San Luis Ranch
Design Vision
San Luis Ranch - Design Vision

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We thank you for helping us produce a senior project we are proud to share with others and use as we continue to grow and learn in the field of planning.
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Chapter 1

Introduction
Purpose and Scope

The purpose of this project is to prepare a design vision for San Luis Ranch. The design will encompass the relationship between the built and natural environment, and the community, through an urban agriculture mixed use development. The farm to table community will incorporate housing, jobs, and services; reserving 50% of the land for open space and agriculture. A focus of the project is to create a sustainable development that serves the immediate community and encourages healthy living.

Project Introduction

San Luis Ranch is going to be a farm to table community comprised of 500 dwelling units, 200,000 square feet of commercial space, 150,000 square feet of office space, and a 200 room hotel. In addition to the built environment, 50% of the site will be agriculture and open space.

Methodology

The San Luis Ranch Design Vision has been developed through background research, site assessment, site analysis, and concept development. Extensive background research covers relevant urban design concepts and appropriate case studies. Additionally, information was gained through the San Luis Ranch Specific Plan, EIR’s, the project website, and site visits. The design process included the use of GIS, SLO County Data, AutoCAD, InDesign, Sketch-up and Photoshop. Design started with basic concept maps and was eventually advanced into 3D Sketch-up models. Land Uses and applicable square footage were crafted based on the existing San Luis Ranch program.

Figures 1 and 2: These images were gathered from the San Luis Ranch Specific Plan Project and depict the project site and location (San Luis Ranch Specific Plan, 2017).
Chapter 2

Literature Review
Building Healthy Places

Building healthy communities is a large focus in developments today. Integrating utopian and healthy community ideals into new developments benefits the city as a whole as well as the residents within the community. "The way we build our communities and cities and extract resources and food from the earth’s surface is a matter of design and planning," and moving forward, we can use planning to prevent negative environmental effects (Lattimore, 2006, p. 3). Instead of extracting resources when building cities, we should embrace the local land through self containing neighborhoods. A sustainable mindset can move us towards communities that use their resources to serve the people that live and work there. Self containing neighborhoods benefit the environment as they have less food and energy input and less waste which benefits environmental conditions. “Human survival depends on understanding that our physical, social, and economic environments are interdependent complex systems that must be equally considered when we look to solve problems of human sustainability” (Lattimore, 2006, p. 2). Through urban metabolism, these sustainable developments use energy and resources in a cycle inside of the community. Self containing neighborhoods can be comprised of mixed use developments that utilize farm to table and urban metabolism ideologies. These design elements can work together seamlessly to build healthy places.

Healthy place ideals can be incorporated into new development designs to improve a community greatly. The “Urban Land Institute” published an article entitled Ten Principles for Building Healthy Places in which they noted the ten principles for healthy places are as follows;

1. Put People First
2. Recognize the Economic Value
3. Empower Champions for Health
4. Energize Shared Spaces
5. Make Healthy Choices Easy
6. Ensure Equitable Access
7. Mix It Up
8. Embrace Unique Character
9. Promote Access to Healthy Food
10. Make It Active

Physical design plays a huge part in effecting human behaviors both mentally and physically. The built environment can offer opportunities as well as has many barriers for “improving public health and increasing active living” (Eitler, McMahon & Thoerig, 2013, p. 6). There are communities that support physical activity in a variety of ways including; “wide sidewalks, safe bike lanes, attractive stairways, accessible recreation areas” [and these features] encourage residents to make healthy choices and live healthy lives” (Eitler, McMahon & Thoerig, 2013, p. 6). Healthy places improve a community overall, and economic value is also increased due to the healthier generations, being innovative and skilled workers.

The main features that planners can implement to achieve a healthy and idealistic community are described by the “Urban Land Institute” as the Building Healthy Places Toolkit. Listed below are 21 recommendations that, “have strong supporting health evidence in at least one supporting peer-reviewed publication” (Urban Land Institute, 2015, p. 3). They published recommendations for enhancing health in the built environment are as follows;

1. Incorporate a mix of land uses
2. Design well-connected street networks at the human scale
3. Provide sidewalks and enticing, pedestrian oriented streetscapes
4. Provide infrastructure to support biking
5. Design visible, enticing stairs to encourage everyday use
6. Install stair prompts and signage
7. Provide high-quality spaces for multigenerational play and recreation
8. Build play spaces for children
9. Accommodate a grocery store
10. Host a farmer’s market
11. Promote healthy food retail
12. Support on-site gardening and farming
13. Enhance access to drinking water
14. Ban smoking
15. Use materials and products that support healthy indoor air quality
16. Facilitate proper ventilation and airflow
17. Maximize indoor lighting quality
18. Minimize noise pollution
19. Increase access to nature
20. Facilitate social engagement
21. Adopt pet-friendly policies

The American Planning Association has also published a similar Healthy Community Design Toolkit. The goals of the APA Healthy Community Design Toolkit are to create a healthy and happy environment in every planned community. The checklist contains questions for community members to reference during public meetings and asks community members to consider how they want to implement the following goals (National Center for Environmental Health);

I want more options to help me be physically active
I want to have healthier and more affordable food choices
I want to be able to go where I need to go in my community more easily without a car
I want to feel safer in my community
I want to have more chances to get to know my neighbors
I want my community to be a good place for all people to live regardless of age, abilities, or income
I want to live in a clean environment

Although every community has specific health needs and challenges, there are ways that planning effectively can produce new developments that reduce overall health harms and increase benefits for the community members/residents. New developments can promote healthy communities by introducing farm-to-table communities and implementing mixed use developments.

The Health Impact Assessment is another tool that can evaluate the health impacts of developments. It can help communities and decision makers use community design strategically to improve the overall public health and wellbeing. The HIA evaluates the health effects on a plan, policy, or project before it is implemented. The six major steps in conducting a Health Impact Assessment are (Health Impact Assessment, 2016);

Screening (identifying plan, project, or policy decisions for which an HIA would be useful).
Scoping (planning the HIA and identifying what health risks and benefits to consider).
Assessment (identifying affected populations and quantifying health impacts of the decision).
Recommendations (suggesting practical actions to promote positive health effects and minimize negative health effects).
Reporting (presenting results to decision makers, affected communities, and other stakeholders).
Monitoring and evaluation (determining the HIA’s impact on the decision and health status).

HIAs are usually voluntary, although many state and local laws support and encourage the use of them in design making. HIAs consider both positive and negative effects of projects and policies and ultimately provide “practical recommendations to increase positive health effects and minimize negative health effects” (Health Impact Assessment, 2016).
Farm to Table Communities

Design
Historically urban and rural spaces have been removed from one another, but the new American urban farm movement is changing that. Smart-growth and urban farming trends are encouraging “new farmer visionaries [to plant] their ideas in neighborhoods and towns around the country” (Hanson & Marty, 2012, p. 7). Growth and urbanization do not need to result in a decline of agriculture. “Urban farming [is] a source of community development,” and should be an opportunity to unite people and the land (Hu, Acosta, McDaniel & Gittelsohn, 2013, p. 70). Embracing agriculture in urban settings invites healthy, connected, and economically sound communities.

Popular ideas in development inspire sustainability and healthy environments within a community. These ideas prepare a particular development for future growth and change, and “Urban agriculture is taking on a new meaning in bringing ecological-based systems back into the city as a vital part of the solution to creating more sustainable cities” (Phillips 2013). Urban developments are constantly growing and changing, and it is important to create sustainable developments that can uphold the community for years to come. Urban expansion should strive to integrate agriculture because, “the demand for local, sustainably produced food may increase with the aging urban population” (Hanson & Marty, 2012, p. 172). Utilizing natural resources to fuel the population is an efficient way to cater to the ever-changing needs of the community.

There are also some threats to urban green spaces, like farms, in terms of resource restraints such as land shortages and monetary needs. Environments can often be threatened by a housing deficiency and lack of overall space for new land uses. Urban spaces also face a large issue of having enough money to constantly maintain them and make them appealing. If urban spaces appear run down and un-cared for, they pose the risk of being developed over as opposed to refurbished. “Resource constraints and reductions in public spending are likely to have a disproportionate impact on urban green space as it has to compete with other public services that have higher priority or political sanction, as has happened in the UK” (Lee, Jordan & Horsley, 2015, pg. 135). A farm to table community is an ideal response to this issue because it implements urban green space and other land uses in a cohesive design.

Economic Impact
Much of urban farming is small-scaled agriculture, directly serving the community. Urban farming “has primarily been in response to concerns about rising food prices, food miles, and the negative impact of current industrial agricultural practices on the environment” (Philips, 2013, p. 5). Many existing urban developments are so far removed from agriculture that residents do not understand the importance of the industry, and the benefits that farming has on a community. However, “civic agriculture encapsulates a locally-based approach to agriculture and food production that prioritizes place” (Poulsen, 2017, p. 135). Living alongside agriculture will increase people’s understanding of farming, and will hopefully reverse the declining interest in farming as a profession. These farms provide a basis for educating citizens on the reality of fresh and organic food. Local residents have opportunities to volunteer, and their “engagement in urban farming is a long-term endeavor that opens up opportunities for building life-long careers” (Mincyte & Dobernig, 2016, p. 1777). Working on the farms is educational, but also provides hands on occupational training.

