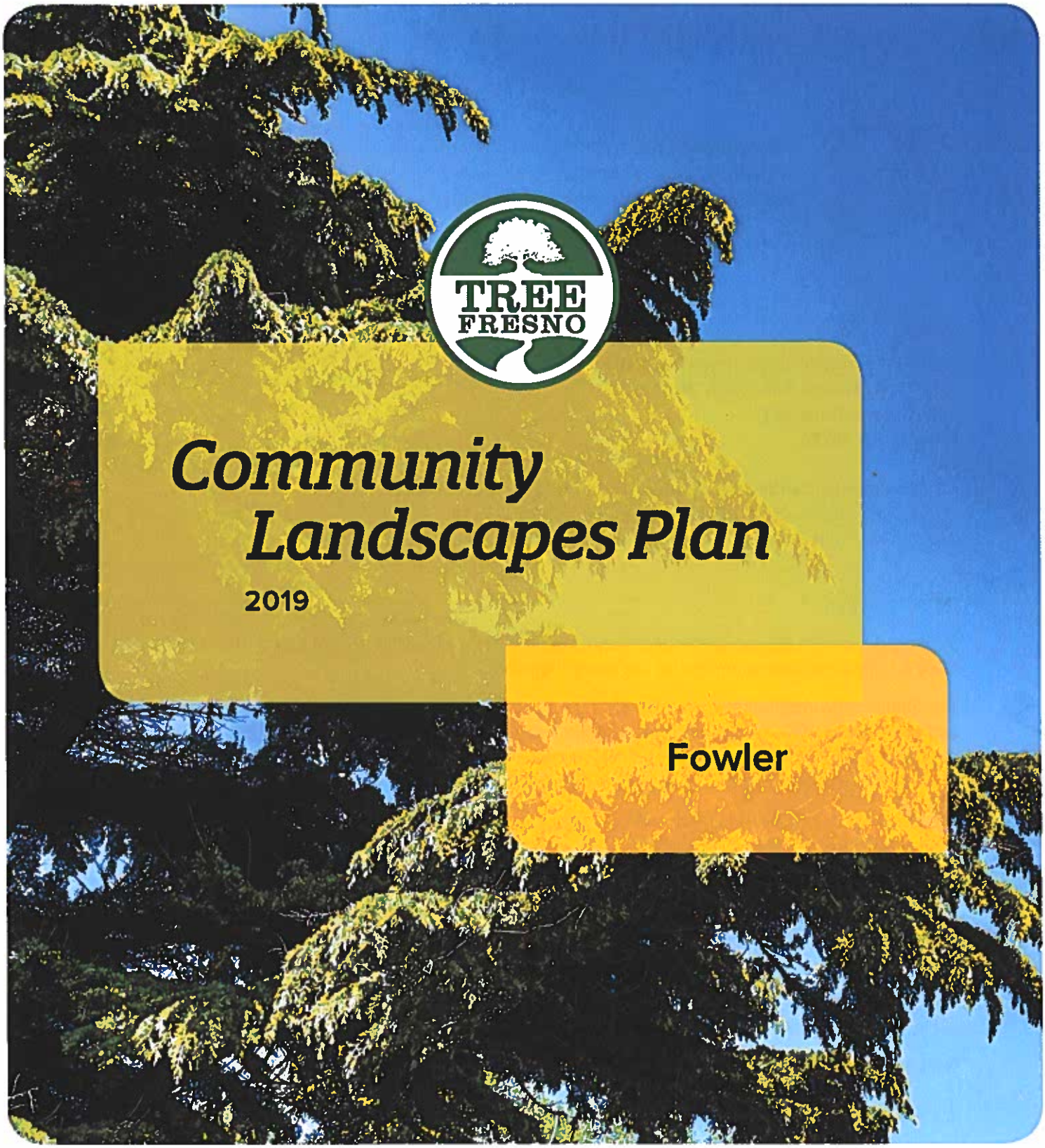


Community Landscapes Plan

2019

Fowler

Fresno Council of Governments

THE CITY OF FOWLER • CALIFORNIA
1908

We create special places.
We plant, care, inspire.
We are a voice, a teacher, a steward.

August 31, 2019

Fresno Council of Governments (FCOG)
Attn: Tony Boren, Executive Director
2035 Tulare, Suite 201
Fresno, CA 93720

RE: **Community Landscapes Plans** – City of Fowler; West Fresno
Sustainable Infrastructure Planning Grant Program (Cycle 1)
Saving Lives with Community Landscapes Plans. Grant Amount: $150,000

Dear Mr. Boren:

Submitted herewith are the Community Landscapes Plans for the City of Fowler and West Fresno, They are prepared and submitted as separate documents.

The final reports include several additions and refinements by the consultants, the Tree Fresno team and the graphic artist; each structured as an Executive Summary. A complete set of the consultants' reports in digital form on a flashdrive will be submitted with the printed report. An administrative draft of each Plan was submitted to Fresno COG for review and comment on June 30, 2019.

The Community Landscapes Plans will be presented at workshop sessions with the Fowler City Council and Fresno City Council members representing West Fresno.

Thank you for this opportunity to launch an innovative series of Community Landscapes Plans to reduce greenhouse gases and improve our environment with trees and green vegetation. Our work has been well-received by the participants.

We have already arranged for grant funded tree planting projects to take place on strategic properties identified in the Community Landscapes Plans. We look forward to demonstrating that these Community Landscapes Plans can change and save lives!

Respectfully submitted,

Lee Ayres

Chief Executive Officer

Table of Contents

Table of Contents – Exhibits

Introduction

Community Profile

CITY OF FOWLER
COMMUNITY LANDSCAPES PLAN AREA

DEMOGRAPHICS

31 years
average age

6,495
population

47,572 dollars
median household income

20.8 minutes
mean commute time

HOUSING INFO

1,722
dwelling units

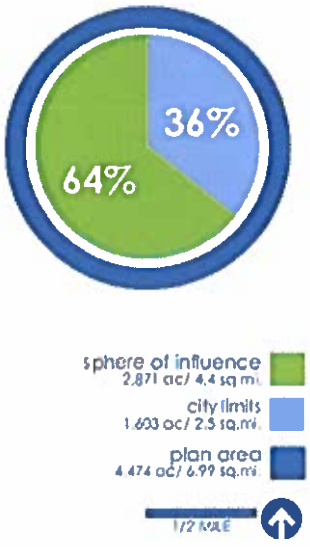
3.67
avg. ppl/ household

3
percent vacancy rate

53.8
percent home owners

46.2
percent home renters

NOTE: Data for this community profile has been primarily sourced from census data, which may account for information outside of the plan area.



PARK FACILITIES

COMMUNITY PROFILE

As the Central Pacific Railroad expanded southeast from Fresno in the late 19th century, prominent rancher and State Senator Thomas Fowler used his influence to locate a switching station near his and others' ranches. Early development was oriented around ranching and shipping of cattle until the introduction of irrigation in the 1880s. Fowler has expanded modestly in all directions from its original rail-centric core. Many prominent industrial and commercial agricultural enterprises have located in the City limits in order to take advantage of the proximity of rail and major highway transportation options.

Scope of Work

- **Prepare a Community Landscaping Plan:** Reduce the emission, and increase the absorption, of Greenhouse Gases
- **Geographic Area**: City of Fowler - Sphere of Influence. A community of 6,000+ people situated immediately south of the City of Fresno, with 6 miles of Freeway 99 frontage.
- **We assessed**: Regional history, ecology, landscapes, trees, soil, open space, land use, transportation, noise, air quality and health.
- **We proposed:** Ways to reduce greenhouse gases; drawing on the expertise of Tree Fresno and several consultants.

Value Proposition

The health and economic wellbeing of a community, especially with significant greenhouse emissions from nearby freeway(s) and railroad(s), will benefit from the delineation of districts, greenways, tree and plant palettes appropriate to the region, the adaptive reuse of infrastructure, modification of land use policies, the strategic placement of trees and plants and abundant landscaping.

Guiding Principles

for preparing the Community Landscapes Plan

- **Be succinct; limit the investment in verbiage.**
- **Develop impactful exhibits**
- **Recruit experts who may not ordinarily be available to the community**
- **Focus on the big challenges and opportunities**
- **Demonstrate how we can transform Fowler with beautiful landscapes and creative land use and transportation policies.**

Assessment: The Community Landscape Plan begins with an assessment of current conditions and presents its findings in two parts:

- Key insights, page 16
- Consultant Reports, beginning on page 17

Community Shaping Plans: The Community Shaping Plan follows with recommendations for the future. It is also presented in two parts.

