		**3,460**
Total Estimated New Jobs			**5,494**

Source: Institute of Transportation Engineers, US Dept of Energy, San Diego Assn of Governments - May 13, 2008

Table 23:
Potential Generation of New Jobs – Peck TOD District

Peck Road Station TOD (East South El Monte)	SF	SF Per Employee	Estimated # Employees
Child Care Center	5,000	1,131	4
Ridership-serving Retail Plaza	69,900	383	183
Corporate HQ Office	333,000	319	1,044
Office	118,200	319	371
Subtotal	**526,100**		**1,601**
North-side SR60 Peck Road to Michael Hunt Drive			
Locally-Serving Retail Services	9,700	588	16
Office below Live/Work Units	30,000	228	132
Subtotal	**39,700**		**148**
Total Estimated New Jobs			**1,749**

Source: Institute of Transportation Engineers, US Dept of Energy, San Diego Assn of Governments - May 13, 2008

17.2 FTA Livability Grant Funding Criteria

The proposed SR 60 TOD development plans support the new FTA Livability Program funding criteria. These criteria include more transportation choices, affordable housing, economic competiveness, strategic TOD mixed-use land recycling, collaboration between agencies and local jurisdictions, Green sustainable plans, healthy, walkable, and bike-friendly neighborhood plan elements.

17.3 Caltrans Smart Growth Policies

Caltrans' strategies that support the TOD development promulgated by the SR 60 Corridor plan include:

- Encouraging improved coordination of land use and transportation planning at local and regional levels
- Facilitating the use and sale of state-owned land near major transit stations for TOD (primarily existing freeway rights-of-way)
- Examining state environmental review requirements in relation to TOD to determine whether changes may be indicated to reduce barriers
- Contributing to improved data on travel and economic impacts of TOD, and incorporating data into improved analysis and decision-making tools
- Providing information and technical assistance on TOD implementation

17.4 SCAG Compass Blueprint Goals

The SR 60 Compass Study development program, if implemented, will help attain SCAG Compass Blueprint goals:

- Community quality of life (better mobility, additional jobs, more affordable housing, better designed developments, better access to jobs, shopping, entertainment)
- Reduced auto dependence supports healthier residents as a result of more physical activity, which reduces both individual health care costs as well as public health expenditure
- Safety is enhanced by creating the proposed TOD active places that are busy through the day and evening and providing "eyes on the street" safety for pedestrians, transit-users, and many others is increased.
- Enhanced environmental performance (more sustainability, less driving, reduced CO_2 emissions, more walking/biking, more public transportation use)
- Increase transportation and housing choice while lowering costs
- Supporting economic vitality: access to jobs, lower business costs, less congestion). The SR 60 TOD can decrease infrastructure cost by developing more compact infill development within SCAG Compass 2% Strategy areas.

17.5 Affordable Housing

This Compass Study proposes the conceptual development of 3,100 new residential units. The proposed residential uses near transit can add to the supply of affordable housing and free up more income for housing with increased transit versus auto expenditures. More affordable housing also helps these communities meet regional fair-share housing requirements.

17.6 Increase Transit Ridership and Connectivity

The following Study Area factors indicate a higher need for and propensity to use public transportation:

- SCAG forecasts show population growth rates along the Corridor and TOD area that are higher than the SR 60 Study Region. With inclusion of the Compass TOD development program, SCAG Corridor growth projections will be higher (i.e., 8.2% job growth without TOD development and 15.3% growth when included).

- SCAG Trip Forecast Analysis shows a higher propensity for SR 60 Corridor and TOD zone residents to use public transportation than for the region.
- Corridor cities have a good CTOD Transit Connectivity score as compared with Los Angeles baseline study area data.
- Several SR 60 Corridor Cities have a higher a percentage of persons who travel to work by public transit, via bicycle, or by walking than Los Angeles County residents as a whole.
- 21% of households within a 10-minute drive-shed of the Garfield Station do not have a vehicle; this compares with 13% for Los Angeles County.
- Virtually all SR 60 Study Area households have lower average incomes than the comparative Los Angeles County average income. Poverty levels are higher as well.
- Most SR 60 Corridor Cities have higher percentages of persons under the age of 18 and over 65 years than county-wide, indicating robust transit-dependent populations.
- There are over 200,000 estimated jobs within a 10-minute drive-shed from the Garfield Station; with enhanced first/last mile access and Complete Streets (see Figure 33) improvements, people who work near transit will be much more likely to ride transit.
- The SR 60 LRT will increase connectivity to shopping, jobs, schools, medical and other major activity centers. A better link between jobs and transit helps to achieve Smart Growth, Livability, and SCAG Compass goals.

17.8 Metro Alternatives Analysis Report Benefits of the SR 60 Alignment

- Minimum negative community impacts
- Fastest travel times
- Comparable ridership figures to other alternative with Regional Connector figures
- Lower property acquisition of improved land–mostly vacant
- Lowest impact on community cohesion
- Lowest level of negative visual and aesthetic impacts
- Increased accessibility to parkland and Whittier Narrows recreation area

IV. Urban Design, Connectivity, and Sustainability Strategies

A. Urban Design and Station Area Strategies

This section describes and illustrates the long-term visions for potential at the four station districts over the next 30 years. All SR 60 TOD study plans prepared by the consultant team are conceptual and have not been approved by any governing board or property owner. The SCAG SR 60 consulting assignment did not provide for formal community or stakeholder input or city approvals.

Opportunities and constraints and preliminary concepts were only informally reviewed by Coalition cities and staff. The consultant team was requested to use best practices and professional judgment to envision the final SR 60 TOD plans that endeavor to maximize public benefits under ideal conditions, presuming future approval from local jurisdictions and concurrence by property owners. City officials may not be in favor of any immediate changes, but over 30 years, as conditions may change these plans could be realized.

Based on the opportunities and constraints analysis, these TOD plans and development programs seek to provide transit-supportive and employment-generating activities that will enhance the ridership cost/benefits for the Metro Gold Line extension along the SR 60 corridor. To overcome inherent obstacles to serving ridership on the north side of the SR 60, pedestrian bridges are proposed at three of the four stations.

Because of the distant time frame involved, these TOD plans propose a level of intensity of mixed uses not currently present. The plans also seek to provide a strong civic focal places character and pedestrian-friendly connectivity essential for successful transit districts. Due to varied physical conditions and site opportunities, the four TODs are quite diverse in their overall built character, but all share a sense of place provided at the station nodes.

It is imperative that all the jurisdictions affected by these TODs assure that long-term development occurring prior to the extension of the SR 60 Gold Line is transit supportive and will not preclude that opportunity for the future state. In the interim, a bus rapid transit mode should be explored as an initial stage and catalyst for serving these nodes of increased intensity and land value.

1. Development Programs

1.1 Garfield Avenue Station TOD - Cities of Montebello and Monterey Park

The Metro station is located just east of Garfield Avenue on the north side of Via Campo in the City of Montebello. This will be the first new station to the east of the existing Atlantic station in East Los Angeles, the current termination of the Eastside Gold Line.

The southwest quadrant of this intersection of Garfield Avenue and Via Campo contains the open space of the Montebello Golf Course and Country Club, an amenity element for this TOD. The municipal golf course and the Our Lady of Miraculous Medal Church/School campus to the south form basic extension limits to a TOD on the south side of the SR 60 freeway. To the north, the SR 60 is the basic barrier, and the restricted underpass on Garfield heading north is viewed as a nonfriendly passage for pedestrians.

With these constraints, the TOD opportunity extends primarily in the east-west direction parallel to Via Campo. In the southeast quadrant, a plaza is proposed as the focal place, with definition and activation by retail with office above and ground uses serving transit users and local residents, including a couple of multistory office buildings that create landmark elements. Parking for these uses is provided in addition to commuter spaces in the adjacent PNR (park & ride) structure, with direct pedestrian bridge access from the station. Street edges are defined by these uses. A rental bike and neighborhood electric vehicle station is located in a preferable location on the plaza rather than the constrained location at the station.

Via San Clemente, at the golf course, is extended east as a pedestrian-scaled spine street, providing connectivity for a new development corridor extending east of Wilcox Avenue and terminating at the existing big box retail center just over a 10-minute walk from the station. Multifamily higher-density podium courts (with parking below) line the south side, while low-rise office and retail/with surface parking, line the north side within smaller block increments. A child care facility anchors the western end at Garfield Avenue, convenient to Metro users.

The southwest quadrant features an expanded corner parcel to accommodate a defining street edge of mixed-use retail with office above, including a multistory office building, central parking structure serving this site, and a mix of low-rise office and multifamily podium court, capitalizing on the view amenity and bordering the municipal golf course. To accommodate this expanded site, four fairways would need to be shortened but yardage could be increased at other locations on the course.

Bus drop-off bays and KNR (kiss & ride) occur along both sides of Garfield Avenue and along the south side of Via Compo opposite the station. The SR 60 underpass on Garfield, the crucial link to the north side TOD, should be widened and enhanced for pedestrian safety and accommodation, with better lighting, barrier bollards, and colorful murals or creative advertising on walls.

Within the TOD north-side area (in City of Monterey Park), development opportunities exist along the Pomona Boulevard and Garfield Avenue, where 100-foot-deep parcels backed by alleys. Multistory office buildings are proposed (structure parked) flanking the gateway corners at Garfield/Pomona. The balance of these corridor zones have transformation potential for incremental, varied lot size infill alternatives such as renovation of existing sites and buildings, new mixed-use parcels with various combinations (retail/office, live/work with retail or office and lofts above), or apartment levels above—all served by the existing alleys (widened), with landscaping to buffer adjacent residential lots sharing the alleys. These long blocks are broken by several access alleys off the arterials.

Garfield Avenue (north and south of SR 60) and Via Compo east of the Garfield existing right-of-way should be reconfigured to include on-street bike lanes (an essential component to TOD), parking bays, enhanced sidewalks with canopy shade trees, benches, trash receptacles, pedestrian-scaled lighting, banners, improved commercial signage, a landscaped median with left-turn pockets, and pedestrian crosswalk corners with enriched paving and protective bollards to provide walkable Complete Streets.

Table 24:
Garfield TOD Development Program Summary

Garfield Station TOD (West Montebello)	Sq. Ft.	Dwelling Units	Parking Provided
Bike Station	2,500		
Child Care Center	4,000		12
Ridership & Locally-serving Retail Plaza	217,000		1,273
Office	828,100		1,656
Residential		884	1,166
Park and Ride			344
City of Montebello sub-total:	**1,051,600**	**884**	**4,107**
City of Monterey Park North Garfield Corridor			
MXD/Adaptive Re-use Retail w/Office above	120,000		240
Residential/Potential Live/Work Units		122	159
Monterey Park sub-total:	**120,000**	**122**	**399**
Total Garfield Station TOD:	**1,171,600**	**1,006**	**4,506**

