



San Luis Obispo County
Department of Planning & Building

VISION FOR STRATEGIC GROWTH IN SAN LUIS OBISPO COUNTY

Illustrative Design Model

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CAL POLY

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Executive Summary

This report depicts an 'Illustrated Design Model' developed as a graduate planning research in the City and Regional Planning Cal Poly for the County of San Luis Obispo. It was conceived to explore the design potential of the County's strategic growth policies and to illustrate the expansion of a community through a conceptual 40-acre neighborhood that meets the criteria set by these policies. A 3D computer model was also created to help to illustrate the resulting environment, providing a virtual tour of the new community and simulation images.

The Illustrated Design Model is part of the Sustainable Communities Planning grant projects awarded by California Strategic Growth Council. The County Board of Supervisors adopted Strategic Growth in 2009 as part of the General Plan to guide planning to sustain resources, avoid sprawl and provide more housing and transportation choices. The objective of this Illustrative Design Model is that the illustrative plans and the virtual 'tours' can be used to assist in continuing public education efforts about compact residential design and building. It showcases a variety of urban design elements such as streetscaping, circulation, and range of housing types in compact neighborhoods that are desirable and efficient in land and energy consumption.

Many unincorporated areas in the county face long-term development problems, limited resources and out-dated or insufficient infrastructure. Rising housing costs with limited local job availability means residents have to travel further for work, thus increasing total vehicle miles traveled and energy used. Heavy reliance on automobile also increases traffic congestion and discourages active lifestyles making health problems a rising concern for the County. In essence, planning for strategic growth in the county requires landmark changes to the way these areas are planned.

This research project developed a conceptual neighborhood design model that meets the County's strategic principles for unincorporated areas. Existing literature point out several theoretical solutions and even exemplary projects of strategic growth all over the country. However, there is still a lack of post-occupancy research of built-up examples to identify their successes and failures, and certainly there are only a handful of examples in California. We need a better understanding how strategically new planned communities can respond to strategic growth at regional or county levels. As discussed in Chapter 2, this research project identified three local projects to serve as case studies because they embody some of the County's strategic growth principles. Six principles (out of 11) were used as criteria to evaluate the success and desirability of these developments. Furthermore, preferred development typologies provided by SLOCOG in Chapter 3 were useful in determining suitable building types and development densities for local neighborhoods.

The lessons learnt from the case studies and the analysis of SLOCOG information helped the research to identify the parameters utilized in developing the conceptual neighborhood design model. Chapter 4 presents the theoretical premises as well as the planning and design model for the new neighborhood. The neighborhood is planned based on the 'transect model' of development and designed to meet five key urban design goals derived from shared Smart Growth, New Urbanism, Traditional Neighborhood Design, and the County's own strategic growth aspirations. Finally Chapter 5 outlines the development of the community expansion concept and the illustrative design with key elements; land use mix, building typology, street design, and photo simulations.

San Luis Obispo County is a desirable region enjoying a steady population growth of 10% over the last decade. It is timely to implement strategic policy changes so that growing communities can be strategically planned with adequate long-term resources, services, and facilities and become diversely vibrant and economically viable. The purpose of strategic growth planning is to better define and focus future growth closer to existing and planned centers, where resources are readily available. The Illustrated Design Model aims to show how community expansion can occur strategically with good infrastructure planning, urban design qualities, and most importantly, flexible enough to suit different locality and compatibility needs.

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Introduction

Strategic Growth in San Luis Obispo County

Vision and Premise of Strategic Growth in San Luis Obispo County

According to the 2010 Census the county has experienced a steady 10% growth rate over the decade. However, current development patterns are not conducive for sustainable community expansions in the long term particularly in unincorporated areas. Sprawl, leapfrog development, segregated land uses, low densities, expensive housing costs, and heavy reliance on automobile travel are some of the current challenges faced by the county. However, as other states and counties have done and as California is trying to achieve through the enactment of measures SB-375 and AB-32, it is time for an integrative planning approach and for the implementation of strategic growth principles and policies. Communities are now more than ready to embrace the many positive impacts from building smarter and more compact, well connected and strategically positioned growth.

Strategic growth is a term adopted by the County of San Luis Obispo that combines foundational 'smart growth' concepts with results-oriented, visionary planning to balance development with environmental, economic, and social equity concerns in the county. Strategic growth encourages a compact, efficient, and environmentally sensitive pattern of development that provides people with additional mobility, housing, recreational, and employment choices. It focuses future growth away from rural areas and closer to or in existing and planned job centers and public facilities where the infrastructure and the resources necessary for development are readily available.

In essence, strategically planned communities share the following basic characteristics:

- Adequate use of resources, services, and facilities for long-term growth (20 years);
- Easy access to alternative modes of transportation and public transit, and well connected street, bicycle and pedestrian systems;
- A mix and variety of housing types affordable to all income groups and located within walking distance to neighborhood centers that serve daily needs;
- Adequate areas for commerce, employment, education, recreation, civic and social life.

Strategic Growth Principles & Policies as Design Criteria

Besides the County's Strategic Growth vision, the State mandates better land use and transportation relationships to reduce greenhouse gas (GHG) effects and vehicle miles traveled. This means higher densities, more mixed uses, and public transit need to be planned in an integral mode so that daily residences and activity centers –such as where people work, shop, and play-- get closer and more accessible without the use of private vehicles. Although there is enough evidence showing that such projects can generate attractive neighborhoods and more sustainable urban footprints, public perception of higher density and planning changes can be unfavorable, particularly in non-incorporated areas.

In order to change negative perceptions, the public needs to be made more aware of the design implications of Strategic Growth principles and policies such as architectural typologies, street design, and land use mix, and how they are meant to generate vibrant developments that are compatible with local community character. The first step in realizing this goal is to develop a design criteria and a framework to guide future developments compatibility with the County's Strategic Growth vision and policies.

The main goal of the Illustrative Design Model is to provide this design criteria and framework, showing the public how different housing types, densities, and mixture of uses can be made to suit typical unincorporated town patterns and maximize efficient infrastructure planning so that new expansion areas will be well served, economically viable, and socially equitable.

The following is a list of six strategic growth principles (out of 11) and policies that can specifically impact new developments in terms of building design, visual aesthetics, resource and land use efficiency. We adapted these select principles and policies as a design criteria checklist when evaluating local case studies and developing the conceptual Illustrating Design Model.

Principle 3 : Foster distinctive, attractive communities with a strong sense of place

Policies:

1. Protect and restore the valuable history, cultures, images and identity of communities and rural areas.
2. Protect rural areas between communities to achieve well-defined communities within an attractive rural setting.
3. Establish and maintain a distinct edge between urban and rural areas to enhance community separation while allowing for appropriate and compact urban expansion at the urban edge.
4. Enhance the commercial identity and viability of downtowns.
5. Foster a strong local identity through appropriate design of public spaces and buildings.

Principle 4 : Create walkable neighborhoods and towns

Policies:

1. Plan communities with schools, parks, public spaces, transit stops and commercial districts located as focal points within convenient walking distances of neighborhoods.
2. Plan for maximum connectivity between different land uses through walkways or other means.
3. Create attractive street enhancements and public spaces that serve as gathering places on corridors and at connecting locations.
4. Provide parks, natural areas and recreation facilities with new urban development to enhance a community's quality of life and improve public health.
5. Create neighborhoods and non-residential areas that minimize fear and crime through environmental and urban design.

Principle 5 : Provide a variety of transportation choices

Policies:

1. Design a safe, reliable and effective transportation system that protects natural and scenic resources and minimizes environmental impacts.
2. Reduce and minimize the generation of air pollutants and greenhouse gases from existing and future development, with emphasis on reducing vehicle miles traveled.
3. Coordinate land use and transportation planning to ensure that all transportation demands can be safely and adequately accommodated.
4. Provide public transit, bicycle lanes, multi-use trails and pedestrian walkways that connect destinations within and between communities and encourage alternative transportation.
5. Make communities more bicycle and pedestrian friendly with safe and attractive routes.

Principle 6 : Create a range of housing opportunities and choices

Policies:

1. Plan for most new housing to be within urban or village areas and close to jobs while protecting residential areas from incompatible uses.
2. Provide quality-housing choices that are affordable to people with a variety of income levels.
3. Provide a range of housing types within each neighborhood, and avoid creating adverse concentration of affordable units.

Principle 7 : Encourage mixed land uses

Policies:

1. Integrate residential units designed for affordability with non-residential uses in order to bring workplaces, commercial development and homes closer together for workers, senior citizens and others.
2. Integrate complementary uses within commercial sites in order to build effective mixed-use neighborhoods.

Principle 8 : Take advantage of compact building design

Policies:

1. Develop compact neighborhoods that contain residential uses that are adorable by design and efficient in land and energy consumption.
2. Include public and private amenities with new development to enhance the livability of compact neighborhoods.

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Strategic Neighborhoods
Local Case Studies

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Premise of Analysis and Approach

In California there are several examples of sustainably planned and designed communities but most are in urban areas. There are not many examples of how Strategic Growth can be implemented successfully in non-incorporated areas and in a lower density and larger region such as San Luis Obispo County. To provide a better understanding of what type of projects could inspire the design of new developments following the County's Strategic Growth principles, this report selected three case studies for evaluation.

Two case studies are located within the County of San Luis Obispo; De Tolosa Ranch (San Luis Obispo) and The Woodlands (Nipomo). They were selected based on the development objectives that matches the aspirations of Strategic Growth: to provide higher density and housing choices, mixed land uses, sustainable land use and compact building design, provision of good inter connection of public spaces and walkable neighborhoods, and the encouragement of public transportation usage. The third case study, Ohlone-Chynoweth Commons, located in San Jose was selected for its success as a 100% affordable housing and transit oriented development with good site design and architectural aesthetics.

Each of these developments is evaluated based on the County's adopted Strategic Growth principles and policies. These principles (6 out of the existing 11 principles) are selected as evaluation criteria due to the physical design and measurable parameters for guide future developments in the county. Besides being evaluated against these criteria, the case studies were reviewed on their site design and architectural typologies.

Case Study 1: De Tolosa Ranch Development

Location: City of San Luis Obispo, California
Client : Westpac Investments and De Vault Ranch LLC
Designer: Oasis Associates
Construction: 2003-2009

Project Description

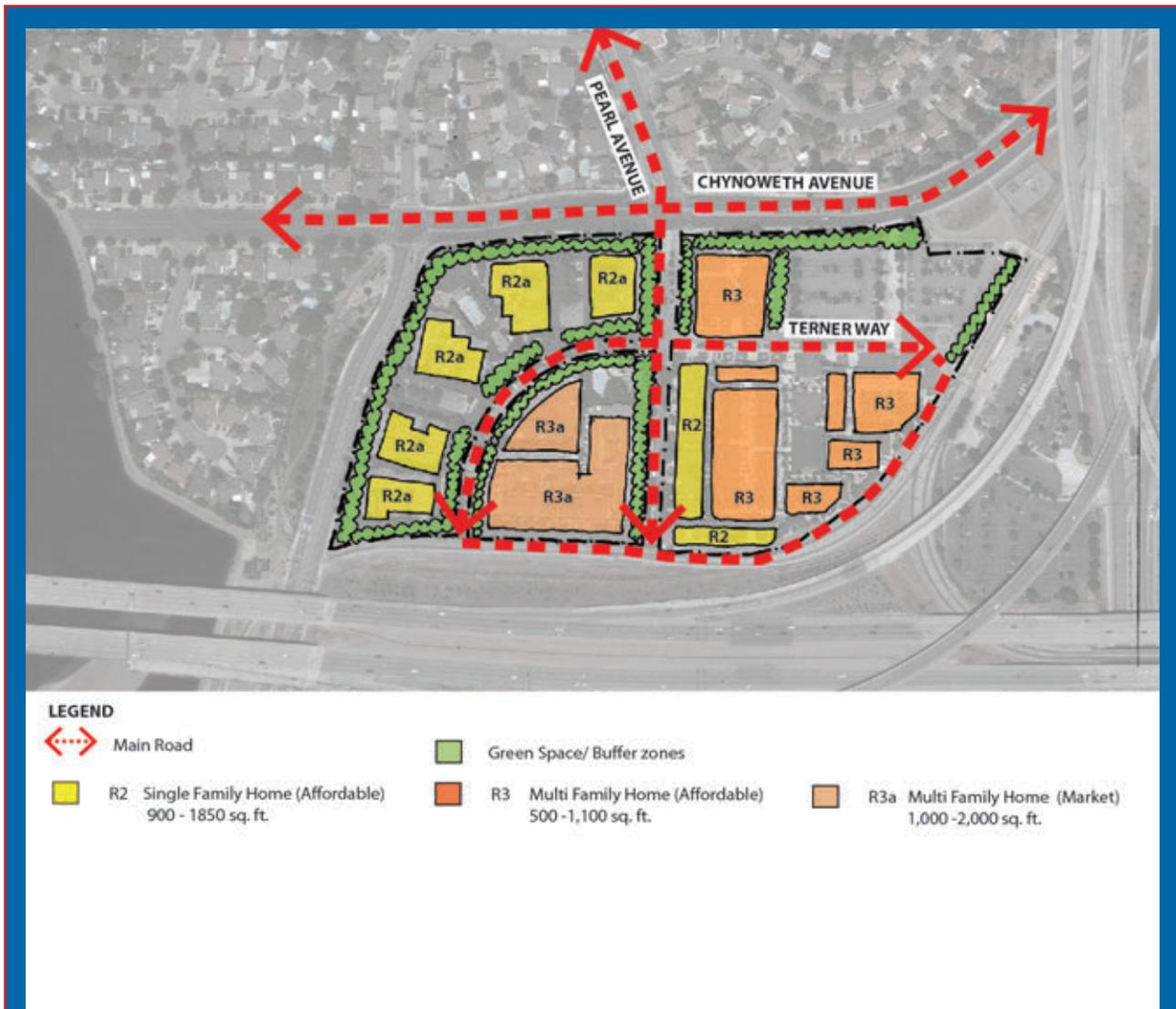
- Planned development over 126 acres
- 29 acres for single family, duplex and apartment complex.
- Rehabilitation of historic DeVaul Ranch House
- Dedication of 184 acres of permanent open space along development edges
- Dedication of 3 acres neighborhood park
- Dedication of public art sculpture 'Storyboard'
- Total 147 single family homes (ownership)
 - 109 single-family detached homes (market price) - 4,000 to 6,500 sq. ft.
 - 24 duplexes (market price) - 3,000 to 3,999 sq. ft.
 - 14 single-family detached homes (moderate income)
- De Tolosa Ranch Apartments (rental only)
 - Rental from \$1100 to \$1880/ month
 - 25 affordable apartments
 - Studios – from 450 sq. ft.
 - 1 Bedroom – from 691 to 734 sq. ft.
 - 2 Bedroom – from 1050 to 1204 sq. ft
 - Community Amenities: Computer & Media Center, Laundry, Pool & Spa, Fitness Center, Clubhouse & Lounge Area, Picnic Area
- Rancho Obispo Apartments (rental only)
 - Total 78 units
 - Rental from \$1290 to \$1725/ month
 - 13 affordable apartments
 - 1 bedroom – 670 sq. ft
 - 2 bedroom – 1045 to 1186 sq. ft
 - Community Amenities: Laundry, Pool & Spa, BBQ & Picnic Area

