

Fall 2006

# Traver Urban Design Plan, Fall 2006

CRP 341 Urban Design Studio

Follow this and additional works at: [http://digitalcommons.calpoly.edu/crp\\_wpp](http://digitalcommons.calpoly.edu/crp_wpp)



Part of the [Urban, Community and Regional Planning Commons](#)

---

## Recommended Citation

Fall October 1, 2006.

This Other is brought to you for free and open access by the City and Regional Planning Student Work at DigitalCommons@CalPoly. It has been accepted for inclusion in City & Regional Planning Studios and Projects by an authorized administrator of DigitalCommons@CalPoly. For more information, please contact [pbleisch@calpoly.edu](mailto:pbleisch@calpoly.edu).

A watercolor illustration of a two-story yellow building with a prominent square tower on the left side. The tower has a brown conical roof and four windows. The main building has a brown gabled roof with three red chimneys. A long, covered walkway with white columns runs along the front of the building. In the foreground, there are stylized plants, including a blue bush and green foliage. The background shows a hazy, mountainous landscape under a light sky.

# Traver Urban Design Plan

CAL POLY, SAN LUIS OBISPO: COMMUNITY DESIGN LAB FALL 2006

# Traver Urban Design Plan

*by*

CRP 341 - Community Design Lab  
City and Regional Planning Department  
California Polytechnic State University San Luis Obispo

*for*

County of Tulare, California  
Resource Management Agency  
Community Development and Redevelopment Division

December 2006

<b>Executive Summary</b>	<b>iii</b>
<b>Existing Conditions</b>	<b>A.1</b>
Community Profile and Market Analysis	A.2
Historic, Cultural, and Social Attributes	A.9
Public Infrastructure and Facilities	A.16
Land Use and Circulation	A.21
Physical and Natural Attributes	A.27
<b>The Vision</b>	<b>B.1</b>
<b>Land Use Plan &amp; Specific Area Proposals</b>	<b>C.1</b>
Overall Land Use Plan	C.2
Section 1: Diagonal 39 and Burke Drive	C.3
Section 2: Jacobs Drive to Elkhorn Avenue	C.6
Section 3: Merritt Drive	C.9
Section 4: Southeast of Merritt Drive	C.13
Overall Development Program	C.16
<b>Appendix - Case Studies</b>	<b>D.1</b>
Markets	D.2
Bioswales	D.3
Traffic-Calming and Alleyways	D.4
Education and Housing	D.7
Community Centers	D.10
Brownfields	D.11
Main Street Revitalization	D.12
<b>Bibliography and Sources</b>	<b>D.15</b>
<b>Credits and Class Photo</b>	<b>D.16</b>

# Table of Contents

The following report presents the result of eleven weeks of a collaborative effort taken by a Cal Poly undergraduate planning class (CRP 341 – Community Design Studio; Fall 2006) to create a vision for future development in the community of Traver. This work continues a process started during the Summer of 2006, when a special group of our department's faculty and students held a series of community workshops designed to develop a participatory concept plan for Traver.

Our development of the Traver Urban Design Plan entailed a process of gathering, analyzing, and utilizing information obtained from several sources: visits to the community, consultations with the Tulare County database, and research of multiple professional publications.

Our class managed to create a firm foundation to support the development of the proposals contained in this plan. These proposals will provide Traver with physical solutions and design guidelines to manage the community's future growth and development. Through our plan, Traver can play a significant role in the region, while establishing itself as a community of high environmental and aesthetic quality.

Along with information gathered from community workshops held during the previous summer, our research concentrated on five general existing

conditions in Traver: natural elements, current land use and circulation patterns, existing community services and infrastructure, cultural and social attributes, and local and regional market profile analyses.

These studies identified physical, social, and market attributes that would promote or hinder Traver's development process. Some of the major challenges to development included a lack of adequate services and infrastructure currently provided for the community together with the impact



of a 100-year flood plain that encompasses nearly all of present-day Traver as well as a large portion of land designated for future expansion. The study of both local and regional markets showed that Traver's location along Highway 99 is ideal for new residential, commercial, and industrial growth within the region. Other specific constraints within the community,

such as the noise from the railroad and the Foster Farms fans, truck traffic through the community, and the necessity to upgrade current infrastructure and service facilities were identified. Existing open space in and around the community, areas with potential for infill development, the close proximity and easy access to and from the highway, and the proximity to larger cities such as Visalia and Fresno were among some of the opportunities that would support development in Traver.

After researching several case studies to further generate ideas for our plan, along with the analysis of existing conditions and results from the summer participatory workshops, the class identified an appropriate vision to guide Traver's development:

*"Traver will be a proud, diverse, and unique community in the Central Valley where existing social and cultural heritage is integrated with future growth through the promotion of opportunities for social development and interaction in an aesthetically pleasing environment."*

This vision guided the class in developing four goals, designed to enhance the community's vitality and land use, accessibility and circulation, aesthetic character, and street and landscaping. Subsequent objectives and design concepts determined how each goal would be achieved. This process allowed the class to begin designing a plan that would illustrate how and where Traver would grow in the future. The products of these initial phases were presented to the community in a meeting held at the Traver Elementary School on Saturday October 28. Reactions and comments from community members at this presentation were incorporated into the development of the class' final proposals contained in this report.

With the overall urban design concept plan adapted to the community comments, the class began developing proposals for specific areas of Traver. The class divided into four teams. Each team became responsible for developing a proposal – in congruence with the overall urban design conceptual plan

– for one of four specific sections of land in the community. An established program for specific uses, land measurements, and projected population that new development would contribute to that area of land was created by each team's design plan. Following the detailed site plans and programs, each team further illustrated what development would look like on their section of land with elevations, cross sections, and model images of proposed structures and features within their development plan.

Overall, our proposal for Traver supports growth in expanding the existing community's land area into 171 acres of new residential, commercial, industrial, open space/recreational, and civic uses. Our class' program projects the addition of 2,331 people to the community's current population. The proposed Traver Urban Design Plan will insure that development responds to community needs and expectations. While enhancing Traver, growth will complement the existing physical, social, and cultural patterns already present in the community.

## Executive Summary





*Traver, California*

## Existing Conditions

## Introduction

A community profile means nothing without the context of nearby cities. With this in mind, we decided to look at three other places and compare their numbers to those of Traver. The four areas we looked at were Fresno, Kingsburg, Traver, and Visalia. Kingsburg is located about seven miles north of Traver on Hwy 99 and Fresno is 21 miles further. Visalia is about 20 miles south of Traver off of Highway 198. Of the areas we looked at, Fresno was by far the largest both in population and in geographic size. Traver was on the opposite end of the scale, as the smallest in population and size.

## Race Distributions

Traver has a large white population and an even larger Latino population. Fresno has a similar white population but their Latino population is much smaller they also have many more Asians. None of the other towns have a large Asian population. Kingsburg and Visalia are very similar in that they are more white, with fewer Latinos.

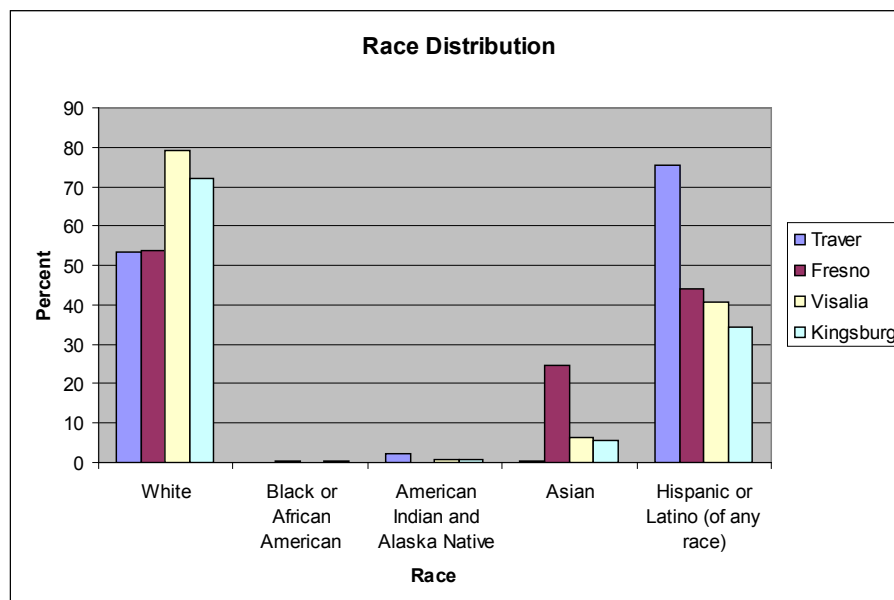


Figure I: Kingsburg is the whitest community, with the fewest Latinos. Traver has a majority of Latinos.

## Education

From the education graphs, we can see that Fresno, Kingsburg, and Visalia are very similar in their education attainment and distributions. Traver is the only town that is substantially different from the average. There are few people in Traver who have a college education. One reason for the disparity in the education levels might be the large agricultural job base located near Traver. There are much higher paying jobs in Fresno and Visalia, which means people with higher education will be more likely to live in Fresno or Visalia rather than Traver. Historically, there have not been many local housing-ownership opportunities or a diverse range of industry, so the demographics remain representative of a rural, farming community.

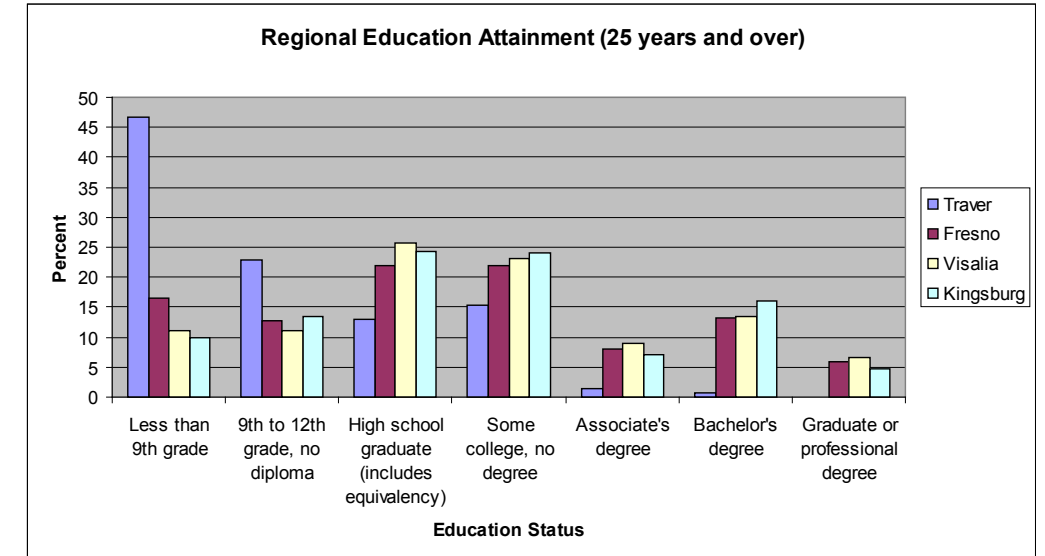


Figure III: The majority of Traver residents have less than a high school education. Those with a college education are drastically under-represented.

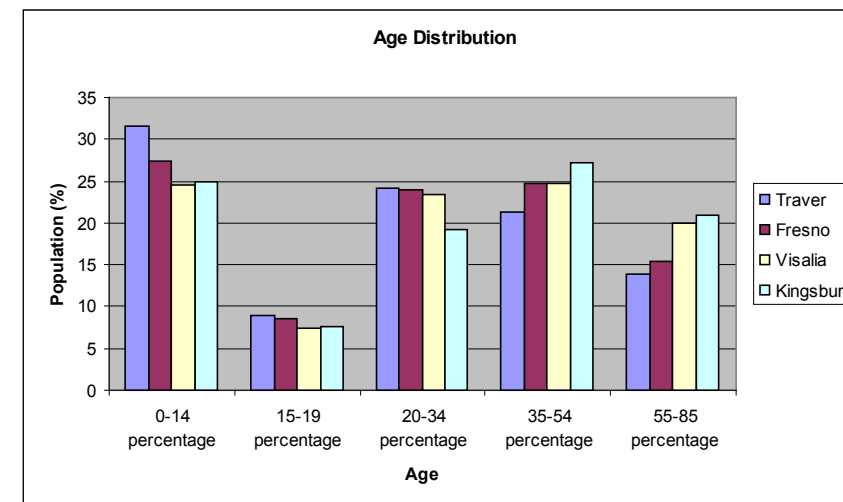


Figure II: Kingsburg has the highest percentage of older residents, while Traver has the highest percentage of youths.

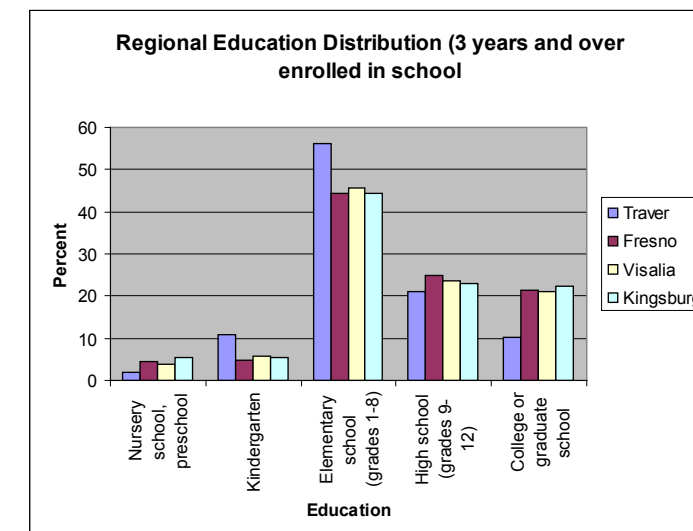


Figure IV: Traver has the highest percentage of youths enrolled in elementary school.

# Community Profile and Market Analysis

## Age

40% of Traver's population is 19 or younger. This is very peculiar because Traver has few places for youths to go when they aren't in school. Another interesting statistic is that there is a high percentage of people between the ages of 20 and 34, whereas there is a less percentage of this age bracket in Fresno, Visalia, and Kingsburg.

Both Fresno and Visalia have a very balanced population. Because they are large cities, each with over a hundred thousand residents, they depicts more accurate representations of statewide demographics.

One of the issues is that Traver cannot hold on to its youths due to a lack of opportunities. Key to any healthy society is the ability to harbor multi-generational communities where parents, children, and grandparents can thrive together without being split apart by disproportionate housing affordability and job availability.



Figure V: Kids playing in a football tournament at the elementary school in Traver.

## Age Distribution by Place

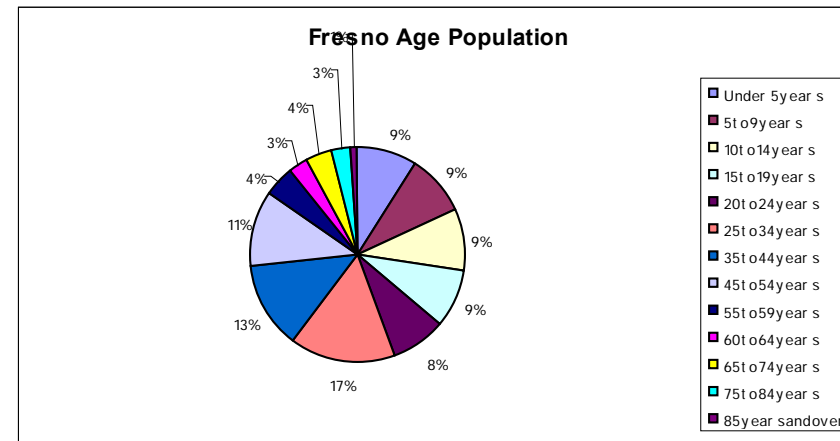


Figure VI: Fresno has the most even age distribution of all four places.

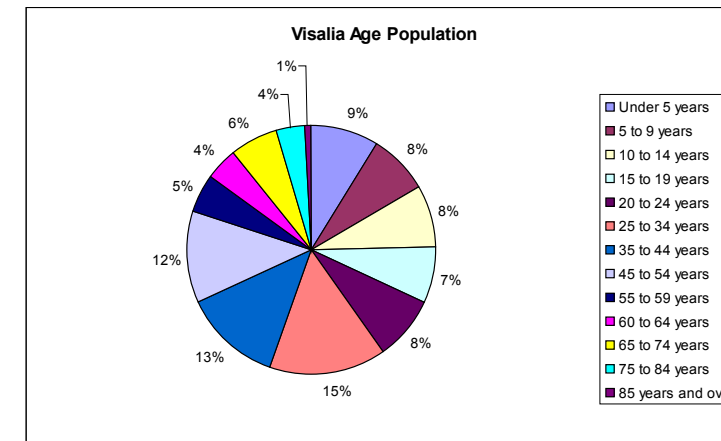


Figure VIII: Visalia has the second most even age distribution, but with more elderly.

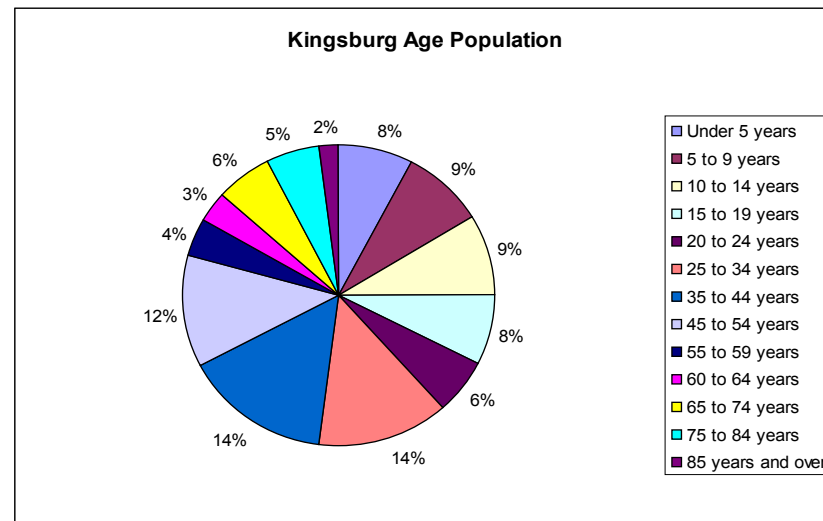


Figure VII: Kingsburg has the highest percentage of retirees.

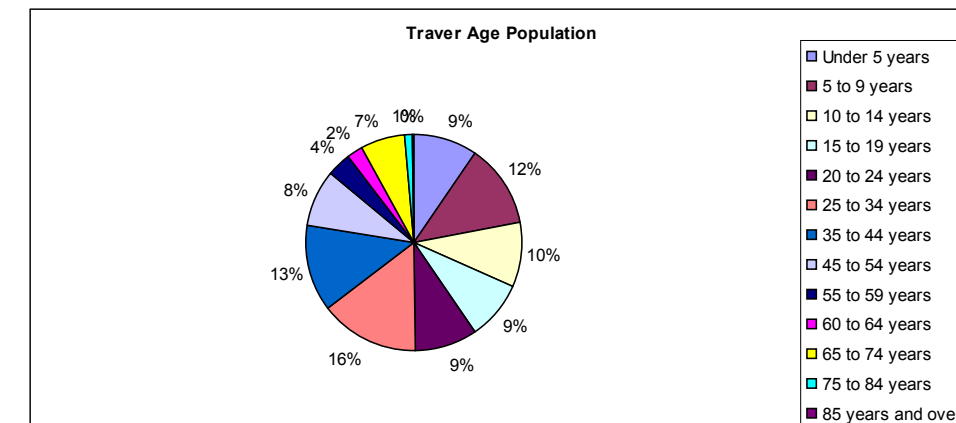


Figure IX: Traver's population is young.

# Community Profile and Market Analysis



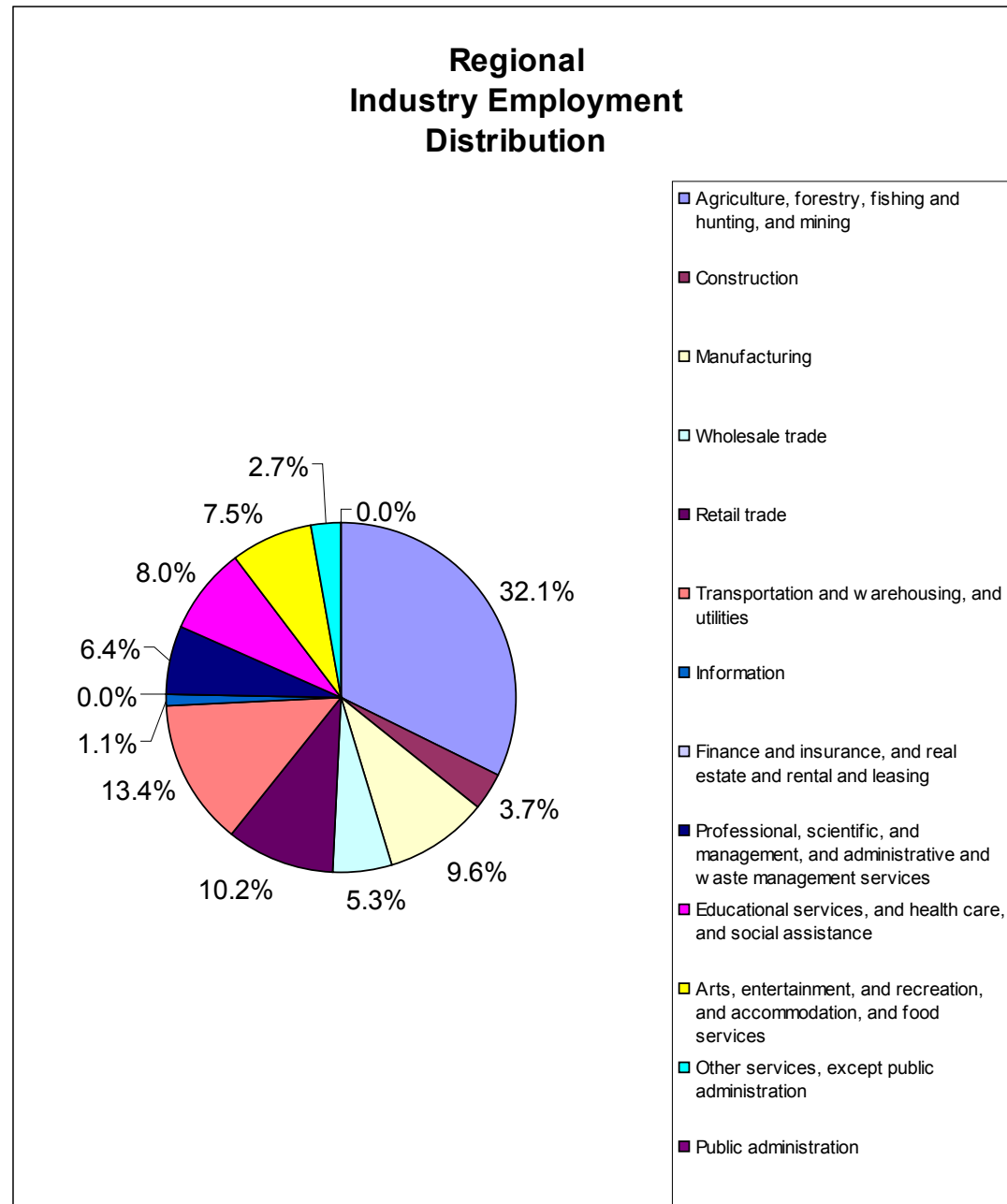


Figure X: The regional industry employment distribution shows how over 45% of all regional workers are in the agriculture or transportation and warehousing industries.

## Regional Industry Employment

The regional distribution of industry is shown in the adjacent pie chart. To understand the job and housing market for the region one must look at the most dominant industry, agriculture. While agriculture employs the most people, the wages earned in agriculture are low, creating a need for higher wage jobs. Agriculture also mainly employs seasonal workers who may need to follow the harvest of varied crops in order to meet their income needs. The numbers of agricultural workers in the region also shows a definite need for farm worker housing to support the primary industry of the region.

Agriculture is a part of the base economy (drawing money in from the outside), with food exports from the Central Valley making up a significant portion of the country's food supply. The secondary jobs provided by the agriculture activity are those in supporting industries such as machinery, trucking, fertilizer production, pesticide production and animal feed. These supporting industries offer a sort of middle zone of the economy, providing higher paying jobs, which go farther in providing a living wage for workers. One of the challenges is that most of the profit gained from the agriculture industry is made by large, agribusiness corporations. Most of the profits go to higher level executives and shareholders living outside the region. From this point of view, the advantages of having a large agriculture industry in the vicinity may dwindle in the face of other, more lucrative opportunities with fewer environmental impacts and economic disparities.