Figure 31: Garfield Avenue Station TOD Plan

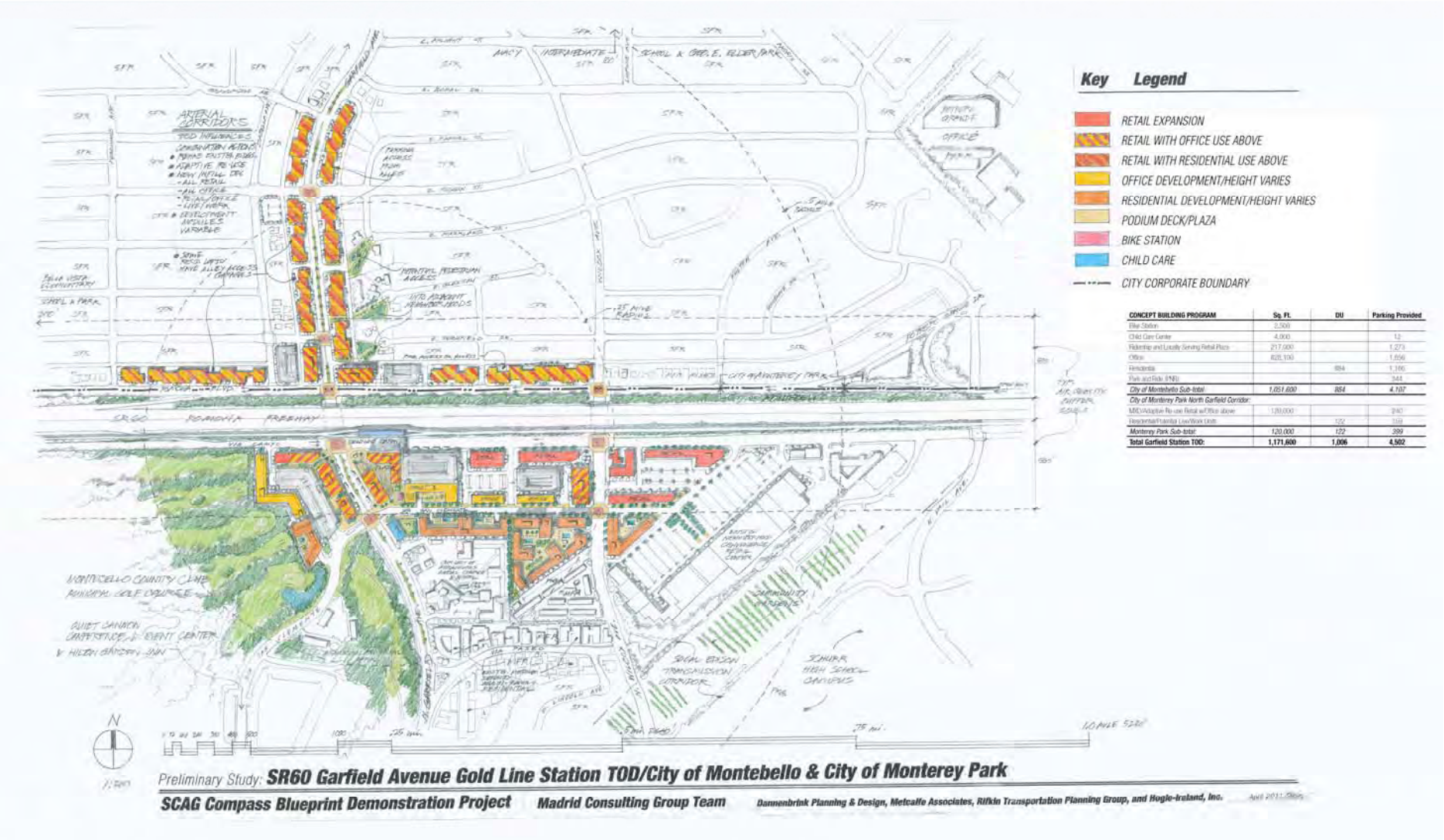


Figure 32: Garfield Avenue Station TOD Cross Section

Figure 33: Generic Complete Streets Cross Section View

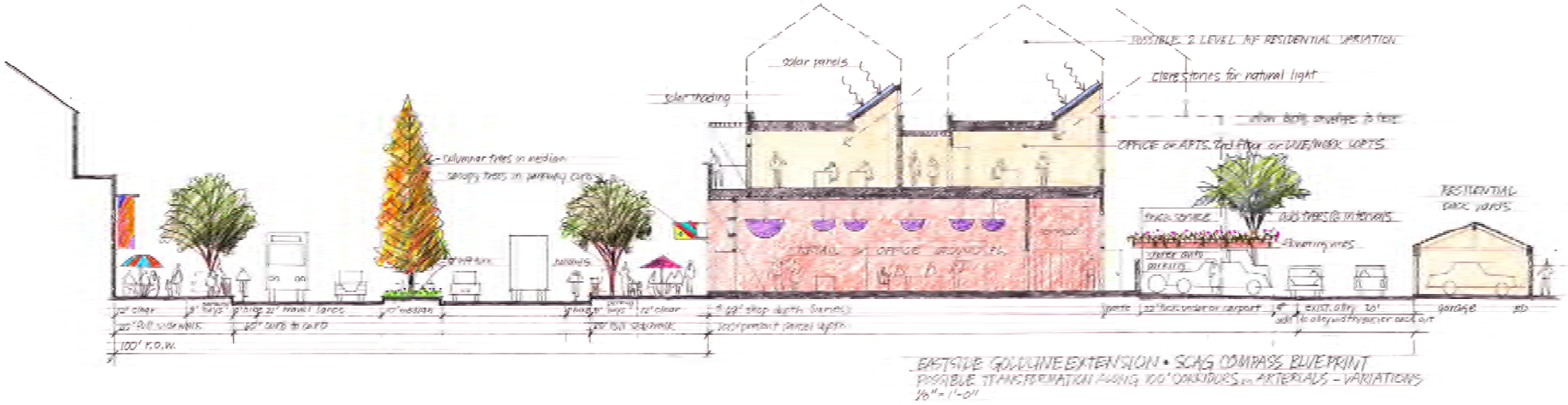


Figure 34: Garfield Avenue TOD–Birdseye View

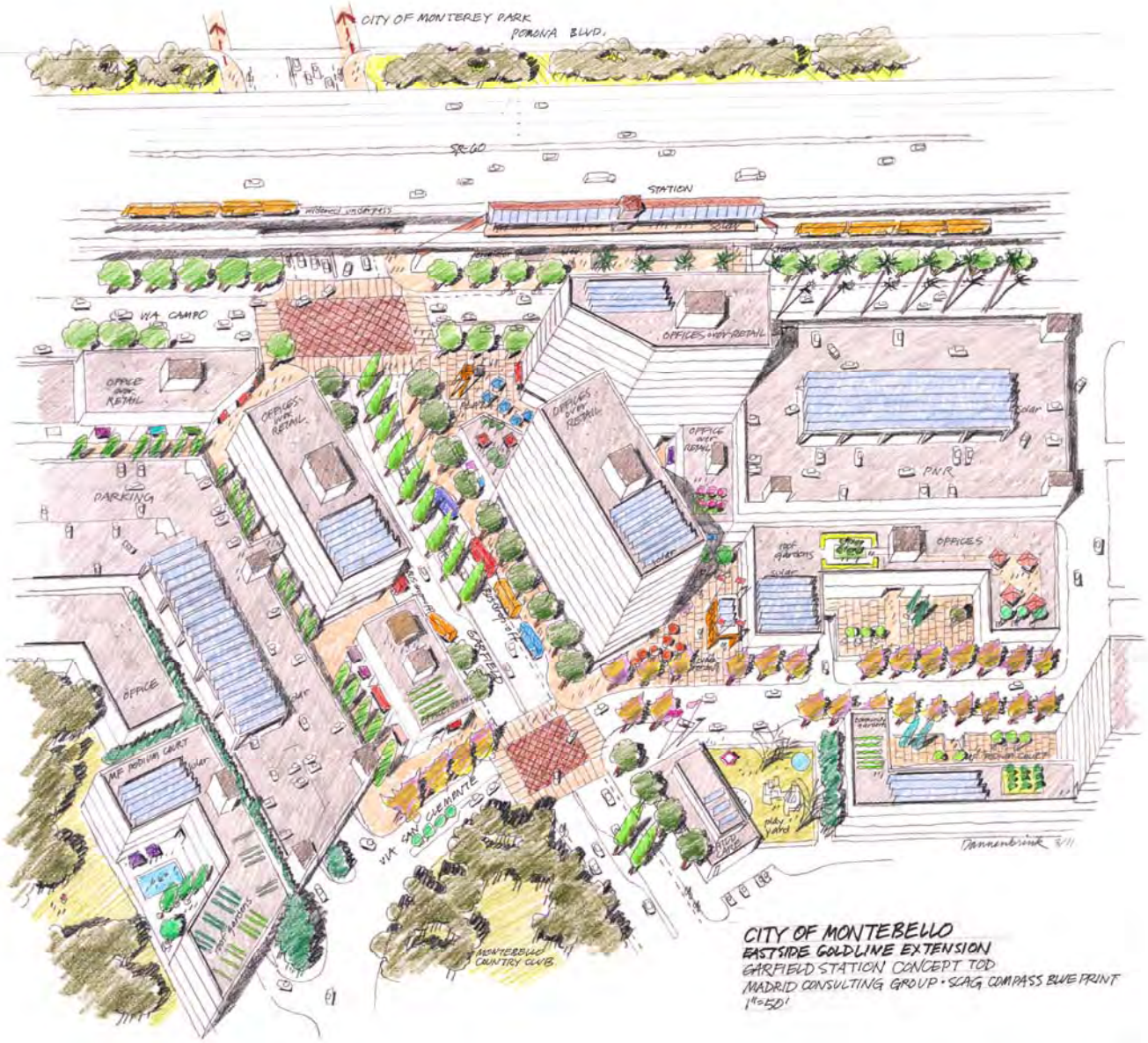
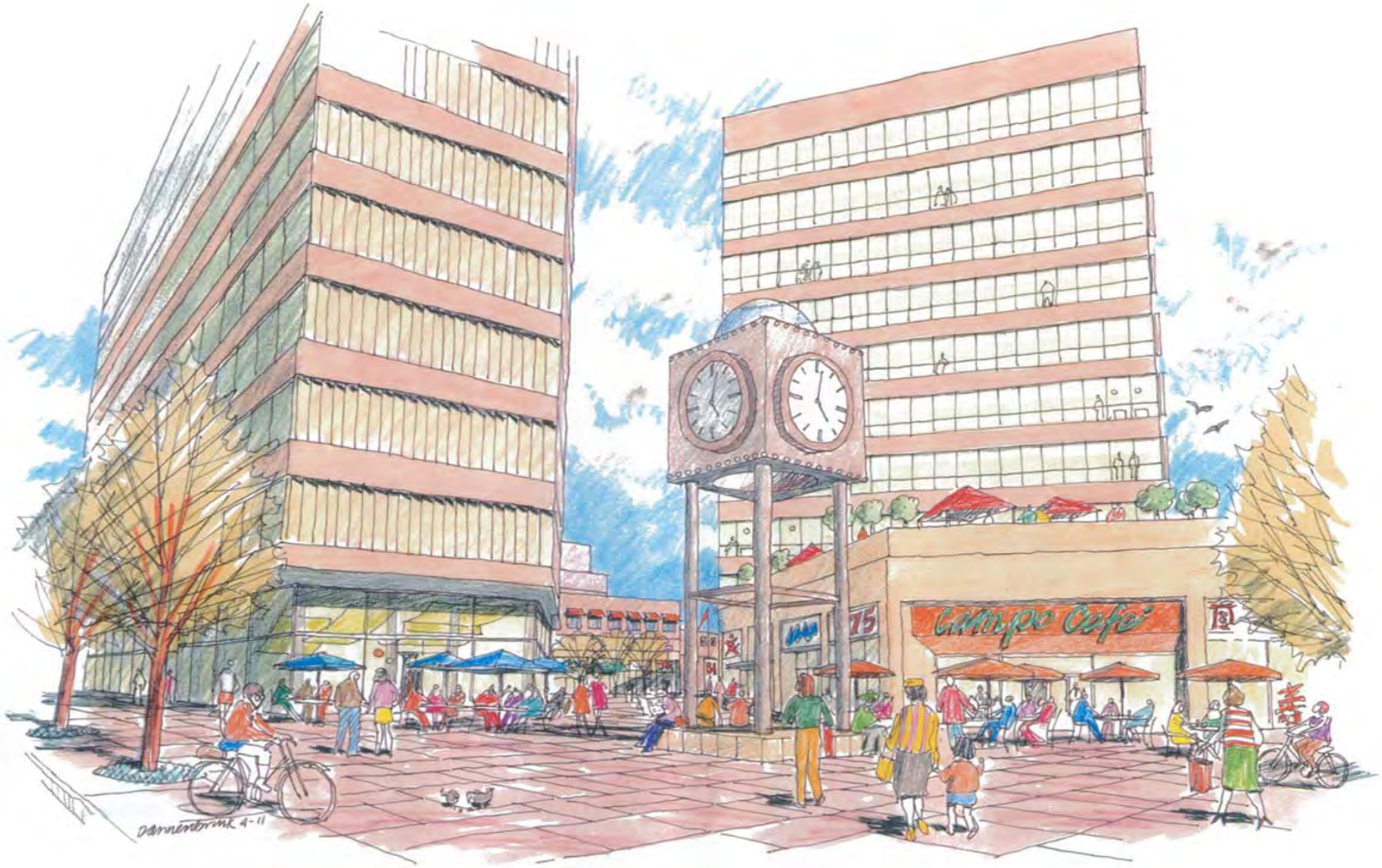


Figure 35: Garfield Avenue Station TOD—View into Plaza



1.2 Montebello Town Center Station TOD - Cities of Montebello and Rosemead

The Montebello Town Center Metro station is located approximately one-quarter mile from San Gabriel Boulevard. This represents a minor adjustment to Metro's proposed location, shifting about 600 feet to the east to enable a better pedestrian connection into the present two-level regional mall *The Shops at Montebello*, as well as siting of a PNR (Park & Ride) structure and infill opportunities. Because of this lengthy distance to the crossing arterials—San Gabriel Boulevard (1/4 mile) and Rosemead Boulevard (1/2 mile)—a pedestrian bridge over SR 60 is proposed to provide rider access to the north side at this TOD and thus a vastly expanded service area. This bridge occurs at an opportune location where the SR 60 right-of-way is directly contiguous to a local street, Oak Mill Avenue.

This TOD offers the prospect for transformation of an archetypal suburban shopping mall into a true town center, with integrated infill of retail, office, expanded medical office, entertainment, higher-density residential, and replacement structured parking on existing surface parking areas. The fringe area offers a potential expansion of hotels, a prestigious office complex, and on the east side of San Gabriel Boulevard, a mixed-use sector of retail, office, live/work, and higher-density residential within a 10-minute walk of the station. The arrangement also creates views to the adjacent Whittier Narrows open space.

Directly adjacent to the station is an infill cluster containing a promenade lined with retail (tucked under parking) connecting to the mall at the present food court, which can become an indoor piazza reception point. Bridges from the parking level could also link into the mall at this point. The structured parking here provides for the PNR replacement for displaced mall parking, and the infill uses including two multistory office buildings as landmark elements and added on-site customer base. Specialty food markets and expanded medical offices at the present Kaiser facility are additional infill uses on this north side level. Existing surface parking is retained strategically to maintain view windows to the major tenant stores. An additional replacement parking structure is located at the west end of the mall, with potential direct bridge access into an anchor-tenant store.

The upper-level parking area on the south side of the mall has added infill multifamily low-rise podium courts and two landmark multistory apartment buildings, all self-parked, in addition to replacement parking for the mall. The residential adds 24-hour vitality and added transit ridership as well as an on-site customer base, all within a 5-minute walk of the station. A potential multi-screen cinema and child care facility are also infill elements on this upper south-side level.

A possible inclined rail transit, like Downtown Los Angeles' Angels Flight, could be built up the slope to the south of Montebello Boulevard, linking the proposed residential community and bringing this additional ridership potential within 10 minutes of the station, with the added attraction of a special landmark feature and experience.

The existing hotels offer support to business uses as well as travelers. The hotel directly opposite the mall might be enlarged with a pedestrian bridge directly linking into the mall. An office complex (structure parked) could anchor the southerly portion of this plateau, with views into the Whittier Narrows open space, including a potential 20-story corporate-type tower providing punctuation for this TOD.

The area east of San Gabriel Boulevard (unincorporated Los Angeles LOS County) within a 10-minute walk of the station could be transformed into a small block sector with mixed-use retail, office, live/work, and townhomes providing street edge definition, with off-street parking behind the commercial uses. The interior small blocks contain low-rise office podium courts (parking under) and higher-density multifamily

residential podium courts (parking under), with "crescent arcs" exploiting the visual amenity of Whittier Narrows.

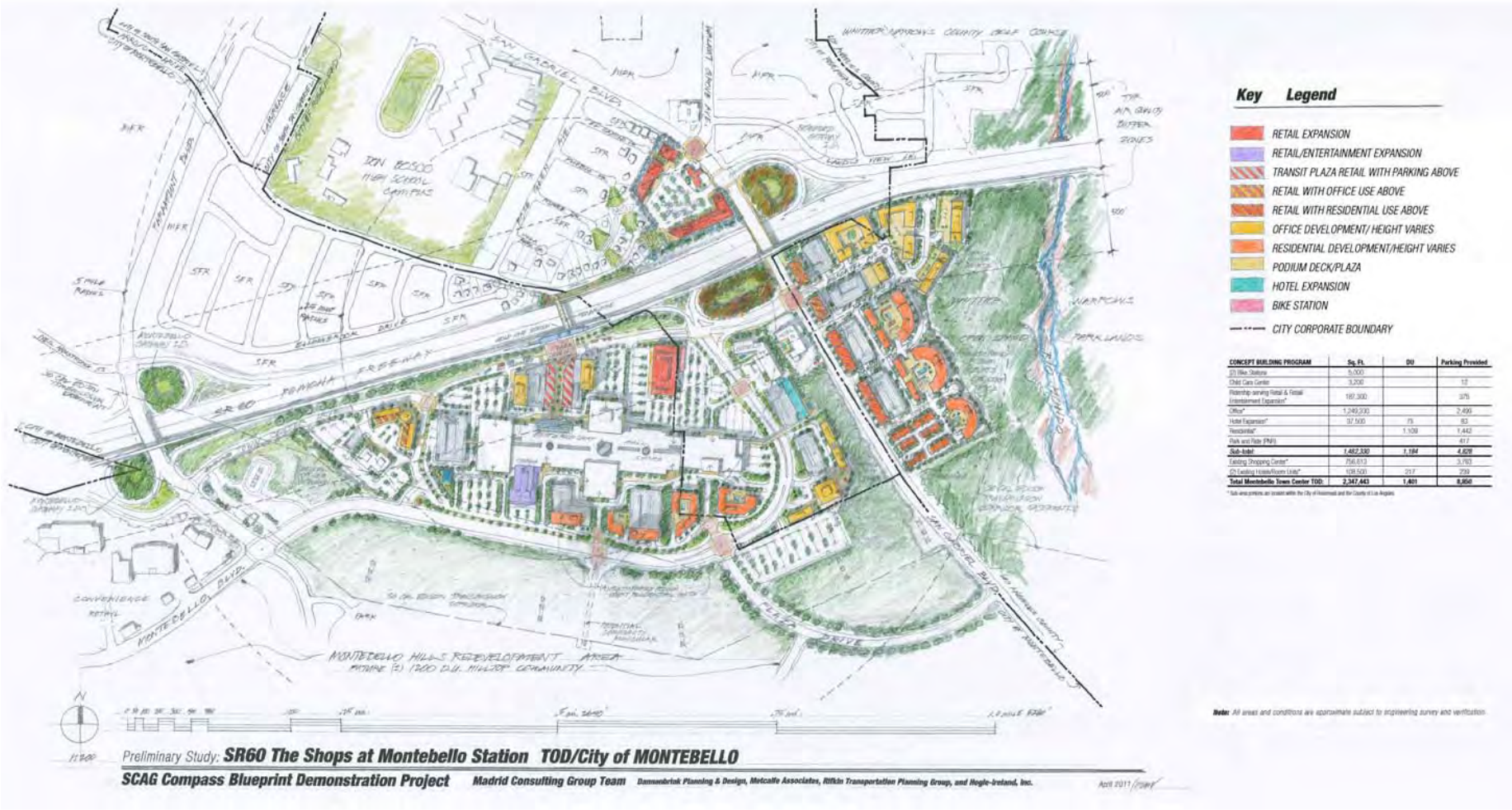
On the north side of SR 60, a small redeveloped retail service complex fronting San Gabriel Boulevard with direct freeway exposure is proposed to better serve this area, which currently contains many medium-density condominium units and the Don Bosco Technical High School, all within 10 minutes of the station via a pedestrian bridge.

The interchange loops at Paramount Boulevard (Montebello) and San Gabriel Boulevard (Rosemead) are proposed to be landscaped lots with individualized palettes (a dominant theme tree) to provide city identity at these gateway locations.

Table 25:
Montebello Station TOD Development Program Summary

Montebello Town Center TOD (East Montebello)	Sq. Ft.	Dwelling Units	Parking Provided
(2) Bike Stations	5,000		
Child Care Center	3,200		12
Ridership-serving & Retail/Entertainment Expansion*	187,300		375
Office*	1,249,330		2,499
Hotel Expansion*	37,500	75	83
Residential*		1,109	1,442
Park and Ride			417
Sub-total New Development:	**1,482,330**	**1,184**	**4,828**
Existing Shopping Center*	756,613		3,783
(2) Existing Hotels/Room Units*		217	239
Total Montebello Town Center TOD:	**2,238,943**	**1,401**	**8,850**
* Sub-area portions are located within the City of Rosemead and the County of Los Angeles			

Figure 36: Montebello Town Center TOD Plan



CONCEPT BUILDING PROGRAM	Sq. Ft.	DU	Parking Provided
(2) Bike Stations	5,000		
Child Care Center	3,200		12
Ridership-serving Retail & Retail Entertainment Expansion*	187,300		375
Office*	1,249,200		2,499
Hotel Expansion*	37,500	75	83
Residential*		1,109	1,442
Park and Ride (PNR)			417
Sub-total	**1,482,200**	**1,184**	**4,828**
Existing Shopping Center*	756,613		3,783
(3) Existing Hotels/Rooms Only*	108,500	217	299
Total Montebello Town Center TOD:	**2,347,443**	**1,401**	**8,950**

* Sub-area portions are located within the City of Montebello and the County of Los Angeles.

Note: All areas and conditions are approximate subject to engineering survey and verification.