Key Success Features

- Attractive community with strong sense of place and identity
- Walkable neighborhood with access to good public spaces and nearby commercial areas
- Proximity to public transportation and adequate bike/ shared pathways
- Variety of housing choices including medium affordable housing
- Mixed uses are encouraged by proximity to nearby retail and commercial areas
- Compact community design with mixture of lot acreages.
- City edge green field development with historical and open space preservation
- Sustainable landscape and infrastructure design to support community needs i.e. recycled water irrigation, natural water retention basin (multi purpose green field), central mail boxes, solar energy for homes (optional) and public lighting.

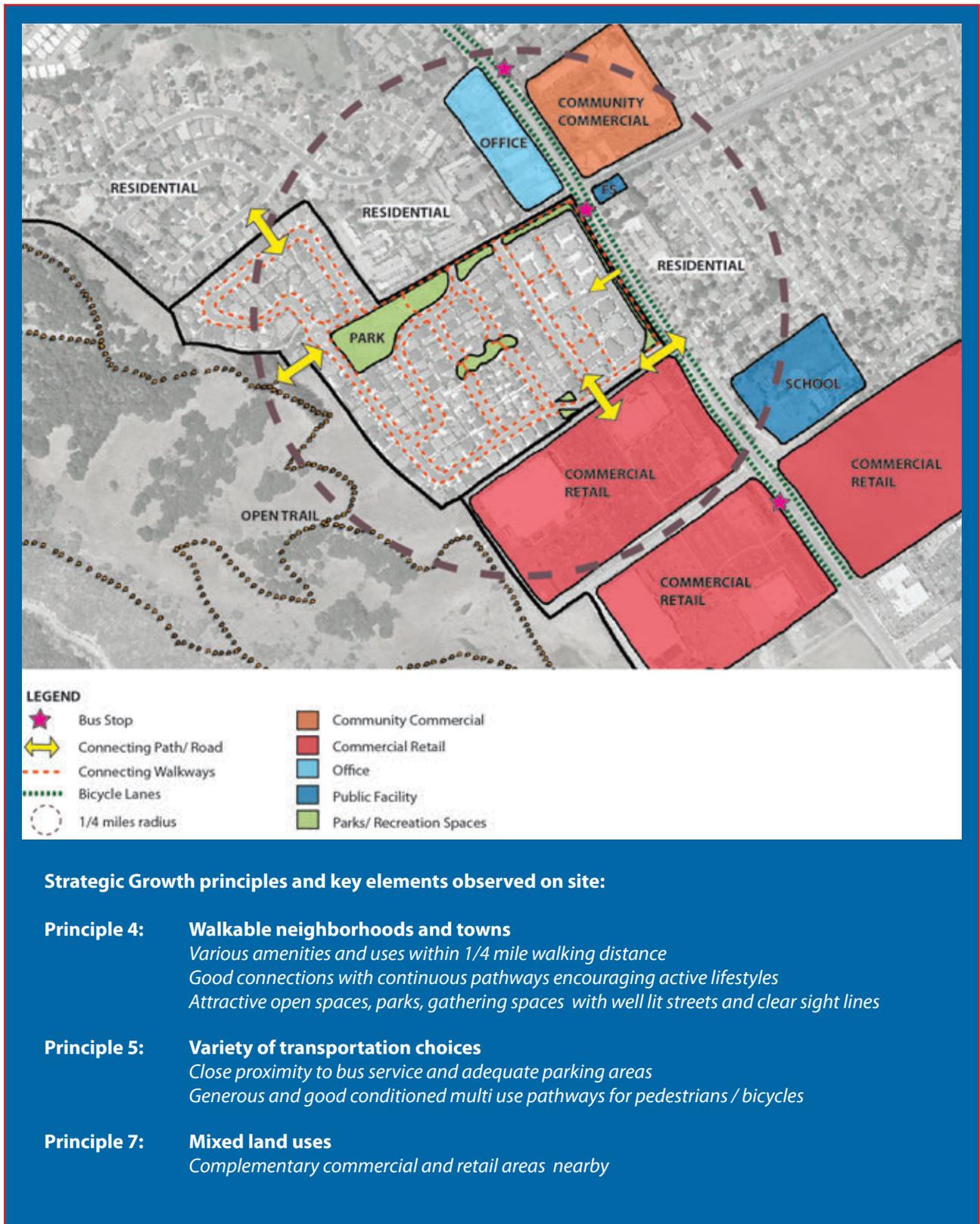
Strategic Growth Principle and Policy		De Tolosa Ranch Development (Infill Development)					Notes
Principle 3	Foster distinctive, attractive communities with a strong sense of place						
Policy 3.1	Protect and restore the valuable history, cultures, images and identity of communities and rural areas	★	★	★	★	★	Presevation of historic DeVaul Ranch and urban art showcasing the land history
Policy 3.2	Protect rural areas between communities to achieve well-defined communities within an attractive rural setting	★					This development is not considered a rural community
Policy 3.3	Establish and maintain a distinct edge between urban and rural areas to enhance community separation while allowing for appropriate and compact urban expansion at the urban edge	★	★	★	★	★	Higher density housing allocated nearer to main streets and nearby commercial area
Policy 3.4	Enhance the commercial identity and viability of downtowns	★	★	★			Lack of connection to SLO downtown
Policy 3.5	Foster a strong local identity through appropriate design of public spaces and buildings	★	★	★	★	★	Comfortable pocket spaces in between distinct architectural typologies
Principle 4	Create walkable neighborhoods and towns						
Policy 4.1	Plan communities with schools, parks, public spaces, transit stops and commercial districts located as focal points within convenient walking distances of neighborhoods	★	★	★	★		Nearby commercial/retail areas well within 1/4 mile walking distance
Policy 4.2	Plan for maximum connectivity between different land uses through walkways or other means	★	★	★	★	★	Continous pathways & pocket spaces within development to surrounding areas
Policy 4.3	Create attractive street enhancements and public spaces that serve as gathering places on corridors and at connecting locations	★	★	★	★		Pocket parks and small sitting areas
Policy 4.4	Provide parks, natural areas and recreation facilities with new urban development to enhance a community's quality of life and improve public health	★	★	★	★	★	Central neighborhood park, multi purpose green field, open space trail system
Policy 4.5	Create neighborhoods and non-residential areas that minimize fear and crime through environmental and urban design	★	★	★	★		Ample street lighting and good sight lines
Principle 5	Provide a variety of transportation choices						
Policy 5.1	Design a safe, reliable and effective transportation system that protects natural and scenic resources and minimizes environmental impacts	★	★	★			Convenient bus stop location on site but most residents have access to own parking spaces
Policy 5.2	Reduce and minimize the generation of air pollutants and greenhouse gases from existing and future development, with emphasis on reducing vehicle miles traveled	★	★	★			There is still heavy reliance on personal vehicles
Policy 5.3	Coordinate land use and transportation planning to ensure that all transportation demands can be safely and adequately accommodated	★	★	★			Ample roadside parking may compromise pedestrian safety and comfort
Policy 5.4	Provide public transit, bicycle lanes, multi-use trails and pedestrian walkways that connect destinations within and between communities and encourage alternative transportation	★	★	★	★	★	Bus stops within 1/4 mile walking distance, good connecting pathways for all pedestrians/bicycles
Policy 5.5	Make communities more bicycle and pedestrian friendly with safe and attractive routes	★	★	★	★	★	Generous, good conditioned & well lit routes
Principle 6	Create a range of housing opportunities and choices						
Policy 6.1	Plan for most new housing to be within urban or village areas and close to jobs while protecting residential areas from incompatible uses	★	★	★	★	★	Well defined urban residential village
Policy 6.2	Provide quality-housing choices that are affordable to people with a variety of income levels	★	★	★	★		Complementary architectural styled homes blends larger and smaller lots well together
Policy 6.3	Provide a range of housing types within each neighborhood, and avoid creating adverse concentration of affordable units	★	★	★	★		Affordable medium income housing well mixed within the general lots
Principle 7	Encourage mixed land uses						
Policy 7.1	Integrate residential units designed for affordability with non-residential uses in order to bring workplaces, commercial development and homes closer together for workers, senior citizens and others	★	★	★			Purely residential: all mixed uses within 1/4mile radius from development
Policy 7.2	Integrate complementary uses within commercial sites in order to build effective mixed-use neighborhoods	★	★	★	★		Mostly retail and commercial uses nearby
Principle 8	Take advantage of compact building design						
Policy 8.1	Develop compact neighborhoods that contain residential uses that are adorable by design and efficient in land and energy consumption	★	★	★	★	★	Solar energy, central mail boxes, recycled water irrigation, smaller building lots
Policy 8.2	Include public and private amenities with new development to enhance the livability of compact neighborhoods	★	★	★	★	★	Open space trail & neighborhood park

Table 3.1 Tolosa Ranch post occupancy evaluation based on County's select six (of eleven) strategic growth principles.



Strategic Growth principles and key elements observed on site:

- Principle 3: Distinct and attractive communities with a strong sense of place**
*Preservation of valuable history and identity of the communities and rural areas
 Distinct edge between urban and rural areas enhancing community separation
 Strong local identity with good public spaces and building design*
- Principle 6: Range of housing opportunities and choices**
*Well defined urban residential village
 Quality design and complimentary architectural aesthetics for various priced units
 Good mix of various housing types*
- Principle 8: Compact building design**
*Compact neighborhood with efficient use of land and energy
 Ample public and private amenities included*



Case Study 2: The Woodlands

Location: Nipomo, California
Client : Trilogy Homes & Woodlands Developments Inc
Designer: RRM Design
Construction: 2003-ongoing

Project Description

- Planned development over 957 acres of rural atmosphere and village enclaves surrounded by natural woods and open space
- Preservation of monarch butterflies habitat
- Commercial Areas
 - o 12 acres of Village Center: Retail, Service, Hotel (future)
 - o 22 acres of Business Park
- Single and Multi Family residential areas with maximum 1,320 units
 - o 299 acres of single family homes (typical 5,000-7,000 sf)
 - o 4 acres of multi family homes (typical 2,100 sf)
 - o 3% affordable housing units compliance
- Public Facility:
 - o 10 acres of water treatment facility
 - o 10 acres of public park (future)
- Recreation & Open Space:
 - o 300 acres for 3 golf courses (2 built)
 - o 28 acre resort
 - o 11 acres of Sensitive Habitat Area for monarch butterflies
 - o 7 acre passive park
 - o 20 acres total of neighborhood play area and open space
 - o 169 acres of natural areas and open space woodlands with trail system buffering the development edges
- Flex Zone (designed future development area based on demand)
 - o 2 acres within Business Park
 - o 13 acres within residential area

Key Success Features

- Attractive master planned community with strong sense of place and identity
- Moderately walkable neighborhood with good access to public spaces and nearby retail-commercial area within the development
- Narrow streets with well connected pathways promote cycling/ walking activities
- Variety of housing choices including affordable housing
- Mixed uses encouraged by provision of retail and commercial services through the Village Center
- Compact community design with enclaves of mixed lot acreages and generous open spaces
- Rural green field development with natural wildlife habitat and open space preservation
- Sustainable building, landscape and infrastructure design to support the community needs i.e on-site water treatment system, recycled water irrigation, underground rainwater catchment