The current trends related to farm fresh and organic food are a step in the right direction for urban farming, as farmers markets and farm to table restaurants are becoming increasingly popular, and the “buzz around urban farms is flourishing” (Hanson & Marty, 2012, p. 7). Urban farming in a mixed-use development provides a window of opportunity for farm to table restaurants and farmers markets to thrive. These restaurants and markets are already popping up in urban hubs all over the country, and the media is supporting the movement. Urban farms have the ability to provide restaurants and residents “organic quality produce without paying for the organic price tag” (University Wire 2016). Immediate access to farm fresh products in new developments would be very attractive to farm to table business owners and would encourage them to cultivate more. Urban agriculture “[promotes] self-sufficiency, and local economic development” by proving easy access to natural resources (Hashim, 2014, p. 615).

A key factor of successful green spaces, such as agricultural developments, is their accessibility. Accessibility “includes the distance from home, in that persons living in close proximity to a green space are more likely to use it and to do so more frequently” (Lee, Jordan & Horsley, 2015, p. 133). The ideal distance is less than 5 minutes which is equivalent to 0.5 km. Developing housing within this walking distance will encourage community members to be
an active part of the farm and utilize the products. Accessibility can be a threat “where urban land is redeveloped for housing and green space is provided but is only accessible to residents” (Lee, Jordan & Horsley, 2015, pg. 135). There needs to be a balance that allows the urban farming open space to not only cater to the immediate residents, but the community as a whole. Every community has different needs and challenges and “therefore, it is important to understand how the green space may be used and what the needs of residents are” (Lee, Jordan & Horsley, 2015, p. 135). Public engagement throughout planning and design is crucial in this process, to ensure that a farm to table development meets the needs of the community without depriving other community members of valuable open space.

Social Impact

Food is becoming a big focus of the media, and people are beginning to pay more attention to “where their food comes from and how they get it” (Hanson & Marty, 2012, p. 170). Incorporating an urban farm into a mixed-use development provides the community with a unique experience to feel as if they are a part of the agriculture. The opportunity for community members to work and volunteer, creates a “tightly knit urban farming community where the major players are socially and personally connected” (Mincyte & Dobernig, 2016, 1777). The benefits of community involvement are vast, and a sense of community involvement promotes a positive environment.

Urban farming is a sort of community food production, which refers to “growing food explicitly within a community, for that community, and by that community” (Smith, Greene & Silbernagel, 2013, p. 1415). Because the community is involved in the farming process, they will take pride in what is produced there, and begin to appreciate easy access to farm fresh products. The agriculture will help “build a sense of community by connecting civic farmers and food citizens” (Poulsen, 2017, p. 136). Community members will support local farmers by using their produce at home and in their businesses.

Urban farming also introduces a significant amount of green space, as agriculture covers a large percentage of the development. Green spaces are popular places for social interaction and can “form the basis of greater community ties, foster a sense of identity and belonging, and generate more social capital” (Lee, Jordan & Horsley, 2015, pg. 133). Large green spaces are typically used for physical activity where smaller green spaces are better suited for socializing and relaxing. Safety and security are another important factor for successful green spaces, in terms of hygiene, perceptions, and security. Public spaces that are more rundown “may often be associated with unsavory activities, such as illegal gambling, homelessness, and prostitution, as well as crime and vandalism. Such associations may deter key user groups, especially women and children, as well as the elderly” (Lee, Jordan & Horsley, 2015, pg. 133).

Health Benefits

Farm to table communities provide adequate functional open space within the development. There have been many studies in the past linking “contact with green spaces and health benefits both at the individual and population level” (Lee, Jordan & Horsley, 2015, pg. 132). The three main ways these benefits are achieved are through “provision of opportunities for physical activity, recovery from stress and attention fatigue, and facilitation of social contact” (Lee, Jordan & Horsley, 2015, pg. 132). Green spaces are used for a variety of reasons; including for exercise and physical activity or as a transport route to an alternate location. People have the ability to use the open space as a learning tool, as well as a serene location in which they can de stress and relax.

The concept of urban farming can also help suppress the dietary issues and obesity in America. A major issue regarding obesity and food security “is the nature and quality of food” (Hashim, 2014, p. 617). Obesity is related to malnutrition, and is often an issue because low income individuals may not have access to healthy and affordable fresh food. The upturn of farm to table restaurants and farmers markets will help drive away fast food chains and overly processed foods benefitting the health of community members. Major components of health issues in the country are results of “poor dietary choices and limited opportunity for physical activity” (Hanson & Marty, 2012, p. 172). With restaurants using fresh food and markets selling the same products, it will become natural for residents to make the healthy transition to utilizing fresh produce rather than mass-produced products.

The use of natural resources to fuel the community is a proactive way to support the environment and the people. Integrating agriculture into urban areas will increase green space, encouraging pedestrian circulation and promoting physical activity. Urban farming provides an “opportunity to create an environmentally sound neighborhood while simultaneously protecting much of the surrounding habitat” (Philips, 2013, p. 42). On site agriculture requires the maintenance of land for farming, which directly results in maintained open space. Sometimes urban areas lack adequate open space, but integrating farm to table communities is a great opportunity “to maintain open spaces between the metropolitan’s city centers” (Polling, Sroka & Mergenthaler, 2017, p. 373). The combination of active circulation, a well-maintained environment and access to locally grown food promote a healthy community.
Mixed Use Communities

Design
A mixed use development is a type of urban development that blends residential, commercial, office, and industrial uses and serves the people in the surrounding community. Mixed use developments also can serve as public gathering spaces with pedestrian networks. “Mixes of commercial and residential uses flourished into the twentieth century, when development trends and patterns changed radically with the advent of the automobile” and zoning arose designating certain land uses to function (Urban Land Institute, 2011, p. 4). Historically, places of retail, work, and living were all separated from one another. Specifically, in the middle of the 20th century, having mixed land uses was very uncommon in new developments. The start of zoning in the beginning of the 20th century contributed immensely to the sprawl cities faced. Commuter towns were now possible because of car-dependency and residential neighborhoods were sprouting up on the perimeter of cities. This was a huge time for gentrification as the urban poor residents were segregated and sectioned to completely separate areas than the wealthier elites. City centers and commercial streets were taken over by shopping malls. It wasn’t until the 1990’s that mixed-use developments emerged as sustainable designs and seen as a “smart growth” opportunity. Mixed use developments “became integral components of Transit Oriented Development (TOD’s), Traditional Neighborhood Developments (TND’s) and were considered an essential ingredient to the creation of “Livable Communities” (Urban Land Institute, 2011, p. 8).

Economic Impact
There are immense economic benefits for mixed-use, public transit-friendly neighborhoods. Economic benefits of mixed use developments include shared public infrastructure, shared parking, and higher rents/ROI. Mixed-use developments “save individuals money on transportation by reducing the length and number of everyday trips and eliminating the need for car ownership” as well as encouraging the support of local businesses through an increase in foot traffic (Zamorano). A study done by Transport for London found that “pedestrians spend up to 60 percent more money at businesses each month than those traveling by car, while spending less on transportation” (Zamorano).

Social Impact
Urban design lessons have proved that “sprawling cities decrease quality of life; [where as] compact, mixed-use developments yield economic and social benefits” (Zamorano). Social benefits of mixed uses developments include being very pedestrian friendly, adding social connectivity to a development and an element of public safety, as well as serving as civic amenities/spaces. As sprawl became more prolific, cities became more disconnected. Families were relying and spending huge portions of their income on transportation to reach the dispersed areas of the city that were once located at the city center but were now on the outskirts because of the invention of the automobile. However, creation of mixed-use developments helped to combat these disconnect issues. These types of developments worked in creating inclusive communities. Having housing, shopping, services, restaurants, schools, open space, public facilities, and more all located within the same general area is a huge incentive of mixed-use developments. This type of connectivity “reduces the need for private vehicles, thus increasing the viability of public transport, walking, and bicycling” (Zamorano). Not only is transportation positively influenced by mixed-use developments; community space is also encouraged and “plazas, parks, and sidewalks foster interaction among community members—interaction that wouldn’t be safe or possible under a sprawled, car-centric design model” (Zamorano).