Figure 37: Montebello Town Center Station TOD—Cross Section View

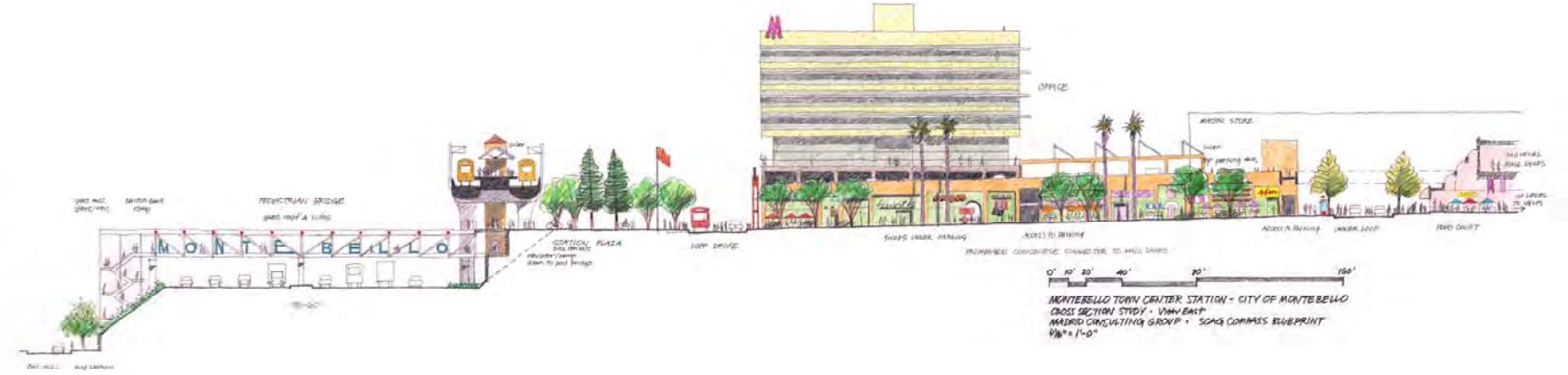


Figure 38: Montebello Town Center Station TOD–Birdseye View

Figure 39: Montebello Town Center Station TOD—Birdseye View

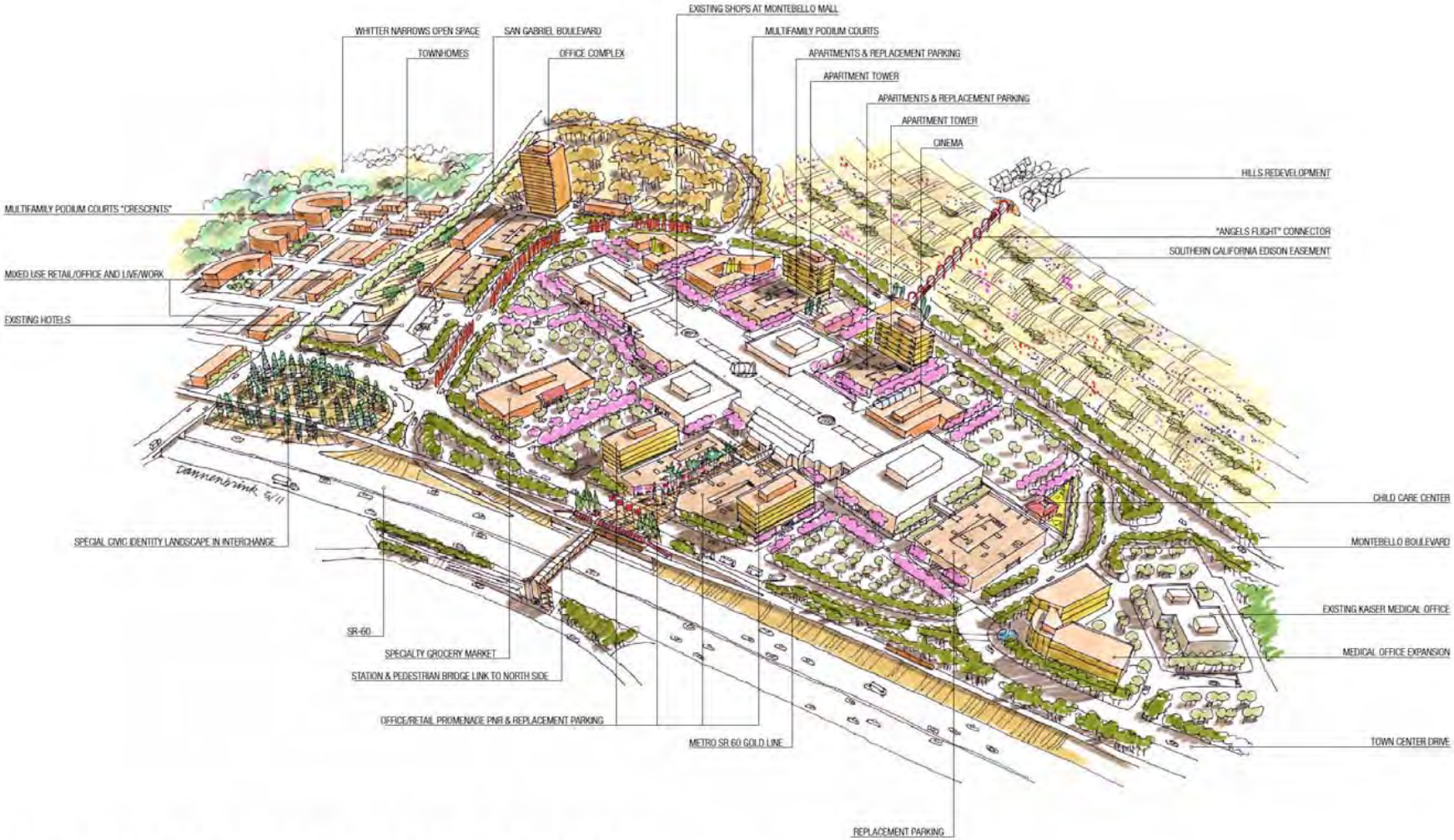


Figure 40: Montebello Town Center Station TOD—View into Promenade

VIEW FROM MONTEBELLO TOWN CENTER STATION INTO PROMENADE LINK TO MALL SHOPS

1.3 Santa Anita Station TOD - City of South El Monte

The Gold Line track corridor pulls away from direct adjacency to the SR 60 at this station location for engineering reasons due to the freeway interchange with Santa Anita Avenue and its overcrossing of the freeway. This station is directly adjacent to a nearly 30-acre undeveloped area which presents a marvelous opportunity for development supportive of a TOD and creation of a great new place-setting and economic catalyst for the City of South El Monte. This site is directly adjacent to the Whittier Narrows Recreation Area, offering both visual and recreational amenities. However, this area is constrained by U.S. Army Corps of Engineers (USACOE) restrictions. The USACOE owns a 7-acre parcel and has a flow easement over the entire site which prohibits any residential use. A long eastbound access ramp to SR 60 also constrains pedestrians' access to the north side of the TOD.

To access the station, a new street is proposed, connecting opposite the SR 60 eastbound off-ramp to Santa Anita Avenue and proceeding east past the station to the corner of Lexington-Gallatin Road and Andrews Street. The area immediately adjacent to the station is proposed as a small grid block village-like complex of office podium courts (2, 3 and 4 stories, with parking underneath), with a focal plaza opposite the station. The plaza is flanked by low-rise mixed-use retail/office above and an 8-story office landmark tower, all parked in a contiguous public PNR structure with additional capacity for the commercial uses.

The plaza area is linked by a promenade spine street flanked by landscaped open space to provide connectivity to Santa Anita Avenue and the Whittier Narrows open space via a pedestrian bridge.

The office podium blocks have alternately views into courtyards, the internal open space, and into Whittier Narrows. A child care facility (beyond the 500-foot freeway edge) is also provided for commuters' convenience. A small retail convenience center is located along Santa Anita Avenue directly across from the recreation area to serve users of the park. This site borders the Los Angeles County Sheriff's training and maintenance facility. Due to the USACOE requirement to preserve flow easement across the entire site, no fill can occur, and first-floor levels must be above the critical elevation to avoid inundation. The depressed parking levels are not restricted.

To overcome the imposed residential restrictions and walking distance distances to the north-side TOD, a pedestrian bridge and connecting ramp is proposed over SR 60 to link to the intersection of Santa Anita Avenue and Fawcett/Merced Avenue. A curved ramp facilitates the grade transition down to the street corner. This ramp is supported on a mounded overlook fill area landscaped with a themed palette for all quadrants at this interchange to provide a city identity element. An iconic pedestrian bridge can reinforce city identity and display creative night lighting.

The north side of the TOD is proposed to be redeveloped as a linear corridor along Santa Anita Avenue, creating a Civic Corridor Downtown from Fawcett/Merced Avenue to Michael Hunt Drive. The depth of existing parcels flanking Santa Anita Avenue afford the opportunity to introduce smaller block increments of mixed uses to provide greater pedestrian walkability and scale. Because this area is within a City redevelopment area, opportunities exist for phased redevelopment by multiple participants regulated by an integrated specific plan.

Streetfront definition is maintained along Santa Anita Avenue with a potential mix of retail with office above or lofts, and a small lifestyle shopping plaza across from Shively Park. Several blocks might contain multistory (2, 4, and 5 stories) office buildings at the gateway corner of Santa Anita and Fawcett/Merced, and also at the corners opposite the Civic Center at Central Avenue, all supported by structured parking. Some high-tech office/green industries uses are shown on the northerly end of the corridor facing a new street. A restaurant on the northwest

corner Santa Anita and Fawcett/Merced hotel site would complete the definition of this important entryway.

To reduce the deep parcel depth into smaller blocks, a new street is introduced parallel to Santa Anita, flanked by multifamily podium courts (2-4 story) as transition to single-family dwellings behind live/work at Central Avenue and townhouses (alley served) opposite New Temple Park. This approach maintains a smaller-scale residential character along Lidcombe Street. Several paseos extend the new short streets of Santa Anita directly into the adjoining single-family neighborhood to provide pedestrian connectivity to the new corridor development and to the station via the pedestrian bridge; the bridge results in a 5- to 10-minute walk to the station.

Additional multifamily podium courts are included on the north side, with direct access into Shively Park. All these multifamily infill sites on north side of SR-60 represent a trade-off for the USACOE restrictions on residential development immediately adjacent to the station.

The U.S. Army Reserve Center on Lerma Road is shown redeveloped as a garden office park of several 4-story buildings (structure parked), with direct views into Whittier Narrows and also a 5- to 10-minute walk to the station via the bridge.

The Santa Anita Avenue right-of-way is revised to include on-street bike lanes (a crucial mode for extending station access), parking bays, landscaped median (with left-turn pockets), canopy shade parkway trees, (pervious cut-outs for rain water conservation), and pedestrian amenities like benches, trash containers, low-scaled lighting theme fixtures, banners, improved commercial signage, and enriched paving and bollards to increase safety for pedestrians at cross-walks.

Table 26:
Santa Anita Station TOD Development Program Summary

Santa Anita Station TOD (West South El Monte)	Sq. Ft.	Dwelling Units	Parking Provided
Bike Station	2,500		
Child Care Center	6,300		16
Ridership-serving Retail Plaza	51,900		104
Office/High-tech Business Park	766,500		1,553
Park and Ride			700
Sub-total:	827,200		2,373
North Side SR60 Santa Anita Avenue Civic Corridor to Central Avenue			
Bike Station	2,500		
Locally-Serving Retail Services	179,100		358
Office	1,006,500		2,013
Residential		563	846
Sub-total:	1,188,100	563	3,217
Total Santa Anita Station TOD:	2,015,300	563	5,590