Strategic Growth Principle and Policy		The Woodlands (Greenfield Development)					Notes
Principle 3	Foster distinctive, attractive communities with a strong sense of place						
Policy 3.1	Protect and restore the valuable history, cultures, images and identity of communities and rural areas	★	★	★	★		Sensitive Habitat Area preservation for monarch butterflies
Policy 3.2	Protect rural areas between communities to achieve well-defined communities within an attractive rural setting	★	★	★	★	★	Generous separation via open green spaces
Policy 3.3	Establish and maintain a distinct edge between urban and rural areas to enhance community separation while allowing for appropriate and compact urban expansion at the urban edge						Located entirely within a rural area (N/A)
Policy 3.4	Enhance the commercial identity and viability of downtowns	★	★	★			Lack of connection & proximity to Nipomo town center
Policy 3.5	Foster a strong local identity through appropriate design of public spaces and buildings	★	★	★	★	★	Well defined village enclaves and open spaces
Principle 4	Create walkable neighborhoods and towns						
Policy 4.1	Plan communities with schools, parks, public spaces, transit stops and commercial districts located as focal points within convenient walking distances of neighborhoods	★	★				No public transit within development
Policy 4.2	Plan for maximum connectivity between different land uses through walkways or other means	★	★				Reliance on automobile due to far distance
Policy 4.3	Create attractive street enhancements and public spaces that serve as gathering places on corridors and at connecting locations	★	★	★	★	★	Continuous pathways with scenic viewpoints
Policy 4.4	Provide parks, natural areas and recreation facilities with new urban development to enhance a community's quality of life and improve public health	★	★	★	★		Abundant of trail/ pathways along natural landscape
Policy 4.5	Create neighborhoods and non-residential areas that minimize fear and crime through environmental and urban design	★	★				Lack of street lighting and clear sight lines
Principle 5	Provide a variety of transportation choices						
Policy 5.1	Design a safe, reliable and effective transportation system that protects natural and scenic resources and minimizes environmental impacts	★					Lack of internal transit options to reduce VMT
Policy 5.2	Reduce and minimize the generation of air pollutants and greenhouse gases from existing and future development, with emphasis on reducing vehicle miles traveled	★					Lack of transit options/ proximity to downtown or commercial areas
Policy 5.3	Coordinate land use and transportation planning to ensure that all transportation demands can be safely and adequately accommodated	★	★				Potential for higher demand with ample parking but need careful planning to control automobile reliance
Policy 5.4	Provide public transit, bicycle lanes, multi-use trails and pedestrian walkways that connect destinations within and between communities and encourage alternative transportation	★					Besides bike/ped pathways, public transit & alternative options are poorly provided for
Policy 5.5	Make communities more bicycle and pedestrian friendly with safe and attractive routes	★	★	★	★	★	Generous and well maintained routes
Principle 6	Create a range of housing opportunities and choices						
Policy 6.1	Plan for most new housing to be within urban or village areas and close to jobs while protecting residential areas from incompatible uses	★	★				Most residents who can afford the property prices do not work nearby
Policy 6.2	Provide quality-housing choices that are affordable to people with a variety of income levels	★	★	★			Small percentage of lower range house/townhome prices
Policy 6.3	Provide a range of housing types within each neighborhood, and avoid creating adverse concentration of affordable units	★	★				Lack of affordable entry level housing units
Principle 7	Encourage mixed land uses						
Policy 7.1	Integrate residential units designed for affordability with non-residential uses in order to bring workplaces, commercial development and homes closer together for workers, senior citizens and others	★	★	★			Clear delineation of separate uses within development but lack of demographic diversity among residents
Policy 7.2	Integrate complementary uses within commercial sites in order to build effective mixed-use neighborhoods	★	★	★	★		Village center with approved future retail/ hotel
Principle 8	Take advantage of compact building design						
Policy 8.1	Develop compact neighborhoods that contain residential uses that are adorable by design and efficient in land and energy consumption	★	★	★	★		Compact subdivision layout, high sustainable measures in landscaping & infrastructure services
Policy 8.2	Include public and private amenities with new development to enhance the livability of compact neighborhoods	★	★	★	★	★	2 golf courses, clubhouse amenities, dining, farmers market, retail (proposed)

Table 3.2 Woodlands post occupancy evaluation based on County's select six (of eleven) strategic growth principles .



Strategic Growth principles and key elements observed on site:

Principle 3: Distinct and attractive communities with a strong sense of place

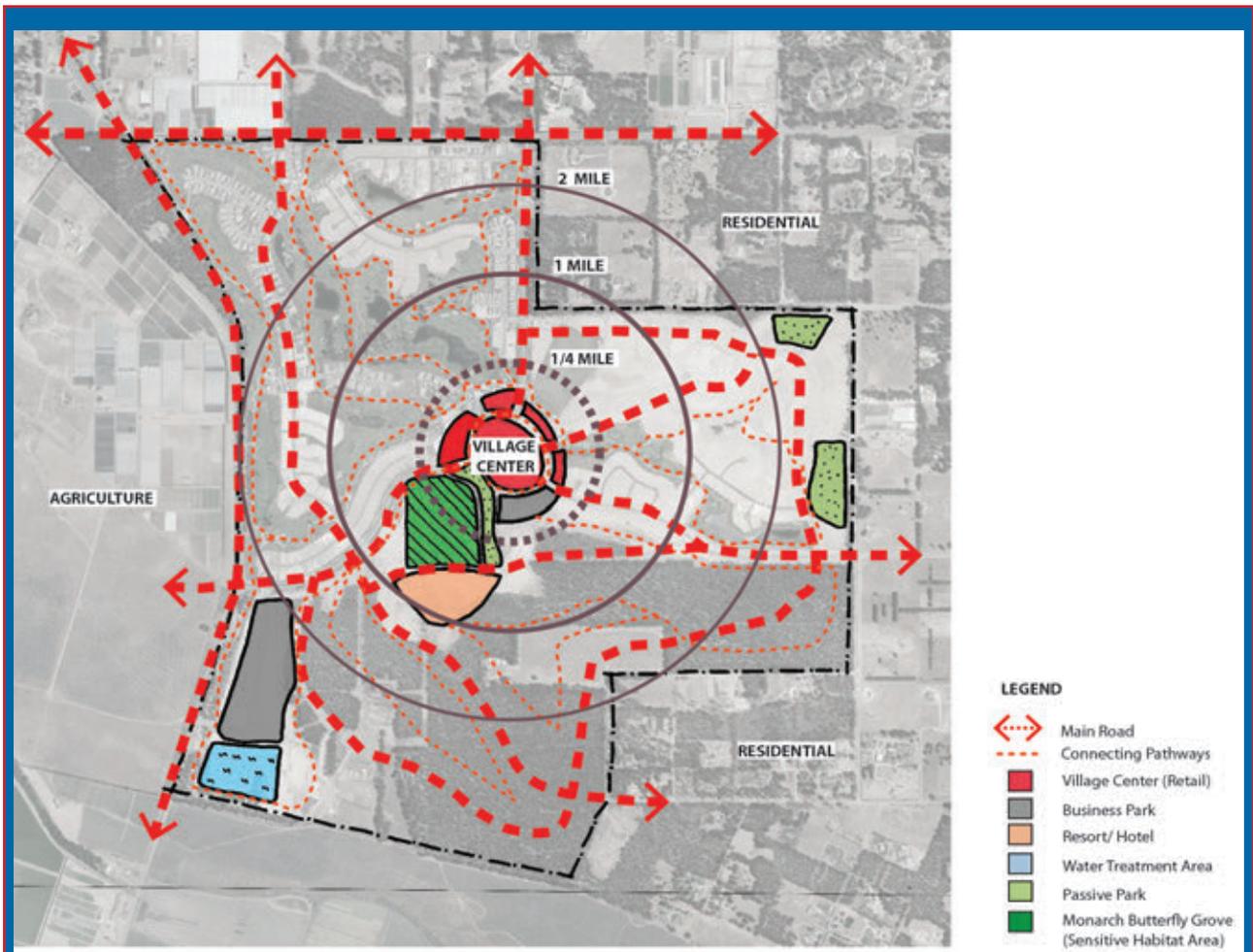
*Preservation of the community and rural areas
Well defined communities within an attractive rural setting
Strong local identity with generous green spaces and village clusters*

Principle 6: Range of housing opportunities and choices

*Well defined residential villages
Quality design and complimentary architectural aesthetics for various housing types*

Principle 8: Compact building design

*Compact village clusters and site design with efficient use of land and energy
Quality public and private amenities provide for both residents and visitors*



Strategic Growth principles and key elements observed on site:

Principle 4: Walkable neighborhoods and towns

*Attractive streets and public spaces promotes gathering and social activities
Generous parks, golf course and trails promotes active and quality lifestyles*

Principle 5: Variety of transportation choices

Generous and good conditioned multi use pathways for pedestrians / bicycles

Principle 7: Mixed land uses

*Available use of library, media center, convention rooms, dining, market, beauty and recreation services at the Resident’s Clubhouse
Proposed retail , entertainment and tourist services at the Village Center and Hotel
Provision of Farmers Market every Sunday at the Clubhouse*

Case Study 3: Ohlone-Chynoweth Commons

Location: San Jose, California
Client : Eden Housing Inc & City of San Jose
Designer: Chris Lamén & Associates
Construction: 1999-2001

Project Description

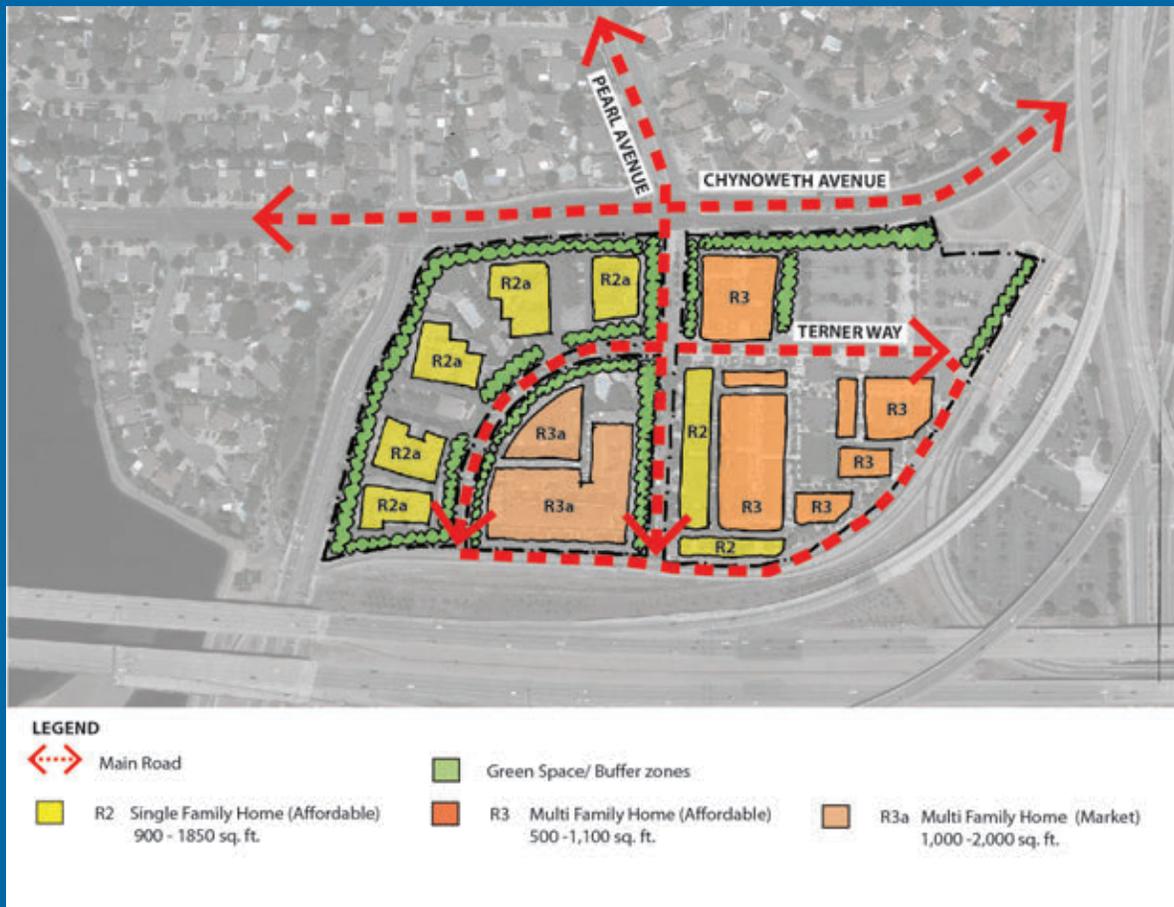
- Planned development over 8.4 acres
- 240 park and ride spaces
- 194 affordable rental homes at 23 du/ac
- 1-4 bedroom apartments/ townhomes
- Mixed use development
 - o 4,400 sq. ft of commercial space
 - o 4,000 sq. ft community center
 - o On-site child care

Key Success Features

- Infill development over under-utilized parking lot
- Attractive community with strong sense of place and identity
- Walkable neighborhood with access to limited public spaces and nearby commercial center
- Proximity to various public transportation and adequate bike/ shared pathways
- Variety of affordable housing choices with complementary architectural design
- Mixed uses are encouraged by proximity to nearby retail and commercial area
- Compact community design with mixture of smaller lots
- Sustainable landscape and infrastructure design to support community needs i.e. recycled water irrigation, central mail boxes, low maintenance common areas