- Key proposals, page 71
- Consultant Reports, beginning on page 73

Acknowledgements

Consultant Team	**History**: Jamie Hinrichs, PhD Candidate, Environmental History, University of St Andrews **Ecology**: Kelaine Ravdin, Urban Ecos, LLC **Land Use Planning**: Sara Allinder, Jeff O'Neil, Provost and Prichard Consulting Group **Landscape Planning**: Rich Vaillancour, Kaitlyn Heskett, Robert Boro Landscape Architects **Certified Arborist**: John Pape, John Pape Consulting, LLC **Public Health Maps**: Fresno County Public Health **Transportation**: Georgiena Vivian, Jason Ellard, VRPA Technologies **Air quality**: Doug Eisinger, Hilary Minor, Sonoma Technologies, Inc. **Fowler Green Illustrations**: David Saunders, DS Architects **Graphic Designer**: Lisa Winter, Lisa Winter Design
Citizens Advisory Committee	Jeannie Davis, Karen Mukai, Manuel Lopez - City of Fowler Lucio Cortez - Principal, John Sutter Middle School, Fowler USD Maggie Courtis - Master Gardener
Grant Administrator	Fresno Council of Governments
Strategic Partner	City of Fowler
Tree Fresno	Allyson Smith Brianna Woodsford Bruce O'Neal Carlene Jackson Cassandra Terrell John Clawson Lee Ayres Mark Yhnell Sara Cerkueira

Team Diagram

Arc of History

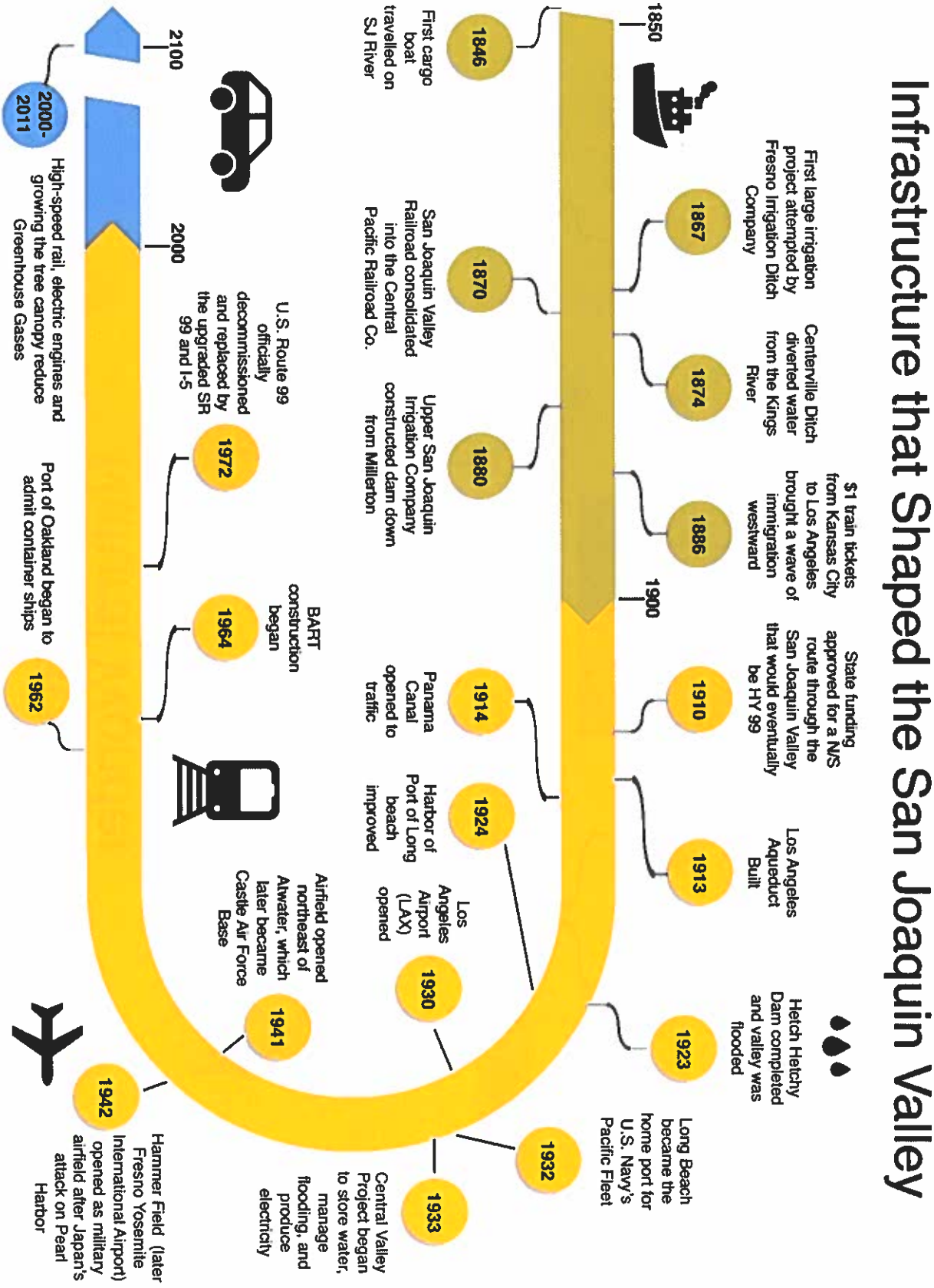


Exhibit 1 - Arc of History – Infrastructure that Shaped the San Joaquin Valley

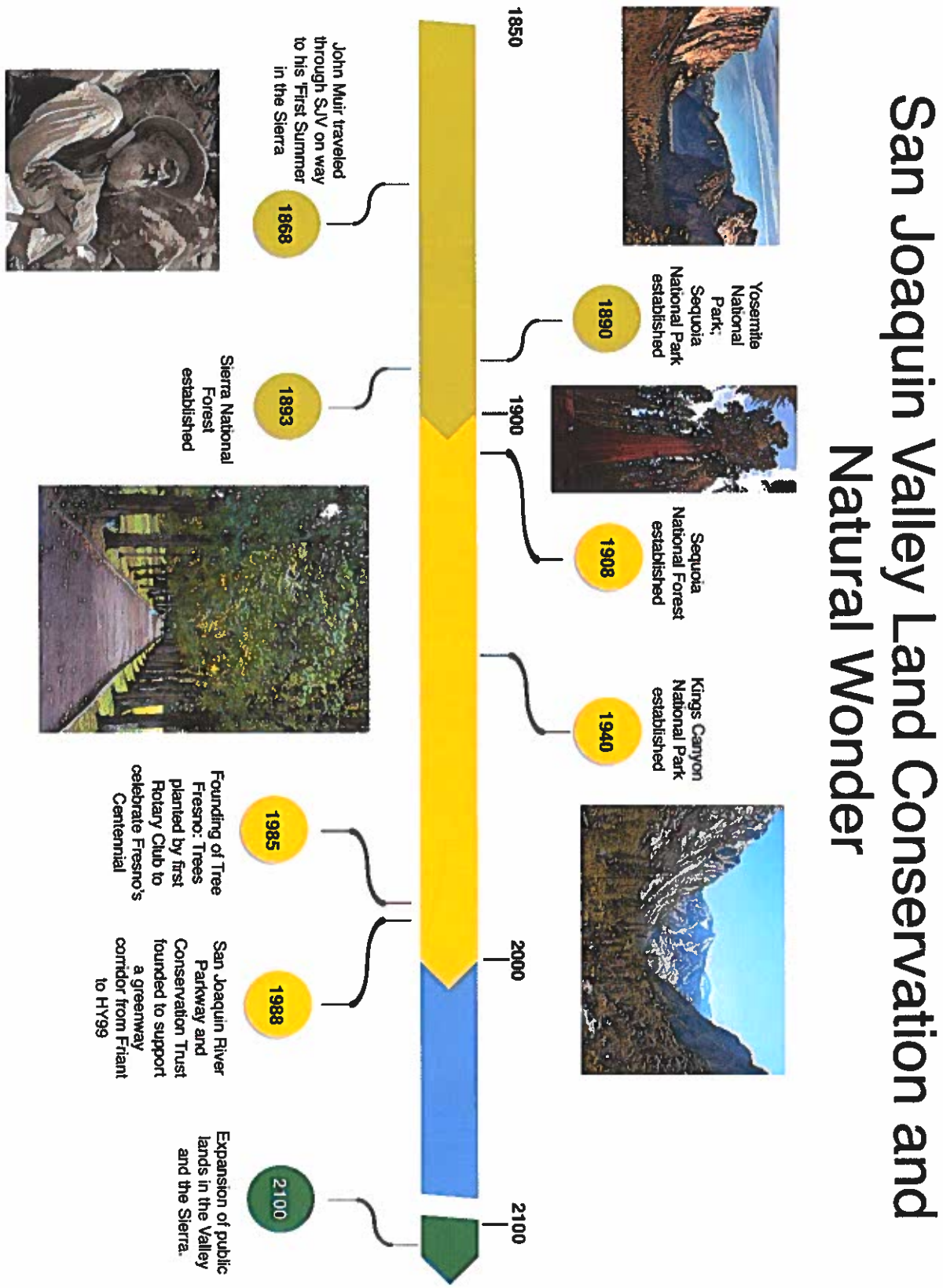


Exhibit 2 - Arc of History – San Joaquin Valley Land Conservation and Natural Wonder