Retail and wholesale trade is the second largest employer in the region, employing over 15% of the region's work force. This sector of the economy also pays lower wages. Retail sales provide services that are needed by the community and wholesale trade provides distribution for the goods and services that support rural and suburban living. Retail sales in the town of Traver are minimal with three mini markets, a gas station, and small restaurant.

The third largest form of employment (13.4%) in the region is transportation and warehousing. The trucking business in the Central Valley is a huge opportunity for the town of Traver, as it sits directly off of Highway 99, between two growing metropolitan centers. This industry could be a big growth sector of the local economy that could bring jobs to the town of Traver and help spur more community-directed growth in the area, at the same time offering higher paying jobs than agriculture and canning.

Manufacturing in the region makes up another major sector of the economy, employing roughly 10% of the work force. Again, Traver benefits from its location near the highway and rail road for easy shipping to outside markets, offering an ideal location for this industry.

## Income and Employment

There were a couple of things that we noticed when we looked at these two distributions. The first thing we noticed is high percentage of people in Kingsburg that are making \$50,000 to \$70,000 a year (see Figure XI). These people are not looking for affordable housing in other towns like Traver, so we would have a hard time attracting them. The other thing we noticed was the healthy bell-shaped curve of the income distribution in Visalia and the very erratic curve of the income distribution in Traver. In Traver there are a lot of people that are making less than \$25,000 a year. These people are going to have a hard time affording housing so we are going to need to take that into consideration when we look at what type of housing we include in our design concepts. Traver also has the highest percent of the population that is unemployed (see Figure XIII).

## Regional Housing Tenure

There should be a large demand for housing-ownership coming from Fresno. Among those living in Fresno, about half rent and half own their own home. Visalia and Kingsburg are similar in the fact that they have around two thirds of their populations that own housing and around one third that rent. This seems like a healthy distribution. Traver is in between Fresno and the other two towns in its housing distribution. In any case, there is a lot of pent-up demand for housing-ownership in both Traver and Fresno, but affordability is key, due to the lower incomes (see Figure XI).

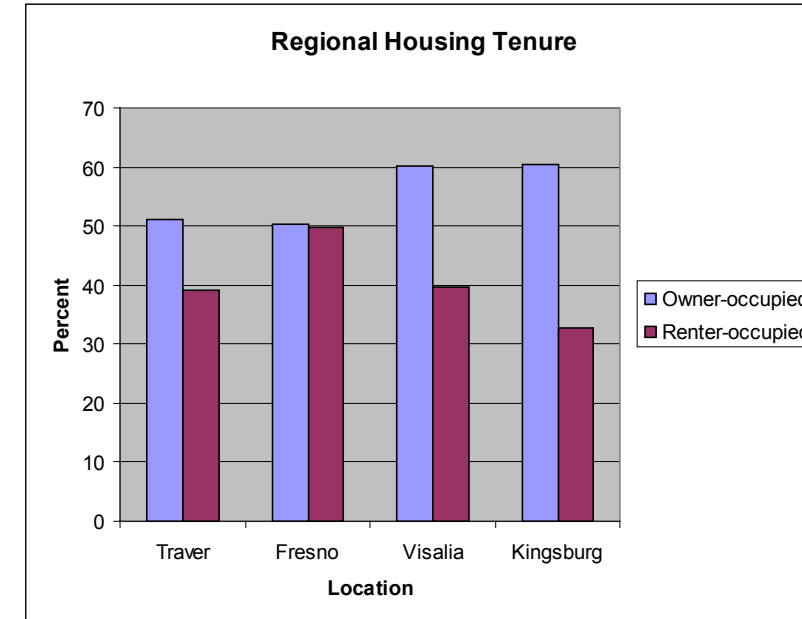


Figure XII: Regional housing tenure showing the similarities between Traver and Fresno.

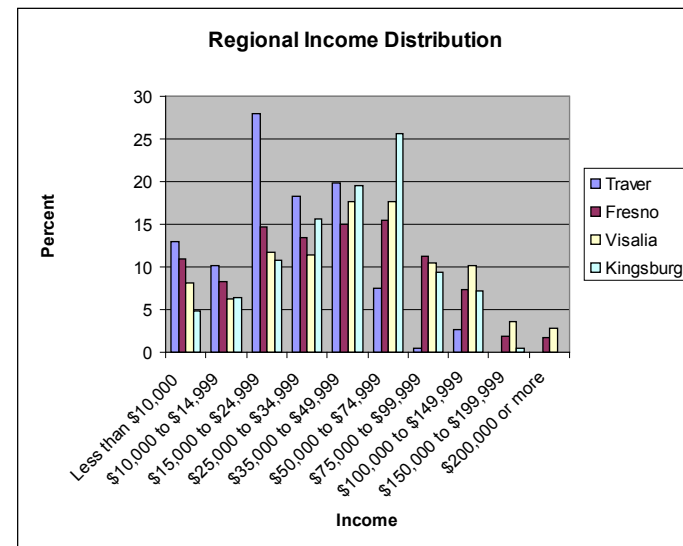


Figure XI: Regional income distribution showing that Traver has more in common with Fresno than the other two cities. Kingsburg is the richest city, where Traver is the poorest among the four.

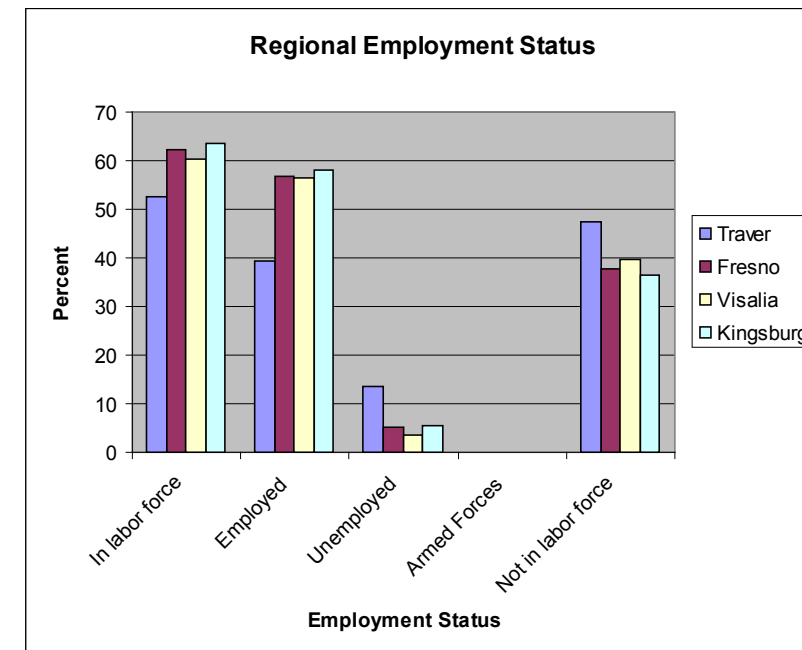


Figure XIII: Regional employment status distribution, showing a larger percentage of people not in the labor force living in Traver than the other cities. Also, those unemployed are more than double those unemployed in Fresno, Visalia, or Kingsburg.

# Community Profile and Market Analysis

Intersection	AADT (vehicle)		Total
	Northbound	Southbound	
Selma, Rte 43 and Hwy 99	78,000	65,000	143,000
Traver, Merritt Dr and Hwy 99	48,000	52,000	100,000
Rte 198 and Hwy 99	57,000	54,000	111,000

Intersection	AADT (truck)		Total
	Northbound	Southbound	
Selma, Rte 43 and Hwy 99	15,800	15,800	31,600
Traver, Merritt Dr and Hwy 99	N/A	N/A	N/A
Rte 198 and Hwy 99	13,020	13,020	26,040

Figure XIV: Annual average daily traffic counts at three points along Highway 99. Although less than vehicular traffic, truck traffic is significant near Traver.

## Traffic Counts for the Highway 99 Corridor

The data to the left is according to the California Department of Transportation's annual average daily traffic (AADT) measures; the total traffic volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th, 2005. AADT is necessary to understand the statewide traffic flow, and helps us immensely in understanding the ideal location that Traver has.

Where Merritt Drive crosses Highway 99 in Traver the AADT for southbound traffic is 52,000 vehicles, with the northbound at 48,000. Thus on an average day there are about 100,000 vehicles traveling past Traver on Highway 99. Just north of Traver, where Route 43 connects with Highway 99 in Selma,

the AADT for southbound traffic is 65,000, while northbound traffic is 78,000. Just south of Traver, where Route 198 crosses Highway 99 near Visalia, the AADT for southbound traffic is 54,000 vehicles, with northbound AADT at 57,000. There was no specific information for Merritt Drive truck traffic but there was information north and south of Traver. In Selma, where Route 43 connects with Highway 99, the AADT for trucks heading northbound and southbound is 15,800 each. This means on an average day there are more than 31,600 trucks passing by Selma on Highway 99. Just south of Traver, near Visalia, where Route 198 crosses Highway 99, the combined AADT for trucks is 26,040.

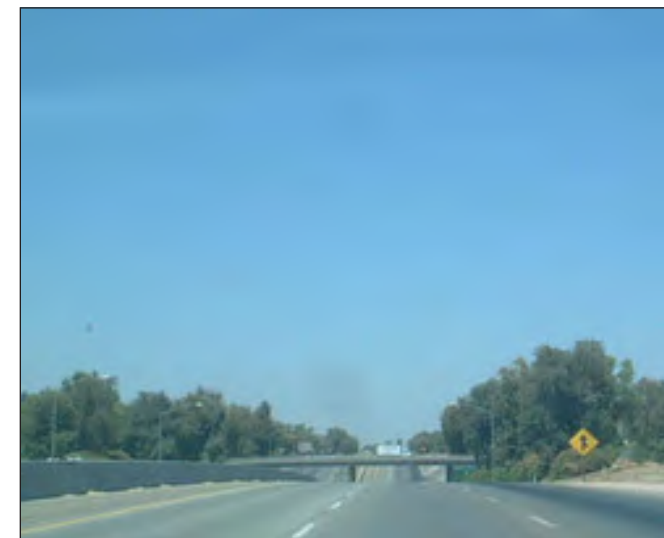


Figure XV: Highway 99 near Cecil Avenue.



Figure XVI: Highway 99 near Kingsburg.

# Community Profile and Market Analysis

## Markets to Capture

After analyzing the data we have come up with four different markets. Traver is one of the smallest towns in the area which means that people won't be traveling there to buy groceries or to find retail stores, unless there is some specialty that can be offered that draws regional buyers. We would like to see development along Diagonal 39 that could attract more truckers and travelers from the highway, but that is compatible with the rural farming character of the town. The area along the highway would be a great place to capture travellers to stop and have a bite to eat or a cup of coffee. The vehicles and trucks passing by on Highway 99 would be our first and primary market, one that is being capitalized on now, but could be improved upon.

Secondly, light industrial could be encouraged somewhere south of the existing residential areas to hopefully create a larger job base in the town. Once we have drawn the jobs, housing will be more in demand.



Figure XVII: Truck traveling through Traver.

This is where the tertiary market comes in. Not only can we create housing for the people who work in Traver, but also housing that would be more affordable for commuters from the outside the area. With extra housing we can attract people from Fresno and Visalia who could get a house for less in Traver and then commute to their respective cities.

The last market that would come into play would be a result of people moving to Traver. Once there is a larger resident population, they could attract larger businesses like laundromats, video stores, and grocery stores and maintain the demand that businesses like these need to survive economically.

The key to setting things into motion is attracting people to the town in the first place; in essence, to put it back on the map. We can start this by focusing on a commercial corridor that is located along the highway.

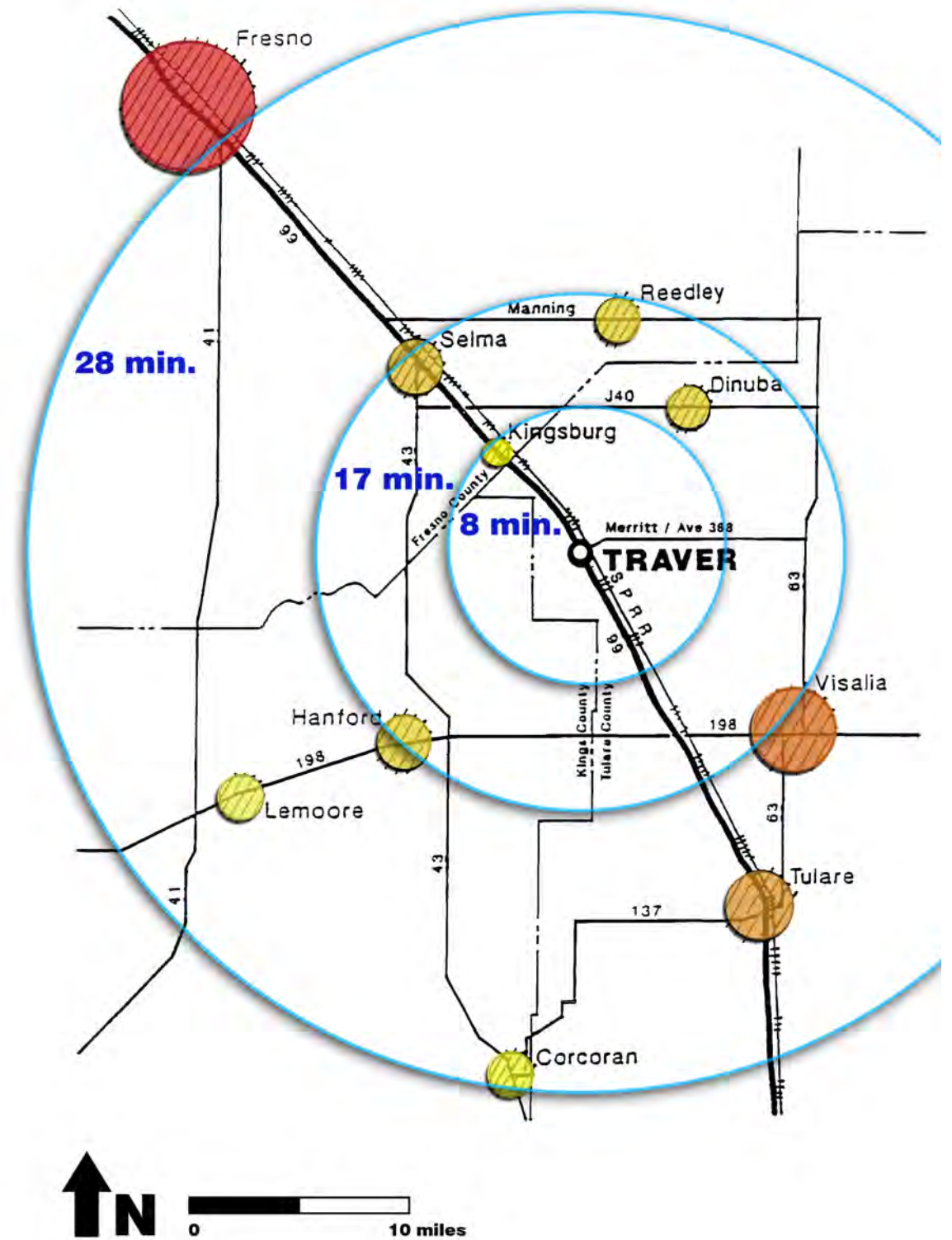


Figure XVIII: Vehicular travel distances from Traver.

# Community Profile and Market Analysis

## SWOT (Strength, Weakness, Opportunity, Threat) Analysis

### Strengths and Weaknesses

	Major Strength	Minor Strength	Neutral	Minor Weakness	Major Weakness
Friendly Small town	X				
Grid Pattern streets		X			
Walk able		X			
Good School	X				
Quiet Neighborhoods		X			
Freeway Access	X				

#### Infrastructure




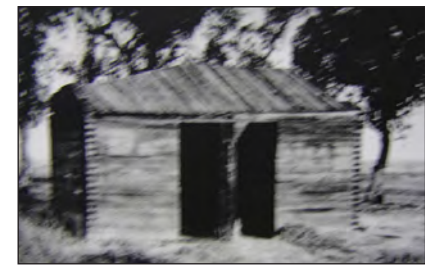

	Major Strength	Minor Strength	Neutral	Minor Weakness	Major Weakness
Police/Fire					X
Storm Drains					X
Sewer			X		
Traffic			X		
Schools Capacity	X				
Jobs Industry				X	
Rail Road	X				
Climate			X		
Cost Of Living	X				
Health Care				X	
Natural Environment			X		

### Opportunities and Threats

	Opportunities	Threats
Industrial Parks	X	
Construction depots	X	
Truck Maintenance	X	
Trucker Services	X	
Incubator Business area	X	
Farmers Markets/ Locally Grown food	X	
Flooding		X
Environmental Degradation		X
School Crowding/ Overpopulation		X
Crime and Gang Violence		X
Lack of Services		X

# Community Profile and Market Analysis

# History Timeline: 1884 to 1929

<p><b>April 8, 1884</b> The town of Traver is established and named in honor of Charles Traver, a director of the 76 Company.</p>	<p><b>June 1885</b> Dr. Erasmus Mandford Gebhard is the first resident physician in the Alta District and opens an office in Traver where he practices for six years.</p>	<p><b>1886</b> R.M. and O.P. Wilson purchase the Traver flouring mill.</p> 	<p><b>March 5, 1887</b> The Traver Warehouse and Business Association are incorporated.</p>	<p><b>1887</b> Reportedly, the finest dwelling in Traver is built in the summer by saloonkeeper Louie Roes.</p> 	<p><b>1887</b> Population reaches 1,000.</p>	<p><b>1888</b> Shipments of grain total 35,810 tons for the year. No other producing point in the country equals that amount during the same time period.</p>	<p><b>June 4, 1888</b> Hiram Newton Baker forms the Traver Masonic Lodge.</p>	<p><b>1890</b> Hotel Del Zante is rebuilt.</p> 	<p><b>1911</b> Vineyards and orchards replaces what remains of the wheat industry.</p>
<p><b>April 8, 1885</b> Population reaches 400.</p>	<p><b>September 1886</b> Luther Brown is found murdered by his brother Worth in Burke's saloon.</p>	<p><b>December 1886</b> A railroad box car is used to confine prisoners until Constable William E. Russell gathers enough money from wealthy businessmen to construct a local jail.</p> 	<p><b>April 3, 1887</b> The Christian Church is dedicated.</p>	<p><b>1887</b> Levis, Sweet and Company start a business in Traver, establishing what is now the oldest mercantile establishment in the entire Alta District.</p>	<p><b>1888</b> The Fresno Porterville branch of the Southern Pacific Railroad is established as a main form of transportation to and from Traver.</p>	<p><b>May 27, 1888</b> The Methodist Episcopal Church is dedicated.</p> 	<p><b>Winter 1888</b> The Traver Improvement Company constructs the Hotel Del Zante but within a year the building suffers a devastating fire.</p>	<p><b>December 14, 1905</b> Due to decline in the wheat industry and its economic effects on the town, the charter for incorporation is forfeited.</p>	<p><b>January 31, 1929</b> Hotel Del Zante is again destroyed by fire.</p>

## Historic, Cultural, and Social Attributes

## General History

While the mining boom in the mid- to late-19th Century had contributed to the prosperity of many towns throughout California, agriculture was responsible for the town of Traver's fortune in the 1880s. After Samuel Frey and Thomas W. Carr purchased property along the railroad in Traver to construct a flouring mill, massive amounts of grain was shipped by train in order to be processed and stored. In fact, during the year of 1886, a total of 35,810 tons of grain had been transported to the mill, a record amount of grain shipments that no other town in the United States had experienced during that time period. Additionally, between 1885 and 1887, the

population had over doubled in size to around one thousand citizens. Unfortunately, just as quickly as the town had prospered, it abruptly headed towards a major economic downfall preceded by a series of devastating fires, starting with the Del Zante Hotel fire on October 30th of 1887. Increased alkali levels in the soil temporarily damaged some agricultural lands, and remaining grain fields unaffected by the fires were steadily replaced by vineyards and orchards. By 1892, the flouring mill was purchased by the Wilson family and moved to another neighboring town, signifying the end of Traver's hay day.



Images I-III: These old photos show how popular Traver used to be as a wheat shipping center, with services in town to support its lively population.



Image IV: Some of the more notable historic places in Traver.

## Historic, Cultural, and Social Attributes

## Social and Cultural Survey

As part of our analysis we created a social and cultural survey for the town residents, conducted on Saturday, October 8th, 2006. We included questions of basic information, religion, community involvement, safety, and personal visions for Traver. The sample size of the survey was about 15 people. Of those 15 people 58% were female, the median age was 20, and the ethnicity Hispanic except for one. The bulk of those surveyed were attending the local junior high football tournament. The results from the survey were very beneficial to us and gave a deeper look into the town. Some of the results were surprising to us and we would not have expected them if we had not visited the community in person.

The majority drive a car to work rather than taking the bus or walking. An overwhelming percentage of those surveyed go to church on a regular basis. Most that attend church do so in Traver, while others visit Kingsburg, Dinuba, and Flower for their place of worship.

Other questions included household size and safety. The average household size is 6 persons, according to the survey results. This may be the case because the town is significantly low income and therefore more people live in each house to make it more affordable.

Many of the teenagers that were interviewed noted that they are frightened by the gangs. Other safety issues are for those that need to cross Merritt Drive to get to school or work. There are no sidewalks or crosswalks to making crossing that busy street safer.

Traver needs economic revitalization in order to grow and prosper. By revitalizing the downtown, Traver might be able to entice the freeway commuters and bring economic wealth to the community by offering a nice place to live and ideal locations for certain types of businesses. Also by revitalizing the downtown new stores could open and offer more employment for the residents.



*Image V: One of two modern-day churches in Traver.*



*Image VI: Private child-care facility.*

## Historic, Cultural, and Social Attributes



## Visual Preference Survey: Residential



### **SINGLE FAMILY: MOST FAVORITE**

**Likes:**

- Aesthetically pleasing
- Nice architecture
- Sidewalks
- Ownership brings a sense of pride

**Dislikes:**

- Not affordable



### **DUPLEX: SPLIT OPINION**

**Likes:**

- Nice architecture
- Density
- More affordable than single family

**Dislikes:**

- Too crowded



### **APARTMENT COMPLEX: LEAST FAVORITE**

**Likes:**

- Modern design
- Affordable

**Dislikes:**

- Too dense
- Belongs in more urban environment
- Buildings are too tall
- Safety concerns

## Historic, Cultural, and Social Attributes

## Visual Preference Survey: Commercial



### **SUPER STORE: MOST FAVORITE**

Likes:

- ✦ Convenience of store
- ✦ Trees
- ✦ Modern looking

Dislikes:

- ✦ Traffic
- ✦ Parking lot not aesthetically pleasing
- ✦ Too busy



### **MIXED USE: SPLIT OPINION**

Likes:

- ✦ Trees
- ✦ Small community feel
- ✦ Professional and inviting
- ✦ Lively and active

Dislikes:

- ✦ Buildings too tall
- ✦ Too urban



### **STRIP MALL: LEAST FAVORITE**

Likes:

- ✦ Appealing clean curb
- ✦ Center seems quiet

Dislikes:

- ✦ Architecture is boring and dated
- ✦ No trees or shade

## Historic, Cultural, and Social Attributes

## Visual Preference Survey: Streetscape



### STAMPED PAVING: MOST FAVORITE

Likes:

- ✦ Warm and welcoming
- ✦ Sidewalks
- ✦ Nice store fronts
- ✦ Clean looking

Dislikes:

- ✦ Too close together



### MEDIAN: SPLIT OPINION

Likes:

- ✦ Spacious
- ✦ Calm
- ✦ Hometown feel
- ✦ Trees

Dislikes:

- ✦ Traffic



### EXISTING STREETScape: LEAST FAVORITE

Likes:

- ✦ Wide streets
- ✦ Trees
- ✦ Neighborhood feel

Dislikes:

- ✦ No sidewalks
- ✦ Rough pavement

## Historic, Cultural, and Social Attributes

## Community Mapping Exercise

During our visit to Traver we interviewed various groups of people with different types of surveys, one of them being a map survey, in which children could have fun placing stickers on a parcel map displaying their favorite areas in town. We asked questions referring to where the location of the town center was, the paths they take, and their least and most favorite places in the city.