Strategic Growth Principle and Policy		Ohlone-Chynoweth Commons (Transit Oriented Development)				
Principle 3	Foster distinctive, attractive communities with a strong sense of place					Notes
Policy 3.1	Protect and restore the valuable history, cultures, images and identity of communities and rural areas					It is not in a rural area. (N/A)
Policy 3.2	Protect rural areas between communities to achieve well-defined communities within an attractive rural setting					It is not in a rural area. (N/A)
Policy 3.3	Establish and maintain a distinct edge between urban and rural areas to enhance community separation while allowing for appropriate and compact urban expansion at the urban edge					It is not in a rural area.(N/A)
Policy 3.4	Enhance the commercial identity and viability of downtowns	★				It is surrounded by residential with no nearby downtown/ commercial centers.
Policy 3.5	Foster a strong local identity through appropriate design of public spaces and buildings	★	★	★	★	Good architectural style and site design created a strong identity for the development
Principle 4	Create walkable neighborhoods and towns					
Policy 4.1	Plan communities with schools, parks, public spaces, transit stops and commercial districts located as focal points within convenient walking distances of neighborhoods	★	★	★	★	2 types of transit system available
Policy 4.2	Plan for maximum connectivity between different land uses through walkways or other means	★	★	★	★	Good connections to public transit and retail-commercial center
Policy 4.3	Create attractive street enhancements and public spaces that serve as gathering places on corridors and at connecting locations	★	★			Lack of comfortable public gathering spaces, small common areas
Policy 4.4	Provide parks, natural areas and recreation facilities with new urban development to enhance a community's quality of life and improve public health	★	★			Common park within development underutilized due to lack of enclosures, playground, benches etc
Policy 4.5	Create neighborhoods and non-residential areas that minimize fear and crime through environmental and urban design	★	★	★	★	Clear signage, gated access and visual barriers buffering the development
Principle 5	Provide a variety of transportation choices					
Policy 5.1	Design a safe, reliable and effective transportation system that protects natural and scenic resources and minimizes environmental impacts	★	★	★	★	Multiple public transit options available
Policy 5.2	Reduce and minimize the generation of air pollutants and greenhouse gases from existing and future development, with emphasis on reducing vehicle miles traveled	★	★	★	★	Proximity to multiple public transit options
Policy 5.3	Coordinate land use and transportation planning to ensure that all transportation demands can be safely and adequately accommodated	★	★	★	★	Ample parking for visitors/ residents near public transit system
Policy 5.4	Provide public transit, bicycle lanes, multi-use trails and pedestrian walkways that connect destinations within and between communities and encourage alternative transportation	★	★	★	★	Well connected circulation within development and adjacent areas
Policy 5.5	Make communities more bicycle and pedestrian friendly with safe and attractive routes	★	★	★		Narrow shared bike/ped pathways
Principle 6	Create a range of housing opportunities and choices					
Policy 6.1	Plan for most new housing to be within urban or village areas and close to jobs while protecting residential areas from incompatible uses	★	★			Lack of jobs nearby. Residents still need to travel further for work.
Policy 6.2	Provide quality-housing choices that are affordable to people with a variety of income levels	★	★	★	★	Variety of choices within close proximity
Policy 6.3	Provide a range of housing types within each neighborhood, and avoid creating adverse concentration of affordable units	★	★	★	★	Good architectural design enhanced the aesthetics of low income units to blend with surrounding medium income/ market units
Principle 7	Encourage mixed land uses					
Policy 7.1	Integrate residential units designed for affordability with non-residential uses in order to bring workplaces, commercial development and homes closer together for workers, senior citizens and others	★	★			Commercial center not very succesful and underutilized
Policy 7.2	Integrate complementary uses within commercial sites in order to build effective mixed-use neighborhoods	★	★	★		Day care, computer learning center, community center
Principle 8	Take advantage of compact building design					
Policy 8.1	Develop compact neighborhoods that contain residential uses that are adorable by design and efficient in land and energy consumption	★	★	★	★	Smaller lot sizes, efficient energy options i.e solar panels, drip/ recycled water irrigation
Policy 8.2	Include public and private amenities with new development to enhance the livability of compact neighborhoods	★	★			Lack of open space, benches and gathering amenities due to cost and compact common areas.

Table 3.3 Ohlone Chynoweth Commons post occupancy evaluation based on County's select six (of eleven) strategic growth principles.



Strategic Growth principles and key elements observed on site:

Principle 3: Distinct and attractive communities with a strong sense of place

Strong local identity with well designed site and housing complexes

Principle 6: Range of housing opportunities and choices

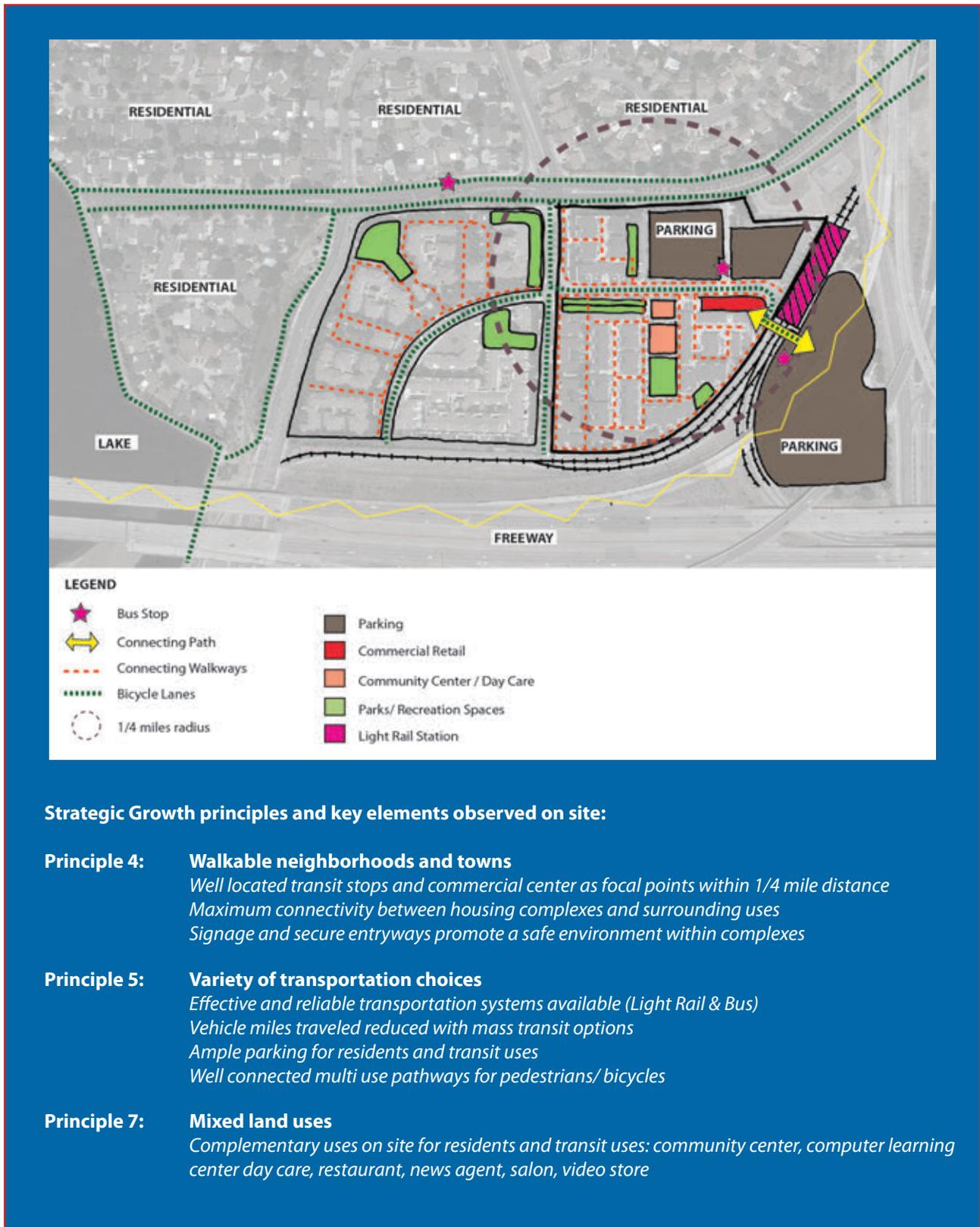
Quality design for various housing types

Complementary architectural aesthetics blend affordable and market housing complexes well in close proximity

Principle 8: Compact building design

Compact housing complexes with efficient use of land and energy

Adequate public and private amenities provided for residents



Strategic Growth principles and key elements observed on site:

Principle 4: Walkable neighborhoods and towns

*Well located transit stops and commercial center as focal points within 1/4 mile distance
 Maximum connectivity between housing complexes and surrounding uses
 Signage and secure entryways promote a safe environment within complexes*

Principle 5: Variety of transportation choices

*Effective and reliable transportation systems available (Light Rail & Bus)
 Vehicle miles traveled reduced with mass transit options
 Ample parking for residents and transit uses
 Well connected multi use pathways for pedestrians/ bicycles*

Principle 7: Mixed land uses

Complementary uses on site for residents and transit uses: community center, computer learning center day care, restaurant, news agent, salon, video store

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3

Development Typologies
SLOCOG & San Luis Obispo County

SLOCOG and San Luis Obispo County Land Use Element

With the introduction of SB 375 and AB 32, San Luis Obispo County is encouraging developments to occur in areas that already have significant population and infrastructure along transit corridors. Densifying developments along these strategic corridors can potentially reduce vehicle miles travelled to work and shop, and encourage the implementation of efficient mass transit systems in the future. SLOCOG has recently drafted a Sustainable Communities Strategy (SCS) as part of their long-range transportation plan. The SCS is a land use planning component that aims to meet the GHG reduction goals set out by AB 32 by identifying development types and density per acre to create more compact developments and infill developments.

Meeting with SLOCOG staff allowed us to understand the various development types that agency considers relevant for a strategic neighborhood design model. These development types and density ranges were selected as they meet the County's vision for more compact neighborhoods with variety of land uses and connectivity. The various development types selected are categorized in the following table for better understanding and as a indicators for design and project development.

Selected Regional Development Types from SLOCOG Preliminary Sustainable Communities Strategy
(Images and plans are supplied by Cal Poly CRP)

CODE	TYPE	DU/AC	SQ.FT	PLAN	IMAGE
LDSF	<p>Low Density Single Family</p> <ul style="list-style-type: none"> • Detached houses • Own driveways & garages • Larger lots include secondary dwelling • 1-2 story 	4-7	5,000- 7,000 net lot area		
MDSF	<p>Medium Density Single Family</p> <ul style="list-style-type: none"> • Detached/ zero lot line style • Own driveways & garages • Front/ side driveway/ alley access • 1-2 story 	8-11	3,500 - 5,000 net lot area		
MDMF	<p>Medium Density Multi Family</p> <ul style="list-style-type: none"> • Duplex/ Townhome style • Shared driveways and entryways • Own garage / shared parking • Shared yard/ Common area • 2 story 	12-18	1,500- 2,500 average unit area		
HDMF	<p>High Density Multi Family</p> <ul style="list-style-type: none"> • Cluster/ Apartment style • Shared driveways & on site parking. • Own/ shared garages • Common yard with amenities • 3 story with deep 3rd level setback 	19-38	800- 1,500 average unit area		
MU-1	<p>Mixed Use 1 Level</p> <ul style="list-style-type: none"> • Single level buildings • Front/ Back Access • Common entryway & parking 				<p>Legend</p> <p>MU-1 Mixed Use Horizontal (1 Level)</p> <p>MU-2 Mixed Use Vertical (2 Level)</p> <p>MU-3 Mixed Use Vertical (3 Level)</p>
MU-2	<p>Mixed Use 2 Level</p> <ul style="list-style-type: none"> • Ground Retail/ Commercial • Upper Residential Units • Separate entryways • Common carpark 				
MU-3	<p>Mixed Use 3 Level</p> <ul style="list-style-type: none"> • Ground Retail/ Commercial • Loft/ 2 level Residential • Separate entryways • Separate carpark 				

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4

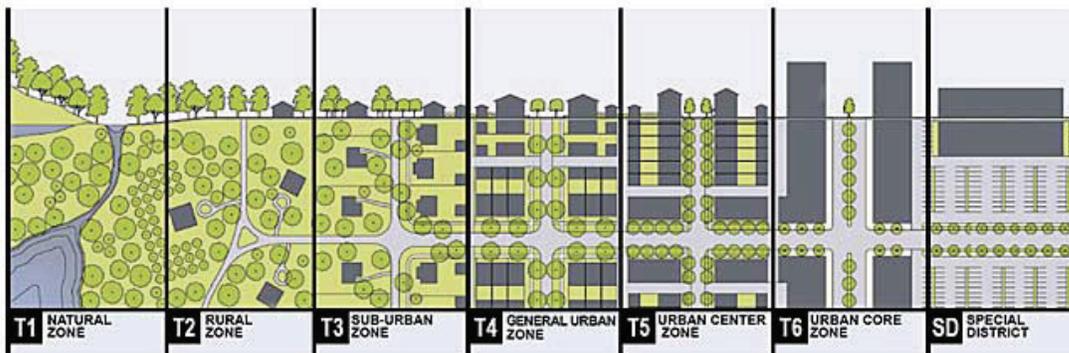
Strategic Neighborhood Design
Theoretical Premises

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This section discusses the two premises of the theoretical framework behind the development of our strategic neighborhood design model; a new area where growth can occur in a systematic and sustainable manner that meets the County of San Luis Obispo strategic growth principles. Firstly, the strategic neighborhood is developed based on a planning model called *transect*, an analytical and planning strategy to organize human habitats in an effective manner that preserves the integrity of distinctive urban and rural environments. Secondly, five urban qualities (*identity, aesthetics, accessibility, diversity and efficiency*) are identified as a set of goals for the development of the neighborhood design model.