Figure 41: Santa Anita Avenue and Peck Road Station TOD Plans

Figure 42: Santa Anita Avenue Station TOD–Cross Section

Figure 43: Peck Road Station TOD–Cross Section

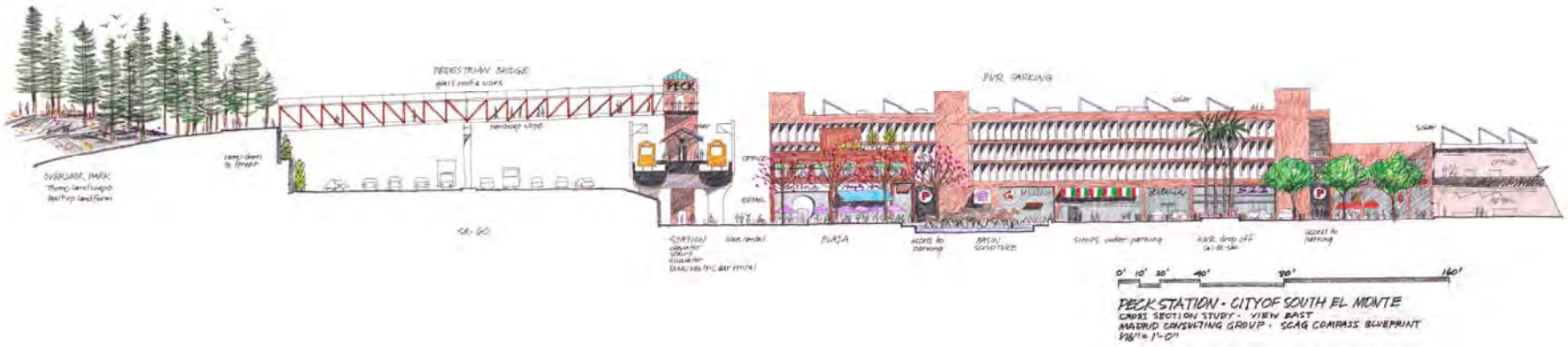


Figure 44: Peck Road Station TOD—Birdseye View

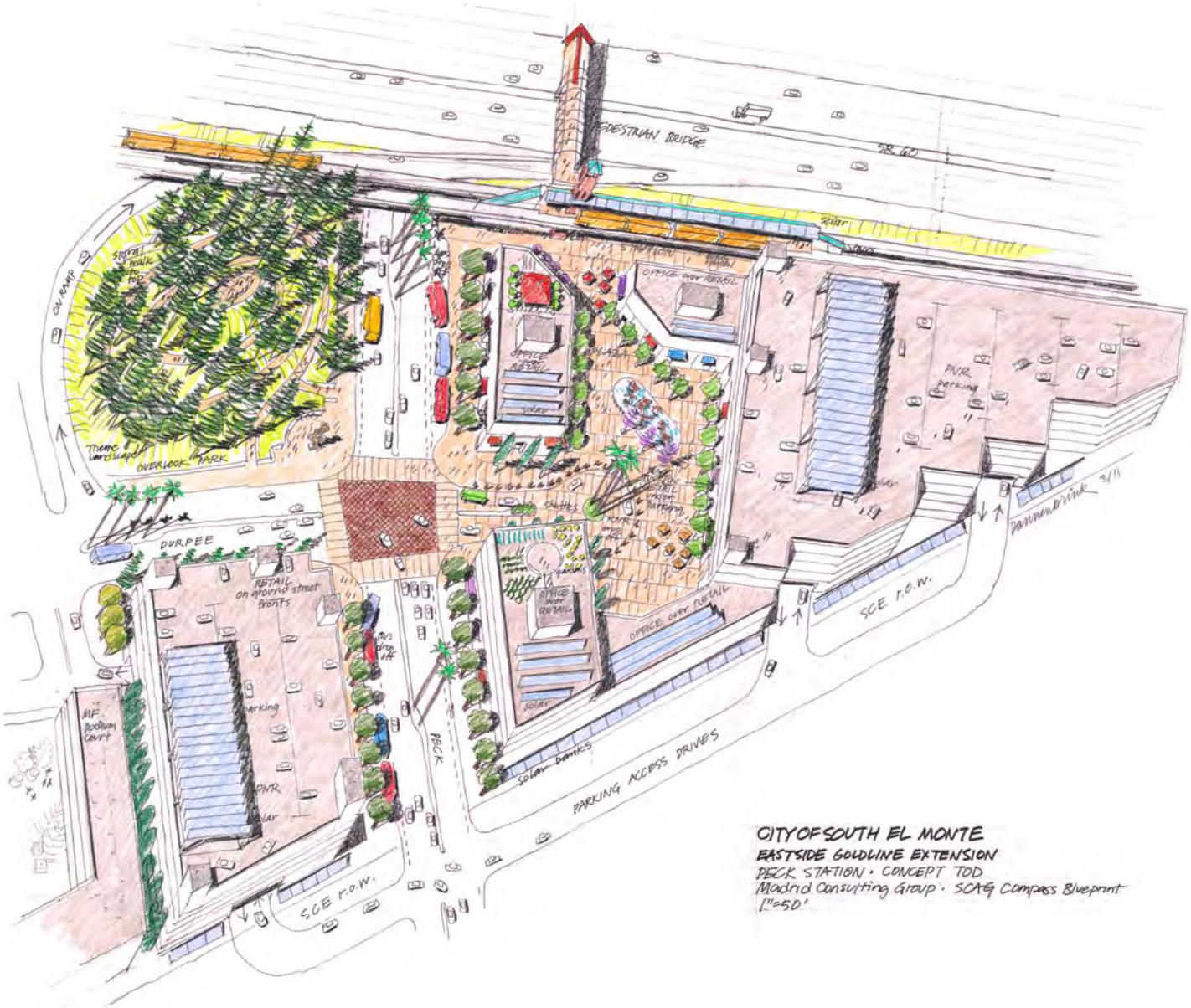


Figure 45: Santa Anita Avenue Station TOD—Birdseye View

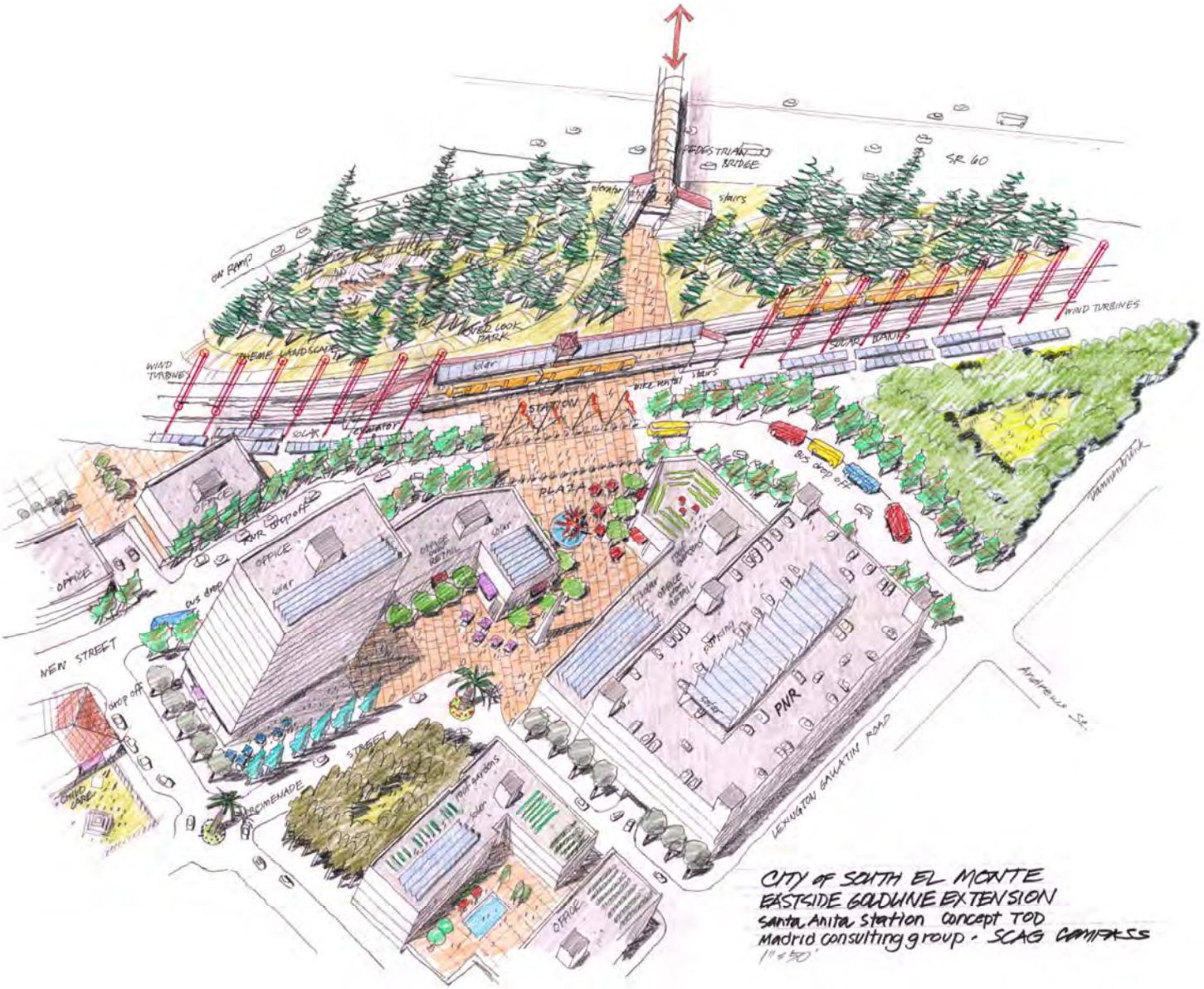


Figure 46: Santa Anita Avenue Station TOD—View into Plaza

Figure 47: Peck Road Station TOD—View into Plaza

1.4 Peck Station TOD - City of South El Monte

The Metro station is located immediately east of Peck Road in a triangular area bounded by SR 60, Peck Road, and a Southern California Edison right-of-way paralleling the San Gabriel River Channel. A focal place plaza directly adjacent to the station is defined and activated by retail serving riders and residents, with office above and a 4-story office block all parked in a large adjacent PNR structure. Street edge definition is maintained along Peck Road. Since this is the end of the line station (for this Gold Line phase), this station will intercept many commuters coming from the east by car and transferring to Metro for continued travel to Los Angeles. An existing cul-de-sac (Durfee Avenue) penetrating into this area is retained but shortened (with bollard definition) to serve KNR drop off, taxis, and local shuttle-type buses.

The northwest corner of Peck Road and Durfee Avenue is access-constrained by the eastbound freeway on-ramp. To compensate, short-length frontages and turning movements at two corners are converted into a mounded overlook park with a distinctive landscape palette (same as at the Santa Anita Station) for city identity.

The southwest corner at this intersection contains another potential PNR structure (to add capacity), with ground-level street frontage retail to activate the street edge. A multifamily podium court and child care facility is located directly adjacent to west. Both of these have a direct view into Whittier Narrows, where community gardens might be sited. Regular long-haul bus drop-off bays are provided on both sides of Peck Road at this transfer point.

While the station is directly adjacent to the Peck Road underpass of SR 60, several factors make pedestrian movement via a sidewalk unpleasant and unsafe. The underpass itself is not a pleasant experience, and three existing SR 60 on- and off-ramps on the east side and one on-ramp on the west side further impede safe pedestrian movement to the north side TOD. A pedestrian bridge is proposed, with a long, handicapped-accessible ramp with landing past the last freeway off-ramp. This pedestrian ramp is supported by an overlook mound created with fill and landscaped with the same identity landscape palette as on the south side. This treatment creates a safer and more pleasant pedestrian access to the north side, thus expanding the ridership potential at this station. These mounded overlook landscape elements and pedestrian bridge provide a strong identity image at this gateway into South El Monte. Acquisition of some single-family residential lots can provide access into the adjoining neighborhoods (with internalized closed street patterns), thereby expanding ridership potential on this north side.

Potential live/work development (with alley access) is proposed on the east side of Peck Road from Fardon Street to Michael Hunt Drive. New infill commercial pads and townhouses are proposed on the edge of the existing senior housing facility.

Peck Road and Durfee Avenue should be revised to include on-street bike lanes (to enhance that mode to expand station access), parking bays, landscaped medians with left-turn pockets, parkway canopy shade trees with pervious cut-outs to conserve rainwater, pedestrian benches, trash bins, improved commercial signage, low-scale pedestrian lighting, and enriched paving and bollards at pedestrian crosswalks to produce Complete Streets (see Figure 33). The Peck Road underpass of SR 60 should be enhanced with better lighting, protective bollards along sidewalks, and perhaps murals or creative advertising on walls to make a more pleasant passage for pedestrians who may choose not to use the pedestrian bridge overcrossing.

Previous Figure 47 shows the conceptual site plan for the Peck Road station.

Table 27:
Peck Avenue Station TOD Development Program Summary

Peck Road Station TOD (East South El Monte)	Sq. Ft.	DU	Parking Provided
Bike Station	2,500		
Child Care Center	5,000		14
Ridership-serving Retail Plaza	69,900		140
Corporate HQ Office	333,000		1,000
Office	118,200		236
Residential		106	
Park and Ride			1,770
Sub-total:	**528,600**		**3,160**
North Side SR 60 Peck Road to Michael Hunt Drive			
Bike Station	2,500		
Locally-Serving Retail Services	9,700		55
Office below Live/Work Units	30,000		60
Live/Work Units		15	30
Townhomes		11	17
Sub-total:	**42,200**	**26**	**162**
Total Peck Road Station TOD:	**570,800**	**132**	**3,322**

5. Development Density

Table 28 summarizes the rough development densities by station TOD zones. It shows that the proposed development contains high levels of commercial and residential development density. Compact and dense development is a more efficient use of scarce land, infrastructure, and resources. In addition, these densities are an antidote to sprawl and consistent with meeting SCAG's Compass 2% growth goals. Other benefits of higher density include those discussed in the ULI publication *Higher-Density Development–Myth and Fact,* which states that "residents of high-density apartments and condominiums tend to have only one car per household." The ULI report also states that crime rates at higher-density developments are not significantly different from those at lower-density developments. In addition, according to one study using data from the National Personal Transportation Survey, doubling density decreases the vehicles miles traveled by 38%.

Table 28:
Summary of All Station Development Potential

Station	Sq. Ft.	DU	Site Area/Acres	DU/ Acre	FAR
Garfield Avenue Station					
City of Montebello sub-total	1,051,600	884	23.6	38	1.02:1
City of Monterey Park North Garfield Corridor	120,000	122	12.26	122	.225:1
Total Garfield Station TOD	**1,171,600**	**1,006.0**	**35.8**	**28**	**.75:1**
Montebello Town Center TOD					
Sub-total	1,482,330	1,184			
Existing Shopping Center	756,613				
Existing Hotels/rooms units		217			
Total Montebello Town Center TOD	**2,238,943**	**1,401**	**93.6**	**59**	**.55:1**
Santa Anita Station TOD (West South El Monte)					
Sub-total	827,200		29.6		.64:1
North Side SR 60 Santa Anita Avenue Civic Center Corridor to Central Avenue					
Sub-total	1,188,100	563	37.24	62	.73:1
Total Santa Anita Station TOD	**2,015,300**	**563**	**66.84**	**62**	**.70:1**
Peck Road TOD (east South El Monte)	528,600	106	18.12	21	.67:1
North Side Peck Road to Michael Hunt Drive	42,200	26	3.12	12.26	.31:1
Total Peck Road Station TOD	**570,800**	**132**	**21.24**	**18.4**	**.62:1**

Notes:
Commercial areas excluding residential
Santa Anita DUs based on 9.1 acre sub-area
Peck DUs based on 7.16 acre residential sub-area

The SR 60 LRT Study Areas and region are well connected with the existing transportation network. The number of existing destinations and attractors, the high employment and population densities located within the proposed SR 60 LRT, and existing regional transportation network tend to reduce the need for automobile travel. In addition, better links between jobs and transit help achieve livability goals by:

- More sustainable regional development patterns (reduced "job sprawl")
- Higher performance of transit systems
- Better access to variety of jobs for people of all income levels
- Healthier regional economies in the long term

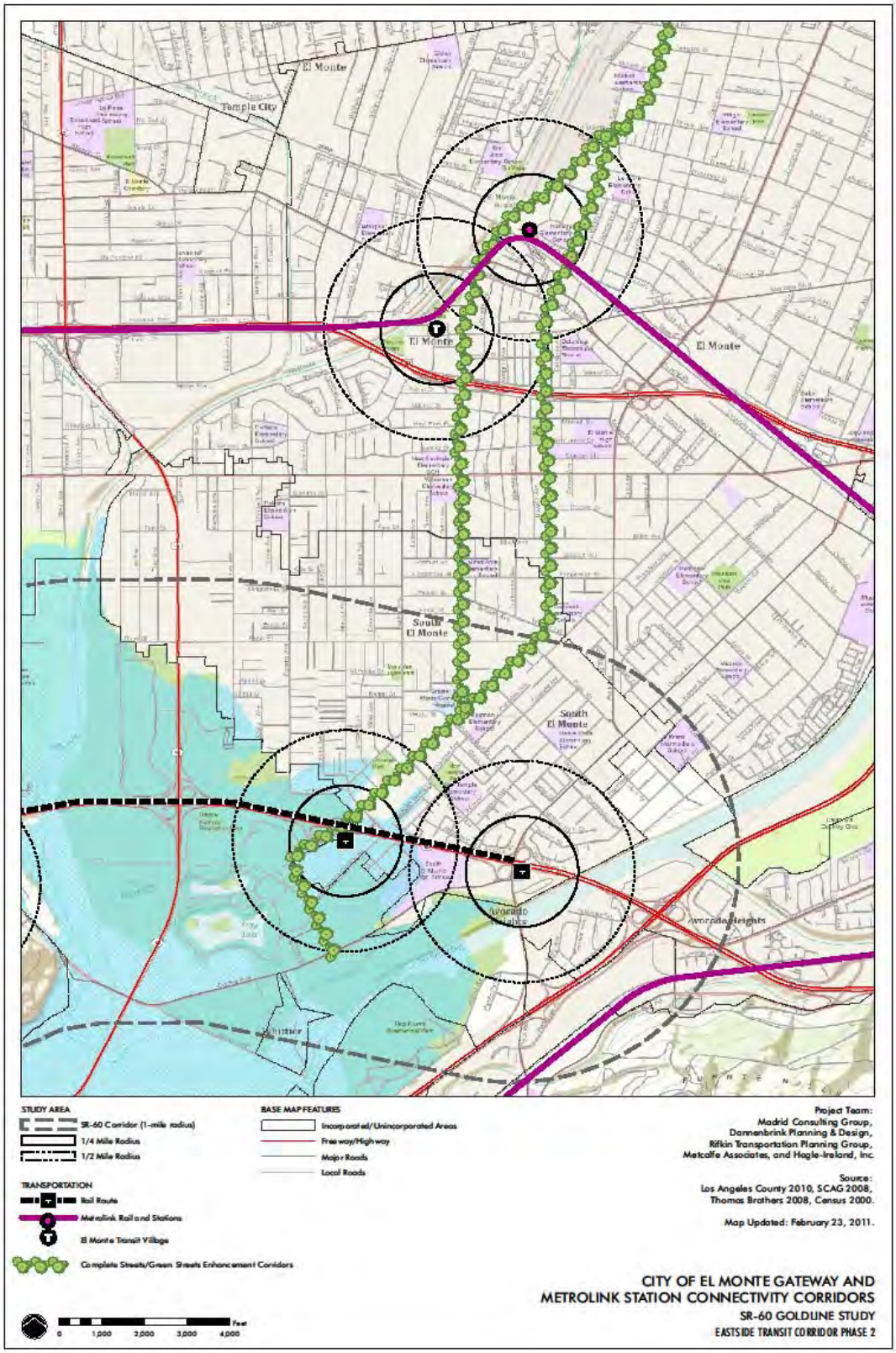
B. Regional Connectivity and Attractors

1. El Monte Corridor and Connectivity

The City of El Monte does not lie along the SR 60 corridor, yet El Monte is a key member of the SR 60 Coalition. Two critical links in the regional transit system are located in the City of El Monte along Interstate 10: the El Monte MetroLink station and Metro's El Monte Bus Station, the busiest bus-only transit facility east of Chicago.[1] As Figure 48 illustrates, links between these existing transit nodes and the proposed Santa Anita Station in the City of South El Monte can easily be provided along Santa Anita and Tyler Avenues. The two cities are coordinating plans for Complete Streets along these corridors that can easily accommodate buses to link riders from regional buses and heavy rail to the new commuter light rail stations and the jobs centers built up around the Santa Anita Station. These initiatives enhancing connectivity also serve to enlarge and magnify the TOD zone and related benefits, as discussed in this report.

[1] http://www.metro.net/projects/elmonte/; accessed June 18, 2011.

Figure 48: Linking Santa Anita Station to MetroLink and El Monte Bus Station



1.1 Regional Attractors within the Study Area

Tables 29 through 34 highlight major regional attractors located within the SR 60 Regional Study Area, and Figure 49 indicates general locations. As previously indicated, corridor study area residents have a higher propensity and need to use transit to access these regional destinations and activity centers (i.e., transit dependency, fewer vehicles, lower incomes, transit-conducive occupations). Opportunities exist for Coalition Cities and Metro to partner with major employers, including hospitals and educational institutions, to encourage transit ridership and strengthen community connections to stations. These institutions could boost transit ridership significantly by offering the right mix of incentives and disincentives for patients, students and employees.

Also, significant regional bus and commuter rail connections already exist to link transit riders arriving at the new SR 60 Gold Line stations to these regional destinations (see Figures 50 and 51). Transit can play an important role in linking a broader pool of workers to large existing regional employers, as shown below. The proposed SR 60 extension from East Los Angeles will therefore significantly improve access to these regional attractors and activity centers, and serve to promote economic development.