Another benefit of mixed-use and transit-oriented developments is that community character is heightened and encouraged. The increased density associated with such projects “provides opportunities to create public spaces and well designed buildings that give identity and vitality to those spaces” (Association, American Planning). Planning and utilizing mixed-use developments can help a community to “reveal and enhance the underlying identity — the unique meaning, value, and character — of the physical and social form of [that] community” (Hodgson, 2011). A community’s sense of place changes over time and reflects the values of the community itself. Mixed-use developments help in aiding a stronger community character because of the opportunities it gives to create public spaces. Arts and cultural opportunities can play a strong role in developing a community identity. Parks, open spaces, agricultural land, farmer’s markets, and the like are also ways in which mixed-use developments can enhance an area’s community character.
Health Benefits
It is important to also consider the large environmental benefits that are associated with mixed-use developments. As far as environmental benefits, mixed-use developments offer less auto-dependency, focus density instead of sprawl, and they also support transit (Urban Land Institute, 2011). Developing mixed-use structures encourages walkability and reduces auto-dependency. Auto-dependency can cause large issues in a city in terms of its environment. Most of the negative vehicular impacts on the environment “occur when [the cars are being] used, due to pollution in their exhaust and pollution associated with supplying the fuel” (“Automobiles & the Environment”). Reducing the amount of emissions given off by cars makes the surrounding environment an overall healthier place. Reduced vehicle trips make an overall healthier community because of the improved air quality associated with less VMT. Another environmental quality associated with mixed-use developments is that they can “provide an alternative to sprawl, [which is] an opportunity to pursue environmentally sensitive site planning and green architecture” (Association, American Planning, pg 450).

Public health improvements are a large factor when considering mixed-use developments. An article entitled Mixed-Use Development as an Obesity Reduction Tool, noted that “the link between obesity and our modes of transport may seem tenuous. But, when there is a mixture of places offering a variety of functions within an accessible distance, rates of active transport increase; countries with the highest levels of active transport also have the lowest obesity rates” (Brasuell, 2016). Since transit oriented developments reduce the dependency on cars for transportation, residents and visitors can utilize and take advantage of a walkable environment which improves public health. Walkable communities can be made up of a variety of factors. A compact lively town center, adds to the character and place of a city making it more walkable and desirable. Strong linkages to neighborhoods also give a strong sense of walkability, walking paths are often the most direct routes. Low speed streets and yielding to pedestrians is also very important to consider in when designing an ideal community focused on walkability. Incorporating neighborhood/community parks is also a way in which many places have succeeded in creating walkability. Other exemplary ways of encouraging a walkable community are; convenient and easy street crossings, well-maintained public streets, and celebrated public space. All of the ways mentioned above are successful ways in making a community inviting and walkable adding to it’s overall healthiness (Burden, 2001). Neglecting community-design, centralized developments, walkable infrastructures, and multi-use built environments “can lead to less active lifestyles and a greater incidence of chronic obesity and related diseases” (“Benefits of Mixed-Use Development”).

Urban Metabolism

Design
Urban metabolism brings together all of a cities uses and uses energy in a cycle inside of the community. It is essentially “a framework for modeling complex urban systems’ flows – water, energy, food, people, etcetera – as if the city were an ecosystem” (What is Urban Metabolism). Urban metabolism is a way for analyzing how areas function in regard to human uses and their relationship between infrastructure and resources. Urban metabolism can be used to shape urban areas and the overall environment to be much more sustainable. It is often looked at as “an analytical tool to understand energetic and material exchanges between cities and the rest of the world. Christopher Kennedy recently updated the definition of urban metabolism to “the sum total of the technical and socio–economical processes that occur in cities, resulting in growth, production of energy, and elimination of waste” (What is Urban Metabolism).

Economic and Social Impact
Urban metabolism studies material and energy flows within societies due to “socioeconomic activities and regional and global biogeochemical processes” in order to understand the relationships and behaviors of urban production and consumption” (Fernandez, 2018). It is a multi-disciplinary topic that focuses on getting research to come up with important insight into how and why cities work in order to advance future advancements within cities to ensure a more “humane and ecologically responsible future” (Fernandez, 2018).

Health Benefits
Urban metabolism assesses an area’s level of sustainability by “measuring the total energy, materials, and waste products that flow into and out of an urban area” (Tuhus-Dubrow, 2014). This is important for the health benefits of cities because the purpose behind urban metabolism is to track the “metabolic inputs (water, food, fuel, clothing, durable goods, electric energy) and outputs (sewage, solid waste, air pollution)” in order to analyze these trends and make improvements for the management of future cities (Tuhus-Dubrow, 2014).
Main Takeaways

Building healthy communities is a large focus in developments today. In order to design a vision for San Luis Ranch integrating utopian and healthy community ideals, it is important to gather and analyze past literature of farm to table communities, mixed use developments, and urban metabolism that utilized the same healthy ideals we want to integrate into our design.

Farm to Table Communities
Design
Historically urban and rural spaces have been removed from one another, but the new American urban farm movement is changing that. Smart-growth and urban farming trends are encouraging new farmer visionaries to implement their ideas within neighborhoods and residential areas.

Economic Impact
Much of urban farming is small-scaled agriculture, directly serving the community. Urban farming has been primarily been used for responding to economic concerns about food prices and the negative impact industrial agriculture has on the environment. Many existing urban developments are so far removed from agriculture that residents do not understand the importance of the industry, and the benefits that farming has on a community.

Social Impact
Food is becoming a big focus of the media, and people are beginning to pay more attention to where they are getting their food from and how those companies received it. Incorporating an urban farm into a mixed-use development provides the community with a unique experience to feel as if they are a part of the agriculture as well.

Health Benefits
There have been many studies in the past linking connections with green spaces to various health benefits associated with that contact. Green spaces are used for a variety of reasons; including for exercise and physical activity or as a transport route to an alternate location. People have the ability to use the open space as a learning tool, as well as a serene location in which they can de stress and relax.

Mixed Use Communities
Design
A mixed use development is a type of urban development that blends residential, commercial, office, and industrial uses and serves the people in the surrounding community. Mixed use developments also can serve as public gathering spaces with pedestrian networks.

Economic Impact
Economic benefits of mixed use developments include shared public infrastructure, shared parking, and higher rents/ROI.

Social Impact
Social benefits of mixed uses developments include being very pedestrian friendly, adding social connectivity to a development and an element of public safety, as well as serving as civic amenities/spaces.

Health Benefits
Developing mixed-use structures encourages walkability and reduces auto-dependency. Auto-dependency can cause large issues in a city in terms of its environment. Reducing the amount of emissions given off by cars makes the surrounding environment an overall healthier place. Reduced vehicle trips make an overall healthier community because of the improved air quality associated with less VMT.

Urban Metabolism
Design
Urban metabolism analyzes trends including water, food, fuel, clothing, durable goods, electric energy, sewage, solid waste, and air pollution within a city.

Economic Impact
Urban metabolism studies input and output flows of materials and energy resources to understand possible future advancements that could be used in creating a more sustainable city later on.

Social Impact
Urban metabolism is a way for analyzing how areas function in regard to human uses and their relationship between infrastructure and resources.

Health Benefits
By tracking metabolic input and output trends, professionals will know how to make cities healthier and more sustainable in the future.
One example of a mixed use development project that utilizes healthy community ideals is Aria Denver in Denver, Colorado. Located at 2861 West 52nd Avenue, Denver, CO 80221, the project itself will cost $80 million to complete and its anticipated completion date is 2018. Aria Denver is “is being developed on a 17.5-acre (7.1 ha) site that was formerly home to the Marycrest Convent in North Denver. The development contains a 1.25-acre (0.5 ha) production garden, a greenhouse, and various other features to accommodate access to fresh produce” (Urban Land Institute, 2016, p. 27). The project size allocates for 400 total planned residential units, and 30,000 sq. ft of commercial space. Many features and innovations of the development project include mixed uses, a variety of housing types, a “production garden; pay-what-you-can farm stand; permaculture pocket gardens; greenhouse; shared kitchens; health care services and nutrition education” (Urban Land Institute, 2016, p. 27).

Aria Denver aims to encourage “social interaction and multigenerative living” by developing a mix of housing types (Urban Land Institute, 2016, p. 26). The developers of this project “have built 72 affordable rental apartments and 13 townhouses; 450 homes in total are planned, including 28 for-sale units of cohousing, where residents actively participate in the community’s design and operation. The project will see future commercial development, potentially including a grocery store” (Urban Land Institute, 2016, p. 27). This type of mixed use development will entice a variety of social groups to live and add to the community. It is also important to set aside land in mixed use developments that have residential uses to increase the overall health of the residents. This can stem from access to fresh, healthy produce in surrounding areas for the residents while also increasing project marketability.