The Planning Model: The Transect

Derived from ecology, the transect is a concept that represents a progression of habitat sequences. Each of these habitats supports symbiotic sets of conditions that generate a well functioning ecological system. Applied to the built environment, the transect concept translates into a sequence of human habitats of increasing density and complexity. As generally applied in planning, the transect consists of six zones, from the rural open space to the urban core (T1-T6), otherwise known as the rural-to-urban transect.



Source: Duany Plater-Zyberk & Co

The Transect As A System In Regional Planning

Growth is inevitable and it must be shaped into intelligent settlement forms to preserve our land and resources. This is where visionary regional plans can embrace the flexibility of the transect system when planning for future growth. Growth areas can be strategically organized based on the logic of the urban-to-rural transect to preserve the integrity of their local urban and rural environments. Growth should be directed towards existing infrastructure and integrate diverse housing, commercial businesses and transit opportunities in a compact and supportive manner. By doing so, critical resources such as water, productive farmland, and natural habitats and assets can be protected for future generations.

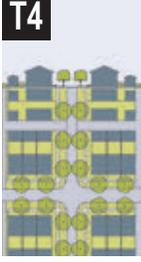
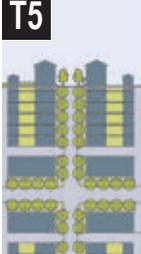
The rural-to-urban categorization system can also be effective in local county planning particularly in smaller unincorporated areas. Unlike sprawl, the transect model links urban elements to natural environment in an integrated, systematic manner that can lower County's capital investment and maintenance costs and at the same time, increase transit and infrastructure efficiency. Each transect zone incorporates the principles of traditional neighborhood development (TND) and new urbanism: mixture of land uses and building types, importance of public space, an emphasis on pedestrian access, emphasis on public spaces, and transit options. Each of the transect zones has detailed provision for density, thoroughfare dimension and design, block dimension, park design, building design, mix of uses, parking, setbacks and nature preservation. As long as the integrity of each transect is consistently maintained, this approach can be adequately flexible to support overall growth in a responsible manner.

SMARTCODE

TABLE 1. TRANSECT ZONE DESCRIPTIONS

Municipality

TABLE 1: Transect Zone Descriptions. This table provides descriptions of the character of each T-zone.

 <p>T1</p>	<p>T-1 NATURAL T-1 Natural Zone consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.</p>	<p>General Character: Natural landscape with some agricultural use Building Placement: Not applicable Frontage Types: Not applicable Typical Building Height: Not applicable Type of Civic Space: Parks, Greenways</p>
 <p>T2</p>	<p>T-2 RURAL T-2 Rural Zone consists of sparsely settled lands in open or cultivated states. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.</p>	<p>General Character: Primarily agricultural with woodland & wetland and scattered buildings Building Placement: Variable Setbacks Frontage Types: Not applicable Typical Building Height: 1- to 2-Story Type of Civic Space: Parks, Greenways</p>
 <p>T3</p>	<p>T-3 SUB-URBAN T-3 Sub-Urban Zone consists of low density residential areas, adjacent to higher zones that some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.</p>	<p>General Character: Lawns, and landscaped yards surrounding detached single-family houses; pedestrians occasionally Building Placement: Large and variable front and side yard Setbacks Frontage Types: Porches, fences, naturalistic tree planting Typical Building Height: 1- to 2-Story with some 3-Story Type of Civic Space: Parks, Greenways</p>
 <p>T4</p>	<p>T-4 GENERAL URBAN T-4 General Urban Zone consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.</p>	<p>General Character: Mix of Houses, Townhouses & small Apartment buildings, with scattered Commercial activity; balance between landscape and buildings; presence of pedestrians Building Placement: Shallow to medium front and side yard Setbacks Frontage Types: Porches, fences, Dooryards Typical Building Height: 2- to 3-Story with a few taller Mixed Use buildings Type of Civic Space: Squares, Greens</p>
 <p>T5</p>	<p>T-5 URBAN CENTER T-5 Urban Center Zone consists of higher density mixed use building that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.</p>	<p>General Character: Shops mixed with Townhouses, larger Apartment houses, Offices, workplace, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity Building Placement: Shallow Setbacks or none; buildings oriented to street defining a street wall Frontage Types: Stoops, Shopfronts, Galleries Typical Building Height: 3- to 5-Story with some variation Type of Civic Space: Parks, Plazas and Squares, median landscaping</p>

Source: SmartCode by Duany Plater-Zyberk & Co

The Design Model: Urban Design Qualities

By definition, neighborhoods must be planned, designed, and scaled to the pedestrian. Distinctive neighborhoods are walkable, memorable, distinct, socially engaging, and visually and physically pleasant. In a neighborhood one should feel welcomed and relaxed, and should be able to carry out most of his or her daily tasks in an efficient manner.

The process of conceptualizing a design framework for a community expansion development led us to examine what defines a desirable 'neighborhood' and the essential principles shared by Smart Growth, Traditional Neighborhood Design and New Urbanism. Given the emphasis on pedestrian activities and alternative transit options, we determined that the neighborhood should be contained within a walkable area of a ¼-mile radius and meet five key design quality goals; *identity, aesthetics, accessibility, diversity, and efficiency*. These goals are intended to support the County's strategic principles for new developments. Section 5 of this report further illustrates how these goals can be achieved in a conceptual 40-acre expansion site.

Urban Qualities as Design Goals

Goal 1 : IDENTITY

A neighborhood should be an attractive place highlighting its community's distinct local character, history and culture. The development should aim to protect downtown viability and respond to its natural setting by providing supporting desirable uses.



Goal 2 : AESTHETICS



A neighborhood should consist of interesting building and streetscape design in order to create visual interests, landmarks and a pleasant environment for residents. Building and street elements should be arranged in a complementary manner to promote active and socializing lifestyles.

Goal 3 : ACCESSIBILITY

A neighborhood should provide a well-connected, reliable network of street system accessible to all mode users. Transportation options including bicycle lanes, multi-use trails and pedestrian walkways should be prioritized to encourage convenient access and reduction in vehicle miles traveled.



Goal 4 : DIVERSITY

A neighborhood should consist of complementary uses and services that can meet daily needs of all resident types with liveliness and fairness. Good social connections and equity should be fostered with diverse land uses, housing choices, public and private amenities.



Goal 5: EFFICIENCY



A neighborhood should be developed in a compact and logical manner that protects natural resources and its downtown viability. The development should adopt sustainable building and site design to enhance its community's quality of life.

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5

Strategic Neighborhood Design
Community Expansion Concept

What makes a good neighborhood?

Throughout history a neighborhood has been understood as the formative cell of a human settlement. Traditionally, the term neighborhood has a perceived meaning of being compact, walkable, diverse and connected, and residents have a feeling they “belong” to their neighborhood. It is usually compact by building as dense as the market allows without wasting land. It is walkable as the typical size for a neighborhood is no larger than a half-mile across and corresponds to five-minute walk from edge to activity center. It is a diverse area providing full range of daily needs, including shopping, workplace, and housing for all ages and incomes. It is also well connected with a network of pedestrian friendly streets, bike paths, roadways and transit routes. The importance of a good neighborhood is its ability to permit a balance between a resident’s personal and work daily needs in a convenient, viable and safe manner.

Strategic Neighborhood: Expansion Concept

In San Luis Obispo County growth should be organized as compact, self-sufficient neighborhoods that can in turn provide mutual support to existing towns. Following the transect system, we designed a conceptual urban growth model that meets San Luis Obispo County’s Strategic Growth principles and the five key urban design quality goals explored in Section 4.2. The model is meant as an illustration of how strategic growth principles and good urban design qualities can be adopted in the development of a new neighborhood in typical unincorporated towns in San Luis Obispo County, and it can be used as a guiding example of how community expansion can best happen.

This prototypical neighborhood design is intended as a guiding example how community expansion can best happen in typical unincorporated towns in San Luis Obispo County. The expansion area will typically extend from an existing arterial Main Street and bordered by surrounding farmland or open space (Figure 5.1).

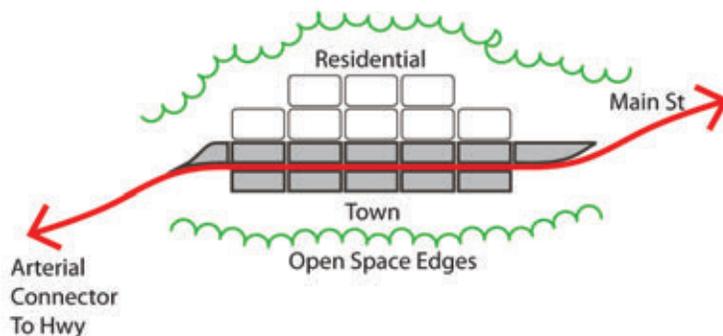


Figure 5.1. Typical linear town pattern typically found in San Luis Obispo County.

Historically, in San Luis Obispo County towns have developed along roads and railroads as main circulation spines. New development typically occurs parallel to and away from these circulation spines, bordered by surrounding farmland or open space (Figure 5.1). Our conceptual model accepts this fact and proposes a secondary collector street at no more than ¼ mile parallel to an existing main street (Figure 5.2). This collector street serves as an important transportation linkage supporting the development of new neighborhoods at the town’s periphery. Growth is based on a 40-acre neighborhood conceptual module, a size that is compact enough for easy walkability as well as for the application of the transect model (Figure 5.3).

Central to each 40-acre neighborhood module and situated along the collector street is a small neighborhood center (T4 or T5) with a transit stop. This centre is supported by an axial development with higher density and mixed uses serving the adjacent residences. This spine becomes the main connection between surrounding residential, open space and it is also a transit route for future community expansion, as need arises (Figure 5.4). These primary

expansion areas and subsequently, secondary infill areas can be strategically planned to contain basic amenities and businesses to prevent people relying on personal automobiles to conduct their basic daily activities, thus reducing total vehicle miles traveled (VMT).

Based on the transect system, the overall neighborhood density and intensity of use will gradually decrease from the center to the open space edges. We envisioned the neighborhood center as a pleasant plaza designed to prioritize social encounters, pedestrians and transit users. Development will be shaped to provide pedestrian linkages and continuous access between higher density blocks. Local streets shall be a well connected system with alleyways, and provide on-street parking, garage access, clustered dwelling access, and even service access. Land use and building footprints should be efficient and compact to promote a pleasant walkable neighborhood. Additionally, pocket parks and community gardens can provide the new communities with a variety of recreation and socializing opportunities that lead to active living.

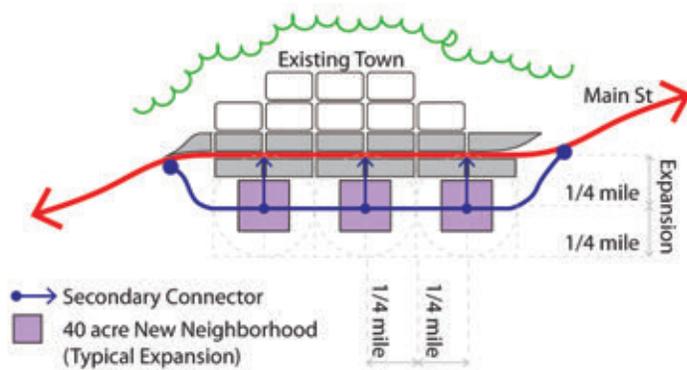


Figure 5.2. Secondary collector street proposed no further than 1/4 mile away to existing Main Street to serve primary expansion areas.

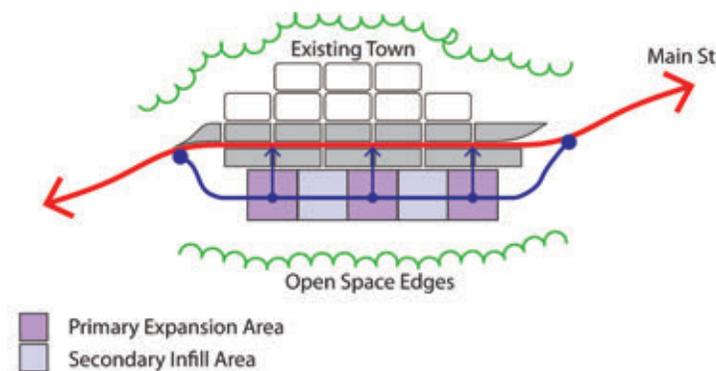


Figure 5.3. Secondary collector street supports linear community expansion with primary expansion and secondary infill areas.

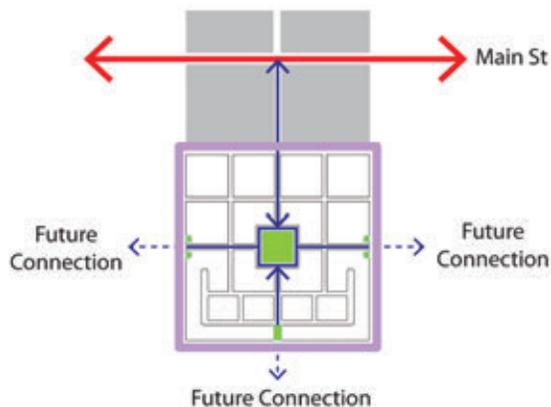


Figure 5.4. Diagram shows a prototypical 40 acre neighborhood block with strategically located open space and transit routes for future expansion and connections.