Table 29:
Largest Employers within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry
UCLA	Los Angeles	90095	35,543	Colleges & Universities
Cintas the Uniform People	Pico Rivera	90660	28,000	Other Clothing Stores
UCLA	Los Angeles	90095	27,489	All Other Telecommunications
Nestle Confection & Snacks	Glendale	91203	20,000	Confectionery Manufacturing From Cacao Beans
Los Angeles Police Dept	Los Angeles	90066	9,000	Police Protection
Women & Childrens Hospital	Los Angeles	90033	8,000	General Medical & Surgical Hospitals
Sony Pictures Entertainment	Culver City	90232	6,000	Periodical Publishers
Walt Disney Co	Burbank	91503	6,000	Television Broadcasting
Kaiser Foundation Hospital	Los Angeles	90027	5,200	General Medical & Surgical Hospitals
J Cameron Supply Co	Culver City	90230	5,000	All Other General Merchandise Stores
Asian Housekeeping	Los Angeles	90068	5,000	All Other Specialty Trade Contractors
L A County Fire Dept	Los Angeles	90063	5,000	Fire Protection
Kaiser Permanente	Los Angeles	90027	5,000	Offices of Physicians Except Mental Health

Table 30:
Cemeteries within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
Rose Hills Memorial Park	Whittier	90608	600	Cemeteries & Crematories
Inglewood Park Cemetery	Inglewood	90301	180	Cemeteries & Crematories
Mt Sinai Memorial Park	Los Angeles	90068	100	Cemeteries & Crematories

Table 31:
Major Court Facilities within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
Los Angeles County Superior Court	Los Angeles	90012	3,000	Courts
Pasadena Superior Court	Pasadena	91101	180	Courts
U.S. Appeals Court	Pasadena	91105	175	Courts

Table 32:
Major Colleges and Universities within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
UCLA	Los Angeles	90095	35,543	Colleges & Universities
California State-Los Angeles	Los Angeles	90032	2,851	Colleges & Universities
Occidental College	Los Angeles	90041	2,000	Colleges & Universities
DeVry University	Sherman Oaks	91403	1,000	Colleges & Universities
Continue Education	Pasadena	91101	500	Colleges & Universities
Mt Saint Mary College	Los Angeles	90049	500	Colleges & Universities
American Jewish University	Los Angeles	90077	400	Colleges & Universities
Whittier College	Whittier	90608	325	Colleges & Universities
International Theological University	Pasadena	91104	300	Colleges & Universities
Pepperdine University	Los Angeles	90045	300	Colleges & Universities
Loyola Law School	Los Angeles	90015	250	Colleges & Universities
Musician's Institute	Los Angeles	90028	200	Colleges & Universities

Table 32:
Major Colleges and Universities within Regional Study Area

California Design College	Los Angeles	90010	199	Colleges & Universities
FIDM Productions	Los Angeles	90015	150	Colleges & Universities
Mt Sierra College	Monrovia	91016	150	Colleges & Universities
AMERICAN Film Institute	Los Angeles	90027	135	Colleges & Universities
University Of West Los Angeles School	Inglewood	90301	120	Colleges & Universities
Westwood College-Technology	Los Angeles	90010	100	Colleges & Universities

Table 33:
Major Hospitals within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
Women & Children's Hospital	Los Angeles	90033	8,000	Gen Med & Hospitals
Kaiser Foundation Hospital	Los Angeles	90027	5,200	Gen Med & Hospitals
VA Greater Los Angeles Health	Los Angeles	90073	4,000	Gen Med & Hospitals
Dispensary	Pasadena	91105	3,100	Gen Med & Hospitals
Providence St Joseph Med Center	Burbank	91505	3,000	Gen Med & Hospitals
Citrus Valley Health Partners	West Covina	91790	2,500	Gen Med & Hospitals
Presbyterian Intercommunity	Whittier	90602	2,500	Gen Med & Hospitals
Kaiser Foundation Hospital	Los Angeles	90034	2,200	Gen Med & Hospitals
Centinela Medical Center	Inglewood	90307	1,763	Gen Med & Hospitals
St John's Health Center	Santa Monica	90404	1,737	Gen Med & Hospitals
St John's Hospital	Santa Monica	90404	1,600	Gen Med & Hospitals
Metropolitan State Hospital	Norwalk	90650	1,450	Gen Med & Hospitals
Garfield Medical Ctr	Monterey Park	91754	1,300	Gen Med & Hospitals
USC University Hospital	Los Angeles	90033	1,291	Gen Med & Hospitals
Hollywood Presbyterian Medical	Los Angeles	90027	1,200	Gen Med & Hospitals
California Hospital Med Ctr	Los Angeles	90015	1,000	Gen Med & Hospitals
Los Angeles County Hospital	Los Angeles	90033	1,000	Gen Med & Hospitals

Table 33:
Major Hospitals within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
Beverly Hospital	Montebello	90640	900	Gen Med & Hospitals
HCA Brotman Medical Ctr	Culver City	90231	860	Gen Med & Hospitals
Whittier Hospital Medical Ctr	Whittier	90605	850	Gen Med & Hospitals
Pacific Alliance Medical Ctr	Los Angeles	90012	800	Gen Med & Hospitals
Los Angeles County Jail Hosp	Los Angeles	90012	575	Gen Med & Hospitals
Alhambra Hospital Medical Ctr	Alhambra	91801	500	Gen Med & Hospitals
Encino Tarzana Regl Med Ctr	Encino	91436	500	Gen Med & Hospitals

Table 34:
Amusement and Theme Parks within Regional Study Area

Establishment	City	ZIP Code	Estimated # Employees	Industry Code
Los Angeles Dodgers	Los Angeles	90012	1,600	All Other Amusement & Recreation Industries
Santa Monica Amusement LLC	Santa Monica	90401	300	Amusement & Theme Parks
North Venice Little League	Los Angeles	90066	100	All Other Amusement & Recreation Industries
Warner Bros Studio Tour	Burbank	91522	75	All Other Amusement & Recreation Industries
Giant Ride Inc	Pasadena	91107	60	Amusement & Theme Parks
Hollywood Wax Museum	Los Angeles	90028	28	Amusement & Theme Parks
Pond North LLP	Los Angeles	90071	27	Amusement & Theme Parks
Gordon Bros Enterprises	Santa Monica	90401	22	Amusement & Theme Parks
Hollywood Billiards	Los Angeles	90028	20	Amusement & Theme Parks
Griffith Park Pony Ride	Los Angeles	90039	15	Amusement & Theme Parks

Figure 49: Major Attractors within Regional Study Area

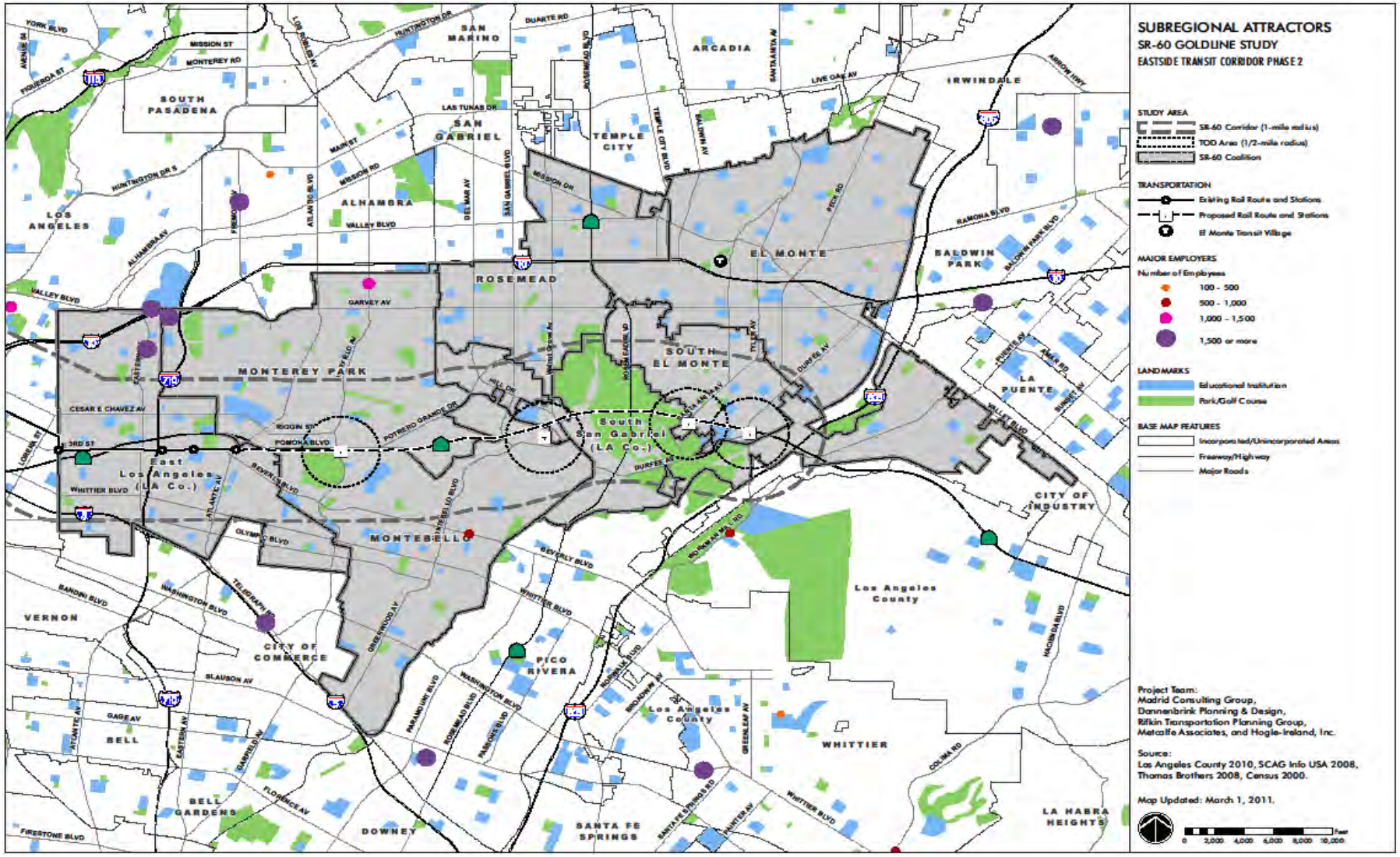


Figure 50: Subregional Bus Routes

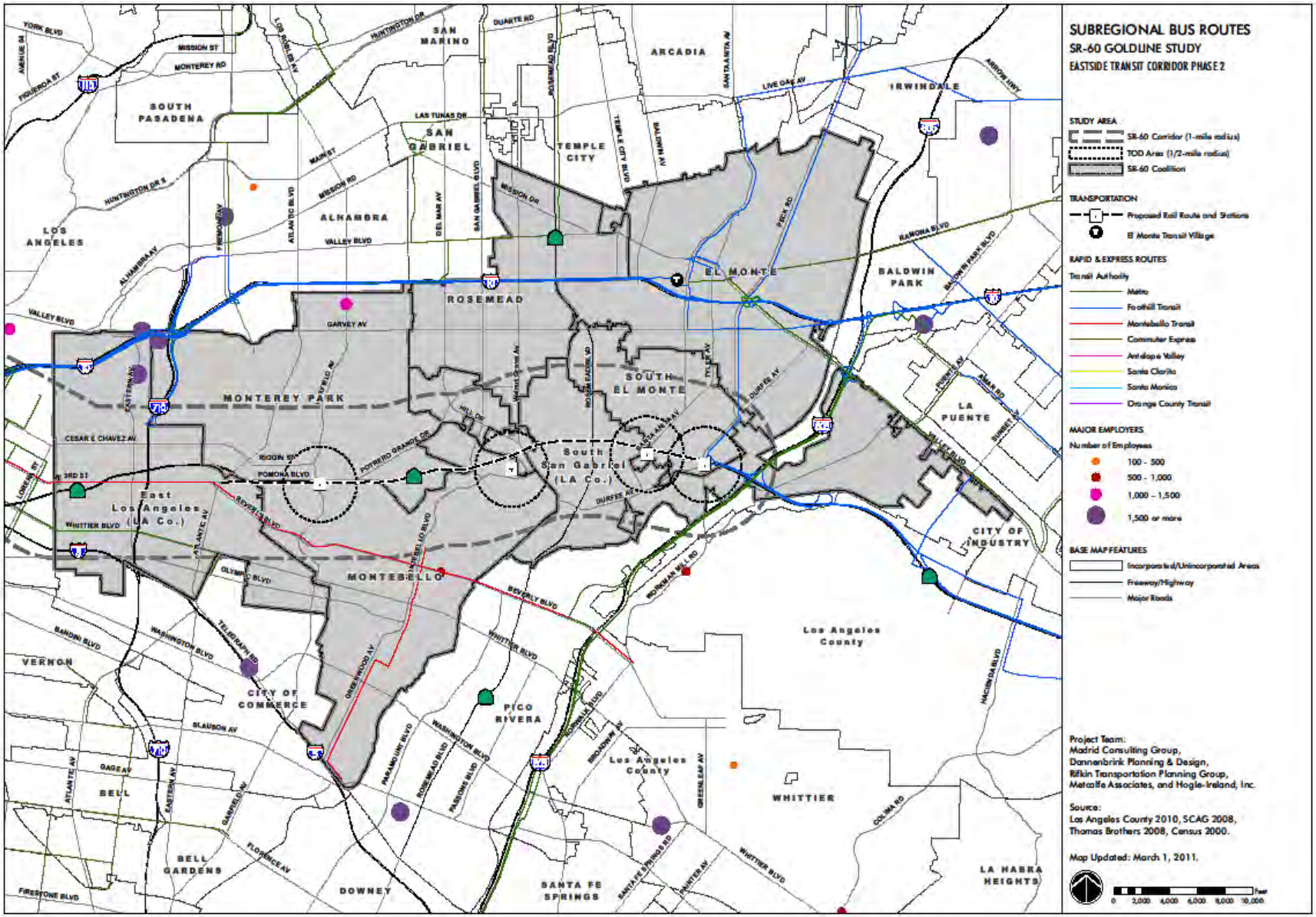
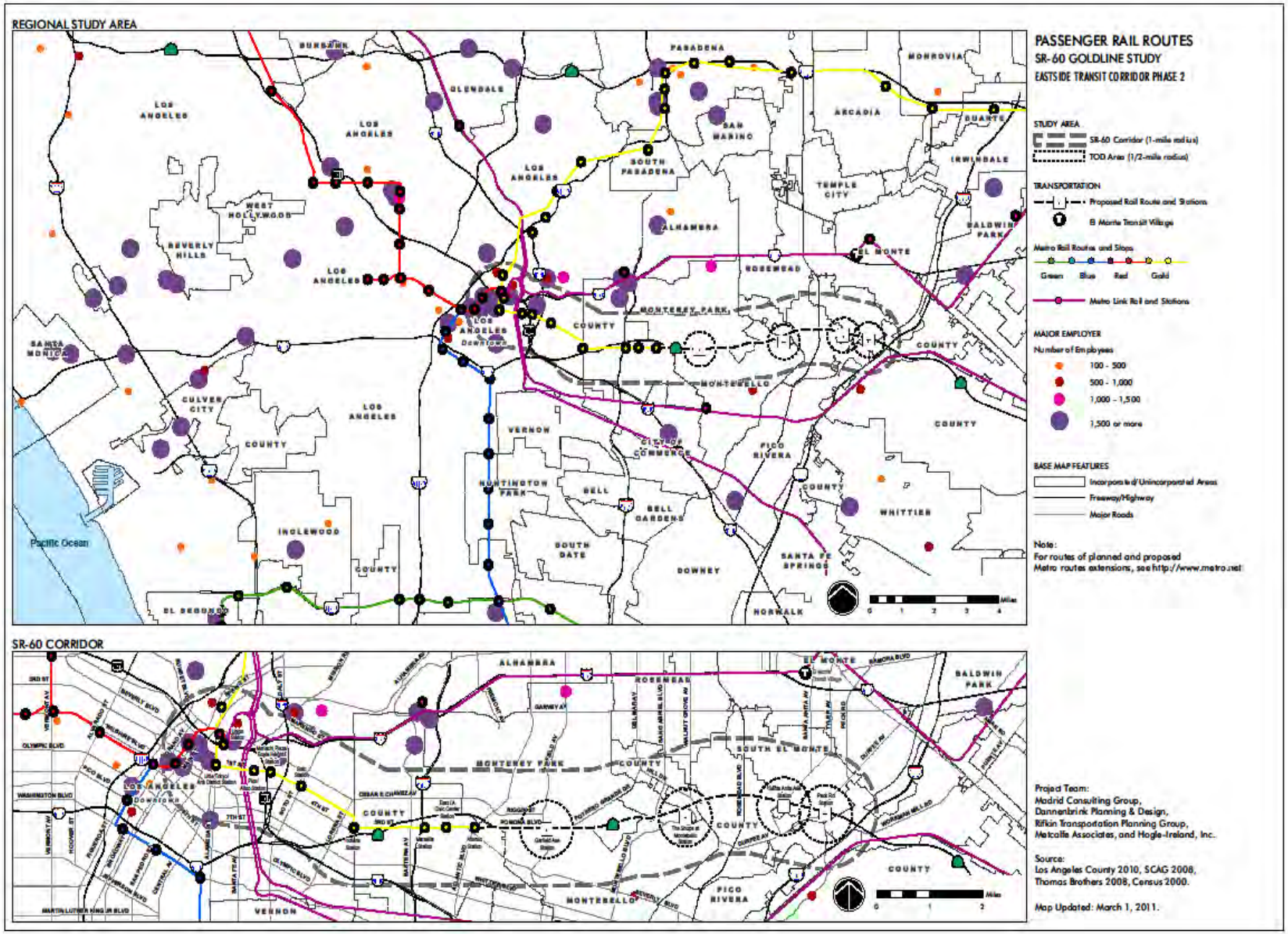


Figure 51: Regional Rail Lines



C. SR 60 Green Corridor Strategies

1. Sustainable Development Standards

SR 60 Coalition cities will consider a range of sustainable practices and standards to be applied to the design and construction of new projects. Such standards will be incorporated into concept plans, project design, and construction plans, with all stakeholders involved in the process of identifying the most efficient design possible and ensuring that the sustainability measures are built into projects and not added as a design afterthought. The following minimum standards should be considered:

- Natural drainage patterns will be protected and preserved.
- Water quality will be addressed through best management practices (BMPs).
- Storm Water Pollution Prevention (SWPP) – All projects will have a SWPP that meets State National Pollution Discharge Elimination System requirements.
- Pervious surfaces will be designed and installed where practical to allow runoff to filter through the surface into the ground.
- Concrete, brick, stone and grass pavers will be designed to allow infiltration of water runoff.
- Grading and clearing of properties will be limited to building envelope, where possible.
- New development will provide construction and demolition waste recycling.
- Recycling collection areas will be provided.
- All new development will provide safe, walkable, pedestrian-friendly development and crossings.
- New developments will have linkages and access to pedestrian paths, transit options, and non-motorized vehicle routes.
- Pedestrian access will be provided within one-half mile of community services.
- Designated parking for low-emitting, fuel efficient, carpool/ vanpool vehicles will be provided at 8% of the total parking spaces for new development
- Designated, secured bicycle parking will be provided at all stations and for 5% of all building users within 200 yards of building entrances. Showers and changing rooms should also be provided for 0.5 percent of full-time equivalent.
- Exterior lighting power density will be limited by exterior lighting zone to California Energy Code limits.
- Exterior light fixtures will be shielded to prevent offsite spillover, and shall be directed downward to reduce the effects on the night sky.
- Building performance will exceed a minimum of 15% better than Title 24 standards.
- Buildings will be designed to accommodate rooftop solar equipment and natural ventilation to reduce air conditioning.
- Buildings will be oriented for passive solar design to provide maximum energy efficiency.
- Exterior building facades will incorporate shading on all south-facing windows and western exposures.
- Sites will be designed to minimize the heat island effect on the site. Tree canopies, light colored asphalt, or concrete paving material will be utilized where possible.
- Drought-tolerant and water-conserving landscapes will be installed and maintained consistent with the requirements of AB 1881 and local implementing ordinances.
- Vegetated bioswales and permeable landscaped open space resources will be designed and installed to treat storm water through filtration, reduce water flow, and prevent erosion.
- Wind turbines should be encouraged to harness this power source in “farms” and individual buildings.
- Recycled products or rapidly renewable material will be used where possible.