One unique aspect that Aria Denver offers is a 1.25 acre production garden. Residents and other volunteers from the surrounding community can participate in gardening and community events in which they help grow organic produce on a plot of land in the center of the development. The way in which this garden is funded is “from a Colorado Health Foundation grant, with plans for it to be financially self-sufficient at the end of the grant period” (Urban Land Institute, 2016, p. 27). Aria Denver views this type of development as an adequate way of providing the community with enough housing; and by ‘giving up’ a certain amount of developable land for gardens and the like, they can create a true sense of place and opportunity for the neighborhood and its residents. Another unique factor of Aria Denver is their pay-what-you-can farm stand which allows the residents of the development to purchase produce that is farmed on site at any cost that is affordable to them. Permaculture pocket gardens are another distinct feature of the project that allow residents to learn about sustainable gardening procedures. Aria Denver offers a 1,800 sq. ft greenhouse that is run by youth employees from ages 14–18. The on-site greenhouse produces 10,000 pounds of food each year and “75 percent of all produce is sold to local restaurants and Regis University, while the other 25 percent is donated for affordable sale” (Urban Land Institute, 2016, p. 27). Shared kitchens is another notable feature of Aria Denver that allow meals to be shared between residents in the cohousing portion of the project development. Lastly are the health care services and overall nutrition education that “will offer cooking classes and healthy eating courses for community residents and local students” (Urban Land Institute, 2016, pg. 27). The features mentioned above are unique ways in which Aria Denver introduced healthy community ideals into a mixed use development.

Mixed use developments that introduce a variety of healthy community ideals are very beneficial in society and benefit the residents of the community in many ways. Aria Denver allocates for 400 total planned residential units, and 30,000 sq. ft of commercial space and will also include mixed uses, a variety of housing types, a production garden; pay-what-you-can farm stand; permaculture pocket gardens; greenhouse; shared kitchens; health care services and nutrition education.
Another example of a mixed use development that is focused on building a walkable and food oriented environment is CityCentre in Houston, Texas. Located at 800 Town & Country Boulevard, Houston, TX 77024, the project itself will cost $240 to $280 per square foot. CityCentre is a 50 acres (20 ha); total gross building area 2,212,000 square feet (205,502 sq m) project. Phase 1 began in 2009 and the final phase opened in 2016. The project, CityCentre, developed by Midway “is anchored by a variety of restaurants and features multifamily residential units, townhomes, hotels, retail space, and a movie theater. CityCentre also includes a central public plaza and a walkable street design, which encourages residents, workers, and visitors to spend time at food-oriented events and sidewalk cafés” (Urban Land Institute, 2016, p. 31). CityCentre features more than 25 restaurants, some local and some national, which open up to a large central public green space.

CityCentre aims to do three main things:
1. Include local and national restaurants within the mixed use development. This can be effective in differentiating the project from others as well as keeping an equal balance between risk and return.
2. Support restaurants and retail outlets within the project by hosting food-focused events in very open and accessible areas of the mixed use development.
3. Build a lively and walkable environment. By including food centered businesses, the site can become more of a regional amenity then simply a shopping center.

CityCentre also has three main features and innovations;
1. “A large and diverse mix of restaurants”
2. “Restaurants placed at the base of office and mixed use buildings or around a public Plaza”
3. “Food-focused events” (Urban Land Institute, 2016, p. 30).

Creating Value– People, Planet, Profit:
The overall CityCentre is a revitalization project of an underperforming mall in Houston, TX. Midway was responsible for turning this area into “a mixed-use district, with public spaces, walkable streets, and a mix of restaurant tenants that could support other uses in the project” (Urban Land Institute, 2016, p. 31). Midway’s CEO, Jonathan Brinsden, described his logic behind including a large amount of restaurants in the development stating, “We realize the shoppers, office tenants, and residents at CityCentre are the same people our competitors want in their projects. It is crucial to create an authentic place and a variety of experiences that these customers enjoy. We know that elevating experiences with food differentiates our product” (Urban Land Institute, 2016, p. 31). He viewed restaurants and creating a food oriented development as a way of making the community authentic and setting it apart from all of the other developments in the surrounding community. These restaurants focus on healthy living and eating as well and offer a wide variety of options including, fast, casual, salads, and fine dining.

One of the main successes of the CityCentre project is its main public green space which is central in the development. This is crucial to the site because “more than one event is held per day at CityCentre, with some events drawing nearly 20,000 people” (Urban Land Institute, 2016, p. 31). Creating a mixed use development with a walkable environment and food focused atmosphere encourages residents and visitors to spend time at CityCentre and makes it stand out from the rest.
Jones Valley Urban Farm is a 3 ½ acre urban farm and a 25 acre suburban farm established in 2002 by Edwin Marty. Marty noticed that “Birmingham needed fresh ideas in education as much as it need fresh, local food,” so he quit his previous job and turned his attention to what would become Jones Valley Urban Farm (Hanson & Marty, 2012, p. 97). The goal of the project is to use urban farming and education to promote healthy lifestyles in Birmingham, Alabama through growing fresh organic food.

The project was intended to be an education tool, but was also a useful way to address statewide health issues. Birmingham, along with the rest of the state struggled to keep health rates up and obesity and diabetes rates down. This was especially noticeable in the lower class neighborhoods. These health dilemmas were used as leverage for Jones Valley to attract investors to get the urban farm and education facilities up and running. The project was especially attractive for the area because, “any urban farm intrinsically offers a modicum of education and outreach to the public regarding healthy food and healthy lifestyles” (Hanson & Marty, 2012, p. 97). Whether members of the community are actively participating in urban farming the presence of agriculture has a positive effect on the community, because “[it] creates a level of exposure and awareness that doesn’t exist for many urban dwellers” (Hanson & Marty, 2012, p. 97).

Education was always a priority of the project and utilized experiential education, which involves hands on and kinesthetic learning. Rachel Reinhart joined the Jones Valley team early on, as educational director, and offers half day to year long educational opportunities. The farm attracts kids of all ages and even offers weekend seminars for adults. Being around the food process helps the community gain a better understanding and appreciation for food and encourages them to make healthy lifestyle choices. Older students can receive high school credit for completing labs, and can even be hired as summer employees. Student employees conduct research that benefits the farm, while gaining hands on agriculture experience.

Jones Valley Urban Farm faced some dilemmas when it came to generating a stable enough income to support the farm. Volunteers and students had to work to plan a program that invites younger volunteers and students but still results in a successful harvest. This was achieved by creating a separate children’s learning garden. The urban farm still had to face the realities of the real world by through hard work and dedication, and “it’s the kind of innovation and adaption that highlights the urban farm’s pivotal role in supplementing the education systems in American cities” (Hanson & Marty, 2012, p. 103).
In the early 20th century, Ebenezer Howard published *Garden Cities of Tomorrow*. Howard’s work suggested a merging of urban and rural developments, “[he] dealt with the social and environmental ills of industrial cities not by abandoning them for utopias set in the countryside,” but by proposing new Garden Cities (Lattimore, 2006, p. 6). These garden cities were planned in a way that provided access to everything a sustainable city would need, within the community. The cities were organized using the “three magnets” town, country, and town–country. He proposed a variety of housing opportunities, separate pedestrian and vehicular streets, and separate zones for commercial and industrial. He wanted a number of garden cities to arise, rather than resulting in urban sprawl. As displayed below, each town would be its own community connected to other towns through rail lines (Lattimore, 2006).

These garden cities provide essential needs for residents, including agriculture in the outskirts of the city and commercial opportunities in the core. In order to promote sustainability, “Howard also stipulated that these communities be owned by the community as a whole” (Lattimore, 2006, p. 7). These cities would be socially and economically sound, and the residents would ultimately be responsible for maintaining a successful community. “This public responsibility promoted sustainable community as money earned from increasing land value was put back into the community for municipal improvements” (Lattimore, 2006, p. 7). The community members would be dedicated and focused on supporting their town. The work that each individual or household would contribute would be essential to the success of the town.
Chapter 3

Background Research
The City of San Luis Obispo

The project site is located in the City of San Luis Obispo is located roughly midway between Los Angeles and San Francisco, on the Central Coast. The region was originally inhabited by Chumash and Salinan tribes, but in the eighteenth century Franciscan Missionaries arrived (San Luis Obispo, 2010). The mission city was founded in 1772, and is one of California's oldest communities (San Luis Obispo Chamber of Commerce). The city is more than a destination along Highway 1, as it is a community that embraces the locals, the college, the history, and the land. San Luis Obispo is known for its diverse natural and agrarian settings. The downtown urban core is surrounded by miles of farmland providing locally grown food and wine. The city maintains a healthy and attractive environment valued by residents. The region has a mild climate with an abundance of resources and the city embraces the natural environment (San Luis Obispo, 2010). San Luis Creek and the surrounding peaks act as landmarks and focal points of the community. Urban developments focus on environmental impact, and the city prioritizes preservation and integration of the natural environment. The community has a comprehensive scale, where people know each other, and feel connected to the land. The city provides a comfortable setting for housing, workspace, and recreation. Much of the city is pedestrian and bicycle friendly and linked trails and bike paths create a flow of active transportation throughout the city. Thriving with small businesses and family owned farms, the land nurtures the communities health, economic, and social well being.