Traver's small size limits the number of activities for children, resulting in a lot of over-lapping answers. The school is the heart of the town; pretty much everyone felt that it was the town center. The school was also the most-liked place in the town, perhaps because of the sense of safety that it provides and the fact that it contains the largest patch of green grass in the community.

The main road (Merritt Drive) has the closest store for candy and popsicles, plus is the central link to the school, so most kids felt it was their favorite path to take. From their viewpoint, Merritt Drive splits the town since younger children don't feel safe crossing it.

For the most part all the children interviewed were afraid of the train tracks, which they marked with a spider sticker, so they avoided that area of town. Perhaps this is the reason why none of the kids said they went to the store on Burke Drive. Even though it is a nice store and restaurant, it seems that it doesn't get a whole lot of business from the local community. One interviewee mentioned how a bus stop they used on Merritt Drive was a scary place for them because they had to cross the busy street in order to get to and from school.

In conclusion, the town needs economic revitalization in order to improve the quality of life. The youth have little except the school for entertainment. With drugs and gangs present, these children need more alternatives than just hanging around the liquor store.



## Historic, Cultural, and Social Attributes

## School and Education

Education is an integral part of our study area. As an unincorporated township, Traver has no official governing body, and no true “focal point.” That role has largely been filled by the Traver Elementary School, due in large part to the active efforts of its Principal George Nord. Over the years the school has been both a community gathering ground and a representative voice of the community (Image I). The 3 member board of trustees is, in a way, a substitute for a town council.

To call the school an elementary school is really a misnomer, since it actually provides K-8 education and not only to those within Traver, but to the residents of the outlying areas or “suburbs” as they’re affectionately referred to. The bus service is adequate in serving the community and the “suburbs,” but this may be due to the fact that roughly 70% of the students walk the few blocks to school.

The school currently has 210 students and 11 teachers. Of the 210 students, 80% are bilingual and 160 of them receive some form of tutoring. The demographic makeup of the community plays an important role, as there is no middle class in Traver. The opening of catholic and private schools nearby had drawn away more middle class families and thus more children away from this school.

Overall, the school has relatively good test scores, but are still below the 800-point benchmark. Through the years they have managed to stay away from becoming a Program Improvement school by making Adequate Yearly Progress (AYP). Part of the problem with the inconsistent test scores has to do with the issue of families, and by extension, students not staying in town and school for long, with the school often losing some of its best test-takers. Most of the graduating students from Traver Elementary end up attending Kingsburg High School, and they too are serviced by the existing bus service.

As things stand now, the school has just enough capability to service the current number of students, although there is current construction to improve level and scope of service. For future population growth the school would have to expand to adequately meet the needs of the community (Image II).



*Image I: The welcoming sign of Traver School. The school grounds has become a community gathering point for all of Traver. The banners advertise the annual Flag Football Tournament held in Traver.*



*Image II: Just one of the bungalow-type structures of the school. To serve the community in the future, improvements would have to be made.*

## Public Infrastructure and Facilities

## Roads and Streets

The roads are laid out in the typical grid system. Merritt Drive is the one main street that is connected to the Highway 99 on- and off-ramps. Most of Traver extends to the north and south of Merritt Drive in block-like residential areas. All of the roads in Traver are county roads. Merritt Drive is often used as a route by large trucks, which cause much more damage to roads than personal automobiles. The community's current traffic circulation concerns are that the condition of the local street network is deteriorated and that trucks speed through town.

The roads are mostly very wide with spacious areas between the pavement and property lines. They are raised up to avoid flooding, but with no drainage system. The water runoff flows into adjoining residential lots, businesses, or agriculture land.



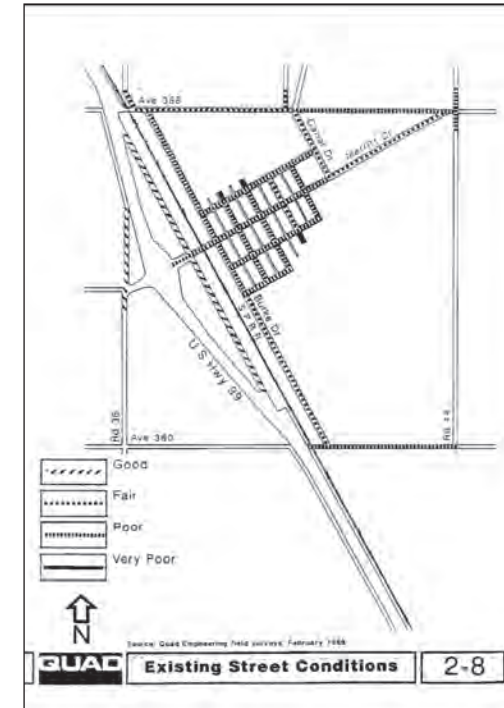
**Image III:** The deteriorated condition of the streets in this photo are common in Traver.

There is nothing in place to slow down traffic on Merritt Drive. There are train tracks which run between the Highway 99 entrance and the majority of Traver, where passing trains can cause circulation issues for residents and workers.

The only road in Traver that is labeled in good condition, according to the 1989 General Plan, is the frontage road to Highway 99. Only three other roads are labeled under fair condition, with the remaining roads labeled poor to very poor. A majority of the roads are not painted, poorly paved (especially on the shoulders), and overall under-maintained. There is no designated area for pedestrian traffic or bicycle traffic. On Merritt Drive there is consistent pedestrian traffic, but very little protection from automobiles.



**Image IV:** This is the bridge over the canal that borders Traver to the north. Here it is visible to see different layers of pavements, typical of many roads in the area.



**Image V:** A map of the road conditions in Traver from the 1989 Tulare County General Plan. This map shows the layout of the roads and the relationship of Highway 99 to Traver. The conditions of the roads have not changed greatly since 1989, with poor conditions continuing to be a problem.

## Public Infrastructure and Facilities

## Police

Traver's police force is minimal. There is a small substation at the north-eastern end of town near the K-8 school. This substation is known as the Orosi substation, since it serves a large area including the small town of Orosi to the east. The Tulare County sheriff's deputies often makes a few rounds a day and stop at the substation to use the rest room and/or write reports. However this substation is not limited to just the sheriff; it is also often frequented by the California Highway Patrol. The closest major sheriff station is located 20 miles away in Kingsburg. This is a definite constraint when response times are taken into account.



Image VI: Sheriff sub-station.

## Fire and Medical

The fire station is also located about ten minutes away in Kingsburg. It consists of one paid fireman and a small group of volunteers. One firefighter, who is a resident of Traver, claimed that he has volunteered at the fire station many years and plans to build a fire house in Traver when he retires.

Another constraint in Traver is the lack of any emergency medical care or ambulance. If immediate medical help is needed it takes the ambulance 10 to 45 minutes to get to certain areas of the town and if the train is stopped it could take even longer.



Image VII: Fire truck.



Image VIII: The vacant and under-used park on the southern part of town.

## Parks and other Amenities

There is one park in Traver which appears very barren and uninviting and is in desperate need of revitalization. A post office is available but it is very small and when the town grows it will need to be expanded. The only supermarkets are located ten minutes away in Kingsburg. Smaller items can also be purchased from the small convenience stores located along Merritt Drive.

# Public Infrastructure and Facilities

## Water Systems

The town of Traver is currently supplied water by a privately owned company called Traver Water Company. The company currently provides enough water to serve the existing residential portion of the community. The commercial and industrial uses and the school are receiving their water from on-site wells. The capacity of the water system is approximately 1,100 to 1,500 gallons per minute (gpm) which barely meets the California Department of Forestry and Tulare County Fire Department standards, which are 1,500 gpm. There is also concern that the system has some deficiencies in design and operation. According to the Traver Community Plan “distribution lines are generally not looped, some lines are probably undersized, there is no emergency standby power on the pumps at the wells, and the system is generally aging.” The Traver Water Company has expressed that if there is any further development there would need be expansion of the system. Tulare County has been discussing purchasing the water company in order to improve and expand the system. Upgrading the water system would require substantial funding, and because there is none currently, it must be provided by the new development itself.

## Wastewater System

The existing community is being served by a collection system and treatment facility as seen in Image IX. As of today this sewage system is at full capacity. Residents and public officials have shown concern that if there is any further development, there would have to be an expansion of the wastewater system.



Image IX: Wastewater disposal collection system.



Image X: Canal being used to prevent flooding of community.



Image XI: Wastewater collection system.

## Public Infrastructure and Facilities



## Flood Hazard Zone

The existing community is engulfed by the 100 year flood plain (see Image XII). There is need for mitigation of the existing canal that is being used to diffuse any flooding of the city (see previous Image X). This canal is much too small to handle any major flooding. There is need for new structures to be built above the grade of the 100 year flood plane or dredge the canal deeper in order to help prevent loss of property and life.

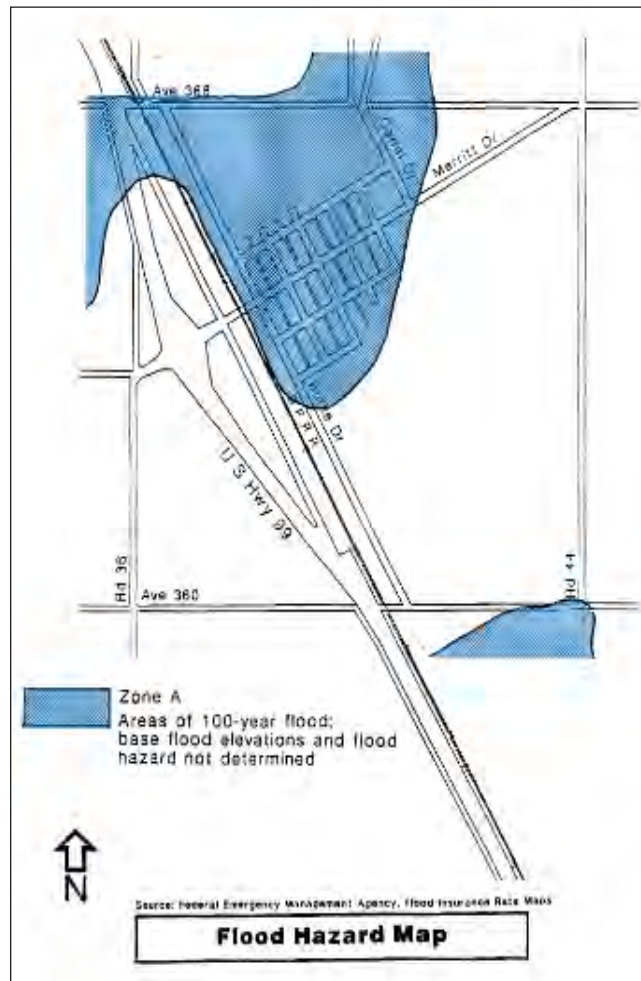


Image XII: Wastewater collection system.

## Further Thoughts...

After examining many aspects of the infrastructure including water, water treatment, roads, drainage, services, and others, we realized that Traver is in need of revitalization and the County's attention on behalf of its 732 person population. Traver began in the 1800s as a wheat producing town that became quite large in that time period. After awhile, when people began using more water to grow more wheat, the water brought up a substance called alkali that began to make the soil unhealthy for growing crops. Through the years it continued to operate more as a transient-oriented town, housing many migrant workers and not supporting many permanent residents. Today the town is growing in population and has caught the eye of developers looking to build on the already zoned commercial land along with the large spaces surrounding the town, which would be ideal for residential development. With this new interest in the town, there could be the opportunity to drastically improve infrastructure and public facilities.

# Public Infrastructure and Facilities

## Land Use and Zoning

During the summer season, Traver's population increases slightly due to agricultural job availability in the area for low income workers. Currently, agriculture is the largest land use within Traver's redevelopment boundary, however, all agricultural land located within the redevelopment boundary has already been speculated on for future residential or commercial development. Aside from the proposed redevelopment boundary, most of the developed land has not changed since the 1989 Traver Community Plan was implemented. Public rights-of-way such as roadways and alleys consume 117 acres within the redevelopment boundary, accounting for the second most predominant land use within the community. Residential use accounts for approximately 51 acres, while commercial and industrial uses together account for 36 acres. Other land uses within the community include an elementary school, a post office, a sheriff's substation, two community churches, and an unused public park (See Figure I).

Currently, most of Traver's land uses are located in distinct areas unique to that type of land use. Highway commercial and industrial are mainly located between Diagonal 39 and Burke Drive, running parallel to Highway 99 and the Southern Pacific Railroad line that runs between the two roads. Residential development currently exists on the east side of Burke Drive, a short distance away from the highway and railroad. Residential development within the community consists of single-family detached homes, multi-family attached duplexes, mobile homes, and trailers. Two neighborhood markets, located on Merritt Drive, lie in the center of the residential development. An elementary school lies in the upper northeast section of the redevelopment area, with residential and public uses surrounding it.



Figure I: Current land uses for the community of Traver. The redevelopment boundary is indicated with the dashed line.

## Land Use and Circulation

## Land Uses Found in Traver



*Image II:* Typical residential land use in Traver.



*Image III:* Typical neighborhood commercial use seen on Merritt Drive. This area is centrally located within the primary residential area of the community.



*Image IV:* Typical industrial use on Burke Drive, adjacent to the Southern Pacific Railroad. From here, industry has access to both the Southern Pacific rail line and Highway 99 for shipping and distribution.



*Image V:* Traver Elementary School, located on the corner of Canal Drive and Merritt Drive, is adjacent to Traver's residential area. Since there is no high school students must continue their education in Kingsburg, about 10 minutes to the north.



*Image VI:* The Traver Church of God, located on Merritt Drive, is one of two churches established in the town.



*Image VII:* The Traver Park, located on the corner of Burke Drive and Kitchner Drive, is the only community park. It is not currently maintained and is in need of restoration.

## Land Use and Circulation

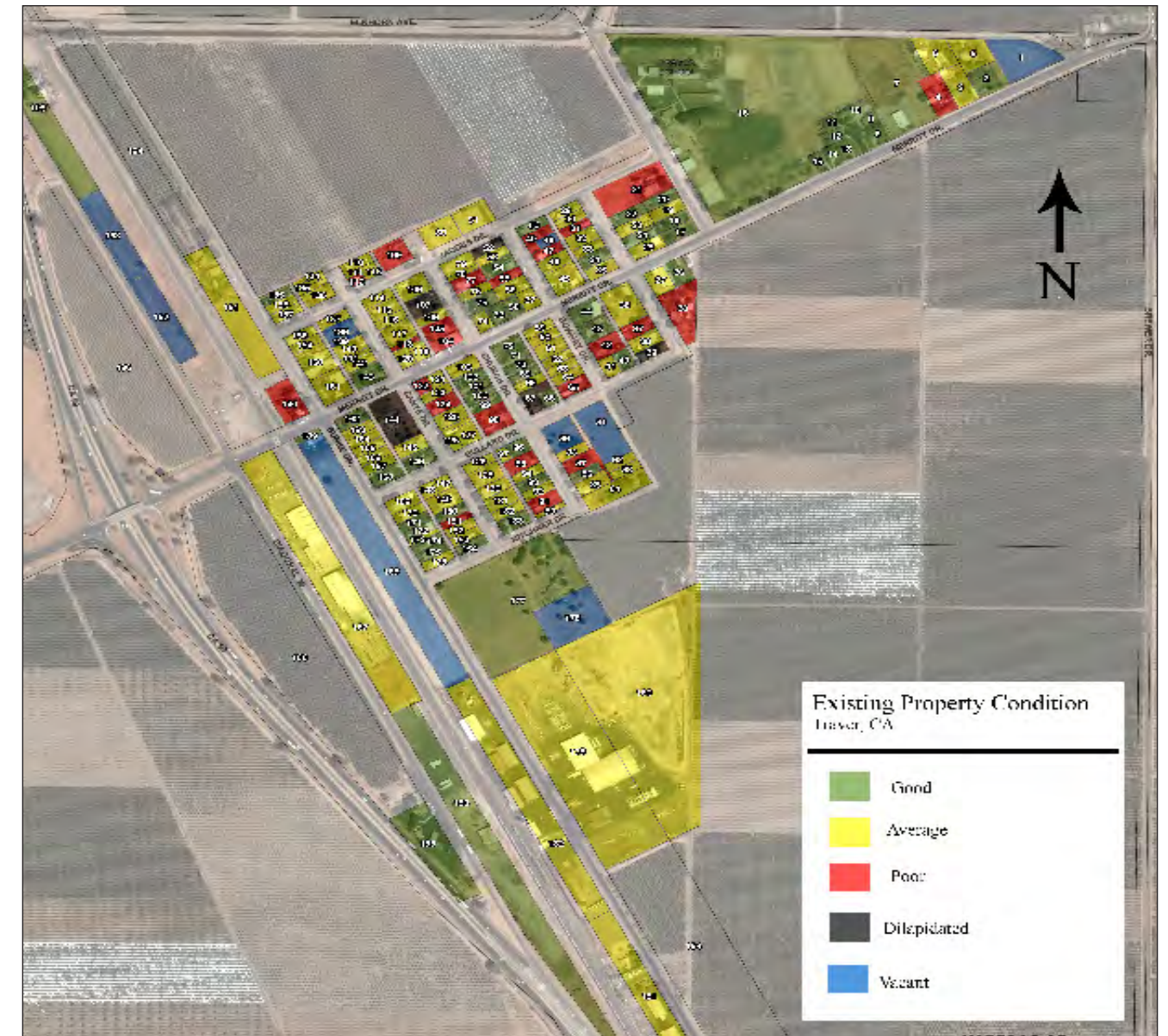
## Property Conditions

To understand what present housing conditions were like in Traver, we divided the community into 162 parcels to study (Figure VIII). If the parcel had a structure built on it, we evaluated the condition of that structure. Any undeveloped parcel was classified as vacant. Out of the 162 parcels, there were approximately 57 that appeared to be in good condition, 69 in fair condition, and 27 in poor condition. Only 9 parcels were classified as dilapidated or vacant. Criteria was established prior to evaluating each parcel:

- ♦ **Good** - Structure is in fine condition, well maintained, and structurally sound (Image IX).
- ♦ **Average** - Structure is in a fair condition, possibly needing some maintenance, but sound and completely livable (Image X).
- ♦ **Poor** - Structure appears to be in bad condition, but still habitable. Some minor structural damage may be apparent, and extensive maintenance is required (Image XI).
- ♦ **Dilapidated** - Major structural damage is evident and structure appears to be uninhabitable due to safety concerns and substandard living conditions (Image XII).
- ♦ **Vacant** - There is no visible development on parcel (Image XII).

After conducting our analysis of property conditions within the community, we observed that the majority of structures within the community needed at least some maintenance and renovation. Blighted residential areas were seen on both the north and south sides of Merritt Drive within the central core of the community. Because of their more recent construction, structures located on Wills Court, adjacent to Traver Elementary School, were all evaluated as in good condition. Many of the “good” to “average” classified lots had well maintained yards, nice fences, and properly parked cars. Many times, parcels that were classified as “poor” or “deteriorated” had poorly maintained yards, chain-linked or no fences, and vehicles that were parked on the front yards of the property.

One of the more recently developed areas in the community was the highway commercial and industrial property located on the southern end of Diagonal 39. The existing truckstop, market, and Valley Farms tourist stop create a convenient area for highway travellers to rest off the highway, potentially encouraging them to further explore the community if there were something more to offer them. Though somewhat older, industrial development along Diagonal Drive and Burke Drive can be considered in fair condition.



*Image VIII:* This map portrays the current property conditions for the community of Traver. The majority of parcels in Traver are considered by our group to be in average condition.

## Land Use and Circulation

## Property Conditions



*Image IX: Good parcels consisted of structures that appeared to be in fine condition, well maintained, and structurally sound.*



*Image XI: Poor parcels consisted of structures that appeared to be in bad condition, yet still habitable. Some minor structural damage was apparent, and extensive maintenance was needed.*



*Image XIII: Vacant parcels had no visible development present.*



*Image X: Average parcels consisted of structures that appeared to be in a fair condition, possibly needing some maintenance, but otherwise structurally sound and completely habitable.*



*Image XII: Dilapidated parcels consisted of structures showing major structural damage. Structure also appeared to be uninhabitable due to safety concerns and substandard living conditions.*

## Land Use and Circulation

## Street Safety and Surface Conditions

The road network consists of one major highway, four arterial roads, and nine arterial streets. The majority of the existing streets within Traver need some major upgrading prior to any future development or redevelopment occurring within the community. Excluding Highway 99, which was evaluated to be in good condition, Wills Court, located adjacent to the elementary school site off of Merritt Drive, is the only street that had any sort of sidewalk and drainage features. The rest of the road network lacked sidewalks, drainage systems, and adequate safety measures (Figure XIV). To determine the safety of each road we established the following guidelines:

- ✦ **Poor** - No crosswalks or sidewalks, high speed vehicular travel, no signs or traffic control measures visible.
- ✦ **Fair** - No to few crosswalks or sidewalks, moderate to high speed vehicular travel, inadequate or few traffic control measures
- ✦ **Good** - No issues, pedestrian friendly, no high speed vehicular travel, adequate traffic control measures.

Because of Traver's small population, congestion was and never will be a large problem. There is still plenty of room within the right-of-way areas to widen a road if traffic should become a constraint to the

existing road infrastructure. The only areas of traffic that appear, but are not considered a traffic problem, are Diagonal 39, near the northbound off ramp from Highway 99 and Merritt Drive though Traver. Congestion is not the case in this traffic issue, but rather, truck traffic follows these two routes creating a safety issue for any person walking along the streets which have no existing sidewalks. Traffic speed is also an issue along Merritt Drive, especially in the vicinity of the elementary school.

Road and street surface conditions were very inadequate for future development upon observation. To determine the safety of each road we established the following guidelines:

- ✦ **Poor** - Multiple potholes, uneven road surface, bad road shelf, inadequate road drainage measures.
- ✦ **Fair** - Few potholes, fairly-even road surface, fair road shelf, no to few road drainage measures (Figure XV).
- ✦ **Good** - No potholes, evenly paved road surface, good road shelf, adequate road drainage measures.

As previously stated, the majority of the roads, although we classified them as fair, still need some major resurfacing and repair, including the introduction of more sidewalks, traffic calming measures, and road drainage systems.

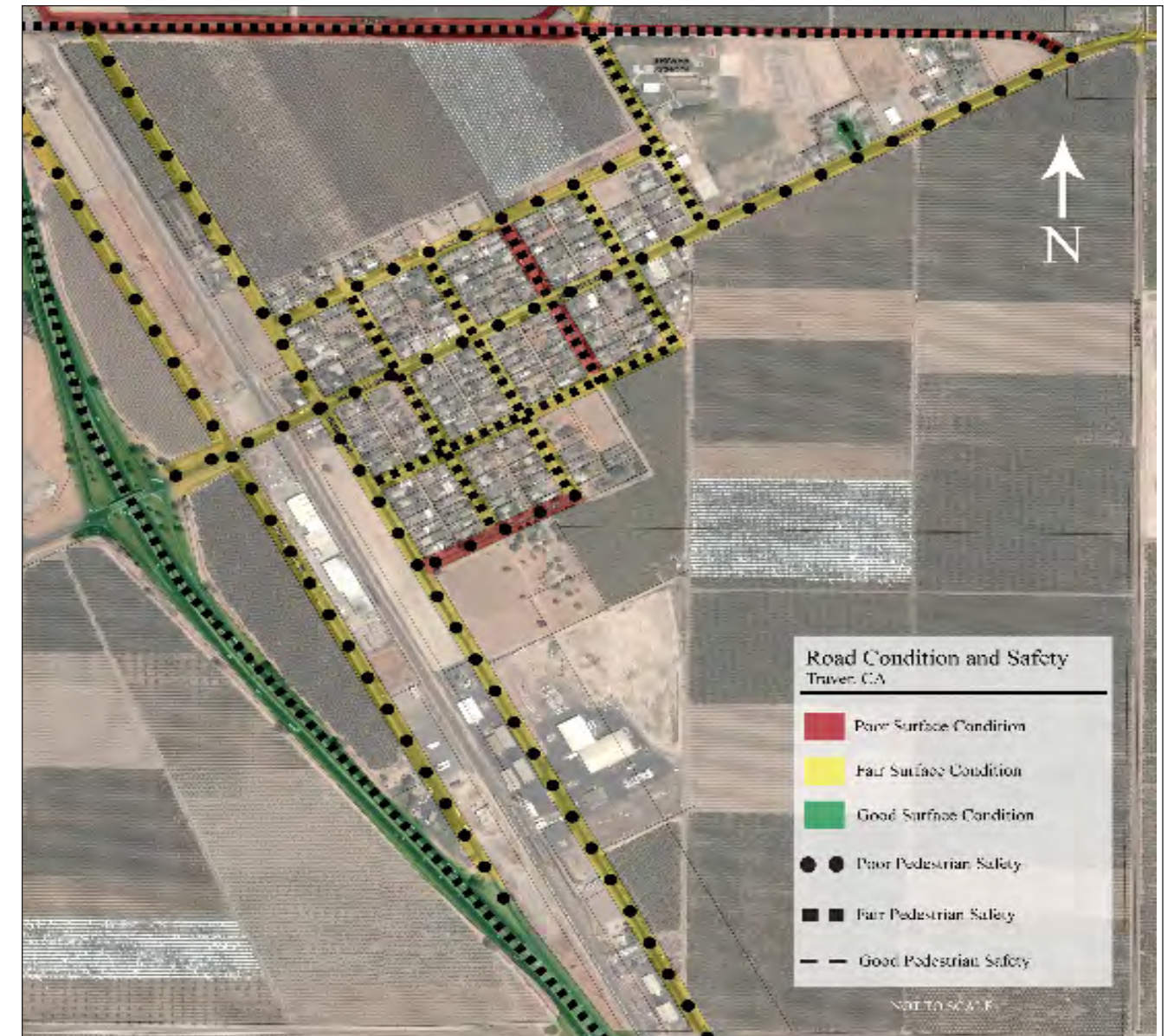


Figure XIV: This map portrays the current pedestrian safety and surface conditions for the roadways within the community of Traver. The majority of the road network in Traver is considered by our group to be in need of some sort of improvement or maintenance work.