Strategic Neighborhood: Prototypical Design

Based on the five key urban design goals and the County’s strategic principles, the prototypical neighborhood was developed to meet these objectives:

- Attractive and distinct sense of place*
- Diverse housing and land use mix*
- Well connected street network for pedestrians, bicyclists, and automobiles*
- Efficient land use with compact building design*
- Long term opportunity for transit services*

The following diagrams illustrate the various key components of the prototypical neighborhood design and how it can complement community expansion in typical towns around the county. Given that existing town patterns are generally linear along a commercial main street and bordered by open space edges, the prototypical block is designed with a central plaza that acts like a ‘hub’ for community events, commercial activities and also a transit stop. Depending on the expansion phase, this central plaza can be a distinctive public area serving both local and nearby neighborhoods all well within 5-minute walking distances. A key feature of this model is the transit stop located at the central plaza. Additionally, generous public spaces in the plaza can host various community events or small-scale services such as music performances and food kiosks. It is critical that new neighborhoods be planned with public spaces conducive to pedestrian activities to promote long term economic and transit opportunities. Additionally, generous public spaces in the plaza can host various community events or small-scale services such as music performances and food kiosks.

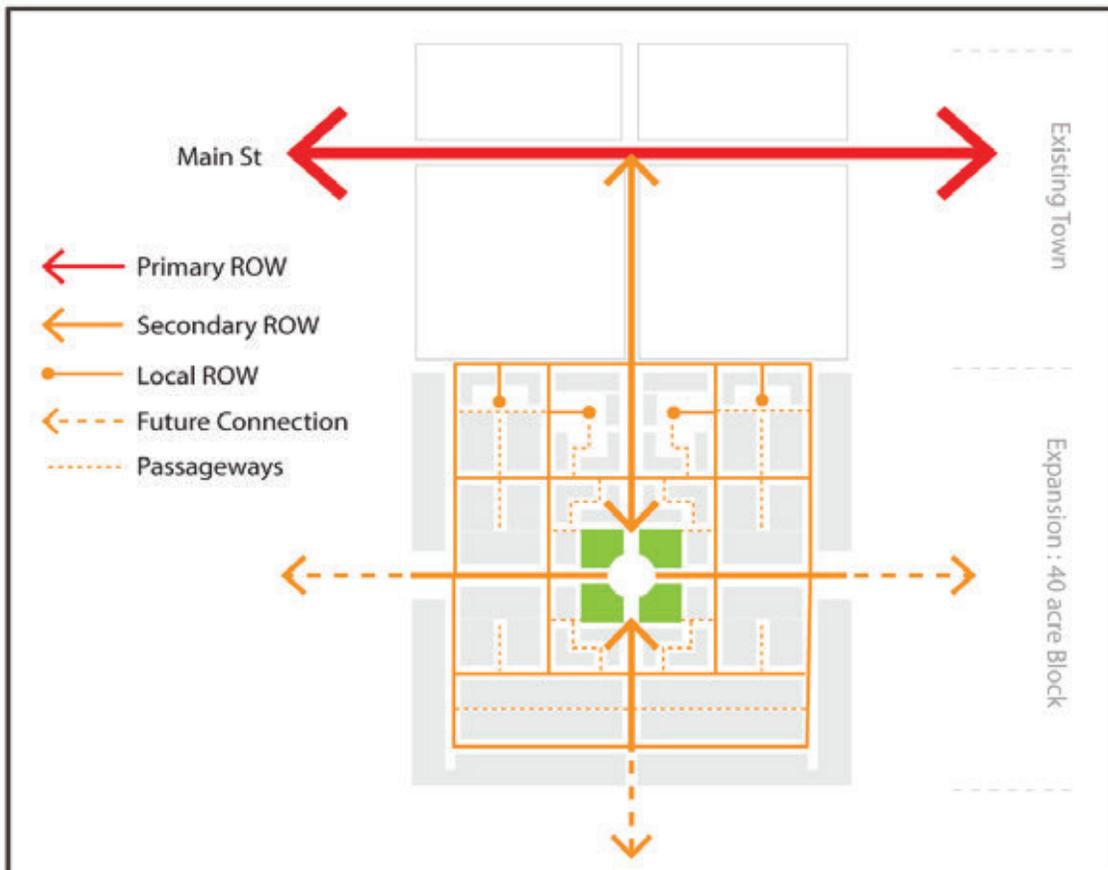


Figure 5.5 Circulation and block size

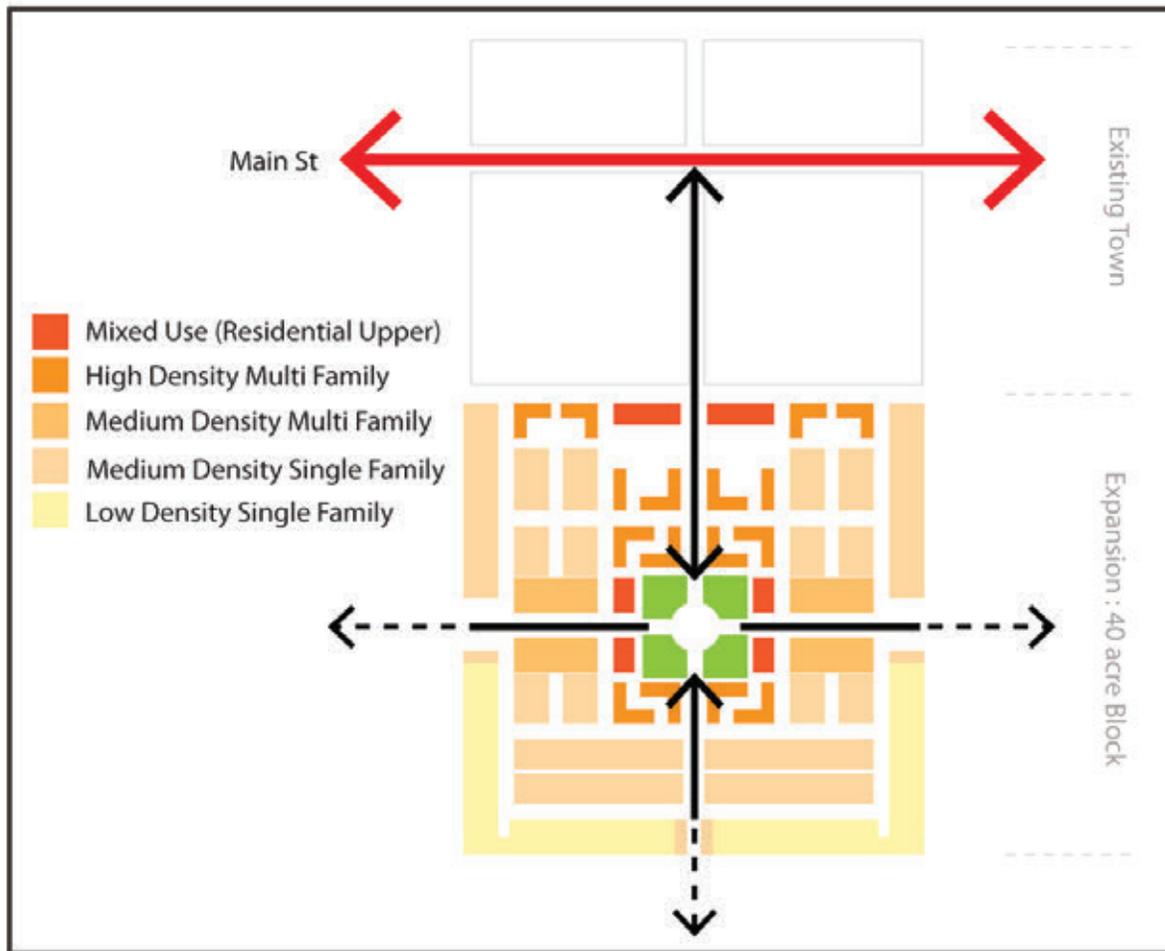


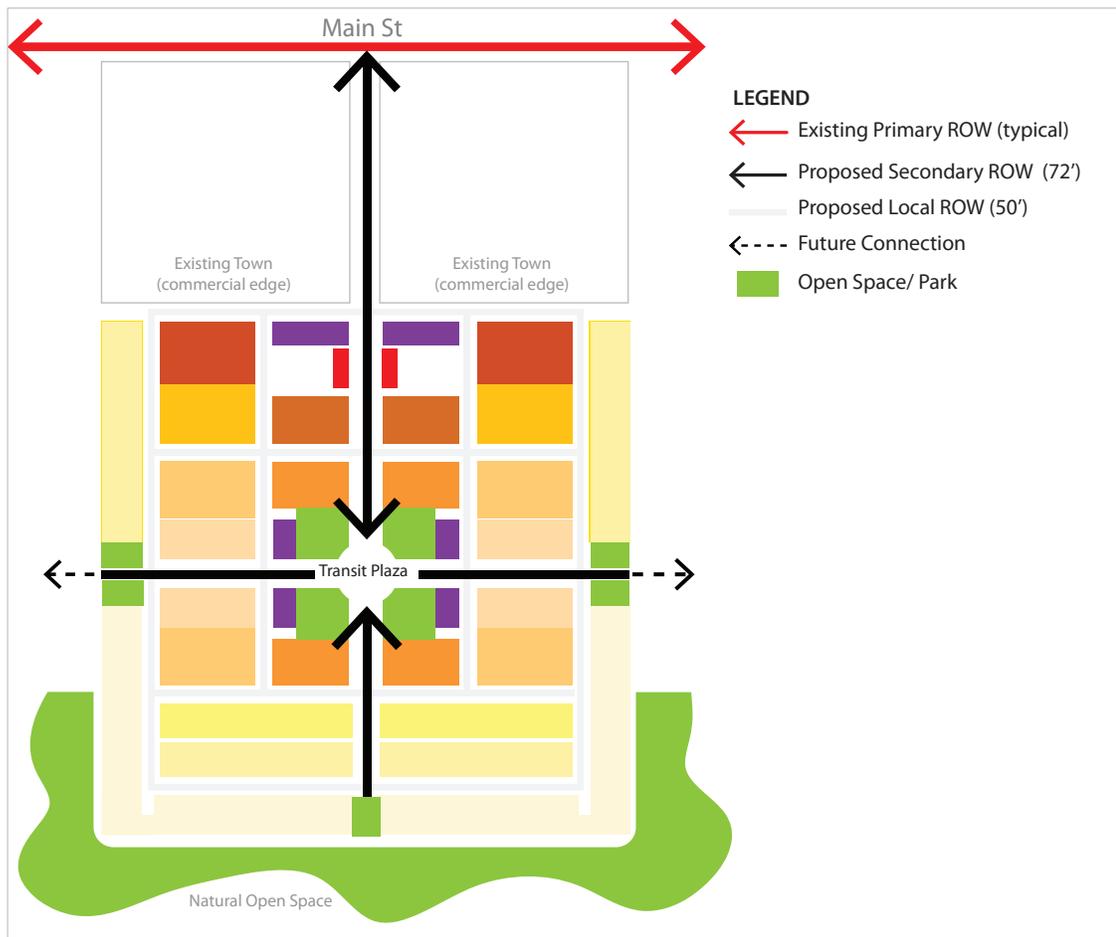
Figure 5.7. Residential Type Mix

Strategic Neighborhood: Land Use

The land use mix was one of the main considerations in developing the prototypical neighborhood module design. Our study of local developments in Chapter 3 revealed that successful distinctive neighborhoods are characterized by the degree of visual interest, availability of amenities, connectivity and access, and housing options. One of the challenges a new neighborhood faces is balancing a thriving sustainable commercial area with adequate clientele which generally translates as residential density and easy access.

With this in mind, the 40-acre expansion module was conceptualized with compact lots and buildings. The residential lots being generally small, around 3,500 net square feet with larger lots above 6,000 square feet permissible with secondary units. Higher density multi-family housing and mixed uses of retail, grocery and apartments are located at the core to activate the central plaza and encourage transit usage. Pocket parks are strategically placed to serve community uses and to promote more active lifestyles, and they are easily within access from secondary infill developments. With the ideal placement of primary expansion and secondary infill areas, these plazas will effectively serve a 1/2-mile radius of residences, making the new neighborhoods very walkable for basic services and amenities.

Land Use and Connectivity



Zone	Color	Building Type	Total Area	Net Density
LDSF Low Density Single Family		Single Family Detached	163,200 sf	8 du/ac
		Single Family Detached (with Secondary Unit)	45,000 sf	6 du/ac
MDSF Medium Density Single Family		Single Family Detached (side driveway)	119,000 sf	12 du/ac
		Single Family Detached (alley access)	84,000 sf	12 du/ac
		Townhome	84,000 sf	12 du/ac
MDMF Medium Density Multi Family		Duplex	86,400 sf	18 du/ac
		Quadplex	57,600 sf	18 du/ac
		Courtyard Homes	138,240 sf	15 du/ac
HDMF High Density Multi Family		3 Story Apartment (600-1,350 sf)	72,000 sf	38 du/ac
		2 Story Apartment (950 - 1,500 sf)	45,000 sf	31 du/ac
		2 Story Apartment (800 - 1,800 sf)	90,000 sf	23 du/ac
MU-2 Mixed Use 2 Level		Ground Level : Retail/ Service 1st Level : Residential	35,200 sf	
CR Commercial Retail		1 Level Single Tenancy	8,000 sf	
Total Development Overall			1,027,640 sf	

Note: 40 acre area is equivalent to 1,742,400 square feet. Total proposed buildup is approximately 60% of the new area.