Agriculture

The City of San Luis Obispo is located in the midst of prime agricultural soil. The general plan works to prevent the loss of agricultural land and identifies the land as a “world class natural asset” (City of San Luis Obispo, 2014). Historically, farming has been a major component of the city’s economy. Community members own, harvest, sell, and consume local products. Weekly farmers markets advocate the importance of agriculture in the city, and local stores and restaurants often use or sell local food and beverages. A significant amount of the unincorporated land surrounding the city “is designated by [San Luis Obispo] County for Agriculture or Open Space” (City of San Luis Obispo, 2014). In order to preserve the agricultural land, the city discourages subdivision and urban expansion of the rural parcels. Any prime, productive, or potentially productive agricultural land is to be preserved. Agriculture in and around the city “provides for the protection and preservation of the community’s natural and historic resources, defines the urban boundary, and provides visual and physical relief from urban development” (City of San Luis Obispo, 2014). Planning for the future, agriculture is a sustainable part of the community and new developments should protect the agricultural land.
Population and Demographics

American FactFinder has published demographic and housing characteristic data from 2015 which is used in this analysis of San Luis Obispo. San Luis Obispo has a total population of 46,337, in which 24,611 are male and the remaining 21,726 are female. The median age within San Luis Obispo is fairly young, 25.4. This number can be related to the college population being very prevalent in the City. The age breakdown within San Luis Obispo is as follows:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Estimate</th>
<th>Margin of Error</th>
<th>Percent</th>
<th>Percent Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5 years</td>
<td>1,559</td>
<td>±/–221</td>
<td>3.4%</td>
<td>±/–0.5</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>1,659</td>
<td>±/–231</td>
<td>3.6%</td>
<td>±/–0.5</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>1,658</td>
<td>±/–242</td>
<td>3.6%</td>
<td>±/–0.5</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>1,753</td>
<td>±/–484</td>
<td>3.1%</td>
<td>±/–1.0</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>14,241</td>
<td>±/–734</td>
<td>30.3%</td>
<td>±/–1.6</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>8,476</td>
<td>±/–518</td>
<td>14.0%</td>
<td>±/–1.1</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>3,836</td>
<td>±/–304</td>
<td>8.3%</td>
<td>±/–0.8</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>3,906</td>
<td>±/–276</td>
<td>8.6%</td>
<td>±/–0.8</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>2,005</td>
<td>±/–270</td>
<td>4.3%</td>
<td>±/–0.6</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>2,459</td>
<td>±/–363</td>
<td>5.3%</td>
<td>±/–0.6</td>
</tr>
<tr>
<td>75 to 84 years</td>
<td>1,821</td>
<td>±/–208</td>
<td>3.9%</td>
<td>±/–0.5</td>
</tr>
<tr>
<td>85 years and over</td>
<td>1,041</td>
<td>±/–221</td>
<td>2.3%</td>
<td>±/–0.5</td>
</tr>
</tbody>
</table>

In terms of housing characteristics, San Luis Obispo has 19,299 total housing units. 18,044 of these units are occupied housing units and 1,255 are vacant housing units. 23.2% of homes were built from 1970–1979 and only 1.5% of homes were built after 2010. The size of homes in San Luis Obispo can differ a lot; for example, 12.7% of total housing units have 3 rooms, 23.6% have 4 rooms, and 21.1% have 5 rooms. Out of the 18,044 total occupied housing units, 36.7% are owner occupied, and 63.3% are renter occupied. Overall, due to the steep increase in housing prices from 2000–2008 that was not mirrored by income increases, “many people who live in San Luis Obispo overpay for housing, and many who work [in SLO] cannot afford to live [there]” (City of San Luis Obispo, 2010). This number is also heavily influenced by the college population (U.S. Census Bureau). The college population has a very large influence on the City of San Luis Obispo. San Luis Obispo is one of the seven cities within the larger overall San Luis County, and SLO City is the largest of the seven in terms of population. As Cal Poly’s campus large scale housing project gets constructed, vacancy rates within the City are expected to increase greatly along with a temporary softening in rental prices.

In terms of employment history, “San Luis Obispo historically has served as the County’s governmental, retail and cultural hub […] due to its centralized location, early settlement history and transportation links via the Southern Pacific Railroad and State Highways 101, 1 and 227” (City of San Luis Obispo, 2010). Historically, San Luis Obispo’s economy was based largely on agricultural activities.
Chapter 4

Current Plan for San Luis Ranch
Vision

“San Luis Ranch honors the legacy of our past and builds upon a strong foundation to house the citizens of SLO, nurture its growth and sustain the values of our fine community without changing the landscape. SLR will help fulfill the desperate need for workforce housing, complete the connection to landmark trails, and preserve 50% of the land as a working farm and open space, with an exceptional level of integration and mobility that reduces reliance on automobiles. San Luis Ranch is a home grown community complete with housing, jobs, services and a farm to table lifestyle” (Our Vision, pg. 1).

San Luis Ranch aims to implement many progressive values into their design and plan including (Our Vision, pg. 2):
- Farm to table lifestyle
- Holistic approach to live, work and play - building connectivity
- Replace Measure J, creating a legacy for SLO citizens
- Responsible environmental design throughout the community
- Long term job creation with new commercial and retail spaces
Site Plan

The site will be laid out in a very inclusive manner. There will be a variety of housing types from single to multi-family in a walkable neighborhood with access to many types of recreation. San Luis Ranch developers will also address stormwater and floodplain management. Access to recreational amenities was a large factor in designing the current plan for San Luis Ranch. There are many trails, parks, and fitness paths that connect the entire community within the development as well as connect them to the rest of SLO City via walking paths and additional trails. The site will offer close walking proximity to dining, shopping, offices, and hotels that contain conference services.

The San Luis Ranch site plan is shown below and will include:
- 500 Residential units: Affordable by Design
- Up to 200,000 sq. ft. Commercial
- Up to 150,000 sq. ft. Office
- Up to 200 Room, 4–story Hotel
- 50% of Site: Agricultural and Open Space
- Agricultural Heritage Learning Center
- Active Rec: Parks, Trails, Bicycle Paths
- Critical link to Bob Jones Trail – Laguna Lake to LOVR

Additional Project Descriptions

Table 2: Shows an overall summary of the San Luis Ranch lot sizes, lot coverage, and allowable building heights (San Luis Ranch Specific Plan, 2017).

<table>
<thead>
<tr>
<th>Zone</th>
<th>Product Type</th>
<th>Lot Sizes/Lot Coverage</th>
<th>Max Building Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood General 10 (NG-10)</td>
<td>Traditional Single Family</td>
<td>3,200 SF min</td>
<td>35’</td>
</tr>
<tr>
<td>Neighborhood General 23 (NG-23)</td>
<td>Small Lot Front Loaded</td>
<td>2,400 SF min</td>
<td>35’</td>
</tr>
<tr>
<td>Neighborhood General 23 (NG-23)</td>
<td>Small Lot Alley Loaded</td>
<td>2,400 SF min</td>
<td>35’</td>
</tr>
<tr>
<td>Neighborhood General 30 (NG-30)</td>
<td>Detached Townhome</td>
<td>1,000 SF min</td>
<td>40’</td>
</tr>
<tr>
<td>Neighborhood General 30 (NG-30)</td>
<td>Attached Townhome</td>
<td>1,000 SF min</td>
<td>40’</td>
</tr>
<tr>
<td>Neighborhood General 30 (NG-30)</td>
<td>Multi-Family</td>
<td>1,000 SF min</td>
<td>40’</td>
</tr>
<tr>
<td>Neighborhood Commercial (NC)</td>
<td>Commercial, Office and Hotel</td>
<td>80% max</td>
<td>20’ min; 50’ max</td>
</tr>
<tr>
<td>Open Space (OS)</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture (A)</td>
<td>Ag Learning Center</td>
<td>3,000 SF max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market/Farm Stand</td>
<td>3,000 SF max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ag Processing Center</td>
<td>10,000 SF max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food Services</td>
<td>5,000 SF max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ag Accessory Structures</td>
<td>1,500 SF max per structure</td>
<td>35’</td>
</tr>
</tbody>
</table>

* up to a total of 10,000 SF in structures; historical structures may go to 45’
Main Design Characteristics

San Luis Ranch will implement many design characteristics that are compliant with the City of San Luis Obispo’s General Plan Update including; housing, recreation, agriculture, and multimodality.

Housing is a main component of San Luis Ranches’ design. They will provide a variety of housing opportunities including single and multi-family housing with a commitment to workforce housing. There will also be natural and edible landscaping surrounding the energy efficient/green buildings. San Luis Ranch will place a huge focus on walkability and pedestrian friendly neighborhoods as well.

Another component of the design is recreation. San Luis Ranch will be a healthy and active community with many forms of a recreational lifestyle. The design offers parks, trails, fitness paths, outdoor picnic areas, and connectivity to multiple other parks within the entire City.

The third main design characteristic of San Luis Ranch is agriculture and open space. The design maintains 50% of the land in agricultural and open space as well as preserves existing view corridors within the site. The current site plan also offers organic farms and community gardens as well as an agricultural heritage learning center and a working farm.