## Land Use and Circulation

## Street Safety and Surface Conditions



*Image XV: Merritt Drive is both poorly surfaced (truck traffic has warped the road's surface) and unsafe for pedestrians walking alongside the road.*



*Image XVII: Potholes and uneven surface conditions riddle most streets within the residential neighborhoods.*



*Image XVI: Often roads within this community have no drainage measures or good road shelves.*



*Image XVIII: Sidewalks, drainage measures, and a decent road surface can only be found on Wills Court off of Merritt Drive, adjacent to the elementary school.*

Community of Traver Road Analysis Table				
	Safety	Capacity (Road Width)	Traffic Volume	Surface Condition
Major Highways				
CA State Route 99	Fair	60 ft. (4 lanes)	Medium	Good
Main Arterial Streets				
Burke Dr.	Poor	24 ft. (2 lanes)	Low	Fair
Diagonal 39	Poor	28 ft. (2 lanes)	Medium	Fair
Elkhorn Ave. (Ave. 368)	Fair	24 ft. (2 lanes)	Low	Poor
Merritt Dr.	Poor	28 ft. (2 lanes)	Medium	Fair
Collector Streets				
Baker Dr.	Fair	24 ft.	Very Low	Fair
Bowhay Dr.	Fair	24 ft.	Very Low	Poor
Bullard Dr.	Fair	24 ft.	Low	Fair
Canal Dr.	Fair	24 ft.	Low Very	Fair
Church Dr.	Fair	24 ft.	Low Very	Fair
Jacobs Dr.	Poor	24 ft.	Low Very	Fair
Kitchner Dr.	Poor	24 ft.	Low Very	Poor
Wills Ct.	Good	24 ft. (court)	Low Very	Good
Zante Dr.	Fair	24 ft.	Low	Fair

The images to the left illustrate some of the typical streetscapes and conditions found while conducting our survey of the road network. Although the roads are still drivable, many are in need of some repair. Even though we classified most of the streets as being in a fair condition, our classification of "fair" calls for improvements to be made on the roads before they can be classified as acceptable. Seen above is the road conditions table constructed from our personal observations in Traver.

## Land Use and Circulation

## Introduction

Traver is a small unincorporated community located in the heart of Tulare County, California. Though Traver is surrounded by rich agricultural land it is also within minutes of the larger, sprawling cities of Fresno and Visalia. Although Traver has good connections to the Southern Pacific Railroad and Interstate Highway 99, passing by directly to the west of town, the local economy is mostly reliant on the surrounding agriculture. The community consists of about 180 families which make up a population of about 800.



Map I: Traver location and its relative distance from major cities.



Image I: A fruit tree field near highway 99.



Image III: A typical residential unit in Traver.



Image II: Freeway frontage road Parrellel 38 with planted fruit trees on one side and an empty lot on the other.



Image IV: A celery field in the northeast portion of the community.

## Physical and Natural Attributes



## Soils

The principle soils found around Traver are; Traver Loam, Cajon Sandy Loam, and Fresno Fine Sandy Loam. The Traver Loam comprises a majority of the soil within the area. The soils are usually moist, but can be found to be dry for 60 consecutive days or more in the summer months. Though these soils tend to have a mixed mineralogy, they are normally 25 to 55 inches thick, and they may be underlined by unrelated silty substratum at depths of 36 to 60 inches. The soils are variable in content of salts and alkali, but usually contain moderate to strong amounts. Drainage is moderately well to somewhat poor with moderate to slow permeability and slow runoff. Land uses upon these soils are mainly for early spring pastures. Where the land has been reclaimed, field crops such as cotton, sugar beets, and alfalfa as well as irrigated pastures are common. Untended vegetation includes salt-grass and salt-tolerant weeds.

## Topography

Seated in the heart of the central valley, the small, mostly farming community of Traver illustrates many of the characteristics expected of this rich agricultural region. The land in the vicinity of town has nearly no gradient with an average of a .02% slope to the south. This relative flatness will allow for straightforward development requiring very little grading for building sites. Although at the same time there is a risk of flooding from the nearby rivers and irrigation canals. Mitigation measures such as raised buildings, upgraded levees or dredging the canals can be employed to protect new developments.

## Hydrology

In the Traver community and the surrounding vicinity, there are no natural surface water features. There are a number of irrigation canals in the region, however, which bring water to the agriculture land in the area. There is a mild slope in the town, which, combined with the lack of curbs and gutters, causes water from rainfall to puddle and accumulate. A big cause for concern is that a large amount of the planning area and portions of the existing community lie within the 100-year flood hazard zone (see Image VI).

Further development in Traver would cause storm drainage difficulties to worsen by eliminating much of the permeable agricultural land and replacing it with hardscape surfaces. In order to address this, there are portions of the redevelopment plan that call for drainage infrastructure improvements such as on-site drainage systems built for new commercial and industrial development and requiring improvements as part of any residential development.



*Image VI: Much of the Traver community lies within the 100-year flood plain, which represents a significant constraint for development. Although buildings currently exist within this region, this low-lying area is a barrier for development. Prevailing winds tend to come from the North-west.*



*Image V: Soil map of Traver. Traver Loam comprises a majority of the area, but Fresno Fine Sandy Loam is also pervasive.*



*Map II: Topographical map of Traver.*

# Physical and Natural Attributes

## Wind

California lies within a zone of prevailing Westerlies and on the east side of the semi-permanent high pressure area of the northeast Pacific Ocean. The basic flow in the free air above the state is from the west or northwest during most of the year. The several mountain chains within the state, however, are responsible for deflecting these winds and, except for the immediate coast, wind direction is likely to be more a product of local terrain than it is of prevailing circulation. The prevailing winds within Traver come from the north to north-west and can reach speeds up to 8 mph during the peak windy season from late May to early June.

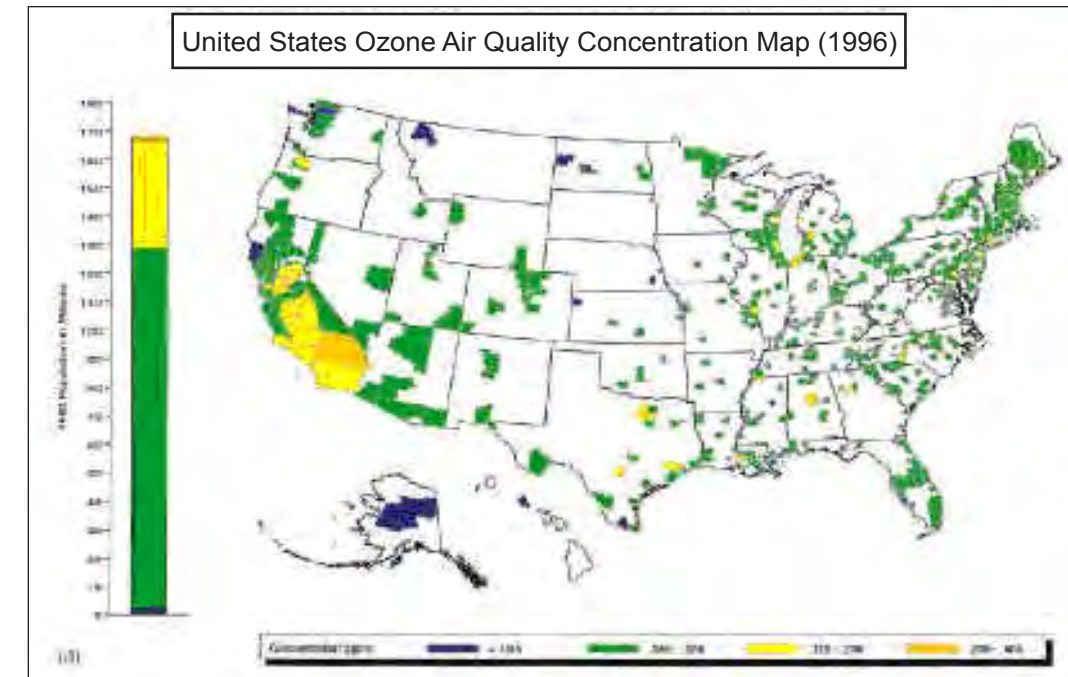
## Air Quality & Ozone

The Central Valley of California does not meet Federal Air Quality Standards for ozone air pollution or airborne particulate matter. In 2001, the air quality rating of the San Joaquin Valley was changed from serious to severe for failing to meet EPA standards. Ozone is formed through the photochemical reaction of nitrogen oxides and volatile organic compounds, which can come from cars, trucks and buses, farm equipment, power plants, refineries, solvents, and consumer products. Exposure to ozone, even at relatively low levels, can reduce lung function and cause chest pain and coughing. Repeated exposure can make people - especially children, the elderly, and those with respiratory diseases such as asthma - more susceptible to respiratory diseases. The "severe" classification initiated new permitting and pollution control requirements, and

required the San Joaquin Valley Air Pollution Control District to submit a new air quality plan. Since Tulare County is in this district, any new development will have to comply with EPA standards. Because of the lack of federal air quality standard attainment, any new development will have to significantly recognize ozone depletion as a severe problem and attempt to mitigate these environmental impacts.

## Natural hazards

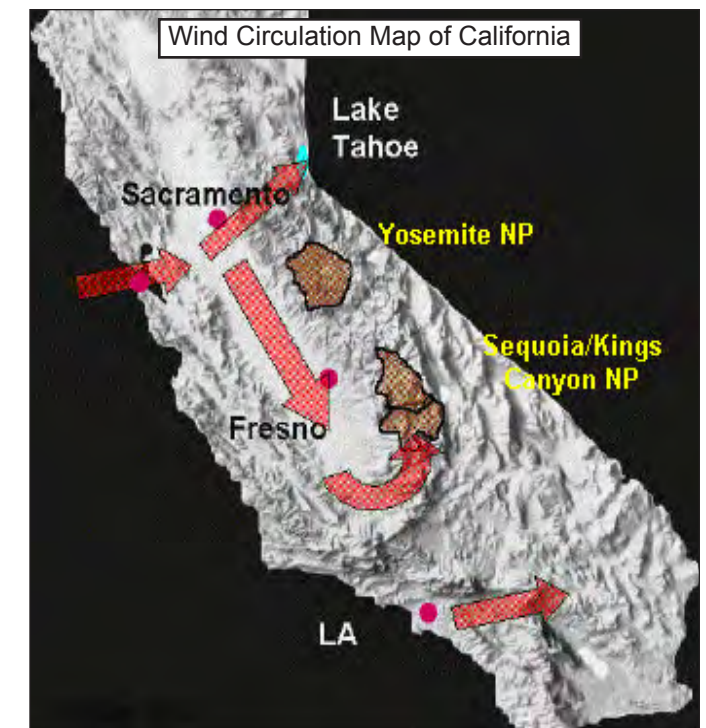
One extremely important weather condition to note that occurs in Traver is the Central Valley "Tule Fog." Tule Fog (pronounced 'too-lee'), named after the Tule grass wetlands, is a thick ground fog that is known to settle in the San Joaquin and Sacramento Valley. It is important to note because fog is the leading cause of weather-related casualties in California. Tule Fog typically forms during late fall and winter after the first rainfalls. November 1st to March 31st is the official time frame for Tule Fog to form. Transportation and infrastructure systems should note the low visibility due to the Tule Fog when designing any new development in Traver.



Map IV: Ozone air quality concentration map for the US.



Image VII: Tule fog over the California Central Valley.



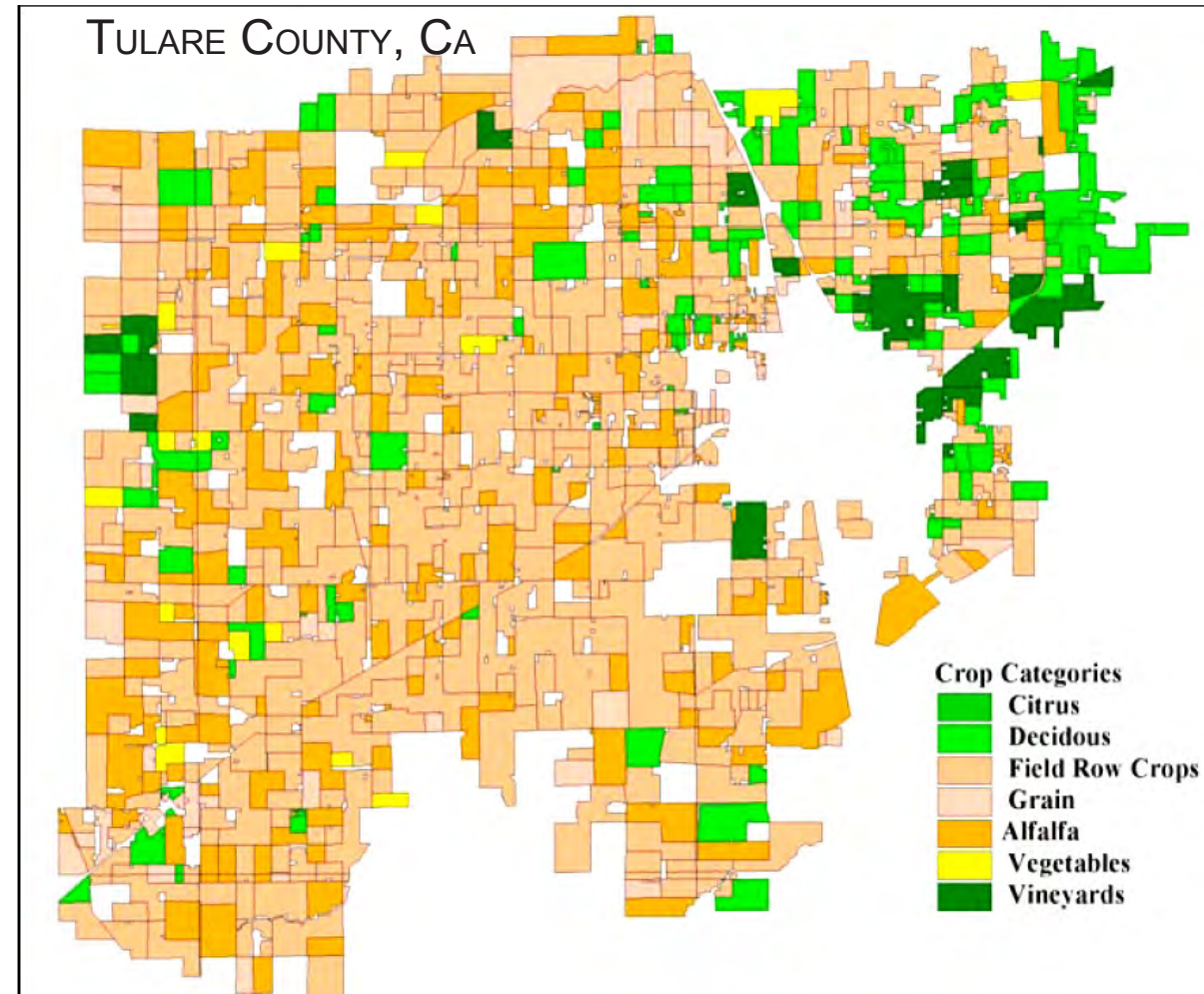
Map III: Wind circulation across California. On-Shore winds come in through the bay and get caught in the Central Valley basin.

# Physical and Natural Attributes

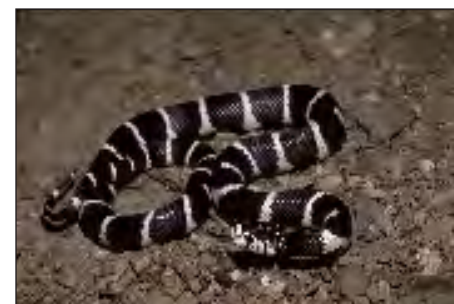
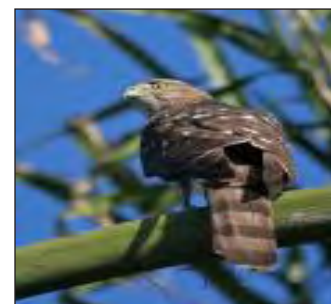
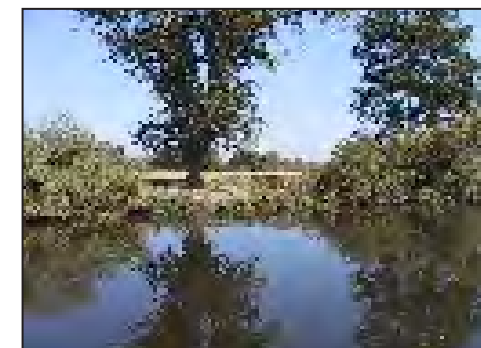
## Vegetation & Wildlife

There is a limited variety of vegetation and wildlife found in the vicinity of Traver. According to the 1989 Traver Community Plan, there are no known endangered species in the area. There is one sensitive plant species that may be present in the surrounding area but has never been documented.

The wildlife community is predominately composed of birds. Finches, sparrows, starlings, robins, scrub jays, crows, valley quail, ring-necked pheasants, and mourning doves are characteristic of the avian species found nearby. The only other documented species in Traver are small rodents and marsupials typical of agricultural land ecosystems. The lack of other species is due to the constant rotation and manipulation of agricultural soils which does not provide many animal species with an adequate biome to thrive in. As far as vegetation, there are a few non-native trees and shrubs in the area. The agricultural land includes vineyards, fruit trees, walnut and apricot orchards.



Map V: The various types of agricultural uses that occur in Tulare county.



Images VIII-X: Various types of wildlife that can be found around the Traver Community.

Images X-XIII: Images of the typical agricultural activities in the Traver area.

## Physical and Natural Attributes

## Air Quality & Ozone

Traver's climate is typical of the San Joaquin Valley. Temperatures range from the 30s in the winter to the low 100s in the summer. The climate is characterized by humid mornings and dry afternoons. In terms of precipitation, Traver's average rainfall is much below the national average with most rainfall occurring in January and February. The year-round wind speed in Traver is below the U.S. average and follows a similar pattern, although mostly occurring in the summer months with the peak wind speed in June.

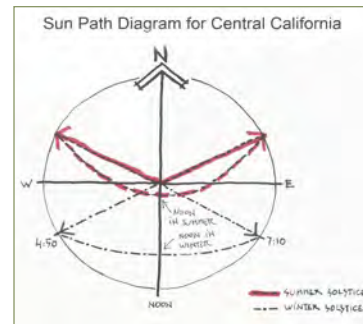


Figure III: Sun path diagram for Traver.

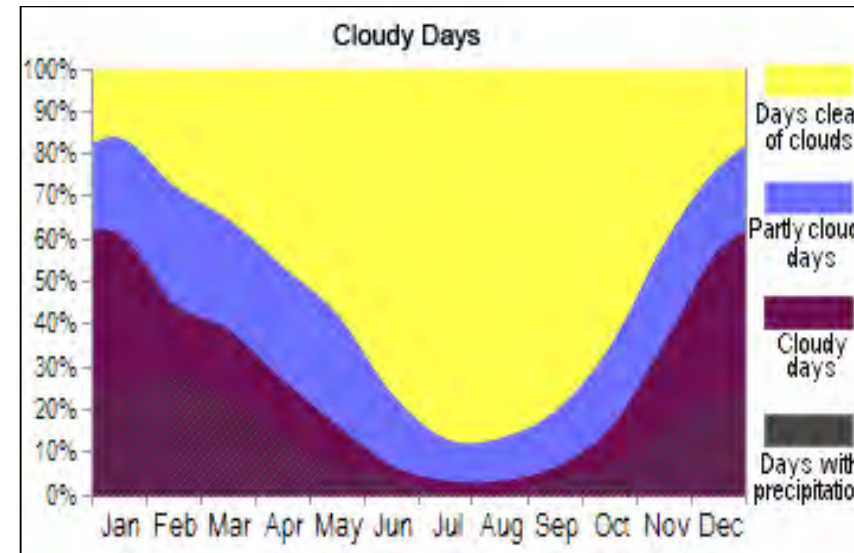


Figure IV: The percentage of cloudy to non-cloudy days throughout the seasons.

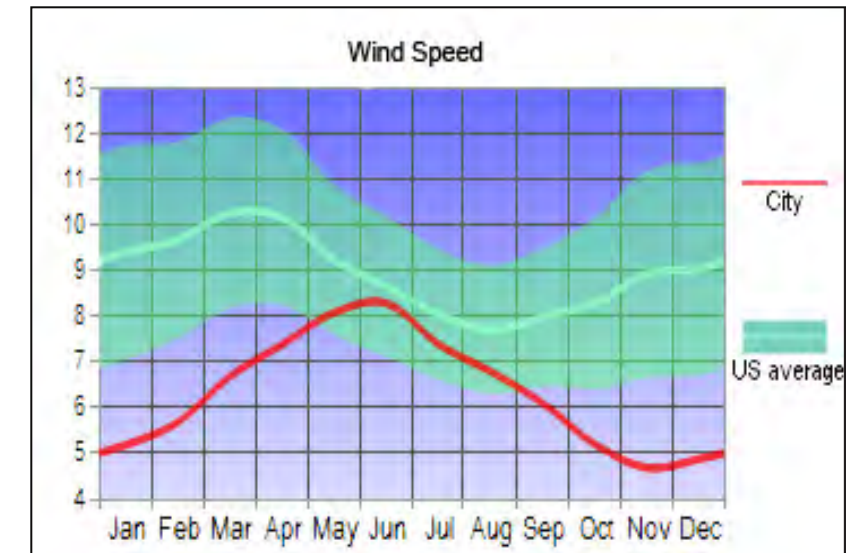


Figure V: Average wind speeds in Traver as compared of to national averages.

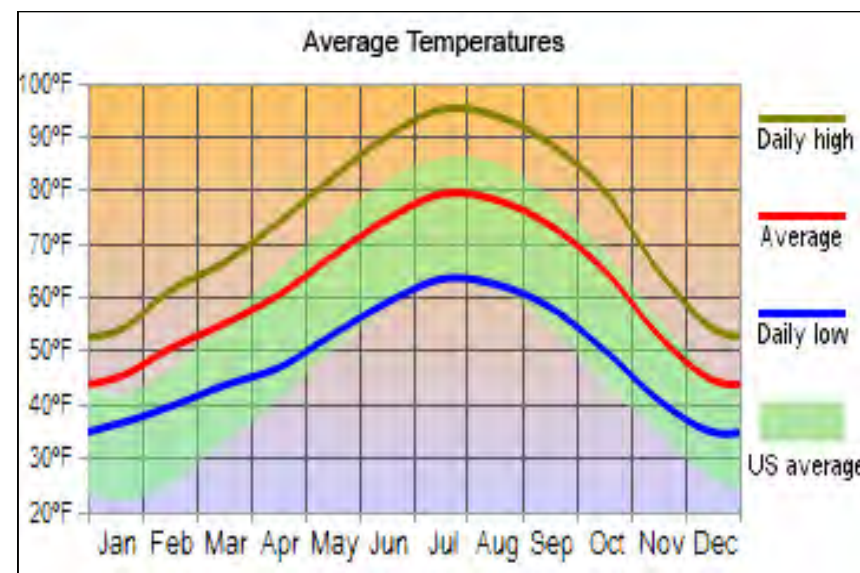


Figure VI: Daily average temperatures of Tulare County in comparison to national average.