Strategic Neighborhood: Building Typology

Besides the land use mix, another important element for a successful neighborhood is the variety of building types offered, what translate into a wider range of housing options and better architectural aesthetics. The range of building types provides for a visually stimulating , socially engaging, and equitable neighborhood. Different building types allow for a diversity of housing options and good mixture of residents who can potentially support more social and economical activities in the neighborhood. Good architectural aesthetics can be obtained in culturally sensitive styles, varying roof designs, different heights and setbacks, materials and color palette, building layouts, street detailing, landscaping, signage etc

The building types and mix proposed in the prototype design here have been selected after careful consideration of existing County design standards, SLOCOG prototypes, smart growth guidelines, and comparable developments. Other considerations such as parking ratio, dwelling sizes, personal and public open space standards were also considered. The various building types were purposefully designed with different architectural styles to illustrate how diverse housing options can increase the overall aesthetic quality and stimulate visual interest .

The following table summarizes the types of buildings that are appropriate to the expansion area without sacrificing quality and aesthetics. In preparing the chart, we measured the density of units per acre in relation to the net area within the property lines and excluded the public right-of-way. Single-family homes are presented as average lot sizes and multi family homes (attached or detached) are presented in average unit sizes. This chart also requires certain prerequisite compliances: the parking ratio applied was based on County's Title 22 land use ordinance and open space contribution of an average 150 square feet per dwelling was required either as a yard, balcony, or communal open space.

To fully understand the chart, some basic definition of building types is also be required. A "fourplex" is similar to apartments where dwellings are on one level. Each fourplex comprises of 4 units and may look like two large duplex houses. A "duplex" means a building with two homes sharing the driveway and a party wall. These are usually double level with individual garages. "Townhomes" are single-family homes, normally double level, some with shared driveways. "Courtyard" homes are detached homes in a close setting, sharing parking and entryways.

Garages may come in a variety of different types: single car or tandem, and side by side for two cars. These garages are typically located at the back of the lot with side driveway or alley access. This prevents frequent curb cuts and allows more on-street parking for visitors. Alleys can also provide a good way to mask service activities and heavy traffic that can disrupt pedestrian activities. Secondary units –sometimes called ancillary or grandma units-- are smaller units sharing the larger lots located either next to the main structure or above the garage.

APARTMENT & CONDOMINIUMS (800-1,800 sq.ft.)



2-Story Walk Up Apartment

Overall Information

<i>Density</i>	23 du/ac
<i>Parcel Area</i>	22,500 sf
<i>Building Footprint</i>	11,500 sf
<i>Common Area</i>	1,800 sf (150 sf/ dwelling contribution)
<i>Average Floor Area</i>	1,500 sf/ dwelling
<i>Landscape & Setback</i>	20% of the lot area

Parking

<i>Car space (Resident)</i>	20
<i>Car space (Guest)</i>	4
<i>Total Car spaces</i>	24
<i>Total Parking Area</i>	6,660 sf (average 275 sf/ space)

Apartment Mix

<i>1 Bedroom (2 units)</i>	800 sf
<i>2 Bedroom (4 units)</i>	1,500 sf
<i>3 Bedroom (6 units)</i>	1,800 sf
<i>Total Units</i>	12

APARTMENT & CONDOMINIUMS (950 - 1,500 sq.ft.)



2-Story Walk Up Apartment

Overall Information

Density	31 du/ac
Parcel Area	22,500 sf
Building Footprint	11,500 sf
Common Area	2,400 sf (150 sf/ dwelling contribution)
Average Floor Area	1,150 sf/ dwelling
Landscape & Setback	15% of the parcel area

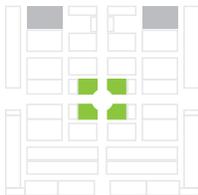
Parking

Car space (Resident)	22
Car space (Guest)	5
Total Car spaces	27
Total Parking Area	7,425 sf (average 275 sf/ space)

Apartment Mix

1 Bedroom (6 units)	950 sf
2 Bedroom (8 units)	1,200 sf
3 Bedroom (2 units)	1,500 sf
Total Units	16

APARTMENTS & CONDIMINIUMS (600 - 1,350 sq.ft)



3-Story Walk Up Apartment

Overall Information

Density	38 du/ac
Parcel Area	36,000 sf
Building Footprint	14,500 sf
Common Area	5,000 sf (160 sf/ dwelling contribution)
Average Floor Area	900 sf/ dwelling
Landscape & Setback	20% of the lot area

Parking

Car space (Resident)	41
Car space (Guest)	9
Total Car spaces	50
Total Parking Area	13,750 sf (average 275 sf/ space)

Apartment Mix

Studio (4 units)	600 sf
1 Bedroom (12 units)	800 sf
2 Bedroom (10 units)	1,000 sf
3 Bedroom (5 units)	1,350 sf
Total Units	31

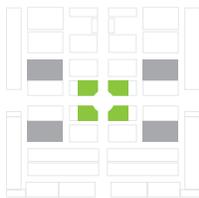
MEDIUM DENSITY MULTI FAMILY : DUPLEX



Overall Information

<i>Density</i>	<i>18 du/ac</i>
<i>Parcel Area</i>	<i>21,600 sf</i>
<i>Total Units/ Parcel</i>	<i>8</i>
<i>Average SF/ Dwelling</i>	<i>1,500 - 2,000 sf</i>
<i>Typical Building Height</i>	<i>2 Story</i>
<i>Building Placement</i>	<i>Zero lot line</i>
<i>General Character</i>	<i>Shared party wall houses Shared driveway + common area Individual garages Street fronting</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>

MEDIUM DENSITY MULTI FAMILY : COURTYARD HOMES



Overall Information

<i>Density</i>	<i>15 du/ac</i>
<i>Parcel Area</i>	<i>34,560 sf</i>
<i>Total Units/ Parcel</i>	<i>12</i>
<i>Average SF/ Dwelling</i>	<i>2,500 sf</i>
<i>Typical Building Height</i>	<i>2 Story</i>
<i>Building Placement</i>	<i>Zero lot line or shallow setbacks</i>
<i>General Character</i>	<i>Detached houses</i> <i>Shared driveway + common area</i> <i>Individual garages</i> <i>Street fronting</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>

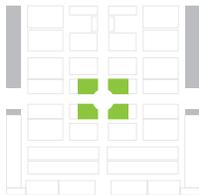
MEDIUM DENSITY MULTI FAMILY : FOURPLEX



Overall Information

<i>Density</i>	<i>18 du/ac</i>
<i>Parcel Area</i>	<i>28,800 sf</i>
<i>Common Area</i>	<i>1,800 sf (150 sf/ dwelling contribution)</i>
<i>Total Units/ Parcel</i>	<i>12</i>
<i>Average SF/ Dwelling</i>	<i>1,200 sf</i>
<i>Typical Building Height</i>	<i>2 Story</i>
<i>Building Placement</i>	<i>Zero Lot Line</i>
<i>General Character</i>	<i>Cluster building design</i> <i>Shared entry + common area</i> <i>Central parking area</i> <i>Street fronting</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>
<i>Total Parking</i>	<i>24 Car Space (Resident)</i> <i>6 Car Space (Guest)</i>

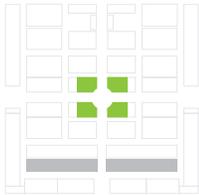
MEDIUM DENSITY SINGLE FAMILY: SINGLE FAMILY HOME WITH SIDE DRIVEWAY



Overall Information

<i>Density</i>	<i>12 du/ac</i>
<i>Average Net Lot Area</i>	<i>3,500 sf</i>
<i>Average SF/Dwelling</i>	<i>1,800 sf</i>
<i>Typical Building Height</i>	<i>1 Story</i>
<i>Building Placement</i>	<i>Typical setbacks</i>
<i>General Character</i>	<i>Street fronting Shared side driveway Front and back yards Individual garage Roof line and facade variation</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>

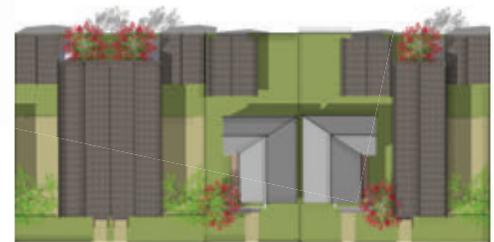
MEDIUM DENSITY SINGLE FAMILY: SINGLE FAMILY HOME WITH ALLEY ACCESS



Overall Information

<i>Density</i>	<i>12 du/ac</i>
<i>Average Net Lot Area</i>	<i>3,500 sf</i>
<i>Average SF/Dwelling</i>	<i>1,800 sf</i>
<i>Typical Building Height</i>	<i>1 Story</i>
<i>Building Placement</i>	<i>Typical setbacks, wider street fronting facade, shorter building length, rear end garage</i>
<i>General Character</i>	<i>Alley access to rear garage Front and back yards Optimum street fronting Roof line and facade variation</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>

MEDIUM DENSITY SINGLE FAMILY : TOWN HOME



Overall Information

<i>Density</i>	12 du/ac
<i>Average Net Lot Area</i>	3,500 sf
<i>Average SF/Dwelling</i>	1,800 sf
<i>Typical Building Height</i>	2 Story
<i>Building Placement</i>	Typical setbacks, full lot width facade varying building length, rear end garage
<i>General Character</i>	Alley access to rear garage Side and front yard access Optimum street fronting Roof line and facade variation
<i>Parking</i>	2 Car Space + 0.25 Guest Space / dwelling

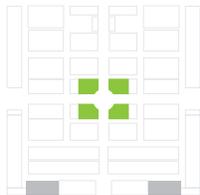
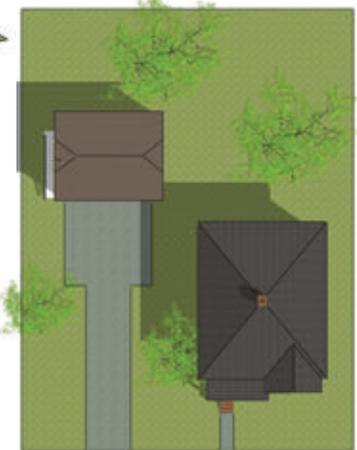
LOW DENSITY SINGLE FAMILY : SINGLE FAMILY DETACHED



Overall Information

<i>Density</i>	8 du/ac
<i>Average Net Lot Area</i>	5,000 sf
<i>Average SF/ Dwelling</i>	2,400 sf
<i>Typical Building Height</i>	1 Story
<i>Building Placement</i>	Typical setbacks
<i>General Character</i>	Street fronting Side driveway Individual garage at side or back Large back yard Roof line and facade variation
<i>Parking</i>	2 Car Space + 0.25 Guest Space / dwelling

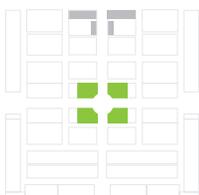
LOW DENSITY SINGLE FAMILY : SINGLE FAMILY WITH SECONDARY UNIT



Overall Information

<i>Density</i>	<i>6 du/ac</i>
<i>Average Net Lot Area</i>	<i>7,500 sf</i>
<i>Average SF/ Dwelling</i>	<i>2,800 - 3,500 sf</i>
<i>Typical Building Height</i>	<i>1-2 Story</i>
<i>Building Placement</i>	<i>Shallow front and back setbacks, carriage home at rear/ front/ above garage</i>
<i>General Character</i>	<i>Street fronting Side driveway Individual garage Roof line and facade variation Additional carriage home on lot (above garage or stand alone structure)</i>
<i>Parking</i>	<i>2 Car Space + 0.25 Guest Space / dwelling</i>

COMMERCIAL RETAIL & MIXED USE



Single Tenancy Commercial Building

General Merchandise Retail

Building Area 4,000 sf

Parking

Total Car Spaces 9
Total Parking Area 2,400 sf (average 260 sf/ space)

Mixed Use Zone- Retail Service & Residential

Retail Service

Retail Service/ Office 8,000 sf

Residential

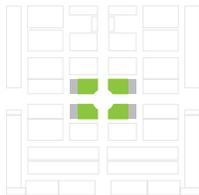
1 Bedroom (3 units) 600 sf
2 Bedroom (4 units) 850 sf
3 Bedroom (2 units) 1,250 sf
***Total Residential Area* 6,000 sf**

Parking

Total Car spaces (Retail) 32
Total Car spaces (Residential) 13
Total Car Spaces Required 36 (with 20% parking concession)
Total Parking Area 9,900 sf (average 275 sf/ space)

Central parking with 36 car spaces shared between 12,000 sf retail and 9 residential units

MIXED USE (Central Plaza)



Mixed Use Zone - Retail Service & Residential

Retail Service

Retail Service/ Office 4,800 sf

Residential

1 Bedroom (3 units) 600 sf

2 Bedroom (2 units) 850 sf

Total Residential Area 3,800 sf

Parking

Total Car spaces (Retail) 22

Total Car spaces (Residential) 6

Mixed Use Parking Concession 20%

Total Car Spaces Required 22

Total Parking Area 6,050 sf (average 275 sf/ space)

Central parking with 22 car spaces shared between 12,000 sf retail and 5 residential units

Strategic Neighborhood: Block Size & Street Hierarchy

One of the challenges in generating pleasant walkable neighborhood streets is balancing the space dedicated to vehicles and to pedestrians. A well-connected street network with a balanced street hierarchy, the width and amount of travel lanes, the existence of on-street parking, and adequately designed and landscaped sidewalks are all important design considerations for walkability and encouraging more street activity. The street dimensions proposed in this conceptual neighborhood are in compliance with current County design standards.