- Low/No Volatile Organic Compounds (VOC) paints, finishes, materials will be used on all interiors. (VOCs are gases from certain solids or liquids, which include a variety of chemicals that can have short- or long-term effects on health.)
- Recycled gray water in new construction will be utilized indoors and outdoors, where possible.
- High-efficiency fixtures (urinals, toilets, showerheads) and low-flow faucets will be used.
- Energy-efficient appliances such as tankless and solar water heaters and energy efficient heating and cooling systems will be preferred.
- New housing development will provide a variety of affordability among the units.
- Public facilities will comply with the sustainable development standards and be built to requirements of USGBC's LEED for New Construction (NC) or LEED for Neighborhood Development (ND), or equivalent.
- Mixed-use development will be designed with separate mechanical (HVAC), plumbing, and electrical systems.
- Kiosks or information boards will be designed and installed for mixed-use projects to allow for support of rideshare, transit, and transportation demand management programs.
- Green building educational features will be incorporated into development where feasible. Educational markers, product labels, identification of energy efficient features will be posted in the appropriate locations to educate the public and promote the use of green products and design.

V. Implementation Strategies

This section summarizes strategies that can be used to promote and implement the SR 60 LRT alignment and subsequent development once selected. These strategies include continued multijurisdictional collaboration, ways to meet SB375 and AB32 directives, early investment strategies, and pursuit of available funding sources.

A. TOD Community Development Vision

The first step is to formulate a grand, broad-based vision for the SR 60 Corridor and region with input from affected communities, stakeholders, and all interested parties. The goal is about maximizing TOD as a means to attain broad community development goals. TOD as envisioned in this Compass Study can help to leverage public investments in transit to generate a range of benefits, including increased housing affordability, reduced greenhouse gas emissions, active environments that promote public health and safety, more transit ridership, and increased value and revitalization of existing communities and the region.

The process includes integrating broad-based transit-oriented strategies into other citywide and regional initiatives, such as economic development, redevelopment, public health, and affordable housing.

In addition, broad-based TOD programs incorporate the interest of various distinct advocates, such as those supporting sustainability, public health, economic development, affordable housing, and social equity movements. Collaboration among such varied advocates will serve to strengthen the prospects of meeting broad-based TOD goals, as discussed in the next section.

B. Collaboration and Promotion

The SR 60 Coalition will build community support for the SR 60 Gold Line by educating the public, advocacy groups, and policymakers with regard to the broad range of TOD benefits. The SR 60 Coalition is a prime example of the type of entity required to plan, promote, and implement a successful corridor wide TOD program. Thus, the SR 60 Coalition is committed to continuing to promote and leverage partnerships, seek political and community support, and proactively pursue funding to implement this TOD plan.

As previously discussed, it is also critical to build support for the SR 60 alignment among multiple interest groups since benefits accrue across the board. Such benefits include affordable housing, community development, environmental, public health, green jobs, and economic development. These advocacy groups typically only focus on their area of interest. However, since broad-based TOD increases housing affordability, creates healthy neighborhoods, counterbalances sprawl, reduces auto dependence and greenhouse gas emissions, spurs economic development, and creates jobs, it is critical to combine and leverage the support of all these interest groups. A decision as to selection of the next route of the Eastside Gold Line Transit line will soon be made. The SR 60 Coalition must therefore enhance leverage beyond its coalition to include the San Gabriel Valley Council of Governments and other interested advocates with guidance and help from the materials prepared for this Compass Study.

Broad-based TOD has the potential to achieve the described benefits not only for SR 60 Corridor Cities, but also for the region. These benefits accrue region wide and across jurisdictional boundaries. Regional collaboration and partnerships will therefore be facilitated.

C. Maximize the Transit-shed Planning Zone

The Coalition will understand the concept, create plans, and invest in first mile/last mile transit access and connectivity that will enlarge the catchment area or transit-shed benefit zone. A transit system is only as good as the people, jobs, businesses, and other activity centers it connects. Therefore, improved intermodal access and connections by means of bus, shuttle, and safer and more pleasant pedestrian and bicycle routes should be an investment priority. Such enhancements will enhance accessibility of the transit system to areas throughout each Coalition city, not just those within walking distance of a train or bus stop.

D. Pursue all Funding Sources

Aggressively pursue all available funding sources to plan and implement this broad transit led community development program. Transit-related investments can take a variety of forms, including transit-oriented affordable housing, transit-supportive land use planning and visioning, and TOD-related infrastructure improvements to prepare for future development and enhance accessibility to stations. The SR 60 Coalition should therefore aggressively pursue the range of funding sources, including: capital improvements bonds, tax credits, tax increment financing, and state, regional, and federal grants.

Funding limitations pose a challenge to implementation of successful TOD because of the economy and budget crisis at all government levels. The subject SR 60 LRT line is scheduled for completion in about 30 years from 2011, creating time advantages to plan, identify, and set in place resources and implementation strategies.

There is a wide array of actors involved in implementation of the SR 60 LRT and TOD plans. For example, local governments have authority within their jurisdictions. The SR 60 right-of-way is under jurisdiction of the State (Caltrans). Metro will build and operate the system, and the federal government will help with financing the system. County and other regional agencies will also exert influence and policy over development of the system and related TOD. An ideal strategy is to coordinate and leverage multiagency resources based on mutual interest and benefits sharing.

E. Implement Early Investment Strategies

It is important for the SR 60 Coalition and other relevant parties to take advantage of the slow real estate market (as of 2011). During this time, the Coalition should organize, plan, and make proactive investments before the market accelerates and increases the cost of development near stations.

For example, SR 60 Corridor Cities can employ strategies such as land assembly, land owner equity investment, public-private partnerships, land banking, and the like.

The Coalition can also identify development incentives, market the plan and solicit development interest, broker negotiations between property owners and developers, and modify land use regulations to facilitate future development.

F. TOD Land and Development Regulations

It is proposed that Coalition cities identify and adopt TOD supportive planning and development regulations and helpful guidelines. Such policies may include new zoning, specific plans, parking districts, joint development guidelines, assessment districts, and direct and indirect development incentives.

G. Reinforce TOD Housing-Transit Connection

A strong nexus exists between where a person lives and works. The farther from work, the longer the trip and associated impacts such as auto and associated cost burden, higher congestion, CO_2 emissions, and other impacts. The SR 60 TOD program seeks to make and strengthen this housing-transit connection. In addition, enhancing the concentration of housing along the SR 60 Corridor near existing job centers/clusters is important for increasing overall workforce access to jobs. Such a strategy can, in the long run, result in more job growth in these centers by reducing the number of workers who have to commute from long distances, thus accommodating future economic growth without proportional increases in congestion on freeways and major arterials.

Moreover, building new housing in Corridor neighborhoods and near job centers focuses growth around existing infrastructure and helps meet SCAG's 2% Compass growth objectives.

H. Strengthen the Economic Base/Transit Connection

The SR 60 LRT and TOD program can help bolster local economic development goals by enhancing connections between major job centers/clusters and the workforce located within the larger TOD drive sheds. For example, the Los Angeles Central Business District (CBD) is partially within the 10-minute drive-shed from the Garfield Transit station. Better transit access can reduce absenteeism among workers, offer a predictable way to get to work, and can enable a city's economy to continue to grow without further straining the already congested freeway network. The SR 60 transit line and the proposed associated TOD program can also help attract a new, highly educated labor force to the region from other parts of the region.

To take advantage of the economic-transit connection, it is important first to understand the economic base in which the SR 60 Corridor is located. This process includes developing and maintaining an inventory of businesses and jobs and their relationship to transit and TOD-related development. This database should be used to study the needs, support retention and expansion, and communicate with key stakeholders.

I. Sustainable Development Policies

The following polices with regard to sustainability have been incorporated into the Compass TOD plans and/or are recommended. A more detailed report on this topic is included in the Appendix to this study.

- Provide a variety of transportation options.
- Provide an easily accessible integrated multi-modal transportation network including transit, automobile, bikeways, and pedestrian paths.
- Allow for modified street design standards and context sensitive design.
- Integrated transportation systems and street design should be creative and collaborative, involving all stakeholders.
- Provide street amenities that encourage non-motorized use including bike paths, bike stations with lockers and amenities, pedestrian paths, lighting, benches, and street furniture.
- Provide covered, comfortable, convenient and interesting bus shelters and stops.
- Provide transit and transportation information and wayfinding support at visible locations, especially nearby transit stops.
- Maintain public facilities in clean working condition.
- Utilize green maintenance products.
- Encourage and support reduction in vehicle use and vehicle miles traveled.

- Encourage and support the use low-emission vehicles (LEVs) by providing preferential parking, charging and refueling for alternative vehicles, and incentive programs.
- Implement Transportation Demand Programs.
- Preserve all aspects of the environment including natural and historic resources.
- Sustainable development should facilitate economic growth and vitality.
- Incorporate sustainable design principles into the minimum development standards and design guidelines of city policies such as Redevelopment Project Plans, Zoning Codes, Design Guidelines, and Specific Plans.

APPENDIX A: Summary of SCAG Baseline Trip Forecast

Prepared by:
RTPG
The Rifkin Transportation Planning Group
Allyn D. Rifkin, P.E.

March 8, 2011

The attached tabulations summarize the analysis of baseline travel forecasts for the SCAG Regional Transportation Plan 2010/2011 program. The source of the data is a database prepared by SCAG staff from the outputs of the SCAG Travel model. The data base contains the following three items for each Traffic Analysis Zone (TAZ) forecast for the years 2003 and 2035:

Production TAZ
Attraction TAZ
Person Trips – 24 hour
Vehicle Trips – 24 hour
Transit Trips – 24 hour

The entire SCAG area is represented by 4,109 TAZ's, usually the size of Census Tracts. The database is unwieldy with 168,838,881 entries for each year. Summarizing the database into Regional Statistical Areas (RSA's) can help in the understanding of how the SR-Corridor Cities compare to the baseline scenario projected by SCAG. SCAG provided a list of TAZ's contained in each of 56 RSA's. Additionally, SCAG provided a map showing the TAZ geographic boundaries with a focus on the SR-60 Corridor Cities. Hogle-Ireland has mapped the TAZ's and superimposed them on the four proposed station locations. Hence there is a definition of station areas TAZ's and the corridor TAZ's as shown in Table 1.

SCAG uses selected demographic data (population, housing and employment) and a description of the assumed transportation network to estimate the trip forecasts. In general, the "baseline" demographics and transportation network did not assume the TOD growth possibilities forecast in our report, nor the specific station locations being considered in the Metro Alternatives Analysis for the Gold Line Light Rail Extension. The assumed demographics were sent to our consultant team by separate tabulation.

The most interesting statistic for this analysis is the transit "mode-split", defined as the ratio of "transit" trips to "person" trips. A mode split of 2% means that 2% of all person trips (both sum of productions and attractions) are expected to be made via the transit mode. General factors that increase the mode split include demographic factors such as low income, low automobile ownership, high residential densities, and high employment densities. On the transportation side, connections to the assumed transit system that result in shorter travel times yield higher transit mode splits.

Table 2 is the conclusion of the analysis. The baseline projection for transit ridership proximate to the four proposed stations is significantly higher than the SCAG region with the exception of station #3 (the Montebello Town Center). The total ridership for the four stations averages 3.20% transit compared to the SCAG region average of 2.53% transit. The station location ridership is higher (slightly) than the remainder of the corridor as well (3.20% versus 3.19% transit ridership for the corridor as a whole). Table 3, also attached is the RSA summary of the entire SCAG region with a map following it. Note how some of the Corridor RSA's approach the highest transit ridership levels (RSA- 23 is Downtown Los Angeles).

The initiatives explored in our study, increasing the population and housing in the transit station districts and expanding on “first-mile/last-mile” connections will all serve to improve the transit ridership numbers for the districts and the transit corridor as a whole.

	TAZ LIST FOR STUDY AREA
TOD STATIONS	
Station 1	Garfield Ave Stat x-1
Station 2	Montebello Town x-2
Station 3	Santa Anita Ave x-3
Station 4	Durfee/Peck Roa x-4

CITY	ZIP	TAZ seq nmbr	TAZ 2K nmbr	CT	STATION
East LA	90022	1732	253030200	530302	x-1
Montebello	90640	1738	253020200	530202	x-1
Montebello	90640	1742	253020400	530204	x-1
Montebello	90640	1743	253020300	530203	x-1
Montebello	90640	1747	253000500	530005	x-1
Monterey Park	91754	2110	248270100	482701	x-1
Monterey Park	91754	2126	248270200	482702	x-1
Monterey Park	91755	2150	248280000	482800	x-1
Montebello	90640	1753	253000300	530003	x-2
Unincorporated	91770	2163	248252100	482521	x-2
Montebello	90640	2171	248252200	482522	x-2
Rosemead	91770	2184	248240200	482402	x-2
South El Monte	91733	2197	243380200	433802	x-3
South El Monte	91733	2201	243370000	433700	x-3
Whittier	90601	1871	250030000	500300	x-4
South El Monte	91733	2221	243380100	433801	x-4
El Monte	91732	2225	243400200	434002	x-4
Montebello	90640	1153	262052200	522200	
East LA	90022	1706	253100000	531000	
East LA	90022	1707	253150100	531501	
East LA	90022	1710	253150200	531502	
East LA	90022	1716	253050000	530500	
East LA	90022	1717	253160200	531602	
East LA	90022	1718	253160400	531604	
East LA	90022	1720	253160300	531603	
East LA	90022	1722	253170200	531702	
East LA	90022	1727	253030100	530301	
Commerce	90022	1728	253230301	532303	
Monterey Park	91754	1729	253040000	530400	
East LA	90022	1730	253170100	531701	
Commerce	90022	1734	253230302	532303	
Commerce	90022	1735	253190100	531901	
East LA	90022	1737	253180000	531800	
Commerce	90022	1739	253230303	532303	
Commerce	90022	1741	253190200	531902	
Montebello	90640	1744	253200100	532001	
Montebello	90640	1746	253200200	532002	
Montebello	90640	1748	253010200	530102	
Montebello	90640	1749	253000600	530006	
Montebello	90640	1750	253210200	532102	
Montebello	90640	1751	253210100	532101	

Montebello	90640	1752	253010100	530101
Montebello	90640	1754	253000400	530004
Whittier	90601	1851	250120000	501200
Whittier	90601	1863	250140000	501400
Whittier	90601	1873	250150400	501504
Whittier	90601	1874	250150300	501503
Whittier	90601	1878	250150100	501501
Monterey Park	91754	2092	248200100	482001
Monterey Park	91754	2103	248200200	482002
Monterey Park	91754	2118	248210100	482101
Monterey Park	91754	2125	248210200	482102
Monterey Park	91754	2128	248171400	481714
Monterey Park	91754	2129	248171300	481713
Monterey Park	91755	2138	248220100	482201
Monterey Park	91755	2141	248171100	481711
Monterey Park	91755	2145	248260000	482600
Monterey Park	91755	2148	248220200	482202
Monterey Park	91755	2152	248171200	481712
Rosemead	91770	2157	248250200	482502
Rosemead	91770	2164	248230300	482303
Rosemead	91770	2165	248230400	482304
Rosemead	91770	2170	248250300	482503
Rosemead	91770	2176	248240100	482401
Rosemead	91770	2181	248130000	481300
Rosemead	91770	2186	243360100	433601
Rosemead	91770	2191	243220200	432202
Rosemead	91770	2193	243290100	432901
South El Monte	91733	2195	243350100	433501
El Monte	91733	2196	243310001	433100
Rosemead	91770	2200	243290200	432902
El Monte	91733	2204	243310000	433100
South El Monte	91733	2210	243350200	433502
El Monte	91733	2215	243340100	433401
El Monte	91733	2224	243340200	433402
El Monte	91732	2226	243240200	432402
El Monte	91732	2227	243390200	433902
El Monte	91732	2228	243340300	433403
El Monte	91732	2232	243240100	432401
El Monte	91732	2234	243390100	433901
El Monte	91732	2236	243330100	433301
El Monte	91732	2237	243330200	433302
El Monte	91732	2238	243260100	432601
El Monte	91732	2239	243400100	434001
El Monte	91732	2242	243330300	433303
El Monte	91732	2243	243250000	432500
El Monte	91732	2245	243260200	432602
Whittier	90601	2257	240830200	408302
Whittier	90601	2258	240830300	408303
Rosemead	91770	2259	240840200	432201
La Puente	91746	2260	240830100	408301
La Puente	91746	2262	240700200	407002

La Puente	91746	2266	240820200	408202
La Puente	91746	2271	240700100	407001
La Puente	91746	2274	240710200	407102
La Puente	91746	2275	240820203	408202
La Puente	91746	2276	240710100	407101
La Puente	91746	2279	240690000	406900
La Puente	91746	2285	240820202	408202