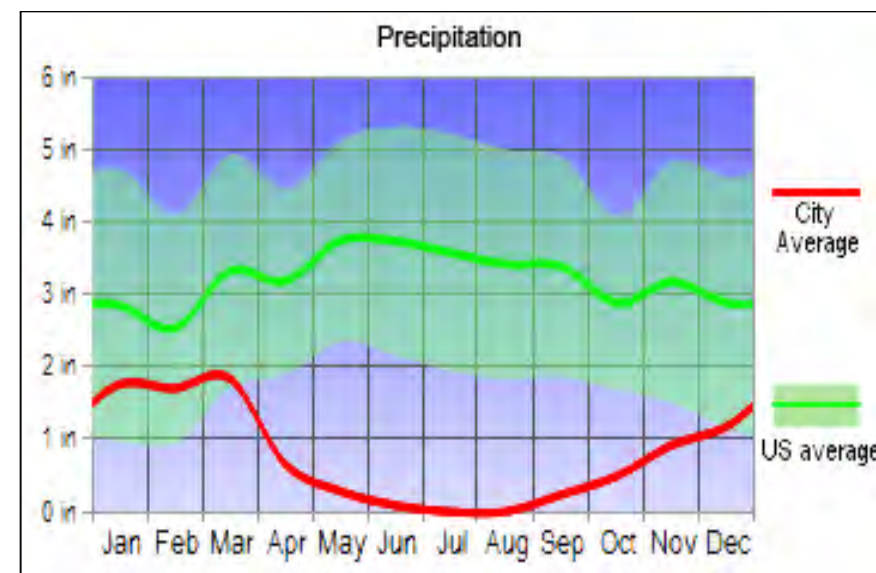


Figure II: The average precipitation in 2004 as compared to national averages.

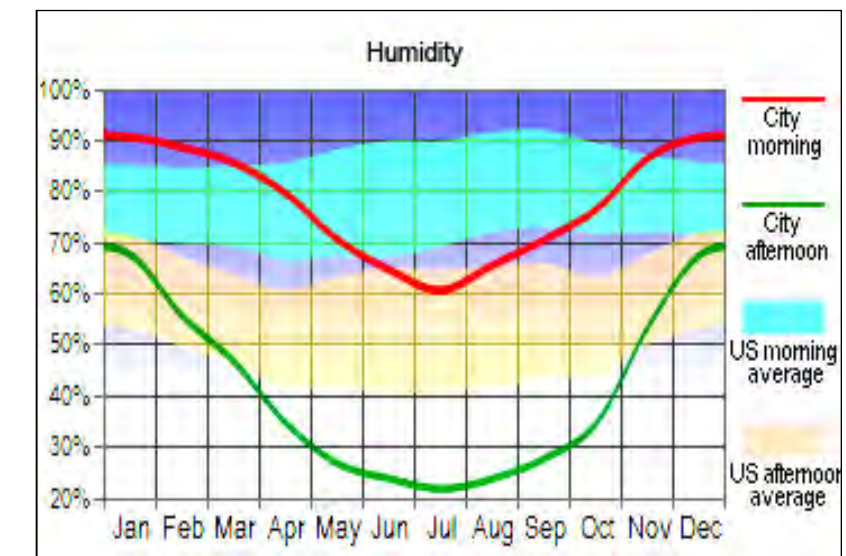


Figure I: The average monthly humidity for 2004 as compared to national averages.

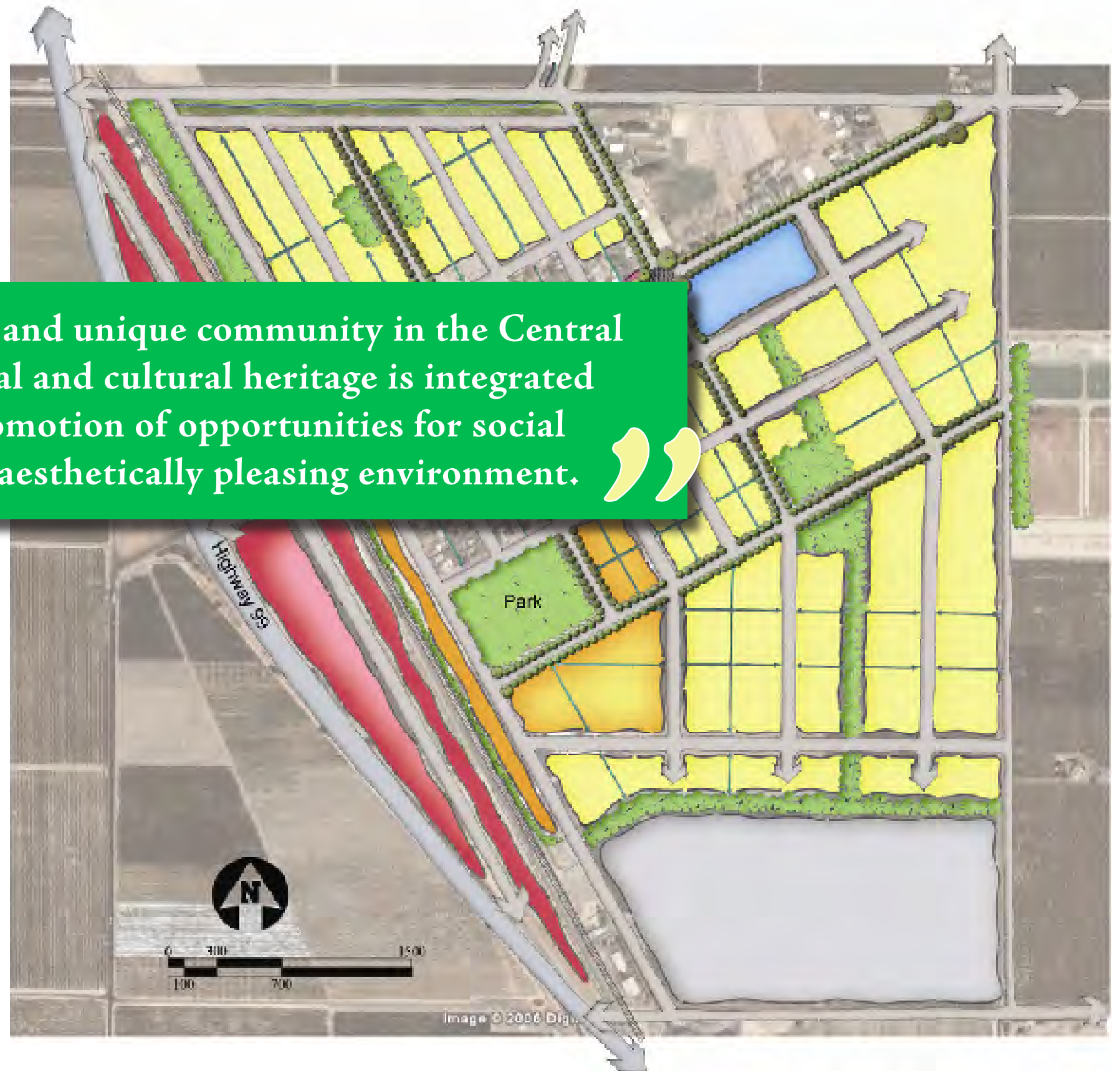
## Physical and Natural Attributes



*Traver, California*

## The Vision

“Traver will be a proud, diverse, and unique community in the Central Valley where the existing social and cultural heritage is integrated with future growth through the promotion of opportunities for social development and interaction in an aesthetically pleasing environment.”



## The Vision

Goal 1:

A STRONG SENSE OF COMMUNITY WITH  
SOCIAL AND ECONOMIC GROWTH.

Objective 1.1:

TO ESTABLISH SOCIAL CENTERS WITH PASSIVE AND  
ACTIVE RECREATIONAL ACTIVITIES FOR ALL AGE GROUPS.

Objective 1.2:

TO PROMOTE NEW RESIDENTIAL, COMMERCIAL, AND  
PUBLIC SERVICE DEVELOPMENT TO MEET THE NEEDS OF  
CURRENT AND FUTURE RESIDENTS.

Design Concept 1.1a



*1.1a* A centralized community center could go a long way in providing a sense of place and utilizing the social capital Traver already has.

Design Concept 1.1b



*1.1b* A pedestrian and bike path could include exercise amenities and also connect the residential areas of town with the community center and other parks.

Design Concept 1.2a



*1.2a* Any main street business frontages will have a small town character with minimal or no setbacks from the sidewalk to make it more pedestrian friendly.

Design Concept 1.2b



*1.2b* An "incubator" business barn would provide small stalls at low rents and shared utilities for first-time business owners to get their business up and running.

# Goals, Objectives, and Design Concepts

## Goal 2:

EFFICIENT AND SAFE INFRASTRUCTURE FOR  
PEDESTRIANS, CYCLISTS, AND AUTOMOBILES.

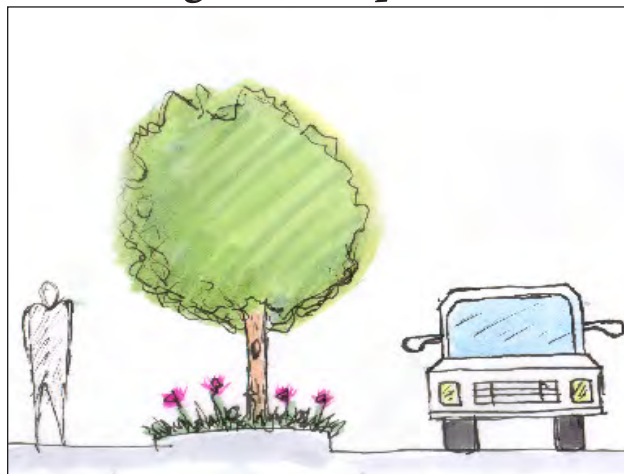
### Objective 2.1:

TO ENSURE PEDESTRIAN SAFETY, PARTICULARLY  
SEPARATING PEDESTRIAN AND BICYCLE TRAFFIC.

### Objective 2.2:

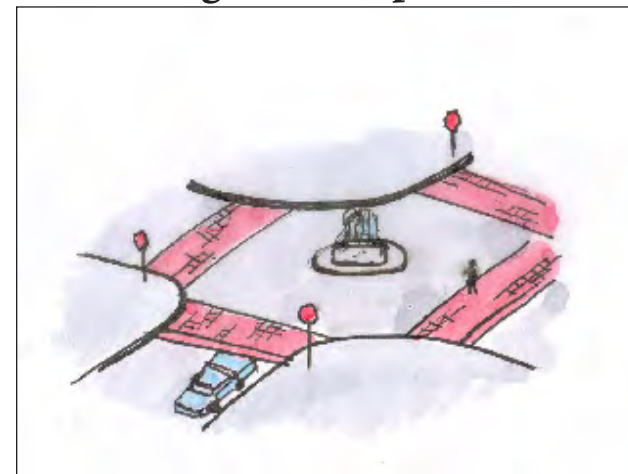
TO INTEGRATE NEW DEVELOPMENT WITH THE  
EXISTING ROAD NETWORK.

#### Design Concept 2.1a



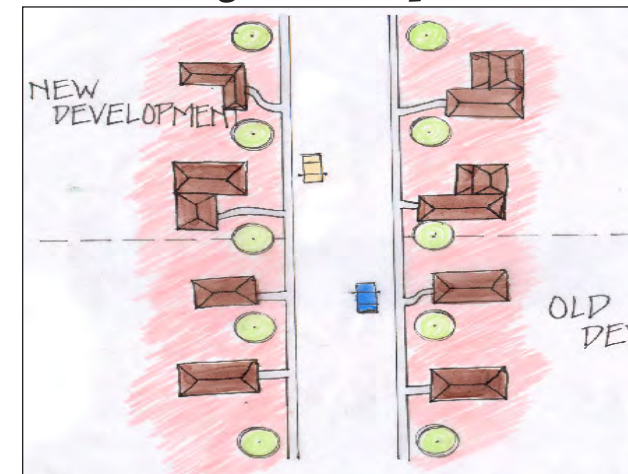
2.1a Separate pedestrian walkways from streets with plant buffers.

#### Design Concept 2.1b



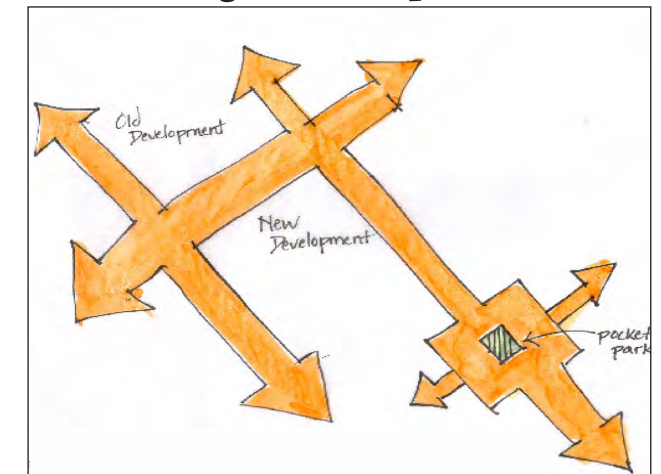
2.1b Raised crosswalks, proper signage, and speed control measures will add safety for both pedestrian and bicycle traffic.

#### Design Concept 2.2a



2.2a Similar landscaping and street layout can link existing neighborhoods with new development.

#### Design Concept 2.2b



2.2b Continuing grid network from existing to new development will link the two.

# Goals, Objectives, and Design Concepts



## Goal 3:

AN ATTRACTIVE COMMUNITY IMAGE WITH DESIGN  
THAT IS RESPECTFUL OF EXISTING CONTEXT.

### Objective 3.1:

TO PROVIDE A COHESIVE DESIGN THAT ENHANCES AND  
COMPLEMENTS THE EXISTING BUILT ENVIRONMENT.

### Objective 3.2:

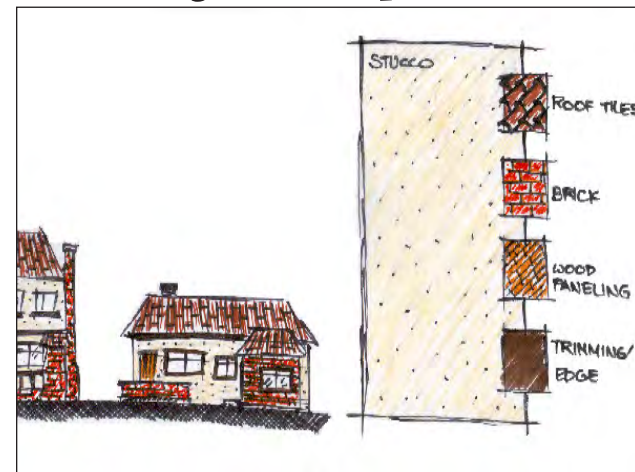
TO REPRESENT THE HISTORY OF TRAVER  
THROUGH ARCHITECTURAL DESIGN.

#### Design Concept 3.1a



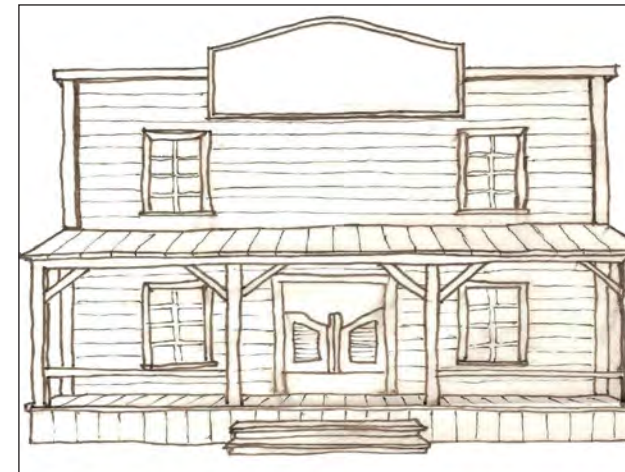
3.1a While the buildings above are not representative of the character in Traver, the concept emphasizes how buildings can be unique yet not be out of context with their surroundings.

#### Design Concept 3.1b



3.1b Use of similar types and colors for building materials.

#### Design Concept 3.2a



3.2a Old Traver building facades.

#### Design Concept 3.2b



3.2b A unique town entrance to welcome visitors and encourage similar architectural styles.

# Goals, Objectives, and Design Concepts

## Goal 4:

A WELCOMING PUBLIC ENVIRONMENT THAT IS  
RESPECTFUL OF THE COMMUNITY'S CULTURE.

### Objective 4.1:

TO PROMOTE STREET AND LANDSCAPING  
SOLUTIONS THAT ARE CONDUCTIVE TO SOCIAL

### Objective 4.2:

TO INTEGRATE EXISTING AGRICULTURE INTO  
NEW LANDSCAPING DESIGN.

#### Design Concept 4.1a



4.1a Existing alleyways can be improved through landscaping and ground cover, allowing residents to be engaged in public space.

#### Design Concept 4.1b



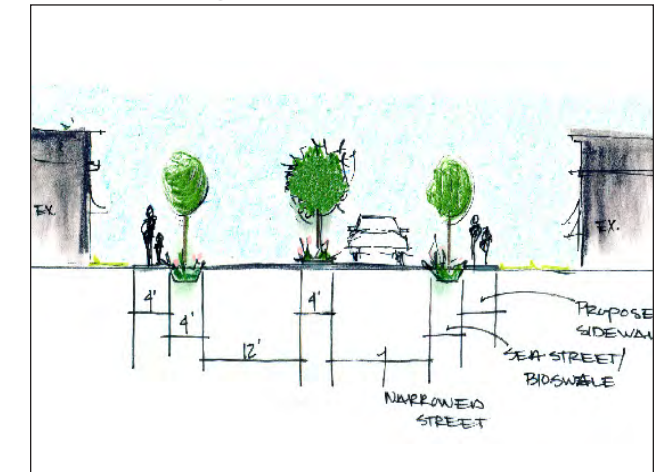
4.1b Consistent signage and attractive downtown lighting can go a long way in making the public realm inviting and adding a sense of identity.

#### Design Concept 4.2a



4.2a A natural buffer that channels stormwater off the roadway while adding beautifying the street and neighborhood.

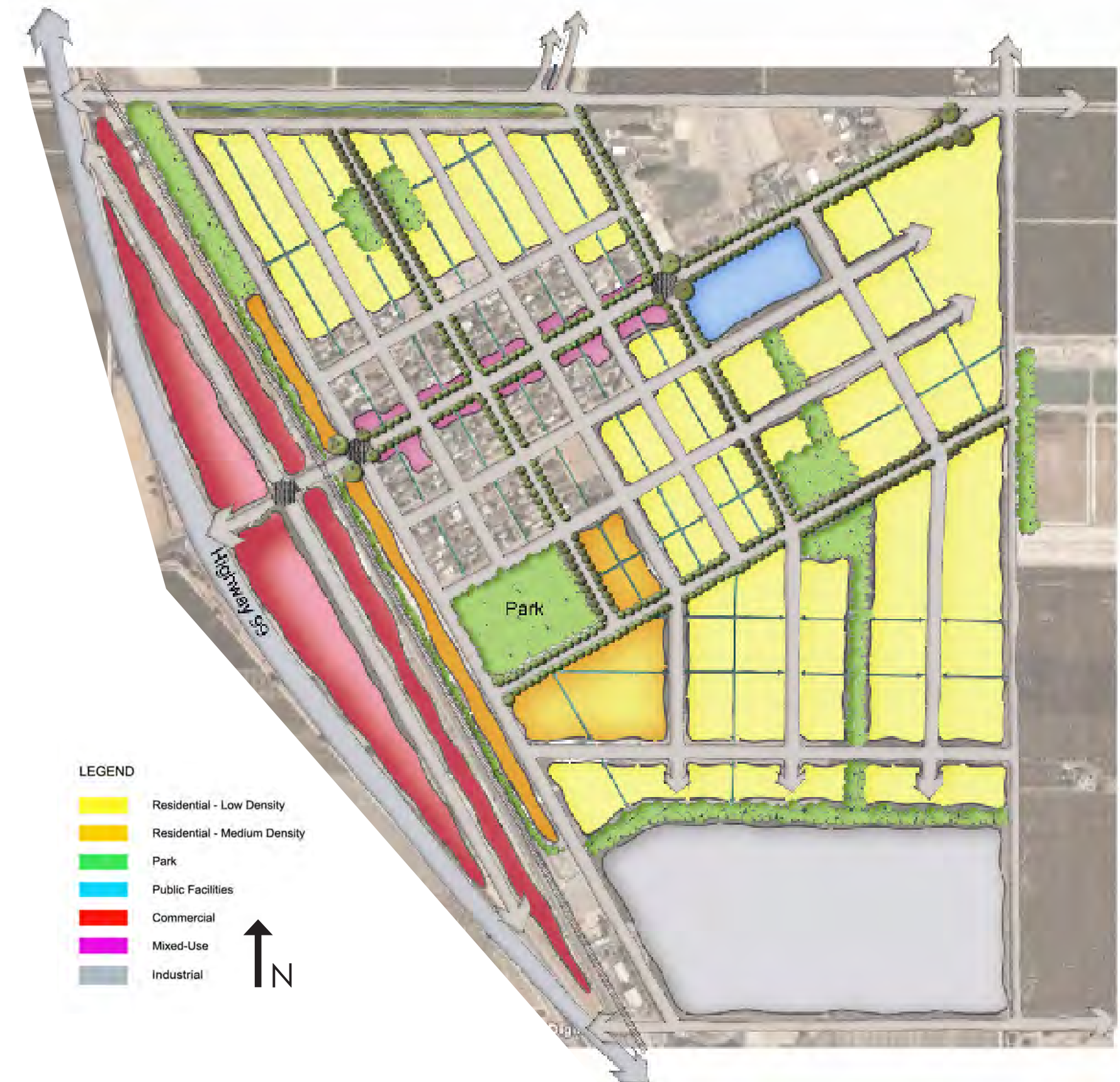
#### Design Concept 4.2b



4.2b A tree-lined median that acts as a traffic-calming feature and incorporates natural vegetation.

# Goals, Objectives, and Design Concepts

This is the general concept plan that resulted from our site studies, background research, knowledge from literature and the case studies investigated, and from the visioning process.



## General Concept Plan



*Traver, California*

## Land Use Plan & Specific Area Proposals

## Introduction

On October 28th, 2006, the class presented the results of our studies of the existing situation in Traver, the community's opportunities and constraints for development, and the proposed vision, goals, design concepts, and general concept plan. The class incorporated the community input from this meeting, as well as those of Tulare County Community Development Specialist Frank Ruiz, and developed the final proposed Land Use Plan shown on the right.

The map shows the inter-relationships between land uses such as low- to medium-density residential, highway commercial, mixed use with light commercial, parks, open space, and public facilities. The existing street network is maintained, although the grid is adjusted in the new areas to further enhance the small-town character of Traver.

In the following pages the plan will be taken section by section and explained in more detail. Each section includes an overall site plan, elevation and cross-section views, before and after pictures (which include some images from the 3D model), and a program table outlining total square footages of proposed buildings and lots.



## Land Use Plan

## Section 1: Diagonal 39 and Burke Drive

The commercial corridor will run along Diagonal 39 and will be concentrated around the intersection with Merritt Drive. The commercial area will have an historic architecture scheme consistent with Traver's past and will include commercial store fronts, a business co-op, an agriculture museum and a railroad platform that includes a retail-commercial area.

The business co-op will be a building that has suites that can be rented for a specific amount of time by first-time business owners. The idea behind the co-op is to encourage local residents to utilize the space to get small businesses up and running.