In the proposed prototype design, the relationship between street hierarchy and design, and the mix of land uses encourages safe and leisurely pedestrian activity to support neighborhood scale enterprises. Neighborhood streets are narrower with on-street parking, generous and well-landscaped sidewalks to slow down traffic and promote more pedestrian activity. The design includes traffic calming features such as bulbouts, on-street parking, textured and raised crossings, and traffic circles.. In the retail areas and in the central core, the combination of these design elements promotes pedestrian activity and makes shopping more convenient. On street parking is important for traffic calming, for buffering pedestrians from moving traffic, and to support retail along the street.

Block sizes are also critical for better accessibility and to support walkability and economic viability. In general shorter blocks are better than longer ones. Our research revealed that a walkable block ideally ranges between 300 to 400 feet in length.. The existing literature also reveals that a street keeps a pedestrian friendly atmosphere when its spatial edges are well defined without being overwhelming. This means that the distance between building facades across the street should not be more than 90 and that building heights should not exceed 45 feet.

Our prototype design proposes two types of streets serving the neighborhood: the avenue and the local street. The avenues are collector thoroughfares: one runs parallel and along to the existing Main Street, defining the expansion line for the prototype neighborhoods (see Fig. 5.1 to 5.3 above), another connects the core area to the existing town. Avenues are important to interconnect the neighborhood expansion areas, are made distinct with specific signage and architectural aesthetics, and have their axial focal points on plazas or green parks. They are 72' wide with two 12' both way travel lanes, 8' parking lanes and 16' sidewalk right up to the shop front (Figure 5.8). Their sidewalks are purposefully generous to allow for comfortable clear walking area of at least 8' (dimension taken clear of street trees, furniture and retail doors). Transit services can run along the Avenues with bus stops no farther than 1/4 mile (or 5 minute walk) apart with the main transit stop located at the central plaza.

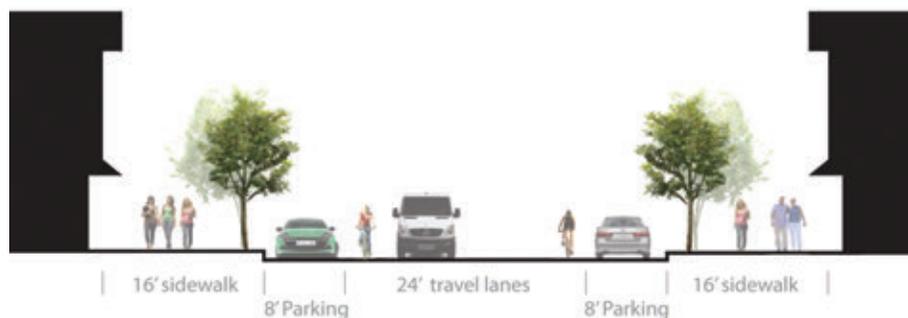


Figure 5.8 Sectional diagram of an avenue

The other proposed type of thoroughfare are the local streets that, together with the alleyways, complete the well-connected street network. Local streets are 50' wide with two 10' both way travel lanes, 8' parking lanes and 8' sidewalks (Figure 5.9). They can be designed narrower along blocks with medium to larger lots, with on-street parking alternating on either side, to maintain walkability and visual interest. Our prototypical neighborhood illustrates several types of access for residences: common entryway to central parking, front or side driveway, and alleyway access to private garages.

Alleyways are 14' wide enough for a single way lane and sidewalk and pedestrian passages are at least 8' wide. These are used to break up larger developments with higher intensity use such as multi family residences, retail areas, and townhomes. Alleyways and passages are great alternatives to street access for vehicles as they lessen the automobile presence along building frontages. Depending on the land uses and building types our design locate garages and central parking behind residences to allow more street level pedestrian engagement or 'eyes on the street'. We note that the street dimensions proposed in this conceptual neighborhood are in compliance with current County design standards.

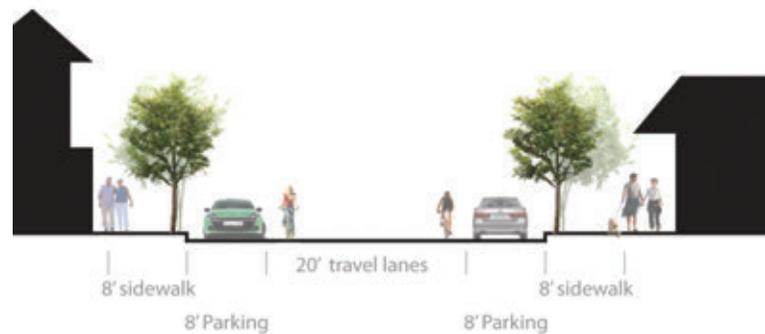


Figure 5.9 Sectional diagram of a local street

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Strategic Neighborhood: Illustrative Site Plan



LEGEND

- | | | |
|---|---------------------------------------|---|
| ① Central Plaza, Mixed Use & Transit Stops | ⑦ Fourplex | ⑬ Single Family Homes (Medium Lots) |
| ② Pocket Parks & Community Gardens | ⑧ Courtyard Homes | ⑭ Single Family Homes (with Secondary Unit) |
| ③ Commercial & Mixed Use | ⑨ Duplex | ⑮ Public Parking Area |
| ④ Apartments & Condominiums (800 -1,800 sf) | ⑩ Town Homes | ⑯ Alleyway (10') |
| ⑤ Apartments & Condominiums (950 -1,500 sf) | ⑪ Single Family Homes (Alley Access) | ⑰ Alleyway (14') |
| ⑥ Apartments & Condominiums (600 -1,350 sf) | ⑫ Single Family Homes (Side Driveway) | ⑱ Passageway (10' pedestrian only) |

Aerial views of the neighborhood

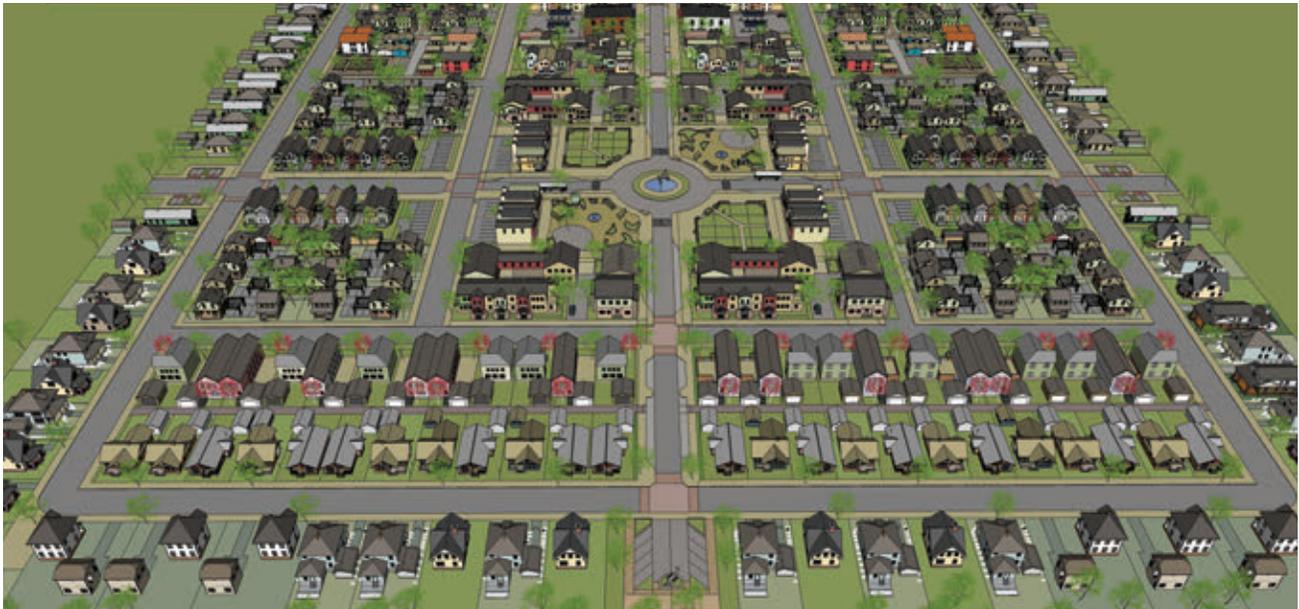


Image showing the new neighborhood extending from existing town edge (grey blocks at bottom). The new neighborhood is linked with a main avenue leading to the central plaza and roundabout, creating a visual landmark for the new extension. Higher intensity of use is proposed along the existing town edge and gradually decreases toward the natural open space at far ends (green area).



Another view of the new neighborhood extending from existing town edge (grey blocks on left). Variety of building types and design can be compatibly planned to achieve efficient land use and compact building. Pedestrian priority areas such as plaza, pocket parks, community gardens and continous sidewalks are important to provide quality social spaces and encourage active lifestyles.

Aerial views of the neighborhood



Differentiation of local streets and avenues can offer better orientation and sense of place to various areas in the neighborhood. Central parking areas (away from main streets) can encourage more walking in the plaza and streets.



Above : View of the plaza and transit stop. Low planters can also be seatings. Landmark pavillion, textured landscape and tree planting can create areas conducive for community events, food kiosks, public performances and general pedestrian activities.



Left: Higher intensity of uses should be located nearer to existing town edge in the newly expanded neighborhood. It is important to create smaller alleyways or passages to allow various mid block access points for larger buildings.

Views of the neighborhood



Textured crossings and well landscaped sidewalks can help encourage more pedestrian activities and walking interests.



Shady alleyways with different texture and color can create a pleasant thoroughfare for all users.



Pedestrian only passageways are encouraged to break up cluster developments such as multi family housing.



Multi family residences can be creatively designed to be compatible with typical single family housing types.



Secondary units can offer more housing options for different types of residents and incomes.



Residential streets can be made more pedestrian friendly by landscaping sidewalks and locating garages to the rear.



Compact building can still achieve good sized homes with zero lot line setback and shared driveways.



Alleyways can free up residential streets from frequent curb cuts allowing more street parking, safer sidewalk uses, pleasant and active street frontages.

Views of the neighborhood



Public spaces can be multi purposeful such as a community garden and a pocket park.



Land is efficiently used by combining visitor parking spaces with pocket parks for the community.



Smaller detached homes with shared parking can be an option to traditional single family homes with garages.



Expansion can be better connected to existing town edge with complementary mixed use (retail & residential) buildings.



Main street is treated like avenues with broad sidewalks, visually pleasant signage, lighting, and defined street parking.



Central plaza offers distinctive public spaces with complementary uses to support local residences. Community identity can be reflected with adequate signage and landmarks.



Roundabout is useful for slowing down traffic, provide visual landmark and create constant flow of circulation.



Streetscape details are important to create pleasant walkable neighborhood; planting, lighting, textured crossings, signage and sidewalk bulbouts.

Strategic Neighborhood: Photo Simulation

For the present research we photographed common residential and downtown main streets in the County to study their current land use patterns. Our site reconnaissance revealed that most of the residential areas are not well defined with well laid out buildings and street landscaping. Housing density, aesthetics and configurations are inconsistent and lack of visual orientation.

These photographs were then utilized for a computer 3D simulation to better illustrate the goals of the County's strategic growth and their visual impact . One of our simulations shows how a typical residential street would look like with smaller lots and a higher floor area ratio to allow more compact residences to be built.. Sidewalks and landscaping are renovated making the street more pleasant and conducive to pedestrian activity and to bicycling. Additionally, multi level or smaller multi family homes should be encouraged to generate a good mix of housing options in one area instead of segregating housing types.



BEFORE: Example of an existing residential street with under developed parcels, no defined sidewalks or landscaping that encourage pedestrian activities.



AFTER: Photo simulation showing compact residential development with complementary styles and well defined sidewalks for pedestrians.

Currently, downtown main streets are typically not conducive to pedestrian activity with limited or undefined sidewalks, unclear way finding or signage, and lack of on-street parking. Commercial or retail businesses are usually set too far from the street, usually separated by large open parking area that makes traversing unexciting. There is not much commercial or retail service right along the main streets to capture and retain pedestrians. We simulated the main street image with mixed-use buildings with a strong street presence. Leisurely pedestrian activity such as outdoor seating, eating and chatting are encouraged with large sidewalks, pleasant landscaping, clear signage and playful building colors. Parking is located on – street and also at the back of the building with clearly marked entry access. With maximum street frontage exposure, pedestrian activities are clearly visible generating an active ground level engagement for retail shops.



BEFORE: Example of an existing main street in one of the County's unincorporated areas. Right side commercial enterprises are set back too far with lack of inviting pedestrian sidewalks and signage to encourage active engagement at the street level.



AFTER: Photo simulation showing mixed use development with clearly marked access, parking area in the rear and a better use of front setbacks for pedestrian activities. Outdoor cafe seatings and well landscaped sidewalks can encourage lingering behaviors such as strolling, sitting, and eating which are essential for a vibrant downtown.

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