TABLE 2 – TRANSIT USE FORECAST
SR-60 CORRIDOR CITIES COMPARED
TO SCAG REGION

	2003		2035	
TRANSIT	T-Trips	Mode Split	T-Trips	Mode Split
Station 1 Transit Trips	6,318	3.33%	7,539	3.71%
Station 2 Transit Trips	2,937	2.60%	3,971	2.77%
Station 3 Transit Trips	1,561	2.45%	1,839	2.33%
Station 4 Transit Trips	4,279	3.05%	5,384	3.38%
Total Station T Trips	15,095	2.98%	18,733	3.20%
Total Corridor T Trips	87,848	2.88%	111,969	3.19%
All SCAG T Trips	3,033,414	2.60%	3,963,362	2.53%

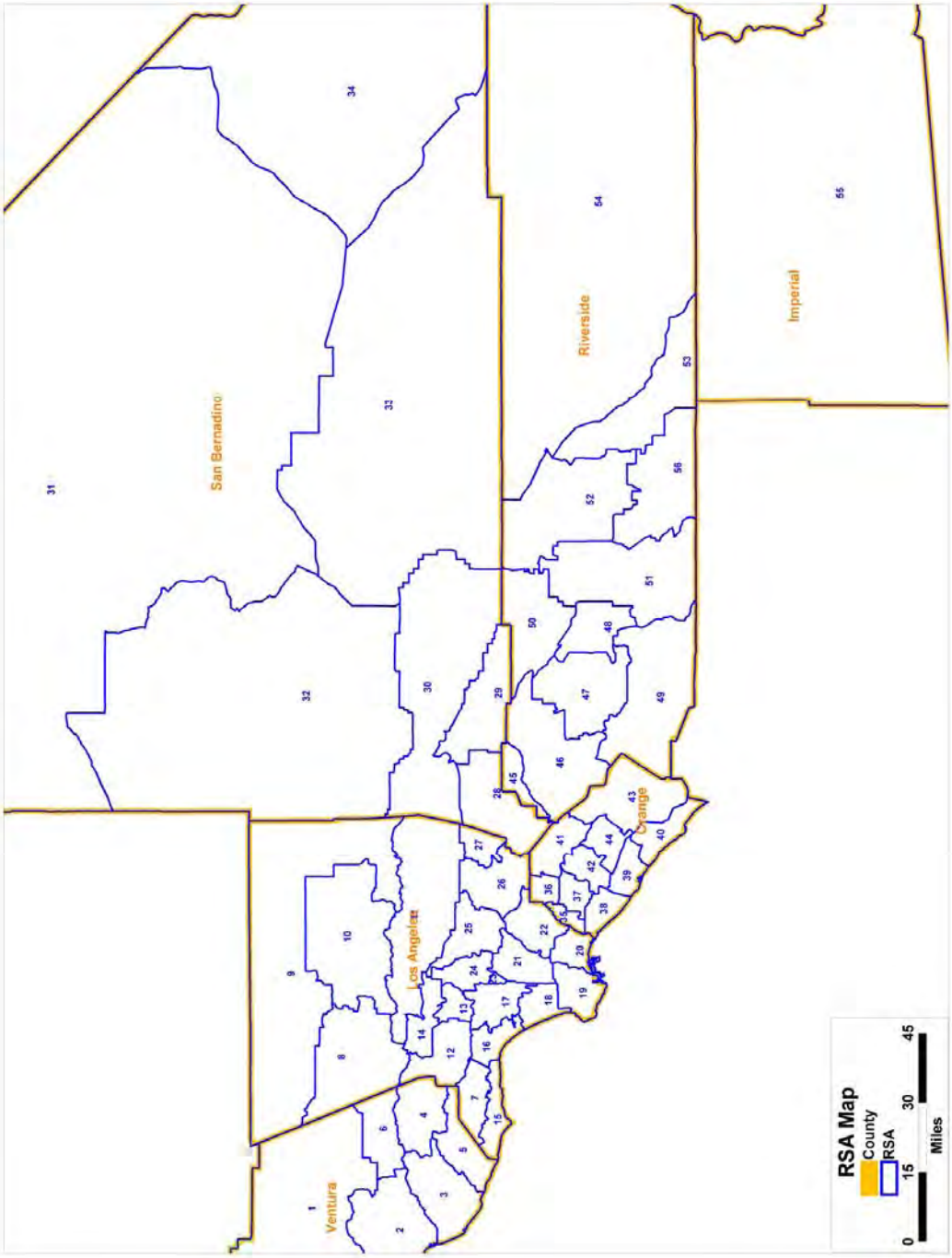
Table 3 - RSA level Transit Forecast - SCAG RTP 2010/2011

	RSA	2003 P Trips	2003 V Trips	2003 T Trips	T Trip percentage	2035 P Trips	2035 V Trips	2035 T Trips	T Trip percentage
	1	4202	2143	27	0.64%	4582	2091	37	0.81%
	2	1213438	750320	16536	1.36%	1623510	997462	18599	1.15%
	3	1847387	1132865	28242	1.53%	2492906	1521125	32741	1.31%
	4	1050793	639950	15955	1.52%	1353016	817485	16397	1.21%
	5	1011142	631667	14027	1.39%	1124210	685848	13863	1.23%
	6	97975	55570	1336	1.36%	140152	78044	1507	1.08%
	7	557599	348920	7474	1.34%	652122	395559	7449	1.14%
	8	1329823	790259	28145	2.12%	2309635	1340227	51457	2.23%
	9	1053261	604382	25975	2.47%	2381406	1388118	44108	1.85%
	10	1013736	571059	21064	2.08%	2001598	1076926	37941	1.90%
	11	14960	8737	258	1.72%	32121	16871	358	1.11%
	12	5615802	3348672	168791	3.01%	6449102	3771357	196083	3.04%
	13	2608924	1575294	77670	2.98%	3106774	1827866	96390	3.10%
	14	2169639	1231469	66878	3.08%	2487297	1385701	77785	3.13%
	15	162433	97567	1882	1.16%	220728	127549	2640	1.20%
	16	2888681	1793687	77339	2.68%	3215902	1928915	108628	3.38%
	17	8739561	5075328	345030	3.95%	9911661	5612425	431995	4.36%
c-	18	4372682	2565349	141632	3.24%	4903543	2790446	182697	3.73%
	19	3574605	2145919	95527	2.67%	3971696	2322468	110074	2.77%
	20	3536835	2038024	131020	3.70%	4005201	2252971	153726	3.84%
cs-	21	6997373	3733091	317953	4.54%	7869232	4091058	381265	4.85%
cs-	22	4904783	2847545	141370	2.88%	5441186	3076964	168076	3.09%
	23	1705278	976658	95665	5.61%	1953319	1083438	117415	6.01%
	24	3543879	2023634	127656	3.60%	4003053	2231990	156010	3.90%
cs-	25	5673836	3350653	160603	2.83%	6630473	3808883	211652	3.19%
	26	4854103	2837877	105233	2.17%	5857544	3351121	134654	2.30%
	27	1549076	895084	37410	2.41%	1919590	1081227	50081	2.61%
	28	4927820	2902040	94135	1.91%	7561445	4422989	135506	1.79%
	29	3683549	2121811	71847	1.95%	5964745	3460793	103964	1.74%
	30	385696	225906	4171	1.08%	617192	353316	5959	0.97%

Table 3 (continued) - RSA level Transit Forecast - SCAG RTP 2010/2011

	RSA	2003 P Trips	2003 V Trips	2003 T Trips	T Trip percentage	2035 P Trips	2035 V Trips	2035 T Trips	T Trip percentage
	31	115185	58071	1586	1.38%	119551	55560	2550	2.13%
	32	1893821	1105144	27788	1.47%	4750015	2794334	53233	1.12%
	33	452565	260472	4783	1.06%	948678	558320	6732	0.71%
	34	49980	30097	624	1.25%	62322	37248	690	1.11%
	35	1327794	812597	26571	2.00%	1509939	909281	31068	2.06%
	36	1681425	1038145	31161	1.85%	1843349	1109910	39601	2.15%
	37	3105441	1851274	71855	2.31%	3532063	2066194	86894	2.46%
	38	2508722	1568342	44607	1.78%	2806585	1723142	50157	1.79%
	39	2286343	1466211	33979	1.49%	2773987	1723219	47652	1.72%
	40	2089953	1312950	29240	1.40%	2335714	1436207	35972	1.54%
	41	1417030	883420	23099	1.63%	1711481	1029764	29520	1.72%
	42	3901736	2344354	93740	2.40%	4265036	2501695	116738	2.74%
	43	1580823	975966	24858	1.57%	2321204	1414777	31350	1.35%
	44	1503438	975512	22562	1.50%	2399786	1526386	34534	1.44%
	45	544314	311482	10307	1.89%	1276338	732719	21640	1.70%
	46	4045226	2391695	70789	1.75%	7204909	4245543	127293	1.77%
	47	865176	478265	15561	1.80%	2428255	1367960	39376	1.62%
	48	735616	428414	10222	1.39%	1964253	1177554	24156	1.23%
	49	1481002	852539	21781	1.47%	3001230	1726474	40232	1.34%
	50	388078	218785	4200	1.08%	1341693	766984	14097	1.05%
	51	61036	29521	1015	1.66%	112011	52365	1710	1.53%
	52	1655927	1025052	13964	0.84%	3080832	1874091	22222	0.72%
	53	783561	442573	12160	1.55%	2630650	1411172	31716	1.21%
	54	144987	79127	2592	1.79%	275922	161164	2723	0.99%
	55	821989	446154	13210	1.61%	1868178	1077789	21489	1.15%
		116,530,039	68,707,642	3,033,105	2.60%	156,768,922	90,781,085	3,962,402	2.53%

note: c- the SR-60 Cities corridor is partially within this RSA
cs- a proposed station is partially within this RSA


RSA Map
County
RSA
0
15
30
45
Miles
Ventura
Los Angeles
Orange
San Bernadino
Riverside
Imperial

APPENDIX B:
GOLD LINE EAST EXTENSION VIA THE SR 60 CORRIDOR: OPPORTUNITIES FOR "GREENING" PROPOSED TRANSIT-ORIENTED DEVELOPMENT

GOLD LINE EAST EXTENSION VIA THE SR 60 CORRIDOR: OPPORTUNITIES FOR "GREENING" PROPOSED TRANSIT-ORIENTED DEVELOPMENT

SCAG Compass Demonstration Project
Gold Line Corridor Study
SR 60 Coalition

Consultants to SCAG and the SR 60 Coalition:

Madrid Consulting Group
Dannenbrink Planning & Design
Hogle-Ireland, Inc.
Metcalf Associates
Rifkin Transportation Planning Group

April 2011

TABLE OF CONTENTS

Abstract

1. Sustainable Development Practices Defined

2. Strategies to Be Pursued

   2.1 Sustainable Development Policies

   2.2 Sustainable Development Standards

   2.3 Specific Plans

   2.4 Zoning Code Standards

   2.5 Building Code Standards

   2.6 U.S. Green Building Council's Leadership in Energy and Environmental Design - Neighborhood Development (LEED ND) and other LEED or Similar Green Building Programs

   2.7 Build it Green

   2.8 Incentives

3. Recommendations

Abstract 1

1.0 Sustainable Development Practices Defined 2

2.0 Available Strategies to Pursue 5
- 2.1 Zoning Code Standards 5
- 2.2 Specific Plans 5
- 2.3 Building Code Standards – California Green Building Code – CalGreen 2010 5
- 2.4 LEED-ND (Neighborhood Development) or other LEED or Green Building Programs 6
- 2.5 Build It Green - Green Point Rated Incentives 7
- 2.6 Incentives 7

3.0 Recommended Policies and Standards 8
- 3.1 Sustainable Development Policies 8
- 3.2 Sustainable Development Standards 8

Abstract

This paper describes opportunities and strategies for developing the Gold Line Light Rail extension SR-60 Corridor as a “green” corridor, meaning that transit-oriented development proposed around the four new stations would incorporate sustainable practices into design and construction. The SR-60 Coalition cities have the unique opportunity to encourage and direct green building approaches using a collaborative regional planning strategy. The SR 60 Coalition looks to pair its goal of creating opportunities for economic development along the light rail corridor with the aim of ensuring that new development incorporates sustainability principles and practices.

1.0 Sustainable Development Practices Defined

Sustainable development practices can be applied to “greenfield” projects on vacant land and infill development in urban and suburban environments. While many sustainable development approaches can be used equally well in any type of setting (for example, U.S. Green Building Council’s Leadership in Energy and Environmental Design [LEED] system for certifying green buildings worldwide), infill projects may present more focused options for incorporating comprehensive environmentally conscious features into site design and project construction. Within the State Route 60 (SR-60) corridor subject to this study, the built-out nature of the districts surrounding the four new potential Gold Line light rail transit stations dictates that creative infill approaches be used.

The most common definition of “sustainability” used by planning practitioners—as it applies to planning and development projects—is that adopted by the United Nations Brundtland Commission in 1987:

> "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

What this means with regard to development projects in urban and suburban settings is designing and constructing new development to minimize wasteful use of resources in the short and long terms.

Sustainable infill development practices encourage compact and efficient use of land. Transit-oriented developments in themselves represent a key sustainable development strategy in that they place compact, higher-density uses near transit stations that connect users to regional destinations. This approach can result in a reduction in fossil fuel consumption.

Sustainable development addresses environmental protection, resource conservation, economic vitality, and social equity. Also addressed though sustainable development is the preservation of resources such as water, open space, and natural resources, as well as the reduction in energy consumption and waste, recycling, local generation of power, food production, reduction in transportation demand and trips, restoration of degraded sites such as brownfields, and reduction in light pollution.

Sustainable development strategies encourage revitalization of downtowns and activity centers in urban and suburban communities, create opportunities for underutilized areas, and renew older developments. Such practices preserve open space and natural resources, and they reuse local, regional, and recycled materials and products. Sustainable development practices encourage the following Smart Growth, New Urbanism, and Green Building principles:

> ***Smart Growth*** revitalizes older urban centers, downtowns, and suburbs, thereby enhancing transportation choices, promoting walkable and bike-friendly places, and preserving open space.
>
> ***New Urbanism*** promotes walkable, mixed-use neighborhood development, sustainable development practices, and healthy living conditions.
>
> ***Green Building*** encourages the design, construction, and maintenance of environmentally friendly materials, products, and standards, and efficient use of resources.

Incorporating compact and transit-oriented uses and development with a mix of housing types is a key sustainable development practice. These elements will create attractive communities with short walkable blocks, minimal building setbacks, and pedestrian-friendly environments.

Transportation improvements along the corridor that link local road connections to the light-rail stations should be designed early to improve safety, access, and mobility of all travelers, as outlined in the California Department of Transportation's publication *Complete Streets: Integrating the Transportation System.* Complete Streets design recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system to be included in the planning process early and continue through maintenance and operations. A number of the approaches, policies, and development standards, as outlined below, support the Complete Streets concept.

In sum, sustainable development approaches include:

- Compact, walkable neighborhoods
- Mixed uses, a variety of uses, anda variety of neighborhood-serving commercial uses, including restaurants, services, and small shops
- High densities and a variety of housing types to serve diverse populations
- Well-connected street and pedestrian path networks and linkages
- Building design that emphasizes human-scale and interesting building and public space features
- Energy-efficient buildings
- Services near transit stations
- Regional planning, collaborative approach
- Multimodal transportation that prioritizes rail, buses, and ride sharing
- Diversified businesses that provide a variety of job types

Sustainable Design Features

Through their local building and land use codes, the SR-60 coalition cities and Los Angeles County can encourage and require sustainable development practices in individual private development projects, from site design to choice of building and landscape materials. For example, Los Angeles County has already adopted a Green Building Program that consists of the Green Building, Low-Impact Development, and Drought Tolerant Ordinances. This program can serve as a model for Coalition Cities on a limit or more broad-based basis.

Sustainable site design provides access and connections to nearby sites, stores, schools, libraries, parks, buses, trains, and other public places. A network of interesting, well-lighted paths that are safe, accessible, and easy to use will support pedestrians. Incorporating bike paths, bicycle parking, and secured bike lockers and shelters are important considerations for sustainable site design. Promote alternative vehicles by providing preferential parking and incentives for zero- or low-emitting vehicles, electric vehicles, and carpools and vanpools.