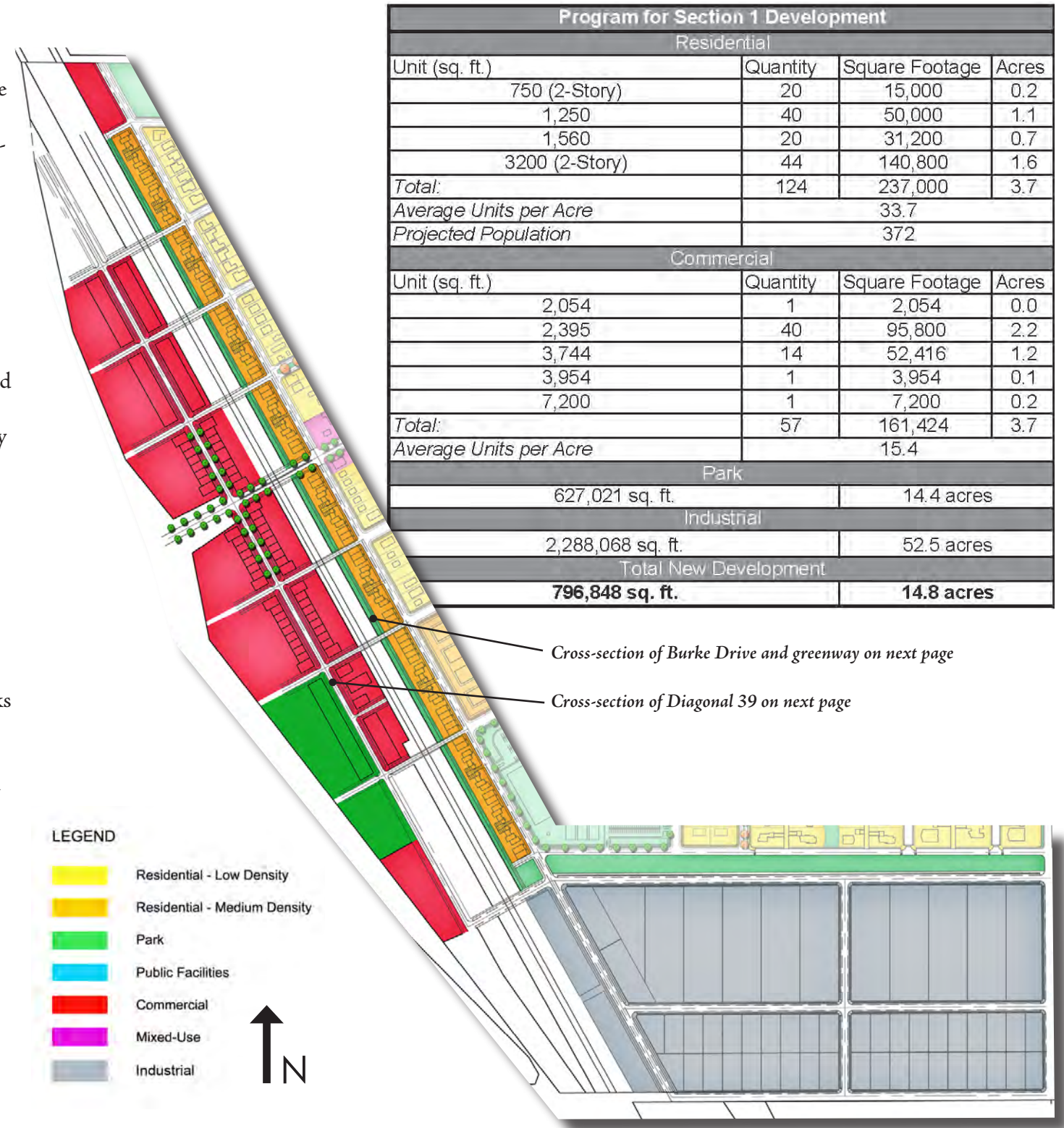
The agriculture museum would be a look back at the past of the Central Valley. It would be a focal point of the town and would help to make Traver a regional destination. To begin with, the railroad platform would be a commercial area with several retail shops. In the distant future there might be commuter trains coming through Traver and the platform could be used for passenger loading. The idea for Diagonal 39 was to create a commercial area that would represent the character of Traver and bring business in from surrounding communities.

The residential area along Burke Drive will include several different types of affordable housing. There will be several different building layouts including one- and two-story buildings. Each of the units will have off-street parking or garages so the street seems less congested. This street will be a pedestrian friendly street,

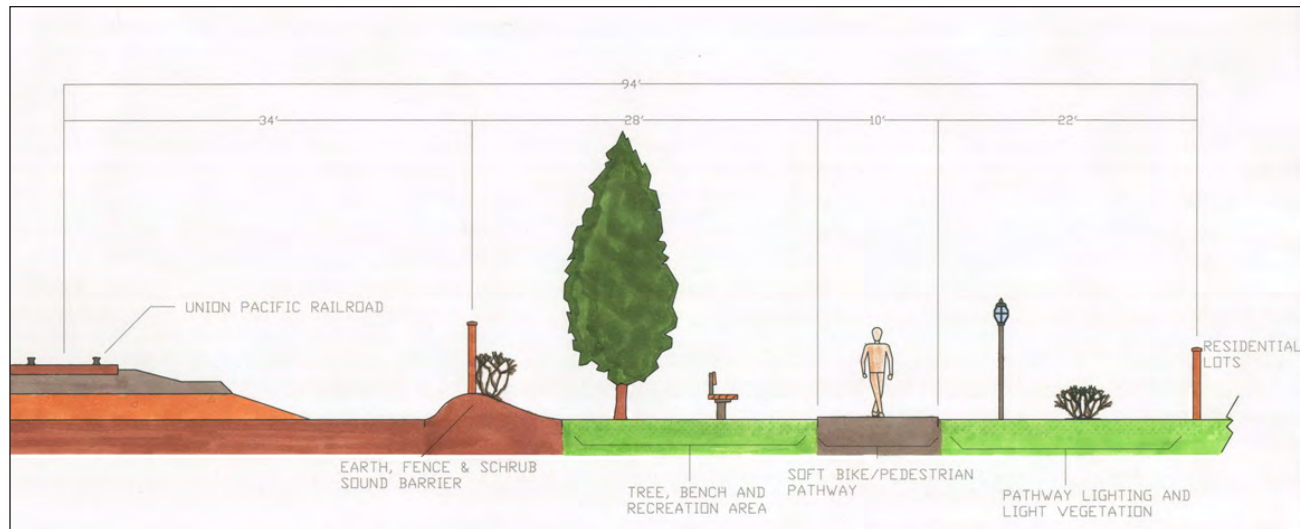
where parents feel comfortable letting their children play in the front yard. The streetscape will also include landscaping and street lights to make a safer-feeling street. This street is intended to be part of the residential neighborhood so truck traffic will be prohibited and forced to use Diagonal 39.

As a buffer between the commercial area of Diagonal 39 and the residential area of Burke Drive, a pedestrian pathway is planned. This pathway runs parallel to the railroad and connects the rest of the recreational areas in the town. This path consists of a vegetation buffer between the railroad and the path and a compressed dirt path with lighting, trees and local vegetation. The idea is that this will tie the community together as a whole.

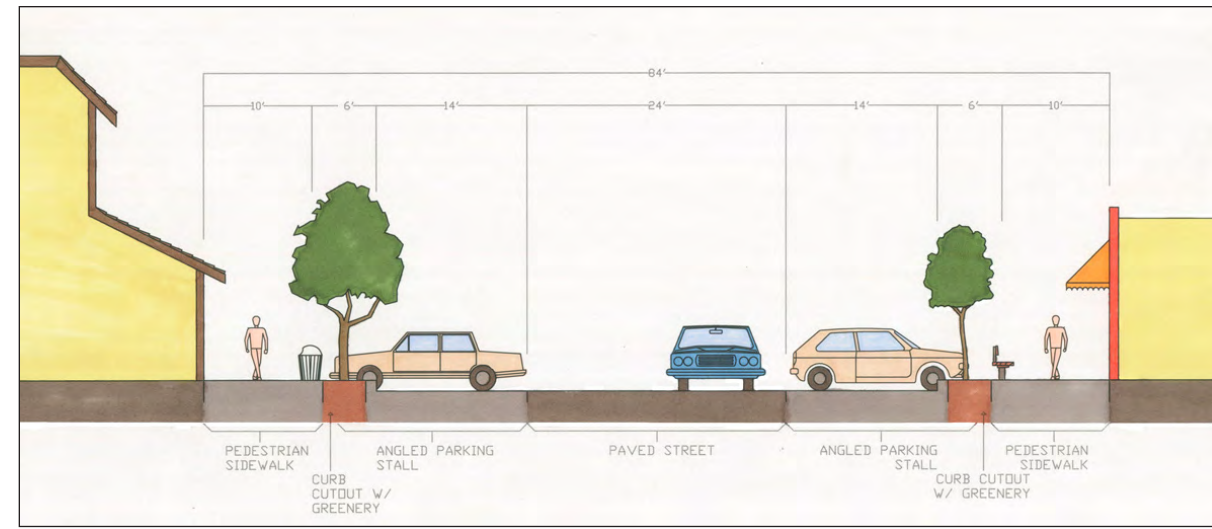
The final area is the southern portion perpendicular to Burke Drive. In this area an industrial park is planned that will include a number of different sized lots that can be used in a number of different ways. Construction companies could use these lots to house building materials, or there could be heavy-machinery rental. This area is going to be used specifically for light industrial. Also, a truck route is planned so trucks coming off of the freeway can avoid Burke and Merritt Drives. Instead of using Merritt Drive trucks can use this alternate route through the industrial park and on to the east of town. This way truck traffic is limited on Diagonal 39 and Merritt Drive and is completely eliminated from Burke Drive.



## Specific Area Proposals



This cross-section shows the bike and pedestrian path running behind the new residential lots on Burke Drive, as well as the buffer in front of the rail road tracks.



Cross-section of Diagonal 39. Notice the angled parking on either side of the street, abutting the wide sidewalks in front of the businesses.



The old hotel offers a character that lends itself well to the Old West-themed part of Diagonal 39.



A new hotel in the old style can act as a gateway to the town, wrapping Diagonal 39 into Merritt Drive.



The first-time business owner barn is self-contained and shares common mall-space, including plenty of outdoor room to host regular farmer's markets.

## Specific Area Proposals



*Attached housing on Burke Drive.*



*Commercial frontage on Diagonal 39*



*Business co-op structure on Diagonal 39.*



*Burke Drive looking north.*



*Diagonal 39 looking south.*

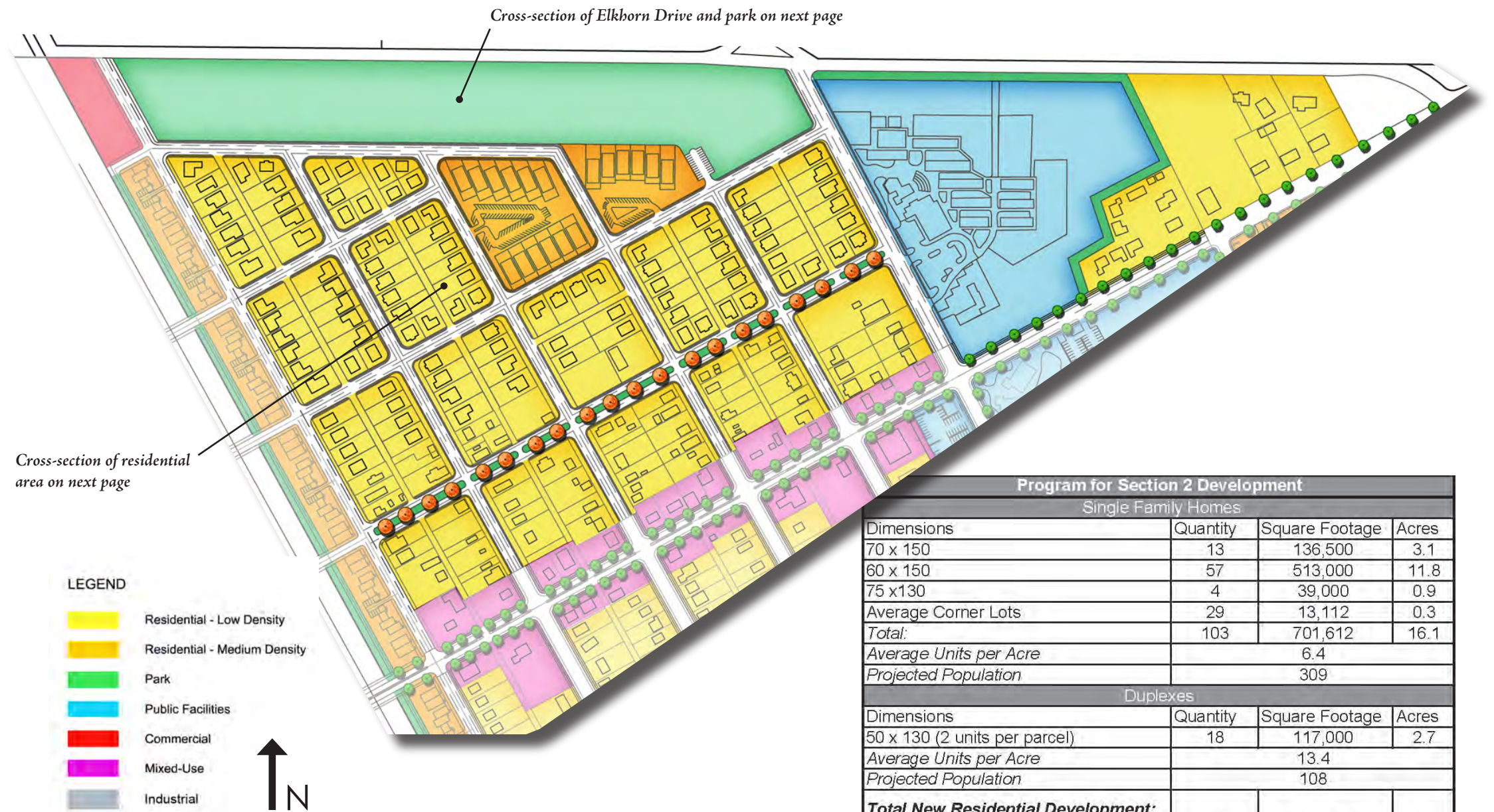
## Specific Area Proposals



## Section 2: Jacobs Drive to Elkhorn Avenue

The following site plan illustrates our proposal for new development on the 37.4 acres north of Jacobs Drive. In order to successfully integrate new development with existing development in Traver, our design extends the grid layout of the existing road network into the new development, linking residents within the new development to services throughout the community. Improvements will be made to the existing road infrastructure and we propose construction of new road infrastructure within the proposed new development. Flooding from street runoff will be mitigated with vegetated drainage corridors located on both sides of the roadway within the right of way.

This section of Traver's redevelopment will incorporate 35.1 acres of land for approximately 121 new residential units, 103 low-density single-family homes and 18 medium-density duplexes. The average parcel dimensions for new low-density single family homes will be approximately 60'x150', while medium-density duplex parcels will be sized roughly 50'x130'. Duplexes will be clustered into two blocks of the new development to establish an area of higher density closer to the school and park. All new development will have direct access to the large park on the northern edge of Traver, the commercial district and community center on Merritt Drive, and the industrial zone via the connective road network and linking alley corridors through the community. Phase II of the Traver Elementary School plan will expand the school's size, utilizing land on the existing school site, to provide for expected increase in demand from new development. The 1.1 acre gateway parcel of land located at the intersection of Elkhorn Drive (Ave. 368) and Merritt Drive will provide space for any mixed-use development that complements Traver's new and existing character.



Program for Section 2 Development			
Single Family Homes			
Dimensions	Quantity	Square Footage	Acres
70 x 150	13	136,500	3.1
60 x 150	57	513,000	11.8
75 x 130	4	39,000	0.9
Average Corner Lots	29	13,112	0.3
<b>Total:</b>	<b>103</b>	<b>701,612</b>	<b>16.1</b>
Average Units per Acre	6.4		
Projected Population	309		
Duplexes			
Dimensions	Quantity	Square Footage	Acres
50 x 130 (2 units per parcel)	18	117,000	2.7
Average Units per Acre	13.4		
Projected Population	108		
<b>Total New Residential Development: Single Family+Duplexes*(2 units)</b>	<b>139</b>	<b>818,612</b>	<b>18.8</b>
<b>Total Average Units per Acre</b>	<b>7.4</b>		
<b>Total Projected Population</b>	<b>417</b>		
Park			
662,215 sq. ft.		15.2 acres	
Corner Gateway Parcel			
48,135 sq. ft.		1.1 acres	
Total New Development			
<b>1,528,956 sq. ft.</b>		<b>35.1 acres</b>	

## Specific Area Proposals

The proposed architectural styles will remain consistent throughout the new development. Textures, natural colors, and construction materials will be used to complement Traver's unique character along with proposed new development in other sections of the community. Natural vegetation and landscaping will be used along roadways and alley corridors to aesthetically enhance and connect both existing and new neighborhoods.

One of the main features within this section is the large 15.2 acre park, located along the length of and extending 300 feet from the canal (near Elkhorn Avenue) into the new development. Since our proposal lies within a 100 year flood plain, the park level, while providing space for both active and passive recreational activities, will be at least five feet lower than the grade of any new development to mitigate flooding that could occur. Drainage wells on either side of the park, along with natural evaporation will keep water from completely filling the park basin. For the new development, a proposed drainage network will channel runoff towards Merritt Drive with a system that will use gravity to take collected water runoff from Merritt Drive to the expanded wastewater treatment facility to be stored or released. Active recreational opportunities within the park will include space for two soccer fields, a baseball field, and playground located closer to the school. Passive opportunities will accommodate space for walking, jogging, or biking with a connection to the landscaped corridors designed to link all neighborhoods within Traver together. Both the passive and active recreational activities provided for by the park will encourage positive social interaction among residents throughout the community.



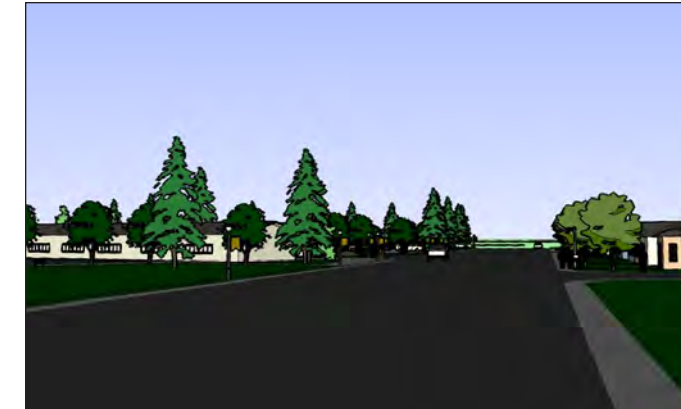
Jacobs Drive presently has no sidewalks or trees.



Future development along Jacobs Drive with new sidewalks with locally-appropriate trees, curbs, and gutters



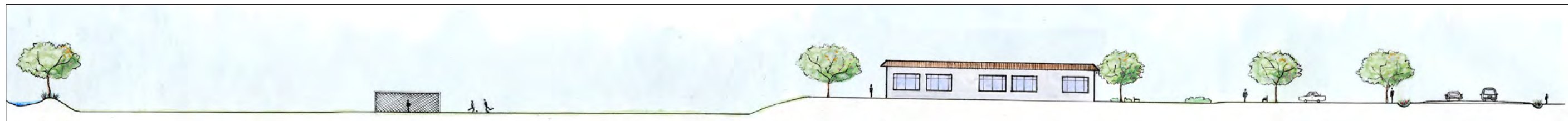
Looking from Elkhorn Avenue towards the school.



Future development on Elkhorn Ave. The street would be narrowed to slow traffic and allow safer crossing.



A mix of different types of massing styles can be provided. New walkable alleyways will match the existing alley network, and new streets fitting the smaller scale of a residential neighborhood.



This wide cross-section runs north-south from Elkhorn Avenue into a new residential area. Since this area is all under 100-year flood level, a mitigation measure would be the construction of this park basin which would collect runoff and keep it from flooding the town.

## Specific Area Proposals



*Bird's eye view - looking west*



*Detailed Portions of site plan*



*Bird's eye view - looking east*

## Specific Area Proposals

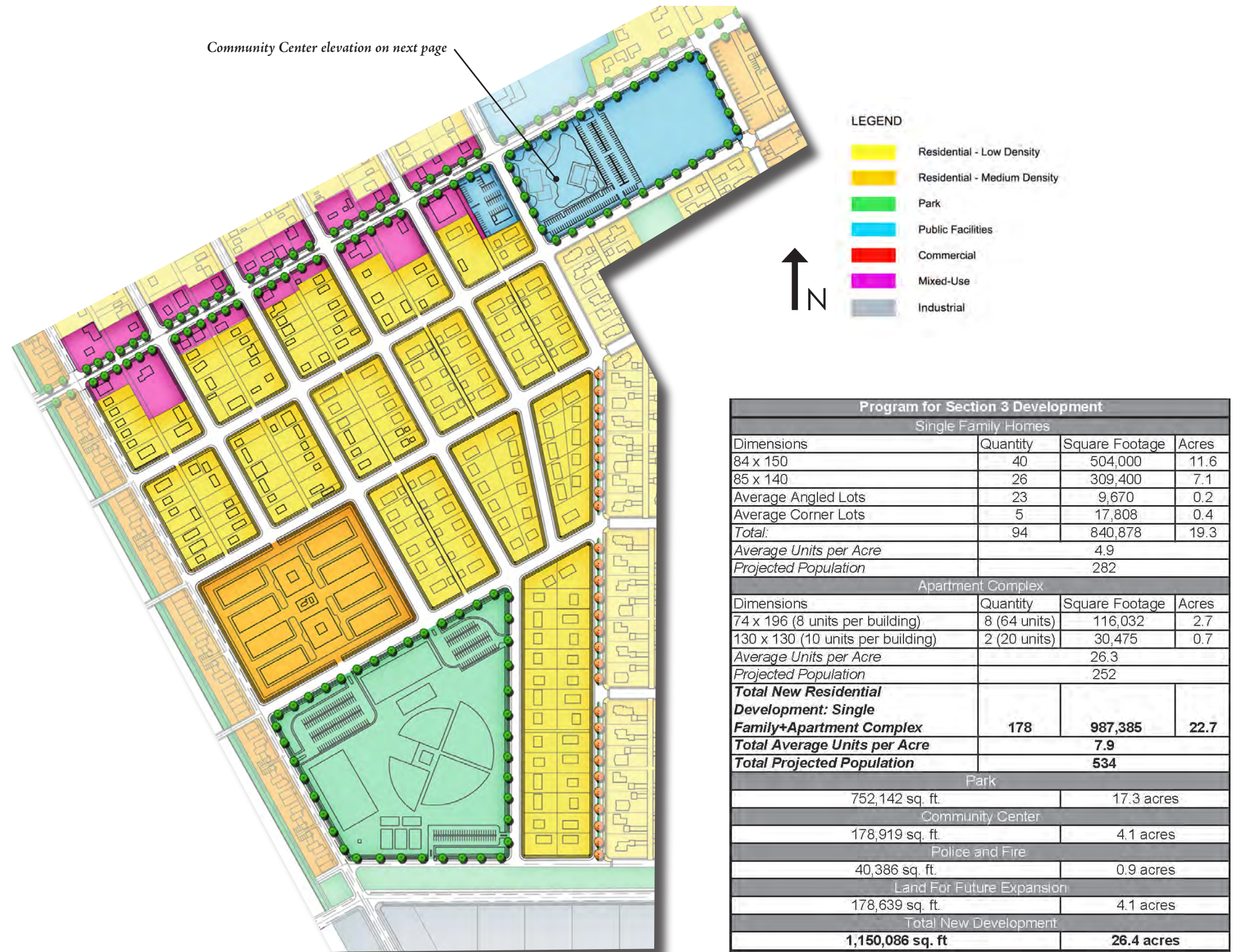
## Section 3: Merritt Drive

The design proposals for the Traver include preserving its small town charm while creating new development. This particular section integrates both new and existing development. Some features included in our section are a community center, park, low and medium density housing, public facilities, and the beautification of Merritt Drive.

The community center is located across from the school on Merritt Drive. We found this location to be the most beneficial for the community because it is centrally located and has easy access to the school. The community center features a recreation center, health facilities, child care, and a swimming pool. On this lot there is plenty of parking and designated open space to integrate the community-wide greenway.