The last major component of the San Luis Ranch design is the focus on multimodality. The developers wanted to ensure an easy connection throughout the whole site on both foot, bike and public transit. They wanted to ensure easy access and connectivity to Downtown and area job centers as well. An on-site transit center within the project site will encourage alternative transportation while hopefully discouraging driving and excess pollution. The overall community will have many pedestrian amenities tailored to encouraging a walkable environment. San Luis Ranch will also implement charging stations and bicycle parking to encourage healthier forms of transportation.
Sustainability Characteristics

San Luis Ranch will also have a strong emphasis on sustainability through social, economic, and environmental components. The overall goals of the planned community “are to incorporate leading technology in concert with the City’s Energy Conservation and Climate Action Plan, reduce the effect of greenhouse gases and substantially contribute to the City’s economic sustainability” (CITE). The main areas in which the developers place an emphasis on sustainability are; the neighborhood design, drainage, water conservation, transportation, and the home conservation technology package.

Neighborhood design within San Luis Ranch has a large focus on sustainability in many areas. The design promotes connectivity overall through a pedestrian friendly lifestyle, fitness loop, central parks, and lots of open space. The design also provides farm to table and edible landscaping, and neighborhood gardens and orchards. Another big aspect of a sustainable neighborhood design is the usage of less asphalt and impermeable surfaces. All of these design factors help to reduce the overall effect of greenhouse gases. Developing neighborhood commercial spaces and offices as well as affordable and workforce housing also contributes to the City’s overall economic sustainability.

Drainage and water conservation are two very large factors influencing sustainability within the San Luis Ranch project. In terms of drainage the site will have;
- Permeable pavement
- Vegetated swales
- Rain harvesting cisterns or barrels
- Widened drainage channel
- Detention and retention facilities
- Limit post-development runoff to pre-development runoff

All of these design elements will help immensely in maintaining a sustainable community. These drainage design factors go hand in hand with water conservation tools which include;
- Drought tolerant streetscapes
- Grey water irrigation
- Weather-based irrigation controller
- Low flow plumbing fixtures

Placing such a heavy emphasis on sustainability within the San Luis Ranch design benefits not only the community members but the City as a whole. Transportation sustainability designs will impact the residents of San Luis Ranch as well as The City of San Luis Obispo at large through the overall reduction in greenhouse gases. The steps the developers of San Luis Ranch plan to take to encourage transportation and environmental sustainability include;
- Prado Road connection
- Froom Ranch Way extension
- Multimodal trails with connectivity to existing trail system
- Bicycle parking
- Neighborhood retail
- Electric vehicle charging stations
- Alternate fuel vehicle parking

Many of these design and planning characteristics will encourage alternative ways of transportation besides driving to make the overall community a healthier place.

And lastly is the home conservation technology package put in place to ensure optimum levels of conservation and sustainability within the residential uses. Ways in which San Luis Ranch will encourage home conservation are as follows;
- Meeting or exceeding title 24 standards
- Incorporating advanced and recycled materials
- Natural lighting and ventilation
- Energy star appliances
- Advanced low leakage ducts and insulation
- Noise reduction
- Water usage reduction
- Cutting edge thermostats
- Energy efficient lighting with dimmers and/or occupancy sensors
- Solar electric panels
- Tankless water heating

San Luis Ranch wants to ensure they achieve high levels of sustainability in all aspects of their community design. Their plan aims to achieve this by placing an emphasis on sustainability in a few main areas, the neighborhood design, drainage, water conservation, transportation, and the home conservation technology package.
## Land Use Program

Table 3: The Land Use Program as provided by the Specific Plan.

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>% of Site</th>
<th>Units/SF</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Medium Density Residential</td>
<td>16.42%</td>
<td>200 du</td>
<td>21.5</td>
</tr>
<tr>
<td>Medium Density Residential</td>
<td>5.54%</td>
<td>100 du</td>
<td>7.3</td>
</tr>
<tr>
<td>High Density Residential</td>
<td>8.37%</td>
<td>246 du</td>
<td>11</td>
</tr>
<tr>
<td>Affordable Housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>9.03%</td>
<td>150,000 sf</td>
<td>11.9</td>
</tr>
<tr>
<td>Office</td>
<td>3.20%</td>
<td>100,000 sf</td>
<td>4.2</td>
</tr>
<tr>
<td>Hotel and Conference Center</td>
<td>2.69%</td>
<td>200 rooms</td>
<td>3.5</td>
</tr>
<tr>
<td>Public Parks</td>
<td>2.12%</td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Regional Roads</td>
<td>6.58%</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Agriculture</td>
<td>AG</td>
<td>39.82%</td>
<td>52.3</td>
</tr>
<tr>
<td>Internal Open Space</td>
<td>5.94%</td>
<td></td>
<td>7.8</td>
</tr>
</tbody>
</table>
Housing Program

San Luis Ranch also offers two distinct housing programs including; The San Luis Ranch Workforce Housing Program, and The San Luis Ranch Affordable Housing Program.

In addition to the 15% of Affordable Housing Units provided in the site design, San Luis Ranch will also offer a large supply of workforce housing. They provide “a multi-faceted, proven approach to bringing a variety of workforce housing types to the San Luis Obispo community” (Our Vision, pg. 5). The overall goals for this program are to provide affordable workforce-oriented housing aimed at public service professionals. These are tailored to individuals at the entry level with a fixed-income whose intentions are long-term residency. The design for this workforce housing program is to design these locations close to jobs and services and maintain fairly small lots. Small lots will include “Single-Family Residential (SFR) lots ranging from 1,000 – 3,200 square feet, some with Secondary Dwelling Units (SDUs)” (Our Vision, pg. 5). Diverse housing projects could meet the needs of a variety of families or individuals in need of housing. Diverse housing units will range from 250 - 2,200 square feet, with 0 – 4 bedrooms; primarily 2 to 3 bedrooms. The units will be suited for long-term residents and will offer gardens and garages.

The second housing program is the San Luis Ranch Affordable Housing Project. The City of San Luis Obispo has current regulations that state, “San Luis Ranch is required to provide 68 Affordable Housing Units. This requirement can be met on-site, off-site, or through payment of in lieu fees” (Our Vision, pg. 6). San Luis Ranch proposes to provide all of the required Affordable Units on-site as opposed to in an off-site location. The goals of this housing programs are to provide affordable housing for residents with a mix of housing types to meet the City’s requirements. This will include 5% of very low to low housing types, and 10% to be moderate. These housing types will also be similar to the last housing program in which they will be suited for fixed income individuals looking for long-term residency. The three diverse product types are as follows;

- Secondary Dwelling Units (SDUs) 400 to 450 sqft integrated within the neighborhoods
- Single Room Occupancies (SROs) 200 to 250 sqft. located adjacent to Madonna Road
- Single-Family Residential (SFR) integrated within the neighborhoods

The two housing programs provided through the San Luis Ranch project will offer many viable affordable housing opportunities to the people of San Luis Obispo.
### Approval Process

Table 4: The above table shows the progression of the projects’ approval process. (San Luis Ranch Specific Plan, 2017).

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1, 2014</td>
<td>• City Council accepts San Luis Ranch project application for processing based on Planning Commission recommendation</td>
</tr>
<tr>
<td></td>
<td>• Initiates preparation of Specific Plan consistent with LUCE direction (which was still in progress at that time)</td>
</tr>
<tr>
<td></td>
<td>• Authorizes preparation of an Environmental Impact Report (EIR) to analyze the project</td>
</tr>
<tr>
<td>December, 2014</td>
<td>• City Council adopts the Land Use and Circulation Elements (LUCE) update, and certifies Program EIR</td>
</tr>
<tr>
<td></td>
<td>• Specific Plan must be consistent with General Plan Land Use Policy 8.1.4, which provides a development framework for the San Luis Ranch area</td>
</tr>
<tr>
<td>February 12, 2014</td>
<td>• Pre-Application Review</td>
</tr>
<tr>
<td>February 10, 2016</td>
<td>• Preliminary Draft Specific Plan Review</td>
</tr>
<tr>
<td>March 23, 2016</td>
<td>• Preliminary Draft Specific Plan Review</td>
</tr>
<tr>
<td>January 11, 2017</td>
<td>• Draft EIR Workshop</td>
</tr>
<tr>
<td>January 25, 2017</td>
<td>• Draft EIR Workshop</td>
</tr>
<tr>
<td>2015-2017</td>
<td>• Previous City Advisory Body Review</td>
</tr>
<tr>
<td></td>
<td>○ Bicycle Advisory Committee</td>
</tr>
<tr>
<td></td>
<td>○ Parks and Recreation Commission</td>
</tr>
<tr>
<td></td>
<td>○ Architectural Review Commission</td>
</tr>
<tr>
<td></td>
<td>○ Cultural Heritage Committee</td>
</tr>
<tr>
<td></td>
<td>○ Airport Land Use Commission Review</td>
</tr>
</tbody>
</table>
CEQA Process

Table 5: The table above shows the progression of the projects’ CEQA process. (San Luis Ranch Specific Plan, 2017).