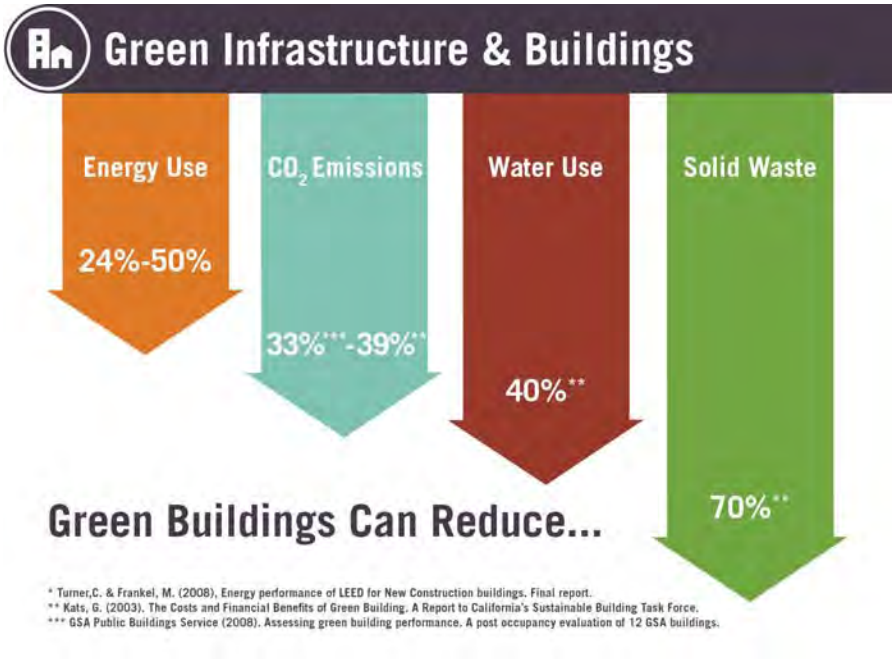
Sustainable site design features and approaches include:

- minimized site disturbance by reducing building footprints
- limited onsite paving
- the redevelopment and site cleanup of infill and contaminated sites (brownfield sites)
- stormwater capture and clean up
- water-conserving landscapes and irrigation controllers
- energy-efficient building design
- use of low- or non-polluting materials and recycled materials
- opportunities for onsite waste reduction and recycling
- use of porous materials, bioswales, and vegetated roofs for onsite drainage and infiltration, barrels, and cisterns for onsite collection and reuse use of rainwater and gray water

For water conservation, sustainable features include use of drought-tolerant landscaping and low-water-use irrigation controllers and sprinkler systems. Site cooling measures (reduction of heat islands, increase in urban forests) include use of shade trees, tree and structure canopies (also can be used for placement of solar equipment on top), light-colored paving or concrete, and open-grid paving. Indoors, low-flow fixtures, low-flow or low-flush toilets, and waterless urinals can be incorporated into a project to reduce water use.

Sustainable building design features address building orientation, window and skylight placement, lighting and shading, and material selection that take advantage of (or protect from) the natural light, wind, and other natural elements, and that provide insulation from the weather. Recycled products and materials that are rapidly renewable (quickly replaced, regrown, or reforested) and materials that contain a low, or no, off-gassing toxicity or volatile organic compounds (VOCs), such as those found in paints, stains, carpets, and other finishing materials, should be utilized in construction. Also, using locally and regionally produced materials reduces the demand on transport of materials and related truck traffic and air quality impacts.

Energy efficiency has been an important design consideration since the energy crisis of the 1970s. Materials should be chosen for their ability to store heat and cooling (thermal mass). Energy-efficient buildings should allow for individual user/area/workstation control, both for efficiency and occupant comfort. Buildings should be insulated, utilize fluorescent lighting and skylights, and incorporate low emissivity (ability to emit energy) and high-reflective glass, keeping the radiant heat on the same side from which it originated, while letting light pass through the glass. Building skin material should also be considered for its reflective value (how much energy is reflected by a material).



Localized renewable energy sources such as solar and wind can help provide new sources of "green" energy. The most common renewable energy approach in urban areas is the installation of photovoltaic (PV) solar systems for electric generation on-site. Photovaltaics can be integrated into product design, including roofing, awnings, siding, and light poles. Also, when it is not practical or feasible to incorporate renewable energy systems, a building owner can purchase a portion or all of a building's electricity with certified green power; this supports renewable energy already available on the grid, encouraging the development of more renewable energy by increasing customer demand.

Implementing a recycling program during and after construction is a critical component of sustainable design. Concrete crushing and reuse on site (for example, for road/paving base) eliminates the need to transport construction waste and debris to the landfill for disposal. Other construction waste such as cardboard, materials packaging, and demolition materials can be recycled or used in the new project, where feasible.

Advantages of Sustainable Development Approaches

As shown in the graphic above, sustainable design and development provides lower operating costs over the life of the building. and Reduction in energy use, reduction in carbon emissions, lower water use, and reduction in solid waste going to landfill.

2.0 Available Strategies to Pursue

The SR-60 Coalition Cities have the opportunity to create a Green Corridor that exemplifies how transit-oriented development and sustainable building approaches can transform urban development approaches in the region. As noted above, Los Angeles County has demonstrated leadership through its Green Building Program. While this provides one model, green building design, construction, and operational methods could comply with various other green building guides and rating systems. The green building strategies described below are available to serve as a guide. Also, with January 1, 2011 effective date of California's new green building code, *California Green Building Code (CalGreen 2010)*, many green building techniques are now required for new development in California.

In addition to CalGreen 2010 requirements (summarized below), the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating Systems and LEED Reference Guide has become a key resource for guiding new development and redevelopment projects toward more sustainable design. Also available as tools for sustainable design are Build It Green's *New Homes Green Points Calculator* and *the Multifamily Green Points Project Tool.*

Strategies available to the SR-60 Coalition members include, but are not limited to, the following:

2.1 Zoning Code Standards

Coalition cities can adopt sustainable development practices regulations as part of their zoning codes, which at a minimum should address site development, preferred paving materials, water and energy conservation, water quality, stormwater runoff and drainage, energy efficiency, indoor air quality and materials, recycling, and water-conserving landscapes (which is already required by AB 1881). An example includes provisions in the City of Duarte Development Code

2.2 Specific Plans

Coalition agencies can Specific Plan areas to allow compact development and integrated appropriate land uses. The Specific Plans would identify the allowable land uses, development standards, required infrastructure, and standards for the conservation, development and utilization of natural resources, where applicable. Each jurisdiction should also outline an implementation program unique to the needs of the community. The plans should focus on compact development and integrated land uses that will attract business and jobs to the Corridor.

2.3 Building Code Standards – California Green Building Code – CalGreen 2010

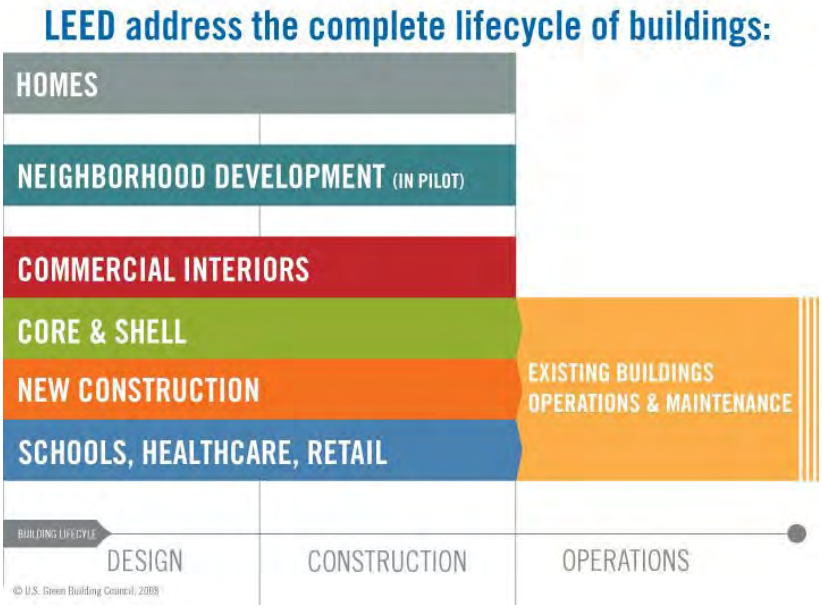
SR-60 Coalition agencies are subject to the requirements of the new California Green Building Code, CalGreen 2010, which went into effect January 1, 2011. The code indentifies the minimum requirements and is applicable to all new residential and commercial construction projects. It introduces sustainable requirements in the areas of planning, design, energy, resource and water

efficiency, materials conservation and environmental quality. Cities and counties must adopt the code and can amend it based on local conditions (i.e. climate, topography, or geology).

CalGreen also includes a further set of green building measures as a two-tier system that go above and beyond the mandatory measures of the code. The tiers are separate for residential and commercial buildings. In both cases, Tier 1 requires that buildings achieve 15 percent over the current Title 24 Part 6 code (California energy code) minimum requirements, and Tier 2 specifies that buildings achieve 30 percent over Title 24 minimum requirements. There are additional measures such as energy efficiency, water efficiency, resource conservation, indoor air quality, and community a project can implement. Cities and counties may adopt more stringent requirements by adopting one of the tiers as voluntary or mandatory measures. In addition to adoption of the State's new code, Coalition agencies may wish to use other programs such as USGBC's LEED requirements or Build-it-Green's standards as additional building code requirements.

2.4 LEED-ND (Neighborhood Development) or other LEED or Green Building Programs

LEED for Neighborhood Development (LEED-ND) rating system is the result of a partnership between U.S. Green Building Council (USGBC), the Natural Resources Defense Council (NRDC), and the Congress for the New Urbanism (CNU). LEED-ND combines three principles—smart growth, new urbanism; and green buildings—to create a voluntary standard for neighborhood developments. LEED-ND provides criteria for new development that envisions sustainable communities in terms of where they are located, how they are designed, and how they perform. LEED-ND communities rely on existing resources such as public transit, infrastructure, and existing buildings; these communities embellish what exists with pedestrian-friendly streets and lots of amenities and green building techniques. LEED-ND is appropriate for looking at multiple buildings, the location of buildings, and the relationship among the buildings.



LEED-ND projects may be residential, commercial or mixed-use. They may be entire neighborhoods, portions of neighborhoods, or multiple neighborhoods. The recommended size is at least two buildings and up to 320 acres. Such projects can be infill development, brownfield redevelopment, building retrofits/reuse, and appropriate use of undeveloped land.

The LEED-ND rating system encourages projects to be built in existing areas near services and transit. It is important to situate new projects in proximity to existing development, near goods and services, and areas with infrastructure. Projects cannot be located in prime farmland, wildlife habitat, or wetlands.

LEED-ND is different from other LEED certification processes in that it has three certification stages that relate to the real estate development process:

Stage 1 Conditionally Approved Plan: Available for projects prior to completion of entitlements or public review process. It is intended to get project support through the entitlement process.

Stage 2 Pre-Certified Plan: Open to fully entitled project or projects under construction. Intended to assist projects in securing financing, expedited permitting, and tenant attraction.

Stage 3 Certified Neighborhood Development: Intended to recognize that a completed project has achieved all of the perquisites and credits attempted.

With the use of LEED-ND, and other LEED building construction, design and maintenance programs, energy efficiency and sustainable building development can be achieved along the SR-60 Corridor.

2.5 Build It Green - Green Point Rated Incentives

Build it Green is a nonprofit organization promoting healthy, energy-efficient, and resource-efficient homes in California. Build It Green offers a comprehensive package of local government support, training, education and product information. Build it Green has developed various programs to support policy development, third-party verification of green development, and local government assistance for developing, promoting, and implementing green building programs. Such programs would be ideal for the SR-60 Corridor Coalition agencies to participate in as they strive to develop as a green corridor.

2.6 Incentives

Coalition agencies may create financial incentives to encourage sustainable transit-oriented development. Such incentives may include the following:

- Use LEED-ND as a basis for financial and structural incentives for projects.

- SR-60 Corridor agencies may wish to create a certified green business program with standards for conserving resources, preventing pollution, and minimizing waste. Consumers in the SR-60 Corridor would have the opportunity to know which businesses are “green” when purchasing goods and services. This would also provide businesses an incentive to consider implementing environmentally friendly policies. Such a program could be developed to apply standards uniformly across the corridor, or each Corridor city and the County could individually create a program unique to their community. Regardless of how they are created, such programs recognize and promote local businesses that volunteer to operate in an environmentally responsible and sustainable manner.

  The Certified Green Business would be required to be in compliance with all local, state, and federal requirements applicable to that particular business’s industry. Under such a program, businesses would be required to generally make a documented effort to do the following: conserve water and other resources, reduce and recycle materials, conserve energy, and prevent pollution.

- Establish incentives for businesses and new development with Transportation Demand Management (TDM) programs in place.

- Establish refundable deposit of permit and application fees for Sustainable Development, Transit Oriented Development, or Green Corridor Development that is consistent with the SR-60 Coalition's Green Corridor policies.

3.0 Recommended Policies and Standards

SR-60 Corridor agencies could consider a range of sustainable practices and standards to be required for all new project design and construction. Such standards would be incorporated into the concept plans, project design, and construction plans, with all stakeholders involved in the process to identify the most efficient design possible and ensure that the sustainability measures are built into the project and not added later as a design afterthought. The following minimum standards should be considered:

3.1 Sustainable Development Policies

a. Provide a variety of transportation options.
b. Provide an easily accessible integrated multi-modal transportation network including transit, automobile, bikeways, pedestrian paths.
c. Allow for modified street design standards and context sensitive design.
d. Integrated transportation systems and street design should be creative and collaborative, involving all stakeholders.
e. Provide street amenities that encourage non-motorized use including bike paths, bike lockers, bike lockers, pedestrian paths, lighting, benches, and street furniture.
f. Provide covered, comfortable, and interesting bus shelters and stops.
g. Provide transit and transportation information at visible locations, especially nearby transit stops.
h. Maintain public facilities in clean working condition.
i. Utilize green maintenance products.
j. Encourage and support reduction in vehicle use and vehicle miles traveled.
k. Encourage and support the use low-emission vehicles (LEVs) by providing preferential parking, charging and refueling for alternative vehicles, and incentive programs.
l. Implement Transportation Demand Programs.
m. Preserve all aspects of the environment including natural and historic resources.
n. Sustainable development should facilitate economic growth and vitality.
o. Incorporate sustainable design principles into the minimum development standards and design guidelines of city policies such as Zoning Codes, Design Guidelines, and Specific Plans.

3.2 Sustainable Development Standards

a. Natural drainage patterns shall be protected and preserved.
b. Water quality shall be addressed through best management practices (BMPs).
c. Storm Water Pollution Prevention (SWPP) – All projects shall have a SWPP that meets State National Pollution Discharge Elimination System requirements.
d. Pervious surfaces shall be designed and installed to allow runoff to filter through the surface onto the ground.
e. Concrete, brick, stone and grass pavers shall be designed to allow infiltration of water runoff.
f. Grading and clearing of properties shall be limited to building envelope, where possible.
g. New development shall provide construction and demolition waste recycling.
h. Recycling collection areas shall be provided.

i. All new development shall provide safe, walkable, pedestrian-friendly development and crossings.
j. New developments shall have linkages and access to pedestrian paths, transit options, and non-motorized vehicle
k. Pedestrian access shall be provided within one-half mile of. community services
l. Designated parking for low-emitting, fuel efficient, carpool/ vanpool vehicles shall be provided at eight percent of the total parking spaces for new development.
m. Designated, secured bicycle parking shall be provided for five percent of all building users within 200 yards of building entrances shall be provided. Showers and changing rooms should also be provided for 0.5 percent of full-time equivalent.
n. Exterior lighting power density limited by exterior lighting zone to California Energy Code limits. Contain lighting within each source. Limit to a maximum of 0.01 horizontal footcandles 15 feet beyond a site.
o. Exterior light fixtures shall be shielded to prevent offsite spillover, and shall be directed downward to reduce the effects on the night sky.
p. Building performance shall exceed a minimum of 15 percent better than Title 24 standards.
q. Buildings shall be designed to accommodate rooftop solar equipment.
r. Buildings shall be oriented for passive solar design to provide maximum energy efficiency.
s. Exterior building facades shall incorporate shading on all south-facing windows.
t. Sites shall be designed to minimize the heat island effect on the site. Tree canopies, light colored asphalt, or concrete paving material shall be utilized where possible.
u. Drought-tolerant and water-conserving landscapes shall be installed and maintained consistent with the requirements of AB 1881 and local implementing ordinances.
v. Vegetated bioswales shall be designed and installed to treat stormwater through filtration, reduce water flow, and prevent erosion.
w. Recycled products or rapidly renewable material shall be used where possible.
x. Low/No Volatile Organic Compounds (VOC) paints, finishes, materials, shall be used on all interiors. (VOCs are gases from certain solids or liquids, which include a variety of chemicals that can have short- or long-term effects on health.)
y. Recycled water shall be utilized indoors and outdoors, where possible.
z. High-efficiency fixtures (urinals, toilets, showerheads) and low-flow faucets shall be used.
aa. Energy-efficient appliances such as tankless and solar water heaters and energy efficient heating and cooling systems.
bb. New development shall provide a variety of affordability among the units.
cc. Public facilities should comply with the sustainable development standards and should be built to requirements of USGBC's LEED for New Construction (NC) or LEED for Neighborhood Development (ND), or equivalent.
dd. Mixed-use development shall be designed with separate mechanical and plumbing systems.
ee. Kiosks or information boards shall be designed and installed for mixed-use projects to allow for support of rideshare, transit, and transportation demand management programs.

Green building educational features shall be incorporated into development where feasible. Educational markers, product labels, identification of energy efficient features shall be posted in the appropriate locations to educate the public and promote the use of green products and design.

Sources

Build It Green, Green Point Rater: Multifamily New Home 2.2, Checklist.

California Green Building Standards Code: CalGreen 2010 California Code of Regulations, Title 24, Part 11. California Building Standards Commission.

Playbook for Green Buildings and Neighborhoods.
http://www.greenplaybook.org/neighborhoods/index.htm.

State of California, http://www.green.ca.gov.

California Department of Transportation -Complete Streets Design.
http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets.html.

United States Green Building Council (USGBC) LEED Rating System. http://www.usgbc.org/.