The park is located on the south east portion of Traver. This piece of land was previously used as a fertilizer factory and is now considered a brownfield. The park offers multiple active recreation facilities. These amenities include basketball courts, tennis courts, fast-pitch softball fields, little league baseball fields, a skate park, a hockey rink, and a soccer field. Potentially, Traver could become a regional destination for family-oriented sports activities.

The existing residential housing in Traver is primarily single family detached. The town is lacking in the variety of housing types that could accommodate the community. Our design concept for the new housing development includes low and medium density. The low density development features single family homes on large lots with additional opportunities to build granny units. The medium density section of the plan is an apartment community consisting of ten buildings with each housing eight apartments. The apartment complex also provides a swimming pool and club house.



## Specific Area Proposals





Aerial view of Merritt.



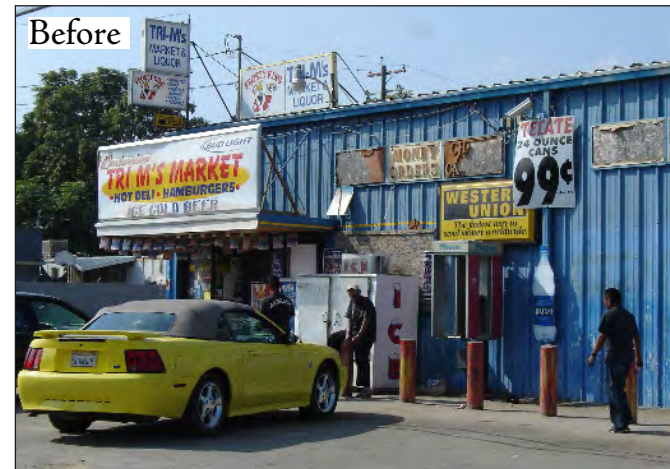
Facing east down Merritt Drive.



Present-day Merritt Drive - main street.



In the future, Merritt Drive could have a median in order to make crossing safer for pedestrians and also to beautify the town.

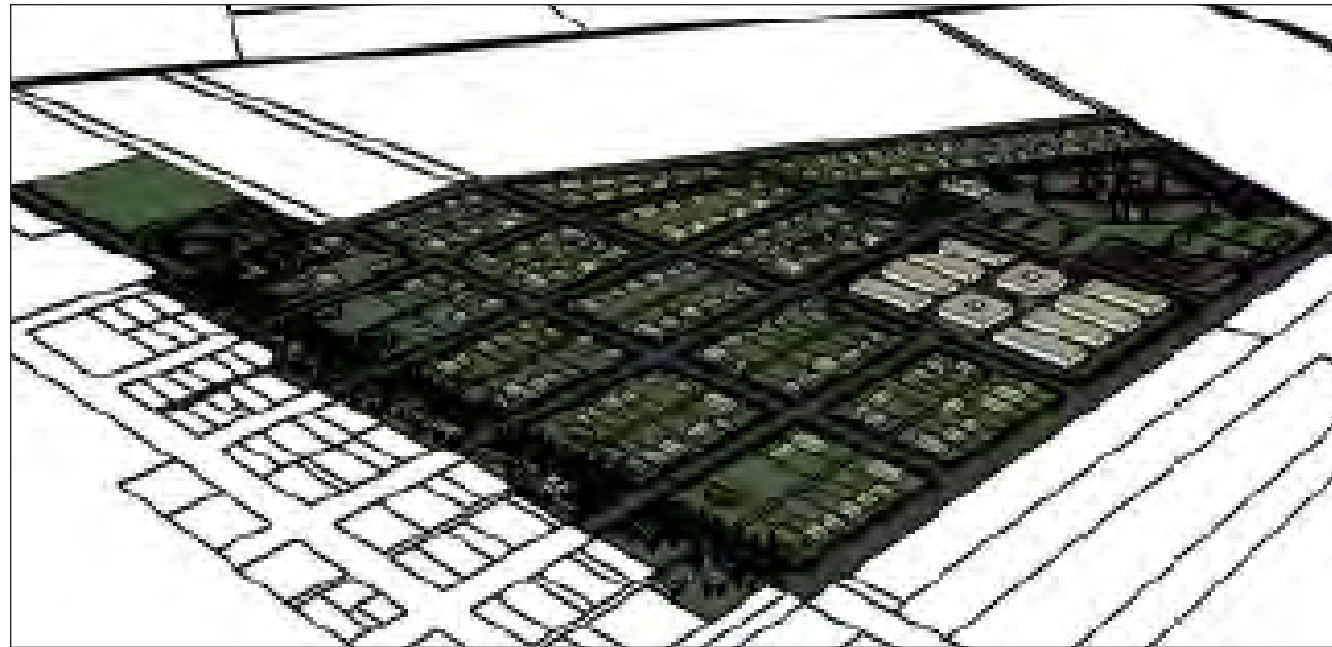


The existing market.

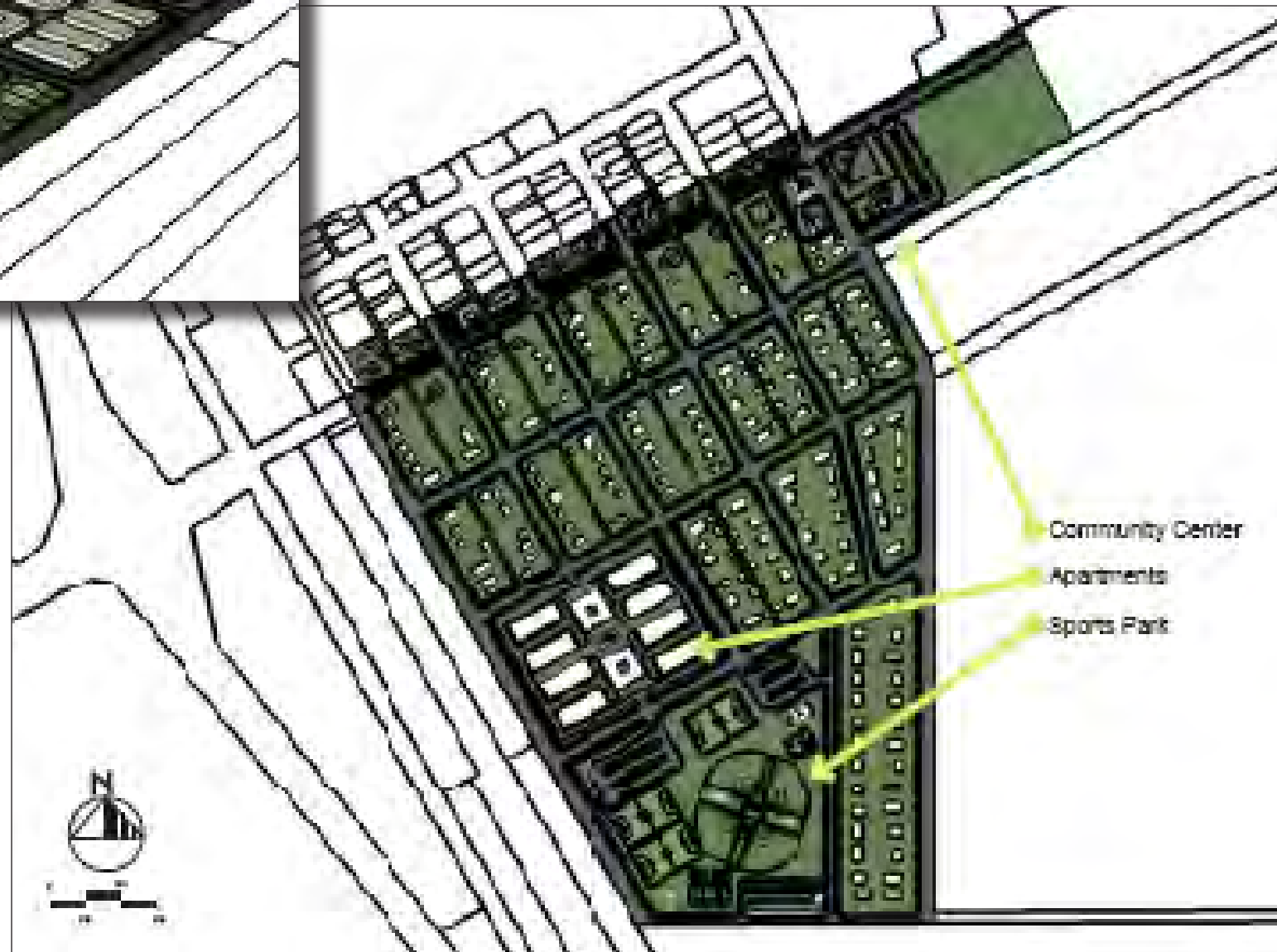


Possible future market with clearly defined sidewalk and entryway.

## Specific Area Proposals



*Bird's eye view facing southeast.*



*Site plan of Merritt Drive, sports park, community center, and apartments.*

## Specific Area Proposals

## Section 4: Southeast of Merritt Drive

This specific project area proposes a mix of residential land uses. The rationale behind the proposal of a variety of housing options is to help increase the diversity of the community in terms of economic viability and community unification. The density of the different residential typologies will decrease as lot size and unit size increase, moving away from Merritt Drive towards the fringe of town. On the northern edge of the site, we are proposing medium density attached town-home units. This development will include 140 two-bedroom units that are 1,200 square feet per unit. This development utilizes 3.9 acres of land and includes amenities such as a club-house and pool.

South of the town-home complex, we are proposing duplex units. There are 17 of these units incorporating 1.7 acres of land with 8,708 square foot lots per duplex unit. Next, is low density single-family homes south-west of the duplex units. The average lot size is 12,000 square feet with 137 housing units at an average of 4,500 square feet per unit. South-east of these, we are proposing similar style homes with larger lot sizes. The average lot size for these homes is 19,600 square feet with 25 units averaging 4,600 square feet per unit.

Incorporated into these housing developments are few unique design concepts, including a curvilinear park extending down the center of the lower-density lots. This park provides residents with a place to recreate as well as place to congregate. The park will promote social interaction within the community as well as beautify the neighborhood, connecting it to the circular greenway that extends throughout the entire community. Another design concept that we decided to incorporate into these lots has to do with the placement of the homes on the lots. We propose that most of the houses on the lots have garages in the rear of the house. This is more aestheti-

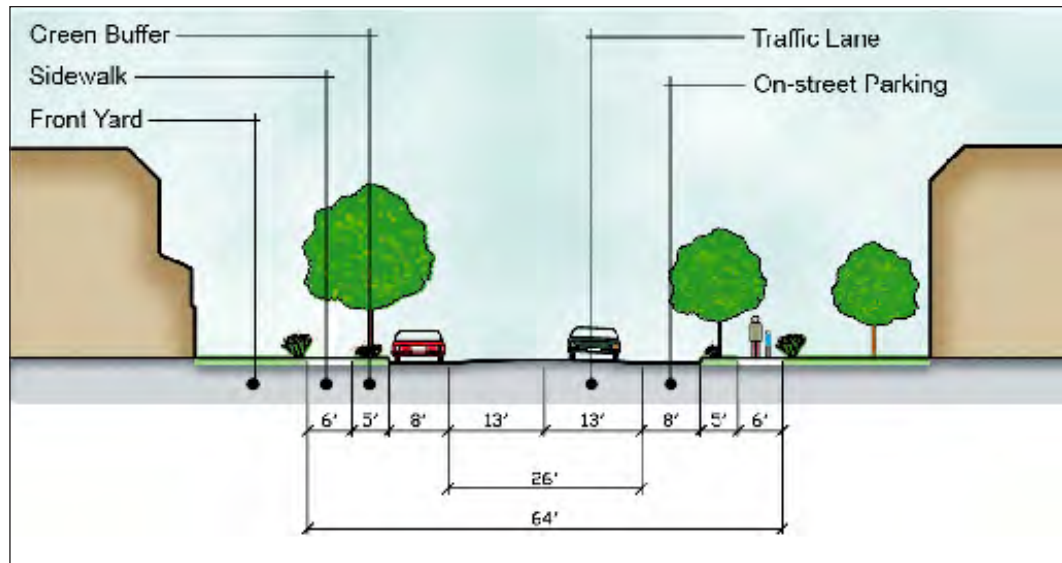
cally pleasing to see the building façades of the homes without an unattractive garage door right in front. At the rear of the lots, we propose that alley ways for auto traffic be implemented to separate vehicular traffic from pedestrian walkways. We decided to use bulb-outs on our streets to slow traffic. (Bulb-outs are extensions of the sidewalk that force traffic to slow down when turning the corner.)

Program for Section 4 Development			
Single Family Homes			
Parcel Square Footages	Quantity	Square Footage	Acres
1,205 ( single townhome units)	140	168,700	3.9
3,664	32	117,248	2.7
4,795	25	119,875	2.8
5,632	29	163,328	3.7
3,834	29	111,186	2.6
4,573	22	100,606	2.3
5,394	8	43,152	1.0
4,318	15	64,770	1.5
4,121	2	8,242	0.2
<b>Total</b>	<b>302</b>	<b>897,107</b>	<b>20.6</b>
<b>Average Units per Acre</b>	<b>14.7</b>		
<b>Projected Population</b>	<b>906</b>		
Duplexes			
Square Footage	Quantity	Square Footage	Acres
8,708 (2 units per parcel)	17 (34 units)	148,036	3.4
<b>Average Units per Acre</b>	<b>10.0</b>		
<b>Projected Population</b>	<b>102</b>		
<b>Total New Residential Development: Single Family+Duplexes</b>			
	<b>336</b>	<b>1,045,143</b>	<b>24.0</b>
<b>Total Average Units per Acre</b>	<b>14.0</b>		
<b>Total Projected Population</b>	<b>1008</b>		
Park			
236,533 sq. ft.		5.4 acres	
Total New Development			
<b>1,281,676 sq. ft.</b>		<b>29.4 acres</b>	

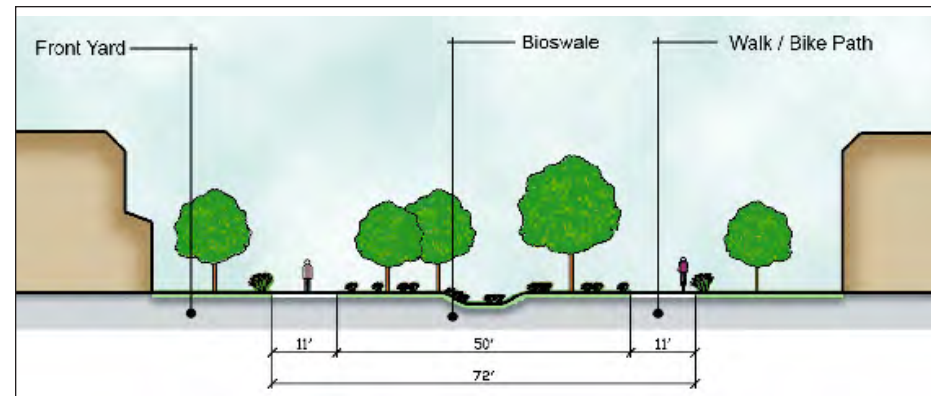


## Specific Area Proposals





A typical street section in the new medium-density neighborhoods.



Cross-section showing the greenway and bioswale area running between the new residential neighborhood.



Site plan showing greenway and a variety of housing.

## Specific Area Proposals



*Trees make streets more enclosed and safe.*



*Townhomes off of east Merritt Drive .*



*Attached homes.*



*An example of different housing types.*



*Detail of the site plan showing single family homes*



*Detail of the site plan showing duplex units.*

# Specific Area Proposals

Traver's Development Program					
Land Use	Quantity	Parcel's Square Footage	Acres	Average Units per Acre	Projected Population
Section 1					
Single-Family Attached	124	166,994	3.8	32.6	372
Commercial	58	164,514	3.7	15.7	-
Future Commercial	-	186,210	4.3	-	-
Industrial	-	2,288,068	52.5	-	-
Park	-	627,021	14.4	-	-
<b>Total:</b>	<b>182</b>	<b>3,432,807</b>	<b>78.8</b>	<b>24.3</b>	<b>372</b>
Section 2					
Single-Family Home	103	701,612	16.1	6.4	309
Duplex (2 units per parcel)	18	117,000	2.7	13.4	108
Mixed Use	-	48,135	1.1	-	-
Park	-	662,215	15.2	-	-
<b>Total:</b>	<b>139</b>	<b>1,528,962</b>	<b>35.1</b>	<b>7.4</b>	<b>417</b>
Section 3					
Single-Family Home	94	840,878	19.3	4.9	282
Apartments (8 units per building)	8	116,032	2.7	24.0	192
Apartments (10 units per building)	2	30,475	0.7	28.6	60
Civic (Community Center, Police and Fire Services)	-	219,305	5.0	-	-
Park/Open Space	-	930,781	21.4	-	-
<b>Total:</b>	<b>178</b>	<b>1,206,690</b>	<b>27.7</b>	<b>7.9</b>	<b>534</b>
Section 4					
Single-Family Home	302	897,107	20.6	14.7	906
Duplex (2 units per parcel)	17	148,036	3.4	10.0	102
Park	-	236,533	5.4	-	-
<b>Total:</b>	<b>336</b>	<b>1,281,676</b>	<b>29.4</b>	<b>14.0</b>	<b>1008</b>
Totals for Traver					
<b>Totals:</b>	<b>835</b>	<b>7,450,135</b>	<b>171.0</b>	<b>11.4</b>	<b>2,331</b>

## Overall Final Development Program



*Traver, California*

## Case Studies

## Davis, California



Market Hours: Saturdays 8am-1pm year round  
Wed. 2pm–6pm in Oct–Mar; 4pm–8pm in Apr–Oct

The Davis Farmers Market started in 1976 and has been named one of the best farmers markets in the country with approximately 5,000 visitors per day. One of the reasons why the Davis Farmers Market has been so successful is because of the multi-use design. Davis is the only city to host a permanent market shelter in the state. The permanent open-air structure allows for the market to remain open during rain or shine and also provides an activity center when it is not in use for the market.

For the town of Traver a permanent farmers market structure would be something to consider. This structure could provide more than an area to locate a farmers market; on off days it could host local activities, basketball courts, a community center, etc.

## Spokane, Washington



Market Hours: Seasonal, May 13th – Oct 31st

This farmers market opened May 15, 1999 at the corner of Division and 2nd in a downtown Spokane, Washington parking lot. This organization started as the Spokane Farmers Market Association. The association is the only fresh market in the Spokane area managed by its own members. They have a few pre-conditions for farmers that wish to sell their produce in town, but the association doesn't set minimum prices for produce. Instead they encourage pricing be set based on the quality and uniqueness of the produce. They require the vendors to be first-hand producers and farm in the local Spokane area.

For the city of Traver, a farmers market similar to the one in Spokane could work well. Traver could become a focal point for farmers around the region and make use of the central location of surrounding communities. The market could offer more variety as the town grows and the regular market event gains popularity in the region.

## Rutland, Vermont



Market Hours: Tuesdays 9am-2pm, May-October  
Saturdays 9am-2pm, May-October

Rutland County Farmers Market located in Rutland, Vermont consists of more than 100 quality vendors of locally grown and produced food products and crafts. One of the many reasons the farmers market is successful is because their goal is to create a friendly and productive environment for their customers *and* vendors. The farmers market is conveniently located in downtown Rutland right next to Walmart. The farmers market started there to contract with the big box retail stores nearby. The Rutland County Farmers Market is an open-air market, meaning there are no permanent structures with all vendors supplying their own booths.

For the city of Traver a farmers market similar to Rutland, Vermont could work well. The friendly environment would promote community involvement and act somewhat like a community center.

# Case Studies: Markets

## Seattle, Washington

Starting in the year 2000, The Seattle Public Utilities department had begun the implementation of “sea streets” in specific neighborhoods within the city. According to the Seattle Public Utilities Department, the purpose of sea streets are to slow the flow of storm water so that it can be infiltrated into the soil and water tables in order to help sustain surrounding creeks in the dry summer months. By incorporating “swales, storm water cascades, small wetland ponds, larger landscaped areas and smaller paved areas,” this would help to improve water quality by retaining pesticides and pollutants that would otherwise end up filtering into local water ways. The sea streets systems have proven to be quite effective as the Seattle Public Utilities Department has explained that “two years of monitoring show that [a typical sea street] has reduced the total volume of storm water leaving the street by 98% for a 2-year storm event.” In addition to helping

the environment, sea streets also beautify neighborhoods, provide pleasant pedestrian pathways, and encourage public participation in the planning process. People living in the residences where sea streets are constructed get to take part in choosing the style and types of plants that will be implemented.

The implementation of sea streets into Traver would esthetically enhance the town, but perhaps more importantly, resolve some of the flooding and drainage issues. This may be a more fiscally feasible option than the implementation of traditional storm drain systems throughout the city. Lastly, allowing residents to have the opportunity to take part in the design process for the “sea streets” in their own community.



Before



After

## Case Studies: Bioswales



Image I: Neck-down in downtown Oneonta.



Image II: Wide sidewalks in downtown Oneonta.

## Oneonta, New York

In the 1970s the community members of Oneonta wanted to change their main street from high traffic flow with narrow sidewalks into a pedestrian friendly area that people would like to visit. Oneonta's current population is around 13,292 people. It is a small town in upstate New York located around 60 miles southwest of Albany with a surrounding region of working agriculture areas. It is substantially bigger than Traver, but its goals for the main street remain similar.

In the 1970s the federal program to "renew urban blight" would often have an end-product of streets that were not pedestrian friendly, such as narrow sidewalks and four lane road sections designed for high volumes of motor traffic. The residents of Oneonta wanted something different, so they hired a landscape architect and decided what they wanted their main street to look like. The people of Oneonta wanted a place to walk, cross the street easily, and sit down in the shade. This seems to be what the people of Traver also want; slow traffic that is conducive to people walking along the street and not having to worry about semi-trucks driving over the speed limit.

Using this information the town of Oneonta decided to redesign its main street with neck-downs (see Image I), protected on-street parking, only two lanes of traffic, wide sidewalks (see Image II), and mid-block slow points. This main street has only a 70 foot right-of-way from building to building. Merritt has a large enough right-of-way that some of these same traffic calming measures could be used.

The main street improvement in Oneonta started in 1980 and has been continued up to the present. The original features of the main street are still present but have been improved on over the years. Approximately \$1 million has been invested in the main street program over the past 20 years. All of the improvements have been funded by the HUD Small Cities Program. The result of this main street program has been a street where people feel safe. The speed of traffic is consistently maintained at 25 miles per hour and the first floor commercial occupancy is near 100%.

The town of Oneonta is a bit larger than Traver, but they seem to want the same things. Traver needs traffic calming along Merritt and the community could also benefit from a commercial corridor along its main street. Many people use this road, so widened sidewalks, neck downs, and a small commercial corridor could be ideal.

All of this doesn't have to happen overnight; it can be part of a program over a period of years that is used to attract commercial business to the area while slowing down traffic and creating a street that people feel safe walking on.

# Case Studies: Traffic-Calming and Alleyways



Image III: Alley-loaded granny units in Aggie Village.



Image IV: Obstructions for cars beautify the alleyway and provide a sense of enclosure.

## Aggie Village, Davis, California

Aggie Village in Davis, California is a mixed-use project located less than a quarter mile from Interstate 80. The neighborhood was originally built on 12 acres of land near the downtown area and the UC Davis campus. The development has the unique feature of pedestrian pathways running behind the main housing blocks (see Image III). The pedestrian alley serves as a linkage to the street for pedestrians and bicyclists, with granny units facing the alleyway (see Image IV). The granny units are a special feature in that they offer the owners of the main houses an option for extra income or housing for a family member in a separate house. The addition of these granny units adds value to the existing home, as well as density to the neighborhood.

The mix of housing types in Aggie village creates an enclave of mixed income levels and housing types needed to build a healthy community. The building styles in the Aggie Village development offer size as well as architectural variation. The development maintains a constant theme in small setbacks from the street. Porches on the street promote people interactions in outside semi-private areas. The neighborhood is based on the principle of walkability, placing commercial shopping within easy walking distance to housing. The circulation pattern also separates pedestrians and bicycles from automotive traffic, making it more inviting to use the various walking paths.

The community of Davis has many of the same initial considerations as Traver. An agricultural town based along a major highway corridor, Traver also has the potential to become a neo-traditional town based on its existing grid system. Aggie Village contains the same pedestrian and bicycle linkages to the shopping centers of the surrounding areas. The street grid existing in Traver has the simple and effective design of alleys running parallel to the neighborhood grid. These alleys are currently under-utilized and remain mostly deserted.