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1, 2014</td>
<td>● City Council authorizes EIR preparation</td>
</tr>
<tr>
<td>October 26, 2015</td>
<td>● Notice of Preparation/Initial Study</td>
</tr>
<tr>
<td>December 9, 2016</td>
<td>● Draft EIR released (45-day review period; subsequently extended to 52 days)</td>
</tr>
<tr>
<td>January 30, 2017</td>
<td>● 52-day public review period ends</td>
</tr>
<tr>
<td>March 3, 2017</td>
<td>● Portion of DEIR (Energy Demand Impacts section) recirculated for 45 days</td>
</tr>
<tr>
<td>April 17, 2017</td>
<td>● Recirculation public review period ends</td>
</tr>
<tr>
<td>March-May 2017</td>
<td>● Responses to comments lead to modification of some analysis and mitigation measures. No new impacts introduced, or changes in the level of severity of previously-identified impacts.</td>
</tr>
<tr>
<td>May 16, 2017</td>
<td>● Final EIR released, including responses to comments and changes from Draft EIR</td>
</tr>
</tbody>
</table>
Chapter 5

Site Assessment
Study Area Description

San Luis Ranch is located west of US Highway 101 to, south of the City of San Luis Obispo. The 131.3 acre site is currently in the County of San Luis Obispo; however, efforts are being made to annex it into the city. The site itself is a currently open land and undeveloped area between the Madonna Road highway exit and the Los Osos Valley Road exit. The site is primarily flat topography and currently being used for agricultural purposes.

The City of San Luis Obispo’s Land Use Element describes the purpose of the San Luis Ranch project as a project that “should be developed as a mixed use project that maintains the agricultural heritage of the site, provides a commercial / office transition to the existing commercial center to the north, and provides a diverse housing experience. Protection of the adjacent creek and a well-planned integration into the existing circulation system will be required” (City of San Luis Obispo, 2014, p. 1-87).

Site Importance

The site offers prime agricultural land in the urban hub of the county, and this project provides an opportunity to integrate open space, residential, and commercial uses. This project enhances the natural environment while introducing new uses to the historically agricultural property.
Land Use

The site is currently designated as open space. There is a historic barn on site which cannot be moved.

Figure 14: The above image shows the historic barn that is currently on the project site (San Luis Ranch Specific Plan, 2017).

Performance Standards: The San Luis Ranch specific plan must meet the following standards:

Table 6: The table above shows the progression of the projects’ CEQA process. (San Luis Ranch Specific Plan, 2017).

<table>
<thead>
<tr>
<th>Type</th>
<th>Designation</th>
<th>% of Site</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>EA, MA, MB, MD</td>
<td></td>
<td>10%</td>
<td>30%</td>
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<tr>
<td>Commercial</td>
<td>NC, CC</td>
<td></td>
<td>25,000 sf</td>
<td>75,000 sf</td>
</tr>
<tr>
<td>Office/High tech</td>
<td>O</td>
<td></td>
<td>25,000 sf</td>
<td>125,000 sf</td>
</tr>
<tr>
<td>Nature/Historic saving</td>
<td>AS</td>
<td></td>
<td>200 yrs.</td>
<td>200 yrs.</td>
</tr>
<tr>
<td>Parks</td>
<td>RR, RM</td>
<td></td>
<td>1.5 ac.</td>
<td>No maximum</td>
</tr>
<tr>
<td>Open Space / Agriculture</td>
<td>AS, DN</td>
<td>Minimum 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>BA</td>
<td></td>
<td>1,000 sq ft</td>
<td>1,000 sq ft</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>SA</td>
<td></td>
<td>200 ft.</td>
<td>200 ft.</td>
</tr>
</tbody>
</table>

Circulation

The site runs parallel to US 101. The site is bordered by Madonna Road, Dalidio Drive, and U.S. Highway 10.

There is good access to the site, but the lack of circulation on site will require the project to make connections to existing thoroughfares and introduce new ones.

Figure 15: The above image shows Dalidio Drive with the project site to the left.

Figure 16: The above image depicts Calle Joaquin Rd leading to a dead end. The project site is directly ahead, and US 101 is to the left separated by a fence and slight vegetative buffer.

Natural Environment

The site is in a riparian environment with two large creeks running through it. Both Perfumo Creek and Cerro San Luis Creek need to be protected during this project. Along with the riparian zone, there is a monarch preserve and herons are spotted throughout the site.

The site offers views of surrounding hills, including Cerro San Luis.

Figure 17: The above image shows the riparian habitat within the project site (San Luis Ranch Specific Plan, 2017).
Figure 18: Above is the land use map of the project site produced by GIS.
Figure 19: Above is the circulation map of the project site produced by GIS.
Figure 20: Above is a natural qualities map of the project site produced in GIS and Adobe Illustrator.
Opportunities

Land Use
- This project will yield a number of small houses on small lots. These houses will be affordable for workforce families, and will help the housing need in the city.
- Currently the average house costs $800,000, so a number of workforce individuals commute from neighboring cities such as Santa Maria.
- Farm to table community provides food for local businesses on and off site to use.
- 120-130 year old historic barn on site. The barn cannot be demolished but may be moved.

Circulation
- With less commuters, there will be positive traffic such as less VMT's.
- The adjacent freeway serves as a frontage road which could benefit freeway serving commercial uses within the site; easy accessibility.
- Affordability will diminish the need for workers to commute.

Natural Environment
- View corridors.
- Prime agricultural land.
Constraints

Land Use
- With 50% of the site containing buildings, floodplains need to change and be updated through FEMA.
- There is a question of drainage. Raising certain parts of the site can produce runoff towards the freeway. Instead of raising parts of the site they are going to lower agricultural land two feet.
- It is challenging to receive feedback from all the different agencies involved.
- Freeway frontage requires screening.
- Airplane use committee established a no fly/no build zone that runs in the middle of the project. Because of this, only parking can be proposed in the middle of the project.

Circulation
- Although commuter traffic will go down, this project will generate more traffic in the immediate area and will need to be mitigated through projects such as an overpass over Prado road.

Natural Environment
- Prefumo creek and Cerro San Luis creek run through the site and need to be protected.
- There is a monarch preserve so the eucalyptus trees cannot come down.
- Herons are spotted throughout the site. Trees cannot be brought down until the birds are gone.

Biggest Constraint: Land Use/Airport Hazards

Project Site is located within City Airport Overlay Zones and ALUP Safety Areas S-1b and S-2 (San Luis Ranch Specific Plan, 2017)

Airport Overlay Zone:
- a) Implement the City’s General Plan policies to ensure that all land uses within the Airport Overlay Zone (AOZ) are consistent with the State Aeronautics Act, State Law, Federal Aviation Administration Regulations, and guidance of the California Airport Land Use Planning Handbook.
- b) Ensure that land uses and development within the Airport Overlay Zone (AOZ) are compatible with existing and future airport operations.
- c) Prohibit the establishment of incompatible uses and further expansion of incompatible uses which could detrimentally affect long term economic vitality of the airport; and to avoid or minimize exposure of persons to potential hazards associated with current and future airport operations.
- d) Prohibit development, uses, or any installations or activities which could represent a hazard to existing and future flight operations.
- e) Recognize unique constraints and considerations which apply to properties potentially affected by airport operations by establishing regulations and review criteria for land use and development which apply specifically to properties within the Airport Overlay Zone (AOZ).
- f) Recognize the boundary of the San Luis Obispo County Regional Airport Land Use Plan (ALUP) within the city limits by establishment of an Airport Overlay Zone (AOZ).

Section 17.57.090 Open Land
- “Open land areas are intended to increase the chances of a pilot successfully landing an aircraft in an emergency situation where they are unable to reach the runway” (City Of San Luis Obispo, 2015, p. 163).
- San Luis Ranch Specific Plan area, west of Highway 101 and south of Dalidio Drive is one of the six identified properties that The City of San Luis Obispo has identified needs to contain open land area.
Chapter 6

Vision
Goal
The purpose of this project is to prepare a design vision for San Luis Ranch. The design will encompass the relationship between the built and natural environment, and the community, through an urban agriculture mixed use development. The farm to table community will incorporate housing, jobs, and services; reserving 50% of the land for open space and agriculture. A focus of the project is to create a sustainable development that serves the immediate community and encourages healthy living.

Guiding Principles
There are three main guiding principles for our design vision for the project site including; farm to table communities, mixed use communities, and urban metabolism. We are considering design, economic impact, social impact, and overall health benefits from all three of these design and planning principles. We are also considering two other main urban design qualities including sustainability and multimodality.