The placement of granny units in the rear yards of the existing houses would add life to these alleys. Home-owners could use the income boost provided by the secondary units, as well as provide more housing options for lower-income residents. An important security element of the units will include windows facing the alley. This provides an element of security for the pedestrians in the alley, in addition to the provided low-level lighting. A test of the safety of a community will be if residents exercise outside during the dusk hours. Pedestrian-friendly areas separated from the heavy truck traffic in and around Traver would also add comfort and safety to the existing pedestrian circulation.

*(continues next page)*

# Case Studies: Traffic-Calming and Alleyways





*Image V: Pedestrian and bike-friendly alleyways.*



*Image VI: Existing alley in Traver: wide enough for all the elements in Image V.*

## Aggie Village (continued)

There will also be a need for drainage in the alley; a permeable bio-swale planted with native plants would serve as a filtration system for the alley's runoff and also act as natural landscaping. With the alley newly occupied by granny flats the density of the blocks will increase to help sustain the much-needed services in Traver.

The sizing of the units would correspond to a two-car garage. By placing the unit 5 feet from the alley there would be a space for a small entryway. The size of the units would allow for a bedroom, small kitchen, bathroom and perhaps loft space. Allowable uses could be an artist studio, light workshop, or single person housing, depending on the specific floor plan for each unit. With the right mix of architectural styles the units could become a prized facet of the community. The easy walking access would benefit someone walking to work or whose main form of transit was not a car. This setup would especially aid the elderly.

The traditional design for the rest of Traver can also benefit from the design elements found in Aggie Village. The mix of housing types, as well as the varied architectural styles all fit a small, relatively compact town such as Traver. The grid pattern and the small building setbacks of Aggie Village could be utilized for other areas of the town. Maintaining varied facades of the street-facing buildings will be important. The proximity of the highway commercial to the neighborhood will also potentially increase the walkability of the town.

# Case Studies: Traffic-Calming and Alleyways

## Educational Village, Pomona, California

In Pomona, California, 30 miles east of Los Angeles, and one of the city's oldest suburbs, development challenges have arisen. The influx of immigrants are raising student populations in aged schools over capacity, new school sites are sparse and difficult to find much less acquire, commercial properties that date back to the 1960s are blighted and under used, and there is critical need for economic development.

The Educational Village at Indian Hill seeks to solve a number of these problems by converting and revitalizing a largely vacant regional shopping center into an educational village that includes two schools - an elementary school with 1,000 students and a high school with 500 students - covering 120,000 square feet of the 550,000 square-foot former mall. Other facilities at the site include an 800 seat high-tech conference center for teacher training and community use, adult education programs, a child development center, and a number of other training and support programs.

The vision of an educational village came from school superintendent Patrick Leier. In a poor community where 80 percent of the school kids qualify for lunch subsidies and more than 60 percent speak a language other than English at home, Leier's goal was to develop a sustainable community, one that educates children, trains adults, supports families, benefits from public and private partnerships, offers integrated recreation facilities and affordable housing, and promotes a thriving community.

NASA/Jet propulsion was one of the school district's first private partners at the Village, constructing an applied technology and science classroom and training center. Additional private partners include Apple, IKON, and Smart Technologies. Private partners support the school district by supplying a revenue stream through the payment of rent and providing services such as photocopying, and they are required to create apprenticeships for students. Currently, 80 percent of the Village tenants are school district partners.

In the case of Indian Hill, the longtime commercial property has significant residential zones nearby. In order for the project to work, its proximity to major arterials is critical for the commercial components to be feasible. Also necessary is a growing student population and the demand for additional school space. It is also important to make sure that the retail businesses will be compatible with the education program. At Indian Hill, the educational foundation ensures compatibility through its control of leases. Lastly, flexibility is critical because the school district serves a highly mobile community. Leier, the superintendent, envisions the Village at Indian Hill as representing one end of a continuum that starts with a sustainable community growing from an economic base driven by education. Various training and service programs develop the talents of residents, retail components grow from and help the educational base, and new residential develop-

ment becomes a tool that can be used to recruit and retain teachers within the village.

The city of Traver has the potential for becoming the next "educational village." With a 30% population of kids under the age of 18, and an adult population with without a college degree, a concept like the educational village could help promote a thriving economy and social learning community that seeks to incorporate both work and play. Expanding opportunities for education and social networking is essential for the growth of the Traver community residents.



Image I: Elevation of Indian Hill looking West at Paseo to Plaza.



Image III: Partnerships with corporations, educational institutions and other non-profits further strengthen the community and provide resources. By opening the facility to adult education at night, the district splits the cost of equipment with higher education partners and brings a much-needed service to the community.



Image II: The transformation from failed retail space to community center resulted in a flex space elementary school, an academy-based high school, and much needed retail space for service-oriented businesses and community organizations such as HeadStart, a NASA/JPL Research Center and a local history museum.

## Case Studies: Education and Housing

## King Farm, Rockville, Maryland

Located within the metropolitan region of Washington D.C., this 430 acre suburban neighborhood's innovative design focuses on traditional residential, commercial, and mixed uses oriented around local public transit hubs and multiple social community centers. King Farm consists of three distinct sections; each section varies on densities and land uses. Watkins Pond, the larger of the two residential sections, consists of single family, multifamily, and town home units that are located around an elementary school, park, and community center. Bailey's Common, the second residential section in King Farm, consists of higher density town homes, condominiums, and apartments, integrated with retail and other mixed uses. The development's third section, Irvington Center, consists of office and retail land uses designed to provide the development with jobs and other commercial services.

King Farm's design limits auto dependency by arranging its multiple uses within close proximity of one another, encouraging residents to walk from their homes to the commercial centers or work. A grid style street network further encourages pedestrians to walk to the commercial and community centers located within their section of the development. Three main roads - King Farm Boulevard, Redland Road, and Gaither Road - cross through the development, linking the three sections to each other and the residential areas to the community and retail centers. The Shady Grove Metro Station, located in the denser residential section of Bailey's Common, links residents in King Farm to Washington D.C. and the surrounding metropolitan region via the metro system. Private and public bus services are also located within many

of the development's community centers to provide residents with more transportation routes throughout the region.

One of the unique features in King Farm is its design for residential development. Parking for most of the 3,200 residential units is provided in the rear of the residential lots or hidden from the street behind higher density residential structures. Alleys are an important aspect in the development, providing access to the parking lots and garages for the residential units within the development. Social interaction among residents is stimulated by the narrow lot size and shallow setback of each residential parcel. With residential units being spaced closer together, residents will be able to interact with more than one neighbor at a time. While the development does have single-family lots, those lots are much more densely compacted than a typical suburban neighborhood, allowing for more social interaction, as well as keeping the price of ownership down.

In relation to Traver, King Farm is an excellent example of how residential uses can be compactly centered around retail and public uses. A community center next to Traver Elementary School could draw residents from their homes to socially interact with other residents at the community center. People could have something to do after work.

*(continues next page)*



*Image IV:* This site plan of the King Farm development illustrates the layout of the community and its residential and commercial/public components. The orientation of the road network clearly shows how residential uses are linked to the red community/retail centers located within the three sections of the development.



*Image V:* Shallow setbacks, narrow lots, and larger homes are typically seen in all sections of King Farm.

## King Farm (continued)

Also, like King Farm, road networks in Traver should be designed to link all residential areas with the main commercial and public centers. A bus station or some other form of transit can be designed to take residents from that center to other commercial centers in neighboring cities like Fresno and Visalia, utilizing the existing highway system. The concept of density in relation to the community's center can be used in Traver; lower densities can exist on the periphery of new development, while higher densities would concentrate around the community core and retail or public centers. Perhaps in the future, like the King Farm development, residents in Traver could live and primarily walk to work from their homes in Traver.



*Figure VI: The town core consists of retail and office space, providing the residents of King Farm with commercial and job opportunities within a walking distance of their homes.*



*Figure VII: Denser residential units, closer to the community center, provide the development with identifiable urban streetscapes. Urban streetscapes allow pedestrians and visitors to know where they are at in the community and become socially engaged in the environment surrounding them.*

## Case Studies: Education and Housing

## Ohio River Park, Ohio

The Ohio river park site lies on the western edge of Neville Island, which is located in the middle of the Ohio River. It is readily accessible by highway and rail-road. In the 1930s, the site began as a municipal landfill used for storage of domestic trash and construction debris. Around 1952 and into the 1960s, Pittsburgh Coke & Chemical Company disposed of industrial waste at the site. The waste resulted from the manufacture of mineral products, specialty chemicals, and agricultural chemicals. Wet waste was disposed of in trenches, and dry waste was piled on the surface. Soils, sediment, surface water, and groundwater became contaminated with harmful organic chemicals, pesticides, and metals. These contaminants posed concerns for the people and ecology of the area as well as for the municipal wells of the Borough of Coraopolis, across the river.

Around 1990, the site registered under the radar of the EPA and was placed on their list of hazardous waste sites in need of cleanup. The Neville Land Company took responsibility for the cleanup under the supervision of EPA, state, and county officials. Field investigations were suspended in 1991 when the EPA agreed to the island township's request to make part of the site available for replacing the old, Coraopolis Bridge, prior to addressing the balance



of the cleanup. When the cleanup resumed, workers removed contaminated soil, and covered concentrated waste with a multi-layer cap (1) and the balance of the site with an erosion cap. They then isolated subsurface contamination, built an underground slurry wall (2), and added earth to raise the ground level. Restrictions on the use of the property were placed in the deed. In 1998, the developers began construction of the sports center (3). That same year, EPA decided on a program of monitored natural attenuation of groundwater.

We chose this case study because of the fact that Traver has a potentially developable parcel of land on Burke Drive, but with known pollutants present. There was no development on the Ohio site, just like the undeveloped polluted area of Traver. It illustrates how a community can come together, take a severely deteriorated area, and with help of others, create a public space for

everyone to enjoy. The community of Traver could do to their dilapidated park what these people did to this area. Another benefit were positive economic impacts on the Ohio Park area. It provided 100 jobs per year during the cleanup, and continuously provides 3.4 million dollars in annual income with 70 permanent jobs at the completed facility. It also improved the potential to attract new business to the area.



Image I: The brownfield cleanup process.



Image II: A caution sign warns of hazards.

## Case Studies: Community Centers

## Sustainable Community Centers, Seattle

There are five new community centers in Seattle that are experimenting with sustainability. These new community centers were designed with the public building guidelines for the twenty first century. Chris Stafford, a Seattle architect and environmental consultant, was the mastermind behind the sustainable community centers. Stafford realized the opportunity to apply sustainable methods to community buildings. These buildings were required to establish overall energy efficiency, including embodied energy considerations, conservation of water and electricity, and environmentally sensitive use of materials. In order to measure the sustainability of each community center, the design calls for surpassing the federal energy code by at least 65 percent. This set an overall guideline for all the community centers in Seattle.

These community centers incorporate low-maintenance landscaping, including native, edible, and food-producing plants. The designs call for site-solar orientation, uses of super-insulated roofs and walls, high performance glazing and skylights, thermal massing, and air lock entry. The Seattle centers were designed with about 19,000 square feet of room with a lobby, multipurpose room, a kitchen, a large gymnasium, and space for a family counseling and educational center. The Garfield Community Center, in a mostly minority neighborhood, is the first of the five to be occupied. It is a delightful little building designed by Miller/Hull of Seattle. The architects used inexpensive durable materials. The form is strong and simple with cheerful

colors and there is an abundance of light and volume inside. The guidelines for these sustainable community centers were requested by architects and public officials all over the world.

The need for a community center in Traver is very apparent. The community naturally wants to come together, and having a well designed communal area is a logical way to accomplish togetherness. Currently the Traver elementary school serves the closest function to a community center. Creating a sustainable community center would be beneficial to Traver because of the current restricted capacity for waste water systems, potable water, and the lack of overall infrastructure.



*Image IV: Concept proposal for a community center in Hamilton, Montana.*



*Image III: This is a photo of a design proposal for a community center implementing sustainable approaches. After Seattle built these community centers, over 300 copies of the guidelines and designs were requested from around the world.*



*Image V: This is a photo of the inside of a community center in Arizona. A community center is a great way to bring a community together for various events.*

## Case Studies: Brownfields

## Ann Arbor, Michigan

*“We need to encourage people to spend more time downtown, not move through it quickly. By widening the sidewalks, adding diagonal parking or taking a look at two-way traffic again...”* (Focus group participants in Ann Arbor, MI).

*“To maximize the economic potential and to preserve the heritage and sense of place of a historic commercial district by encouraging and facilitating the use of the Main Street Four-Point Approach which emphasizes economic development within the context of historic preservation”* (Oakland County, MI).

The importance of a town to possess a vibrant “main street” commercial district has been realized throughout the United States. A comprehensive main street revitalization strategy, one that has been successful in towns nationwide, was created by the National Trust Main Street Center. Founded in 1980, the organization’s “Four-Point” approach of: Organization, Design, Promotion and Economic Restructuring, has been successfully utilized in over 2,000 downtowns in 40 states. These four points can be addressed collectively to build a sustainable and complete community revitalization effort. Coincidentally, the four points of the Main Street approach correspond with the four forces of real estate value: social, political, physical, and economic.

In the early 1960s, the city of Ann Arbor, Michigan, made a decision to revitalize its main street. Unlike many other mid-western cities they did not want it to be a pedestrian mall, but to beautify it with

streetscape improvements. This early revitalization enhanced the pedestrian environment. In 1980, Ann Arbor further improved the design of its main street to encourage sidewalk cafes, to enhance pedestrian lighting, and to reconfigure existing parking bays to make them more efficient.

The first redesign project in the 1960s simply planted trees on the tree-less street, reduced the impact of traffic through traffic calming measures such as bulb-outs and on-street parking, and improved the sense of scale and structure to the pedestrian environment. The second phase of the project, undertaken in the 1980s, improved parking designs that alleviated the parking shortage, enhanced street lighting for pedestrians, and brightened up store fronts which added a sense of safety to the environment.

The extensions, street trees, wide sidewalks, and improved pedestrian lighting have created much more pedestrian and commercial activity within the district. Activity along Main Street was further boosted after the city revised its sidewalk use ordinance, which allowed store owners to use the space created by the sidewalk extensions as outdoor seating areas.

*(continues next page)*



*Image I: On street parking and mid-block bulb-outs with trees.*



*Image II: Wide sidewalks and bright lighting.*



*Image III: Tree lined streets, lush landscaping and bulb-outs.*

## Case Studies: Main Street Revitalization

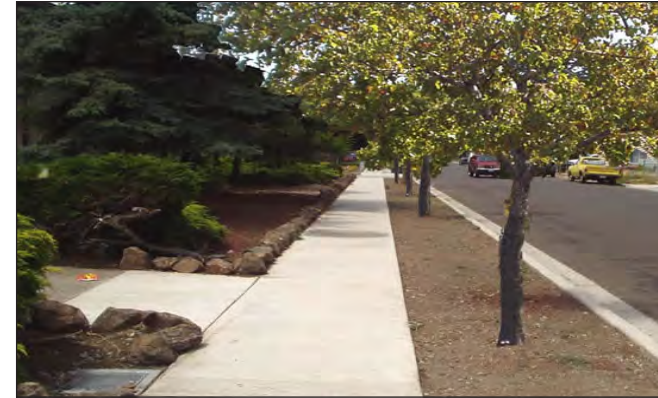
## Ann Arbor (continued)

Projects may have been done differently had there been a real partnership between the transit agency, the city, and the business community. The vision for a revitalized, pedestrian-oriented downtown was shared, but the implementation should have been coordinated in a different manner. Projects like this one can serve as examples to show how different sectors can work together to successfully guide future developments.

The Main Street revitalization project applies directly to the small town of Traver, even though Ann Arbor is a larger city than Traver. We can use Ann Arbor as a case study analysis and apply it to Traver. We are currently dealing with many of the same issues in Traver that were dealt with in Ann Arbor. Traver's main street is Merritt Drive which serves as the Traver's "downtown". However, Merritt Drive is no more than an arterial that goes through Traver. In our revitalization and design of Traver, we need to turn Merritt Drive into a "downtown" district. We will accomplish this by using design concepts like those used on the revitalization of Main Street. For example, adding in trees along the street, implementing wide pedestrian friendly sidewalks, and improving lighting along the street for pedestrians. Lighting is an especially sensitive issue to Traver because of the thick valley Tule Fog that lingers throughout different times of the year. The Ann Arbor Main Street revitalization has served as a great case study to analysis in the process of idea generation for the new design and development of Traver.



*Image IV: Safe pedestrian crosswalks and traffic calming*



*Image VI: Trees physically separate pedestrian and vehicle traffic*



*Image V: Sidewalk cafes increase activity*

## Case Studies: Main Street Revitalization



## Westminster, Maryland

Westminster, Maryland had once possessed many of the same main street constraints that we face in the community of Traver. Westminster's East Main Street was faced with deteriorating underground utility lines and an inadequate drainage system.

When the town planned upgrades, they kept a goal to create a pedestrian friendly main street with adequate infrastructure. Instead of widening the street to allow for the common 12-foot travel lanes and 8-foot parking lanes, the town decided to use corner "bulb outs" at intersections, mid-block crosswalks with colored pavement, and additional street trees. This program allowed for the town to upgrade its existing street system without destroying the historic main street ambiance.

The town of Westminster is somewhat similar to Traver in that they both have a small town feel and significant main corridors through the town. In many small towns, widening streetscapes are often not the

best solutions to traffic issues. Traffic calming measures used on Westminster's East Main Street such as bulb-outs, on street parking, and landscaping that provide a barrier between automobile and pedestrian traffic are interesting design concepts to potentially use in the design of Traver.

These traffic calming measures would especially work on Merritt Drive. Currently, Merritt Drive is a wide road that lacks streetscape elements. Traffic calming measures are one of the crucial elements needed in Traver due to the negligence of some drivers to ignore the speed limit of 35mph. Bulb-outs could work as a subtle deterrent for automobile drivers to speed when the road narrows and they are forced to slow down. Features like these would greatly improve the safety for pedestrians as well as create a more attractive downtown.

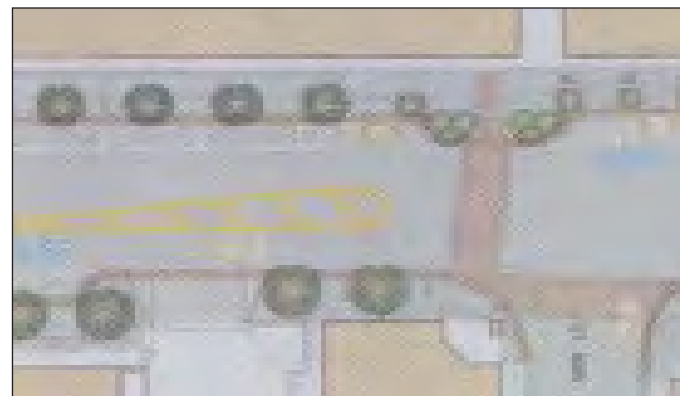


Image VII: Rendering showing various traffic calming measures.



Image VIII: Plants & planter boxes separate traffic.



Image IX: Street trees with metal grates.



Image X: Tree lined streets and aesthetically pleasing lighting.

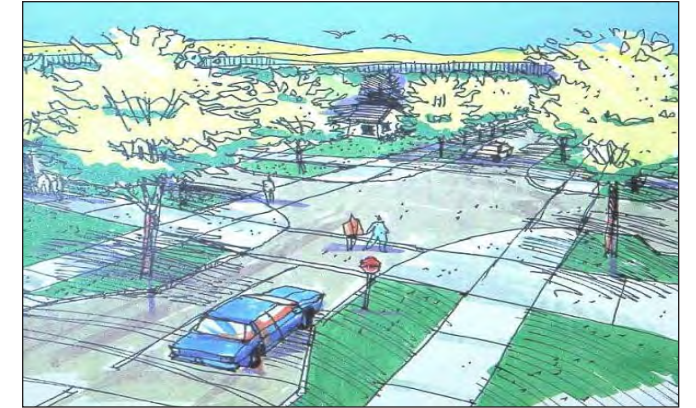


Image XI: Traffic calming measures (bulb-out).



Image XII: Integrated street lighting and landscaping.



Image XIII: Sidewalk cafes increase pedestrian activity.

# Case Studies: Main Street Revitalization

- Alexander, Christopher et al. 1977. A Pattern Language. Oxford: Oxford University Press.
- Calthorpe, Peter. 1993. The Next American Metropolis. Princeton, NJ: Princeton Architectural Press.
- Congress for the New Urbanism. 2000. Charter of the New Urbanism. Available at: [www.cnu.org](http://www.cnu.org).
- County of Tulare. 2006. Draft General Plan Update.
- \_\_\_\_\_ 1989. Final Environmental Impact Report for the Traver Redevelopment Project.
- \_\_\_\_\_ 1989. Traver Community Plan.
- \_\_\_\_\_ 1989. Traver Redevelopment Project.
- De Chiara, Joseph & Callender, John. 1990. Time-Saver Standards for Building Types. 3rd edition. New York: McGraw-Hill.
- Gause, Jo Allen; ed. 2002. Great Planned Communities. Washington: The Urban Land Institute.
- Jacobs, Allan. 1993. Great Streets. Cambridge, MA: MIT Press.
- Jarvis, Frederick. 1993. Site Planning and Community Design for Great Neighborhoods. Washington, DC: Home Builders Press.
- Kotkin, Joel. 2005. The New Suburbanism: A Realistic Guide to the American Future. Costa Mesa, CA: The Planning Center.
- LaGro Jr., James. 2001. Site Analysis: Linking Program and Concept in Land Planning and Design. N. York: John Wiley & Sons.
- Lynch, Kevin & Gary Hack. 1984. Site Planning. 3rd Edition. Cambridge, MA: MIT Press.
- Lynch, Kevin. 1959. The Image of the City. Cambridge, MA: MIT Press.
- \_\_\_\_\_ 1981. Good City Form. Cambridge, MA: MIT Press.
- Marcus, C.; Francis, C. & Russell, R. 2001. "People Places: Design Guidelines for Open Spaces". In Watson et al (eds) Time-Saver Standards for Urban Design. New York: Mc Graw Hill.
- Spreiregen, Paul. 1965. Urban Design. Washington: APA / MacGraw Hill.
- Steuteville, Rober & Langdon, Philip; eds. 2003. New Urbanism: Comprehensive Report & Best Practices Guide. Third Edition. Ithaca, NY: New Urban News.
- Sucher, David. 2003. City Comforts: How to Build an Urban Village. Seattle: City Comforts Press.
- Urban Design Associates. 2003. The Urban Design Handbook: Techniques and Working Methods. New York: W. W. Norton
- Watson, D.; Plattus, A. & Shibley, R. eds. 2001.
- White, Edward T. 1983. Site Analysis. Tucson: Architectural Media.

Images retrieved from:

- <http://www.itrc.org/papers/gis/>
- <http://www.topozone.com/>
- <http://www.tularemotel.com/images/>
- <http://www.uscoldstorage.com/images/>
- <http://www.wikipedia.org/wiki/>
- <http://www.wamaps.com/images/>

## Bibliography and Sources



California Polytechnic State University San Luis Obispo  
 City and Regional Planning Department  
 CRP 341 - Community Design Lab; Fall 2006  
 Instructor: professor Vicente del Rio, Ph.D

Angel Lozano (computer modeling)  
 Aram Ovsepian (illustrative general maps)  
 Charles Wong  
 Corbin Johnson  
 Courtney Kettman  
 David Grim (document editor)  
 Dan Cermak  
 Devin Denman (cover illustration)  
 Douglas McIntyre  
 Dustin Emery  
 Edwin Scales  
 Eric Ward  
 James Fisher  
 James Paulding  
 Jennifer Gau  
 Jiriah O'Malley (general CAD map and computer modeling)  
 Maricel Chavez  
 Matthew Korn  
 Melissa Cole  
 Michael Costa (executive summary)  
 Michael Gregg  
 Ranamaitreya Waterfall

We thank the help, support, and enthusiasm we received from:  
 George Nord, Principal; Traver Elementary School.  
 Frank Ruiz; Resource Management Agency, County of Tulare.

We are also grateful to the community of Traver for believing in our work and for opening many doors.

## Credits and Class Photo