San Luis Ranch Program
The San Luis Ranch program fulfills four main objectives of the general plan including housing, recreation, agriculture, and multimodality. The program introduces five diverse types of housing that cater to workforce and low income families. These household types are Traditional, Small lot front loaded, Small lot alley loaded, Multi family compact, and Multi family flats. The site will also introduce new recreation opportunities, while providing extensions to existing trails in the city. The site will include parks and picnic areas, and a variety of amenities. Half of the site is dedicated to open space and agriculture. In addition to the parks and parklets, this will include farmland and community gardens. The site is going to be multimodal with easy connectivity by foot, bike, and automobile.

Vision
San Luis Ranch will be a farm to table community with a heavy focus on a mix of land uses and a sustainable design. It will transform surrounding areas and be a site that is vibrant, multi-modal, and diverse. San Luis Ranch will provide residents with a wide range of services and amenities including open and agricultural spaces, recreation fields and parks, as well as community gardens. It will also offer new opportunities for businesses. The plaza and many open spaces will foster walkability and a sense of community. Plenty of commercial, mixed use, residential, and open spaces provide the site with endless opportunities for residents to enjoy the sustainable, walkable and welcoming San Luis Ranch. A community that will embody San Luis Obispo's unique culture and environment.
Chapter 7

Concept Creation
The goal of this concept diagram is to embrace the valuable agricultural land in the San Luis Ranch area, in a way that integrates new commercial developments and housing opportunities. Preservation of open space and rich farmland results in fifty percent of the parcel being undeveloped. The agricultural and open space designations will provide new opportunities for farming, recreation, and enjoyment. A variety of small residential units are proposed on this site, catering to low income and workforce households. The agricultural land and the new commercial developments introduce more jobs and provide sustainable resources for the residents of San Luis Ranch and the surrounding areas.

The site is designed to embrace the natural environment. The southern portion of the site is devoted to agricultural uses, and the built portion of the site is broken up by open space. Trailheads and bike paths run throughout the site, strategically placed along creeks and open spaces, offering easy and enjoyable active transportation opportunities. A large portion of the open space is proposed surrounding the creek, not only to preserve the land, but to incorporate it into the community.
Concept Plan #2

Our first concept plan focuses on centralizing commercial uses and allocating at least 50% of the project site for open space and agriculture uses. The agricultural use is placed directly next to US 101 for a few main reasons. First, it acts as a buffer from the high levels of noise generated by the highway. Secondly, locating the agriculture in such an area helps in drainage within the site. By lowering the agriculture areas about 2 ft, it will act as a pervious surface and help from keeping water generated within the site from running onto the freeway. The water will be absorbed within the land instead of running onto the freeway which is a crucial consideration in our site design. Another major design feature for this concept design is the smaller housing lots within the project site. There are two main reasons for choosing to design small houses on smaller lots. First, there is a large housing deficit in the City of San Luis Obispo, and by allowing smaller houses and smaller lots the houses will overall be much more affordable allowing for workforce families to afford them. The average housing cost in SLO is around $800,000 which is unfeasible for many families. Families who cannot afford to live in SLO need to commute from surrounding cities, however this new design could help in easing some of this conflict. This brings us to our next point of ensuring a green attitude within San Luis Obispo. By catering towards workforce families and ensuring more affordable housing, this development will make it easier for people who don’t currently live in San Luis Obispo to live here. This relates to a green attitude within the city because there will be less VMT’s and pollution due to less travel from neighboring cities. The project will allow for more people to afford to live in the area due to the design of developing less expensive housing. Not only will this help with reducing environmental hazardous impacts, but it will also help in aiding freeway travel and overall traffic conflicts.

Figure 22: The image depicts the second design for the specific land uses and their general size that we are proposing for San Luis Ranch.
Urban Design Qualities

Mixed Use Community
Farm to Table Community - Maintaining agriculture & Open Space
Sustainability - Affordable Housing, Water Conservation, Transportation
Multimodal - Walkability & Recreation

Figure 23: This concept map was created using ArcGIS, SLO County Data, AutoCad and Adobe Illustrator. It is the final concept design we are proposing for San Luis Ranch that depicts specific land uses and their general sizes.
Chapter 8

Design Proposal
Figure 24: This map illustrates proposed land use designations on site.
Figure 25: This map illustrates proposed circulation routes and multimodal transportation opportunities.
Figure 26: This map illustrates parcel development based on the proposed land uses.
Figure 27: This site plan incorporates specific uses, parcels, and circulation.
Figure 28: This site map identifies two callout locations that are being used for further development.
Figure 29 & 30: These images show greater detail of Callout A3 & A4. The images have been developed to illustrate building footprints, pathways, parks, parking lots, and major landmarks.
Scene 1:
Bird's Eye View

Scene 2:
Bird's Eye View #2
Scene 3:
View of a Medium Density residential corridor

Scene 4:
View of the green pedestrian pathway and river running through the path
Scene 5:
View of a High Density residential courtyard

Scene 6:
View of a High Density residential open space area
Scene 7:

View of the community garden
Scene 1:
Bird's Eye View

Scene 2:
Bird's Eye View #2
Scene 3: View of one of the main transportation corridors

Scene 4: View of the green pedestrian pathway going between Medium Density homes and leading towards the plaza
Scene 5:
View of the entrance to the plaza from the main street corridor

Scene 6:
View of the second entrance to the plaza from outside of the mixed-use building
Narrative

Our design vision was created focusing on urban design qualities including mixed use, farm to table community, sustainability, and multimodal transportation. The goal of our design vision is to create an ideal community for residents to live, work, and spend time. Fifty percent of the site is designated to the natural environment and highlights the rich agriculture land and the existing creek. The agriculture will be able to serve the residents and businesses and help to uphold a sustainable community. When designing this vision, we kept in mind what our idea of an ideal community is, and we strived to make that a reality.

The site is organized in a way that highlights a green pathway, encouraging pedestrian and bicycle circulation. This pathway makes active transportation the easiest mode of transportation, and encourages residents to utilize natural landmarks throughout the community. The pathway connects all of the land uses, and emphasizes connections to the open spaces. A variety of recreation opportunities exist along the pathway including sports courts, dog parks, playgrounds, community gardens, and picnic areas.

The land uses are oriented so that the commercial designations are located to the east of the site. This was done so that the commercial uses are located near existing retail uses and can help transition from the large neighboring retail developments into the site. The commercial in the center of the site is meant to be a social hub for the community. It is a mixed-use center and includes a major plaza that acts as an urban place for the community to gather.

A variety of other residential options exist on site and are oriented based on surrounding uses. The high-density housing other than the mixed-use development is located along Madonna Road. The apartment complexes are broken up with courtyards and open space areas to allow the residents to have immediate access to open space. Medium density residential is the closest to the commercial developments and consists of duplexes and affordable single-family homes. Medium density residential is placed strategically to transition from commercial to low density residential. The low density residential has been placed between the agriculture and the creek and provides a livable neighborhood, within close proximity to the other amenities on site.
Chapter 9

Conclusion
Conclusion

The vision for San Luis Ranch demonstrates how this currently agricultural lot can be transformed into a vibrant community allowing for a vast range of uses for future residents. The project’s prime location along Highway 101 serves as a large advantage to the site in providing for freeway serving commercial uses. Another advantage to the site is the amount of agriculture and open space is currently there. The agricultural land will serve as a buffer for developments towards the back of the site and will help in assisting with water run off produced by the residential uses. This agricultural buffer will serve as a pervious surface and will absorb any water and keep it from running onto the highway.

The proposed site vision introduces low, medium, and high density residential uses as well as a variety of open space amenities. There are many green and sustainable features of the site including agriculture space, open space, field and picnic areas, community gardens, recreation fields, and a dog park. Other uses present in the vision are commercial and mixed use designations.

The design vision for San Luis Ranch focuses on linkages, and the creation of a green and sustainable community. The biggest feature relating to walkability within the site is the green pedestrian walkway. It winds throughout the core of the site linking together all of the developments and open spaces within them. The green walkway is surrounded by trees and bushes and has benches and lighting for pedestrians to sit and relax. The vision behind the creation of the green walkway was to implement a unique feature into the site that would tie together all of the individual residential neighborhoods and the green spaces within them. Each residential area has multiple green and open spaces within them allowing for residents to live active and healthy lifestyles while being able to enjoy the beautiful open land San Luis Obispo has to offer.

The main sustainability feature within the site are the two community gardens present in both the low density neighborhood as well as the most northern part of the site which provides a community garden for the surrounding medium and high density homes.

The addition of a variety of residential uses in the site allow for people to live in San Luis Obispo and be close to all amenities and open spaces. Currently, many people commute into San Luis Obispo due to unaffordable high home prices and the lack of housing options. This project allows for more people to live in the community and be able to afford it. Not only that, the two main corridors within the site provide ease of transportation allowing for residents quick access to any uses within and throughout the surrounding areas of the site.

San Luis Ranch will be a community where residents can live, work, and play. It will be a healthy and sustainable community where residents can feel a sense of connection and belonging to their community and San Luis Obispo as a whole.
Chapter 10

Works Cited
CITATIONS


U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates