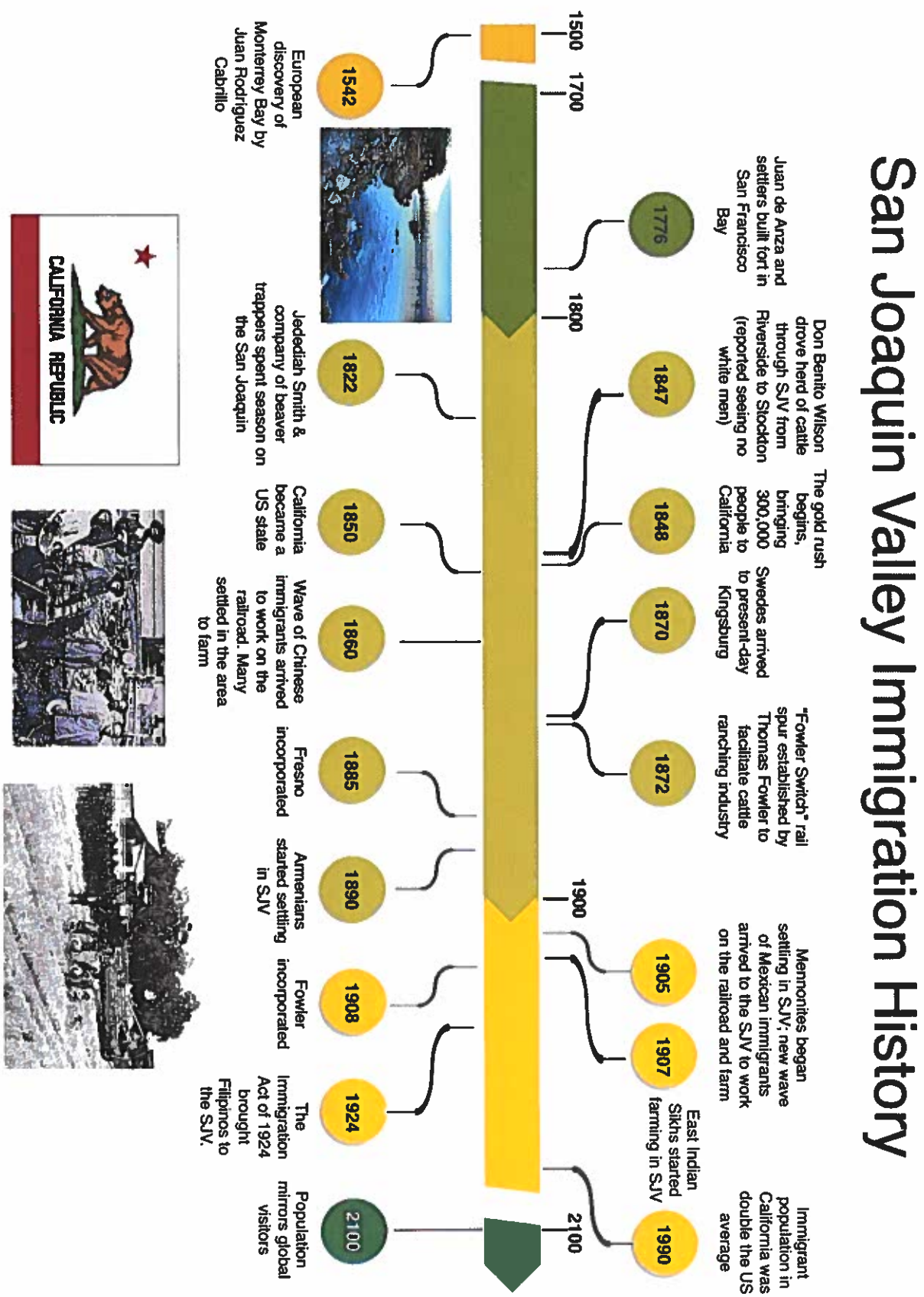
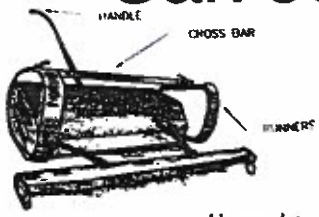


Exhibit 3 - Arc of History – San Joaquin Valley Immigration History

San Joaquin Valley Economic History



1850

1860 — Grain farming began

1880 — Horse-drawn Fresno scraper developed, wheat production peaked

1900

1911 — Entry of the United States into the First World War stimulated additional needs for food production

1912 — The raisin association that would eventually become Sun-Maid founded

1970 — Silicon Valley became epicenter of computer industry

2100

1864 — Ranching began in SJV

1875 — Published plans of first successful agricultural colony – 4,000-acres near Fresno

1882 — Viticulture and irrigated agriculture began

1900 — California became one of the nation's leading producers of deciduous and citrus fruits, nuts, grapes and vegetables

1925 — SJV was a leading area in California for cotton production

1930 — The height of the Golden age of Hollywood brought increased attention to California

1964 — Bay Area biotech industry began

2100 — Economy reflects science mega-trends

Arc of History

Exhibit 4 - Arc of History – San Joaquin Valley Economic History

San Joaquin Valley Environmental History

The San Joaquin Valley (SJV) landscape has been shaped by a vibrant environmental history. This brief overview of the SJV's past sheds light on how the landscape has influenced humans who have passed through and settled in the region, and how these humans have impacted the landscape. Understanding this environmental past helps us interpret our environmental present, and equips us to take action to secure a robust environmental future for this unique valley.

The SJV stretches 250 miles through the 'heartland' of California. However, before the SJV was a *valley*, it was first an inland sea. For 60 million years, the region's waterlogged conditions were maintained by the surrounding mountain ranges to which it is still connected today. About 5 million years ago, eroded portions of the mountains began falling into this inland sea. This process of sedimentation, along with the closure of the marine outlet due to uplift of the Coast Range, caused the SJV to transition to the seasonally wet basin we see today.

The major rivers that define the SJV have their origins in the Sierra Nevada Mountains. The main branch of the Kern River begins in small lakes west of Mount Whitney in Sequoia National Park and then flows down into the SJV, ending near Bakersfield. The major forks of the Kings River begin in Kings Canyon National Park and the Sierra National Forest, and merge within the SJV on their way to the Tulare Lake Basin. The major forks of San Joaquin River begin in the Ansel Adams Wilderness, Yosemite National Park, and Kings Canyon National Park, merge on their way to the SJV, and then flow north to empty into the San Francisco Bay (Exhibit 1).

These rivers enabled **key tree species** to take root in the SJV. Historic species native to the SJV include the Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), valley oak (*Quercus lobata*), white alder (*Alnus rhombifolia*), box elder (*Acer negundo*), western redbud (*Cercis occidentalis*), Goodding's willow (*Salix gooddingii*), and ash (*Fraxinus latifolia*). Up to 1 million years ago, these trees were situated within the SJV's vast grasslands, riparian woodlands, oak uplands, vernal pools, and wetlands. These native trees added ecological richness to the SJV, and became key resources for the valley's first inhabitants.[1]

The People . . . only a few non-aboriginal peoples settled in the SJV prior to 1849. The Spanish surveyed the region in the late eighteenth and early nineteenth centuries and displaced the Yokuts and Miwok from their villages along the riverbanks to the confluence of the San Joaquin River and Fresno Slough. From the 1820s to the 1840s, trappers – including a party led by Jedediah Smith – passed through the region looking for beaver, and a couple dozen Mexican ranchers were given land grants to establish ranches. During the 1849 California Gold Rush, approximately 80,000 gold-seekers arrived to the SJV, which launched the settlement of the region (Exhibit 2).[2]

The railroad had a significant impact on the development and settlement of the SJV in the late 1860s, after the Civil War (1861–1865). The San Joaquin Valley Railroad Company built a line from Lathrop into Stanislaus County in 1868. In 1870, this line was consolidated with the Central Pacific Railway, which developed additional extensions throughout the SJV. From 1893–1898, the San Francisco & San Joaquin Valley Railroad was constructed, which connected Stockton to Bakersfield.

Trees played a vital role in the construction of the railway as the raw material used for railroad ties. The extension of the railroad throughout the nineteenth century facilitated the establishment of communities around budding industries like lumber, ranching, and agriculture (Exhibits 3 and 4).[3]

Fowler's beginnings lie with the railroad. In 1872, "Fowler Switch" was established as a rail spur along a southern extension of the Central Pacific Railway (Exhibit 4). It functioned as a center for cattle ranching, namely to service the needs of Thomas Fowler – a cattle rancher who became a California Senator. Agriculture, however, has been the persistent driving force in Fowler's history. After the gold rush, the methods applied to gold extraction – namely the construction of ditches to bring water to areas away from water sources where gold could be found – were adapted to agricultural purposes by many '49ers who settled in the area to farm. Thus, the late nineteenth century was the time during which notable efforts to irrigate the SJV by diverting water from streams and rivers began.

However, it was not until the twentieth century that mechanised extraction and manipulation of water notably transformed the SJV. **Turbine technologies, developed by gold miners, enabled farmers** to dip deeper into the aquifer and pump water through irrigation canals. This enabled them to water during times of drought, and to obtain the additional amounts of water needed for the production of crops like nuts. **Mega water works** projects – including the Central Valley Water Project and California State Water Project – provided the SJV with additional water resources, by which a robust variety of crops, and urban communities, have been able to sprout and grow. The diversion of water and construction of dams that took place through such irrigation projects, altered the natural flow of rivers in the SJV, and **contributed to the drying out of Tulare Lake** – once the largest freshwater lake west of the Mississippi River.

Throughout this period, the growth of fruit took off in the SJV. Although wheat was the first main crop, by the late 1880s and 1890s, central fruit packing companies were established, and raisins gradually became Fowler's major agricultural product. In 1912, the raisin association that would eventually become Sun-Maid was founded, and fruit growing was given further impetus during the First World War. Today, Fowler is home to Bee Sweet Citrus, National Raisin, and Fowler Packing; which points to the persisting importance of fruit production for this community . . . this is also expressed by street names like: "West *Peach*", "E *Vine*", and "N *Grove*".

Trees have held an important place in Fowler's history. Before it was incorporated as a town in 1908, trees contributed to the community's identity. In 1899, the group soon to be renamed the Fowler Improvement Association (FIA) was organized by Mrs. Amos Harris – a wife of a pioneering farmer. The group planted trees throughout the town, along the rail line, and on the sides of streets. The creation of a public park was the next priority, and the group asked the Southern Pacific to donate a small plot of land for the purpose. This park – named Depot Park – was planted with a number of trees including acacia, pepper, eucalyptus, and umbrella. This park became the gathering place for many community events in the early twentieth century, until a new park was dedicated in 1930 on Merced Street between Second and Third streets. The legacy of investing in vegetative beautification is evident in Fowler's neighbourhoods and parks today, a legacy that the Community Landscapes Plan will sustain and amplify.

Agriculture continued to define the character of the SJV throughout the 19th and 20th centuries, which increased the need for road improvement. Oiled roads were sufficient for light traffic, but were inadequate for heavier agricultural shipments. The development of Highway 99 facilitated transportation between the SJV and other parts of the United States, which increased export of fruit, nuts, and vegetables. In 1910, state funding was approved for Route 4: a north-south route through the SJV. In the 1960s, Route 4 was updated and became part of Highway 99. Today, many cities and towns within the SJV – such as Stockton, Modesto, Merced, Fresno, Fowler, Selma, and Bakersfield – are located along the 99. The highway connects these communities to each other, but also to the broader state highway system, and to shipping ports in both the Bay area (Port of Oakland) and southern California (Port of Long Beach) (Exhibit 4).[4]

Fowler straddles Freeway 99 and the Union Pacific railroad tracks. While this enabled easy transportation for Fowler's agricultural products, and connected the community to the rest of those in the SJV, its proximity to these transportation thoroughfares has also contributed to some social and environmental challenges. Homeless throughout the SJV often sleep on roadsides and under bridges after being pushed away from public parks and private property. Additionally, Fowler's flat landscape is surrounded by mountains, which trap air pollutants from the heavy volume of traffic on Freeway 99, along with the diesel-burning locomotives of the nearby railway.

The Future of the Fowler Area

Trees are essential to the identity, health and economic wellbeing of Fowler:

- **Parks and tree-lined streets** together can create an abundant urban canopy.
- **Six of the most stunning national forests and parks** in the United Sates are within a short drive: Stanislaus, Sierra and Sequoia National Forests; Yosemite, Kings Canyon, and Sequoia National Parks (Exhibit 1).
- **Trees are central to reducing Greenhouse gases** and mitigating near-road air pollution.

The Fowler Community Landscapes Plan will build upon the legacy of trees in the SJV's environmental history and result in cleaner air; thanks to a larger tree canopy, less asphalt, and more public open space, greenways and beautiful landscapes.

Planting the right trees in the right places in the 2020s – guided by the Fowler Community Landscape Plan (CLP) – will build upon Fowler agricultural history. Just as the planting of fruit-bearing crops and trees in the late 19th and early 20th centuries brought economic vitality to Fowler, the planting urban trees in the 2020s will improve the quality of life and environmental stability of Fowler in the 21st century.

The Fowler CLP calls for growing the tree canopy to provide cooling, air quality, public safety and health benefits. Species with broad crowns – like camphor (*Cinnamomum camphora)* – will give more shade to schools, playing fields, businesses, parking lots, and homes, and thereby decrease the use and cost of air conditioning. Tall evergreen trees – like deodar cedar (Cedrus deodara) and mondel pine (Pinus eldarica) – will block the wind, filter dust and small particles, and sequester carbon. Research affirms the value of green vegetation and green spaces to improve work performance, cognitive development, birth outcomes, and surgery recovery. Tree canopy reduces stress and crime.

Emulating the late 19th- and early 20th-century efforts of the Fowler Improvement Association, the planting and maintenance of trees will generate a sense of community unity and identity, all of which will augment the quality of life in Fowler.

A robust urban tree canopy will help Fowler meet the challenges of global warming in the 21st century and beyond. Selecting tree and plant species in anticipation of climate change will help sustain green spaces and trees.

Fowler's urban tree canopy will complement innovations to reduce greenhouse gases. As low-carbon-use fuels for transportation arrive – biofuels, electricity, or hydrogen – greenhouse gas emissions in Fowler may decline. The trees planted to implement the Fowler CLP will address emissions from industries that cannot fully decarbonize their modes of production and shipping. Trees planted along transportation thoroughfares will not only filter pollutants from the air, but also mitigate noise pollution from passing automobiles and trains, thereby improving environmental conditions for Fowler's residents. The cooling and calming benefits will continue as well.

Today, the SJV needs more trees due to the population and economic growth and the long term impacts of global warming. When we develop rangeland for urban use, it is important to think about more than housing, water and transportation resources. We must invest in a robust ratio of green vegetation. **In the 19th and 20th centuries, irrigation, grapes, fruit trees and nut trees transformed the SJV and agriculture flourished. In the 21st century, green spaces and shade trees will transform the SJV and the people will flourish.**

Assessments

Key Insights

- **Physical character**: An incorporated community of 6,000+ residents which straddles Freeway 99, Golden State Boulevard and the Union Pacific Railroad. Shares a boundary with the city of Fresno at American Avenue on Freeway 99.
- **Sense of place**: Strong sense of place arising out of the compact size, the vibrant schools, the Merced Street business district and 100-year history.
- **Prospects for growth**: Phenomenal . . . with the infrastructure in place, schools, sense of place and proximity to the Fresno industrial parks. The Sphere of Influence permits residential development to the north, east and west of the central district; additional industrial development is envisioned along Freeway 99 from American Avenue to Manning Avenue.
- **Trees**: Only 10% canopy coverage. No distinguishing species.
- **Landscapes**: Nothing exceptional to report.
- **Landscape ratios**: Space dedicated to landscapes is low; Industrial properties - largely barren; residential - modest to fairly good.
- **Soils**: Sandy loam; would benefit from gypsum as would most soil in the San Joaquin Valley.
- **Public open space**: Two main and two smaller city parks. Schools have relatively small sites.
- **Downtown commercial**: A well-defined "Main Street" has developed along Merced Ave from 8th St. to 5th St. with street trees and furniture and Panzak Park as an anchor.
- **Transition from old township perpendicular to the railroad to a north-south grid**: Well-defined with Adams, Temperance, South and Sunnyside Avenues.

Landscapes Assessment

The City of Fowler, established in 1908, presents itself as a traditional rural town of the San Joaquin Valley of California. The city grew out of agricultural roots, and development sprung from the north / south railroad lines. Typical to this, the core of the city is defined loosely by an active "Main Street" surrounded by older "classic" style residential neighborhoods. These residential neighborhoods bleed over to industrial and commercial properties, creating a fuzzy line between the two. The city layout is a grid, as in many valley towns, with the grid being aligned to the railroad right of way. Parcels are of standard sizes throughout the city limits with traditional curb, park strip and sidewalk throughout. Highway 99 bisects the city creating a band of separation between west and east parts of the city. The visual break in the community is quite apparent, however the disconnect the highway presents is not uncommon to the smaller communities of the valley.

Older parts of the city present an image of classic neighborhoods. Differing lot sizes contribute to some visual interest and established landscapes. The western side of the city and outlying areas of the eastern side are newer in development and show the trend of recent tract housing. The landscapes are sparse in comparison to the older part of town, with the newer areas not yet reaching mature canopy scale. The overall tree canopy that exists within the city limits is substantial, providing a shaded pleasant environment. Landscapes in the city offer a good base of scale and place for the community. The overlapping commercial and industrial parcels tend to disrupt the visual harmony in the city limits. Golden State Boulevard is a jewel waiting to be uncovered. The opportunity to celebrate this thoroughfare should not be disregarded. Public open space provided through parks is limited with most active play provided at the community school sites. Walking and biking opportunities are limited to city sidewalks and streets with no clearly defined bicycle paths in the city limits.

A concentrated direction toward unifying and delineating public and private landscapes will enhance and define Fowler. Golden State Boulevard and the Highway 99 edges provide opportunity to establish a substantial tree canopy, enhance air quality and a sense of scale. The tree canopy and understory landscape of Fowler will set the tone of the community. A shaded serene setting defined by well-appointed landscapes will create the sense of place for the city.

Landscapes of Fowler

Downtown Area

Increased attention paid to this area has created a more cohesive landscape character in the last several years. This should be one of the first places to intentionally increase the discernable identity of the area by use of landscape trees and shrubs. It already has a head start, and it is an area which most everyone in the town and anyone passing through will see and use.

Classic Neighborhoods

This area is the next portion of Fowler that lends itself to a rapid and visible impact. It is relatively small and cohesive. Since it is an older area, an organized structure and plant palette, starting with street trees will add value, beauty and specific identity to streets in the area.

Suburban Growth Areas

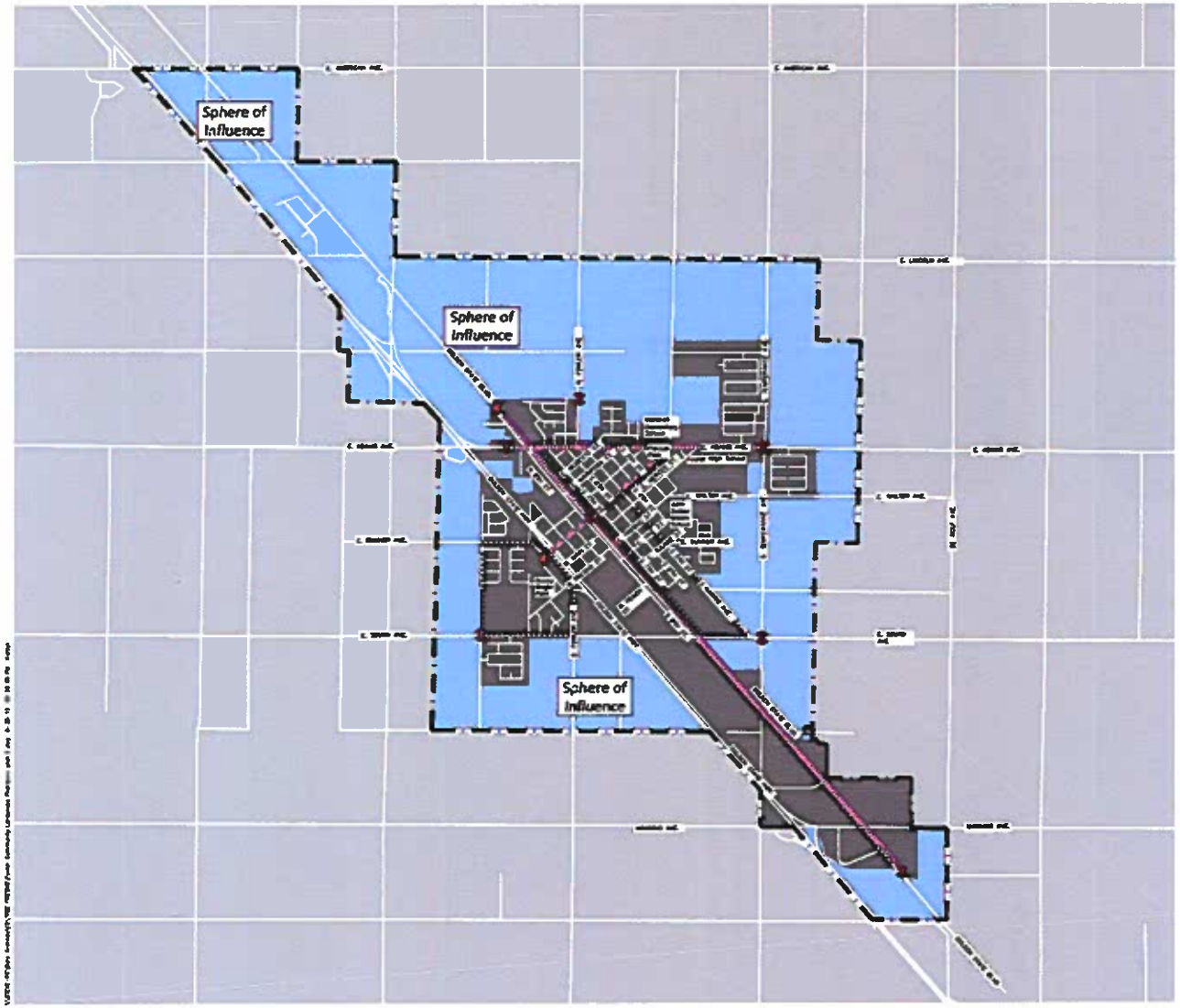
The new housing developments in the area present many opportunities to utilize a suggested palette of trees and shrubs. These areas are likely to continue expansion into the rural areas over the coming decades, and a quality palette of plant material can move right along with such expansion. This would best be done in conjunction with the City's general plan for the area.

Golden State Blvd

The area along both sides of Golden State Blvd and the railroad tracks was the original corridor of commerce through the center of the state. Because of the industrial look and the large lots with plenty of vacant space, there are many opportunities to use trees on private land to hide buildings and beautify this major artery of travel through town.

Rural Areas

The rural areas of Fowler contain large properties, most of which have a variety of agricultural crops on them. This area has less opportunity to plant trees and promote roadside landscapes, as it is mainly private property. One way to have an impact on this area is to create an educational push to reach the residents with solid, useful ideas and suggestions as to planting palettes and choices, especially regarding well performing and inappropriate trees.



KEY	
	MAJOR ENTRY/GATEWAY
	CORRIDOR
	EDGE/BOUNDARY
XXXXXXX	BICYCLE NETWORK
	SPHERE OF INFLUENCE

1" = 600'-0"

FOWLER
COMMUNITY LANDSCAPE PLAN
ASSESSMENT PLAN

Trees Assessment

Appropriate, Already Performing Trees

This list contains relevant information about trees in the Fowler area that are growing well and can be considered appropriate to plant for low water use landscapes.

Cedrus deodara

The Deodar Cedar is an evergreen tree with a conical shape. It has blue-green to silver needles that are less than 2 inches long. It can grow up to 3 feet per season, reaching heights of up to 80 feet and canopy widths of 25–40 feet at maturity. It has inconspicuous flowers that appear in fall and large 3–6 inches brown cones which appear in spring. The trunk can reach over 3 feet in diameter and the drooping branches can grow up to 25 feet long. The Deodar thrives in full sun, tolerates a variety of soils, and is a low water use tree. It needs low maintenance, consisting of minor litter from cones and needles and minor pruning of weeping branches for pedestrian and traffic clearance. It can be used as a shade tree, highway tree, buffer tree, street tree, and accent tree.

Cinnamomum camphora

The Camphor tree is an evergreen tree with a broad spreading shape. The oval or elliptical leaves come out bronze in the spring, then turn bright green, and are 2–5 inches long. The tree grows to approximately 50 feet tall by 60 feet wide and needs space. The flowers are inconspicuous and come out in the spring. Camphor thrives in full sun, prefers well drained soils, and is a moderate water use tree. It needs low maintenance as far as pruning goes, but drops flowers, small petioles, seeds and leaves as the seasons change throughout the year. It can be used as a park tree, large landscape tree, shade tree, and focal point tree.

Elaeocarpus decipiens

Known as the Japanese blueberry tree, this tree is a moderately growing evergreen. It can grow to 40 or more feet tall and up to about 30 feet wide, although Japanese blueberry trees of this large size are rarely seen in the Central Valley. These trees are well used as screening trees. They have the interesting habit of their leaves turning a bright red before they fall, so throughout the year as a portion of the leaves have reached maturity and the tree is jettisoning them, there are flecks of bright red amongst the rest of the dark green leaves. These trees are good as ornamental specimens and in moderate to large yards. They have a dark blue to black fruit which doesn't stain like olives do.

Ginkgo biloba

The best type of ginkgo trees to plant are the male grafted varieties, such as 'Autumn Gold' or 'Fairmount'. Ginkgos are slow growing but make up for it by the fact they are nearly insect and disease free. They can get 70-80 feet tall, although that is unlikely in the Central Valley, and they can get 35-50 feet wide. They grow well in nearly every kind of situation, except they do not like their roots to be in saturated soils for extended periods of time. These trees can be used on streets, as decorative trees, in yards, commercial areas and parks.

Lagerstroemia cultivars

Crape myrtles are deciduous, slow growing, and reach approximately 15-25 feet tall with a width of 12 feet wide at maturity. 'Natchez' and 'Muskogee' varieties grow faster than others. Some crape myrtles have rich, glowing fall colors and some are more subdued. All varieties have interesting bark, which gives them interest in the winter, and the color of the bark varies from a grey/white to a rich mahogany red. These trees put on a great show of flowers, with a variety of colors such as white, pinks, reds and purples. They have a long summer bloom season, growing the flowers on the same year's spring growth. These trees require very little maintenance due to their slow growth and small size. They are well used in either a standard single trunk configuration, or in a multi-trunk or low branching configuration. They are low water users, once established, and thrive in hot locales. They are useful as street trees, general landscape trees, patio trees, and accent trees.

Laurus nobilis

The Bay tree, Grecian laurel, or bay laurel tree is a classic Mediterranean tree, which enjoys our Mediterranean climate. It is evergreen, growing to between 15 and 40 feet tall, depending on its environment. It has 2-4 inch long leaves which are very fragrant and can be used in cooking. Bay trees can be trimmed as an open branching tree or a compact tight growing tree. They are low water use, and tolerate many soils, if well drained. Maintenance is low, except to trim to the desired form. Bay laurels can be used as a street tree, patio tree, general landscape tree, to line walkways, etc., and are especially good as screening trees above a fence line.

Pinus pinea

Italian stone pines are tall and unusually round-crowned trees for a pine species. They are native to a Mediterranean climate, so do well in our area. Italian stone pines need a great amount of room because of their eventual size. This species gets to 80 feet tall and 40-60 feet wide. It is definitely not a good choice for an average sized residential property. The pine nuts of this tree area edible. Can be a good street tree with space along broad boulevards, or in open commercial properties, school campuses, and parks.

Pistacia chinensis

The Chinese pistache is a deciduous tree, noted for providing stunning autumn colors. It can reach heights of 25–50 feet, with a canopy spread of 25–50 feet. It has a medium growth rate of 12–24 inches a year. The Chinese pistache has long green leaves in the summer that turn shades of orange and red in the autumn. It has non-showy greenish flowers in April or May and small red-orange drupes that ripen in October. Its deep roots make it an ideal sidewalk tree. This species of tree thrives in full sun, is drought tolerant, tolerates a variety of soils, and is low maintenance. It can be used as a shade tree, ornamental tree, street tree, and is ideal for large patio areas. Several male-grafted, thus fruit-free, varieties are available.

Quercus agrifolia

The Coast live oak is an evergreen tree which is native to our California coastal range and southern California foothills. It does very well in the Central Valley climate and can become a majestic broad-spreading tree. This tree needs room, so is ideal for rural properties and parks, or larger residential and commercial landscapes. It can grow 40-70 feet tall and frequently somewhat wider. Make sure wherever it is planted the irrigation is not spraying against the trunk, as this is frequently opens the tree up to root crown rot disease caused by the pathogen phytophthora.

Quercus rubra or
Quercus coccinea

Red oaks and scarlet oaks have the classic oak lobed leaves. The trees are from the eastern US, so they need sufficient moderate water but typically have well behaved roots. They can be susceptible to aphids, especially the red oaks, but with a little monitoring and treatment this problem can be managed. These trees reach 60–75 feet in height and can reach 50 feet in width. They grow somewhat pyramidal in youth, then broaden out in maturity. They make good shade trees in locations with enough room and are excellent for parks and rural properties.

Inappropriate, Poorly Performing Trees

This list contains relevant information about trees in the Fowler area that are not growing well. These trees should be avoided owing to the level of maintenance required to keep the tree healthy, including, but not limited to, high water use, nuisance fruit, and pest infestations.

Celtis sinensis

This tree, Chinese hackberry, once was a great species to grow in the Central Valley because it was a relatively tame large spreading shade tree. Then, some years back, a prolific pest specific to this tree landed in our Valley. Now these trees are overwhelming weighed down with mass infestations of the Chinese hackberry wooly aphid. This insect excretes massive amounts of honeydew, which is a nice word for sugary bug excrement. The bugs debilitate the trees over time and make a sticky mess on the tree and everything beneath it.

Morus alba

Mulberries, especially the fruiting mulberry can become great shade trees if pruned regularly and appropriately, but they take a great amount of proper care to get there. If you have the fruiting version of the tree, it will make a huge berry stain mess below it, unless you brutally prune it every year. Many of these trees in the city of Fowler were not looking healthy, and many were being brutally pruned every year. This creates rot in the major branches of the tree, increasing risk of infestation, and requiring great amounts of labor or money to prune and dispose of the yearly prunings.

Sequoia sempervirens

This tree is known as coast redwood, and although a famous California tree, should be discouraged. This tree is a coastal native tree, which means it is acclimated to grow in cooler, more humid, coastal conditions and is not adapted to long-term life in our hot and dry climate. These trees, without large amounts of water to compensate for our climate, typically burn and frequently die.

Soil Assessment

Two soil samples were collected, one on the border of the Suburban District and the Original Neighborhoods District of the city of Fowler CLP area, near the intersection of Armstrong and Adams. Another sample was collected in the Original Neighborhoods District, very close to the Industrial District and the Downtown Merchant District, near the intersection of Merced and 9th. The tests were taken from the top 18 inches of the soil profile. The soil samples were analyzed at D & D Laboratory. A portion of the soil test results are displayed in Table 1, and the full results are displayed in Appendix A.

Table 1 – Soil Test Results

	Texture	pH	Soluble Salts (dS/m)	Sodium (meq/L)	Nitrogen (ppm)	Phosphorus (ppm)	Potassium (ppm)	Zinc (ppm)
Optimum level	NA	NA	2.0	Below 3.1	Above 10	8-20	150	2.0
Soil 1	Sandy Loam	7.34	2.73	1.4	51.6	26	192	11.1
Soil 2	Sandy Loam	6.68	2.79	3.6	32.4	30	103	4.8

Overall, Fowler has good soil for plant growth. Some other regions of the Valley contain a higher amount of clay, higher salinity, or a higher pH, making more work for gardeners and growers to amend the soils. Fowler's soils, based on these tests, need less aggressive amendment. However, special attention should be made to newly constructed housing tracts, as soils can be severely disrupted during the grading process, including compaction and removal of productive layers of topsoil. These landscapes may need careful attention to determine if compost and amendments are required for optimum plant growth. A detailed discussion of soil recommendations can be found in Community Shaping Plan – Soil Recommendations section.

Ecological Assessment

This section presents environmentally relevant features of Fowler. In the Environmental Resources section, the ecologically valuable areas worthy of focus and conservation are highlighted. The Environmental Concerns section identifies challenges and opportunities for improvement.

Environmental resources

URBAN FOREST

A community's urban forest includes trees on private property, street trees, park trees, and trees on municipal property. These trees provide great benefits to residents in the form of a variety of ecosystem services, including reduced energy use, improved air quality, better stormwater management, resilience against climate change, habitat for wildlife, increased property values, a more beautiful environment, and a stronger sense of place and community. In this section, features of Fowler's urban forest are described.

CANOPY COVER

One measure of the urban forest as a whole is a community's tree canopy cover, which can be understood as the percentage of land shaded by trees. The tree canopy cover of Fowler's non-agricultural land was roughly estimated at 8.5% using a software tool called i-Tree Canopy. The California average is 15%.

SCHOOLS

An aerial and limited on-the-ground survey of school properties in Fowler suggests the following:

At Fowler High School, there is good canopy cover of large, mature trees around some of the buildings and in some areas along the road, but other buildings have little or no shade. The spectator areas of the athletic fields are completely lacking in shade. Some of the existing trees are reaching the end of their natural lifespans and will need increasing attention and replacement in the future.

At John Sutter Middle School, there are a number of trees at the entrance to the property, in the parking lot and in the central courtyard. Unfortunately, most are species that will never grow large enough to provide shade to the buildings, playing fields, or students. There are ample opportunities to plant large species to shade buildings and to shade the spectator areas of the athletic fields.

At Fremont Elementary School, many of the street trees have been replaced with shrubs and others appear to be in poor health. There are opportunities to shade the south and east sides of the buildings to provide relief from the sun and heat, and, as above, to shade the spectator areas of the athletic fields.

Fremont Elementary School

At Marshall Elementary School, there are large, mature shade trees along the east and south sides of the buildings. There are opportunities to shade the western side of the school, the spectator areas of the athletic fields, and along the northern edge of the property, to provide a barrier against pesticides and dust from the neighboring farm field.

STREET TREES

Street trees are in short supply in Fowler, but E Main St between S 4th and S 2nd Sts and N 6th and 7th Aves between E Adams Ave and N Modesto Ave provide a good example of how trees can transform a street, bringing life, shade, beauty, and ecosystem services to a neighborhood.

Along E Adams Ave there are a few narrow planting strips that may support smaller trees. On Main St closer to the center of town planting strips are wider and could support larger trees. South 6th and 7th Sts. also feature wider planting strips. In other areas, trees could be planted on the other side of the sidewalks, either within the remaining public right-of-way or property owners could be encouraged to plant trees on their land. These street trees would shade roads, reducing the urban

heat island effect and reducing road maintenance, while beautifying the neighborhood and providing a sense of place.

TREES ON PRIVATE PROPERTY

In almost all cities, the majority of land is in private hands and thus the greatest opportunities to grow the urban forest are on private property, and Fowler is no exception. Canopy cover in residential areas seems to vary significantly, with some areas well supplied with large shade trees (for example, the neighborhood around 6th St.) and other areas offering many planting opportunities.

Fowler seems to have avoided the fate of many American cities in recent decades of removing large stately trees and replacing them with small, flowering trees. Although the small trees may be less expensive to care for, they provide far less in benefits. Fowler is to be commended for this choice!

OPEN SPACE

Open space, i.e., undeveloped land in its many forms, provides many benefits to city residents: it offers an opportunity to reconnect with a region's cultural heritage, allows for recreation, reduces the urban heat island effect thereby cooling temperatures, allows for groundwater recharging, and supports wildlife habitat. Open space in the Fowler area includes private farmland, four existing and several planned parks, and vacant land.

PARKS

There are currently four parks in our study area: the smaller but well-established Panzak Park in downtown Fowler, the brand-new, larger Donny Wright Park in west Fowler, tiny Margaret Cowings Park and Fowler Veteran's Memorial Park. Panzak Park has a beautiful diverse and full tree canopy, providing park visitors with shade and the other benefits associated with trees and offering habitat for wildlife. Some of these trees, however, are nearing the end of their natural lifespans and may need increased attention in the coming years and will eventually need to be removed and replaced.

Donny Wright Park was only developed as a park in recent years, and thus the trees there are still young and small. Unfortunately, many of the chosen species are of a small stature and will never achieve the shade and environmental benefits and the beauty of the large trees in Panzak Park. In addition, they are planted mainly around the perimeter path. The lack of shade around the play structure severely limits its usability in warmer months.

The mature and diverse tree canopy of Panzak Park

In the 2025 General Plan (published 2004), Fowler set a target of 3 acres of park per 1,000 residents. Working toward this goal, several parcels have been identified for potential future park space in Fowler: one along the eastern edge, one to the northeast, and two parcels straddling CA-99 in the northwest.

VACANT LAND

There are significant amounts of vacant land scattered throughout Fowler. According to the General Plan, a number of uses are envisioned for these properties: low and medium density residential, commercial, and industrial areas. In particular, this vacant land offers opportunities for further development of parks. It is worth keeping in mind as development is planned that one particularly valuable ecosystem service provided by vacant land is groundwater recharge of rainfall.

AGRICULTURAL LAND

Fresno County is home to some of the world's most productive farmland, and this cultural, economic, and environmental resource is the region's defining characteristic, one that is definitely worth highlighting. The land surrounding Fowler and the agricultural parcels within the city limits are all classified as "prime farmland" by the California Dept. of Conservation. This land provides a wide variety of ecosystem services including, of course, the provision of food as well as groundwater recharge, support for biodiversity and pollinators in particular, greenhouse gas sequestration within the soil, and cultural services.

BODIES OF WATER

Bodies of water are critical habitats for wildlife and play a role in flood and erosion control. Although no natural bodies of water lie within Fowler, there a few water features worth noting:

Storm-water basins. There are a couple of storm-water basins within Fowler, which offer critical environmental services: They capture, store, and filter storm-water, reducing flooding and preventing high levels of pollution from entering the San Joaquin and Kings Rivers, irrigation canals and intermittent streams. They replenish groundwater, the primary source of drinking water for the region and a dwindling resource—most monitoring stations in the county show that the depth to the groundwater has dropped by dozens of feet in the last 10 years. According to the Fresno Metropolitan Flood Control District, storm-water basins also serve as wildlife habitat, predominantly for birds, and also for fox, turtles, and a few species of fish. Maintenance of these basins does not appear to disturb the animals living and feeding there.

Irrigation canals. One irrigation canal crosses a narrow strip of Fowler and several others are located nearby. They move water from the Kings River mainly to agricultural land across Fresno County, although an increasing share of that water is used for groundwater recharge in urban areas. These canals generally play little part in the lives of non-farm residents, but early research in Europe suggests they may have a greater role in providing a range of ecosystem services, including flood and drought regulation, fish habitats, regional-scale wildlife corridors, and climate change resilience, than has previously been recognized. The canals also offer opportunities for biking and walking trails and possibly other forms of recreation.

Environmental Concerns

Urban areas face a number of environmental challenges. The most relevant for Fowler are described in this section.

AIR QUALITY

The San Joaquin Valley suffers from some of the worst air quality in the country. According to CalEnviroscreen, a tool developed by CalEPA to document the areas disproportionately burdened by air pollution, Fowler's air quality is among the worst in California (98th percentile for ozone and 97th percentile for small particulate matter). The most prominent sources of air pollution in Fowler are vehicles on Highway 99, diesel-burning locomotives on the rail lines that run parallel to Highway 99, and diesel-burning tractors. See the Air Quality sections below for more detailed information.

FLOODING

There are two areas within Fowler designated by FEMA as Special Flood Hazard Areas. A narrow strip of land running along Golden State Blvd in the northern part of Fowler is considered by FEMA to have a 1% annual chance of flooding, and a second, smaller area along CA-99 is designated as having a low to moderate risk, i.e., 0.2-1% annual chance of flooding.

URBAN HEAT ISLAND

Because of the prevalence of heat-absorbing materials like pavement and buildings in cities, urban areas tend to be hotter than surrounding rural areas. These hotter areas are known as urban heat islands, and they increase health risks of heat exposure, increase energy use for cooling, and worsen air pollution.

According to CalEPA's Urban Heat Island Map, Fowler experiences only moderate increases in temperature due to urbanization, with temperatures less than 1°F above the surrounding rural areas.

IMPERVIOUS SURFACE

Impervious surface is land covered by artificial structures, such as roads, buildings, parking lots, and sidewalks, that prevent water from penetrating through to the ground beneath. As levels of impervious surface increase in a city, temperatures go up, groundwater levels do not recharge, and polluted storm-water runoff increases. Fowler has a relatively high amount of impervious surface (estimated using i-Tree Canopy) of about 47%, owing to the amount of industrial and commercial land, and the relatively small lots of the residential areas.

SUMMARY

Fowler remains relatively un-urbanized, with a small-town feel, low heat island impacts, a great deal of vacant land available, and a connection to surrounding farmland. As the population of California continues to grow so too will the population of Fowler, but current conditions offer the possibility of growth that is more ecologically sound and sustainable if the existing advantages are kept in mind.

Land Use Assessment

The information contained in this Land Use Assessment identifies the primary plans, policies, and regulations currently applicable to the city of Fowler. This Assessment is intended to apply to both the incorporated city limits as well as all areas within the city's existing sphere of influence (SOI).

Historical Development Pattern

As the Central Pacific Railroad expanded southeast from Fresno in the late 19th century, prominent rancher and State Senator Thomas Fowler used his influence to locate a switching station near his and others' ranches. Early development was oriented around ranching and shipping of cattle until the introduction of irrigation in the 1880s, at which time wheat, and later grapes and raisins, became staples of the community.[5]

Fowler has expanded modestly in all directions from its original rail-centric core. In order to maximize the benefits of its positioning along the rail corridor (and later SR 99), Fowler's SOI has extended to the northwest and the southeast to encompass interchanges at major county thoroughfares. While the southern edge of the city proper is generally at E. South Avenue, annexation has continued along SR 99 to include areas south of E. Manning Avenue over one mile to the southeast. Many prominent industrial and commercial agricultural enterprises have located or relocated to this southeastern peninsula to take advantage of the proximity of rail and major highway transportation options.

In addition to many smaller infill development projects underway at any given time, current major projects include:

- The Maxco produce container manufacturing facility
- The proposed Buford travel center, including restaurants, a hotel, and truck parking facility
- The Fowler Medical Plaza, a joint venture between Valley Children's Hospital and Adventist Health
- Magill Terrace, the redevelopment of a 60-unit Fresno Housing Authority facility
- Three tentative subdivision maps and one final map comprising approximately 300-400 lots

Land use plans generally set the direction for where and how growth may occur within a community. Where growth may occur is expressed through the land use map component of a plan and how growth may occur is expressed through the goals, objectives, or policies of the plan. Land use types that apply within Fowler are identified and mapped in Exhibit 5.

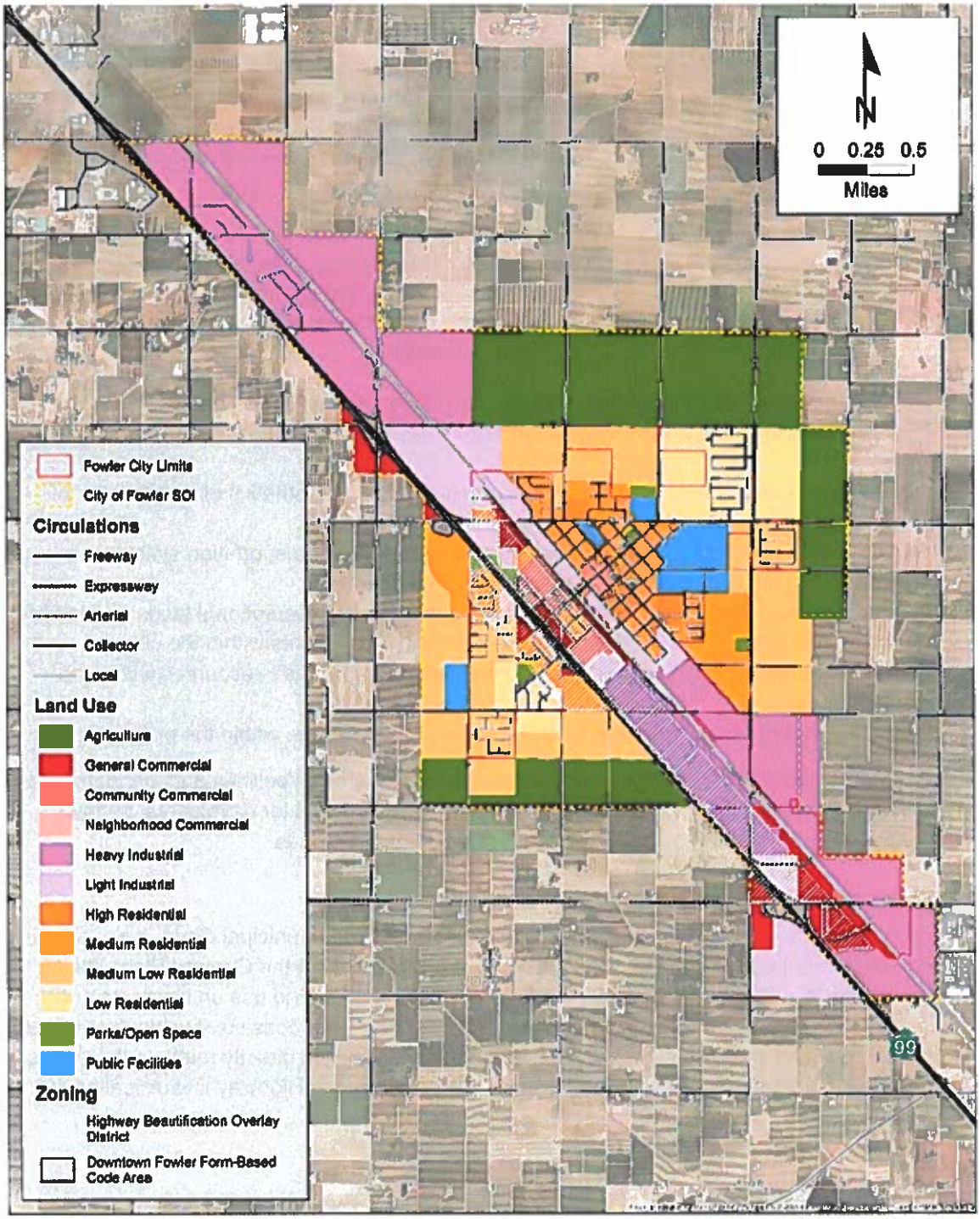


Exhibit 5 - Fowler General Plan Land Use Map

Fowler General Plan: Goals and Objectives

Complete neighborhood refers to a neighborhood where one has safe and convenient access to the goods and services needed in daily life. This includes a variety of housing options, grocery stores and other commercial services, quality public schools, public open spaces and recreational facilities, affordable active transportation options and civic amenities. An important element of a complete neighborhood is that it is built at a walkable and bikeable human scale and meets the needs of people of all ages and abilities (The Portland Plan, Page 76).

The General Plan is the primary land use and policy document for the City of Fowler; it was comprehensively updated and adopted in November 1976. In 2004, the City updated the Land Use and Circulation Elements and added an Economic Development Element; the combined elements are referred to herein as the 2025 General Plan. The City is currently in the preliminary stage of preparing a comprehensive update to the General Plan, a process that is expected to take approximately four years to complete.

The 2025 General Plan establishes 36 goals and objectives for Fowler, each informing the various elements of the Plan. The goals and objectives that most directly relate to the Community Landscape Plan effort include the following:

- General Plan Goal 2-4: Improve and enhance existing neighborhoods and development.
- General Plan Goal 2-5: New development is to reflect high levels of community design and image.
- General Plan Goal 5-6: Provide landscaping to improve the aesthetics of transportation system routes.
- General Plan Goal 5-13: Design, construct, and operate the transportation system in a manner that maintains a high level of environmental quality.
- Resource Management Objective 2.00: To provide adequate recreational lands and facilities within walking distance of and suited for the needs of all residents within the city.
- Resource Management Objective 3.00: To conserve air and water resources within the planning area.
- Resource Management Objective 5.00: To conserve street trees within the planning area.

The Land Use Element of the 2025 General Plan also provides specific policies and standards as they relate to land use and identity, for example landscaping guidelines for developers, setback requirements, parking lot shade guidelines, and park provision guidelines.

IMPLEMENTING REGULATIONS: FOWLER ZONING ORDINANCE

The Zoning Ordinance, codified as Chapter 5 of Title 9 of the Fowler Municipal Code, is the primary tool used to implement the goals, objectives, policies, and standards of the General Plan. Zoning regulations outline the development review and approval process for land use entitlements and approvals in the City and establish zone districts to regulate land uses consistent with the General Plan land use designations. Two components of the Zoning Ordinance directly relate to the efforts of this Community Landscape Plan: the Form-Based Code Area and the Highway Beautification Overlay District.

COMMUNITY INTERFACING FEATURES - COMPLETE NEIGHBORHOODS

Direction within the General Plan, as supported by the goals, objectives, policies, and standards, encourages planning for Complete Neighborhoods. When considering the components of a complete neighborhood, there are a number of land uses and other features that may work together to help define the neighborhood and guide how components function and interrelate with each other.

How these neighborhood components are assembled influences opportunities for community interface within these neighborhoods and beyond. Components may generally be organized into identifiers or connectors, depending on their role within the neighborhood structure.

Identifiers provide a physical center or identity for a neighborhood to coalesce around. Identifiers have traditionally been elementary schools, neighborhoods parks, or neighborhood commercial centers but may also be influenced by more regional attractions, such as a waterway (e.g., creek or river) or historic site. **Connectors** link the neighborhoods or districts and provide critical connections within each district as well. They include streets, canals, and trails. Existing Community Interfacing Features are displayed in Exhibit 6.

Public infrastructure systems not already addressed above (e.g., roadway network), while not generally considered an integral part of a neighborhood, may present an opportunity for future expansion of an identifier or a connector neighborhood component. Such public infrastructure may include recharge or storm drainage basins that could be developed as a dual use facility. Canals also present an opportunity to expand trail systems as they already provide a path through and between neighborhoods and districts. While coordination between multiple governing agencies is required, consideration should be made as to how public infrastructure may be integrated into the neighborhood context (Exhibit 7).

Other types of sites such as cemeteries and police and fire stations may also provide opportunities to contribute to the identity of a defined neighborhood or district through the design of the structure or landscape.

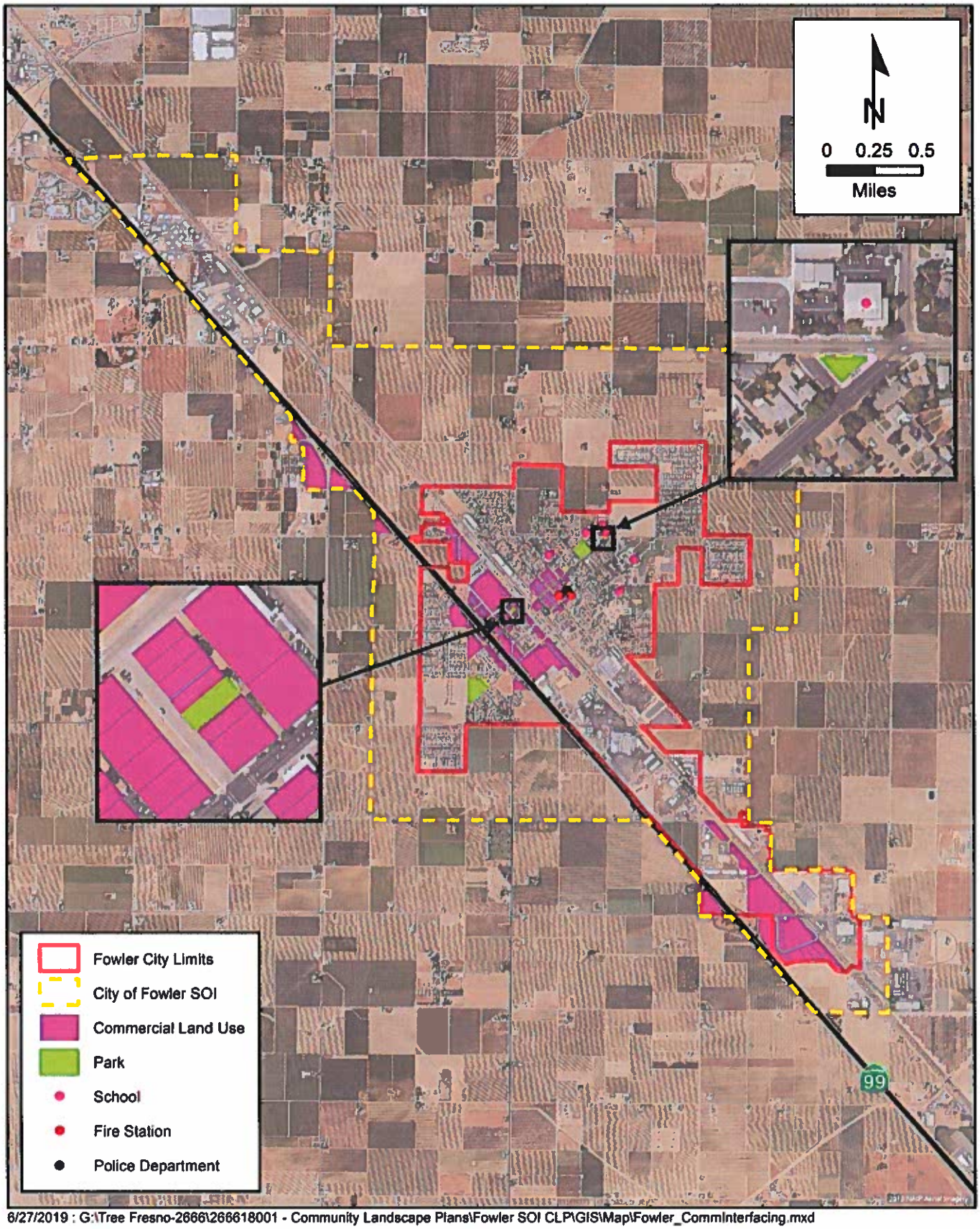


Exhibit 6 - Community Interfacing Features - Public Infrastructure

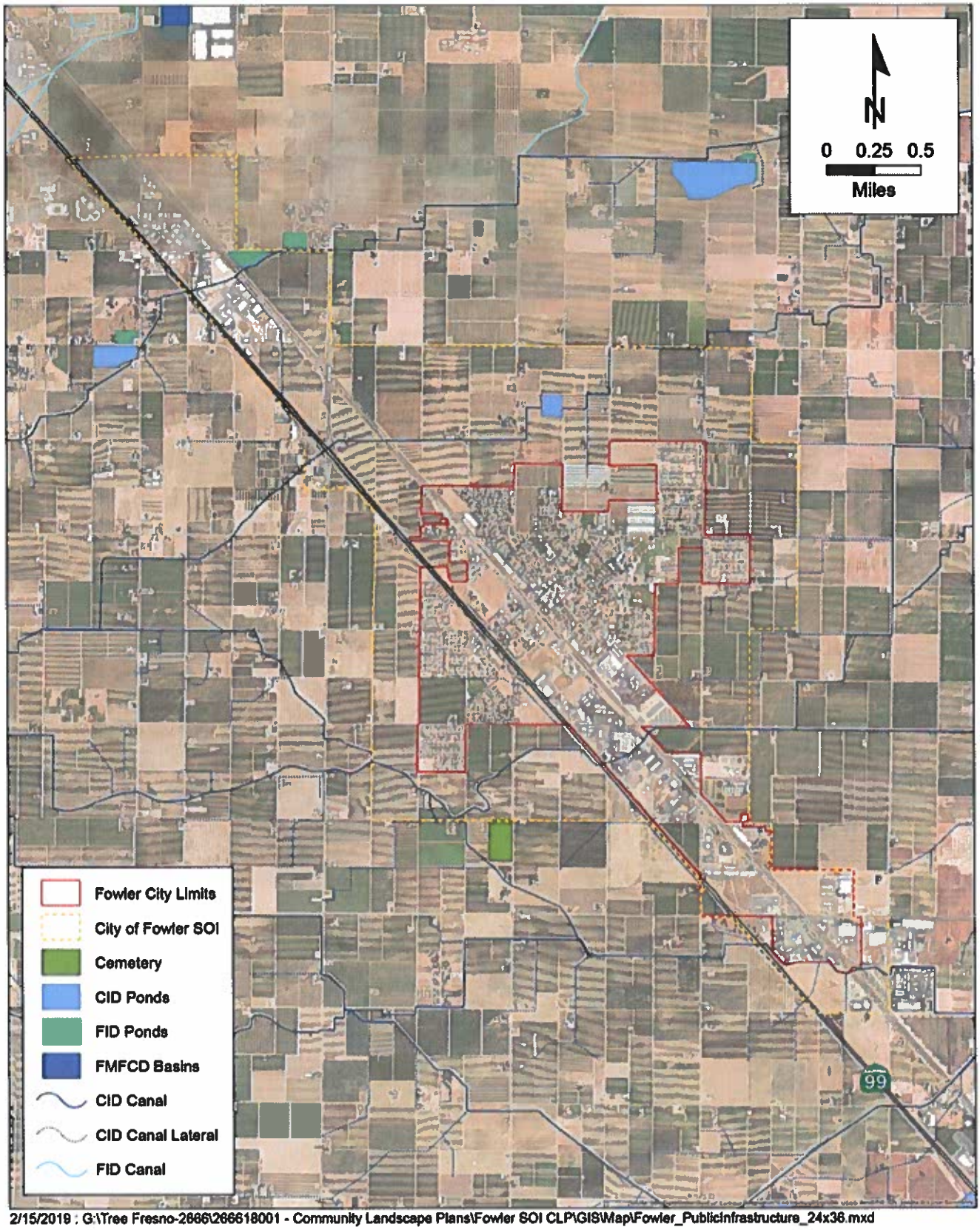


Exhibit 7 - Fowler Public Infrastructure

Transportation Assessment

The city of Fowler's existing transportation system is primarily oriented toward automobile travel along with pedestrian travel in the downtown area. Opportunities exist for creating a transportation system that is more esthetically pleasant, less intrusive for residents, and provides more opportunities for active transportation (i.e. bicycle and pedestrian travel). An enhanced transportation system can be implemented through the use of landscaping, separation of bicycles and pedestrians from automobile traffic, "Complete Streets" projects, and traffic calming features such as roundabouts. The following sections provide additional detail on specific modes of travel and various opportunities for improvements in the transportation system.

Roadways

Fowler's public roadway network, including State highways, form the principal transportation infrastructures in the city of Fowler. An important goal is to maintain acceptable levels of service along the highway, street, and road network. To accomplish this, the City of Fowler's General Plan encourages a Level of Service (LOS) "C" throughout the local circulation network, with a LOS "D" along SR 99. (Level of service grades range from A for freely flowing traffic to F for stop-and-go traffic.) An exception to the local road standard is that LOS "D" may be allowed at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. There are areas along State Route (SR) 99 and portions of Manning Avenue that are not meeting acceptable LOS criteria.

Bicycles and Pedestrians

Bicycling and walking are viable modes of transportation, particularly for relatively short trips in and around Fowler. Bicycle and pedestrian travel are safe, efficient, cost effective transportation options that have benefits for individuals as well as the broader community. Replacing vehicle miles with bicycle and pedestrian miles is a key part of reducing greenhouse gas emissions.

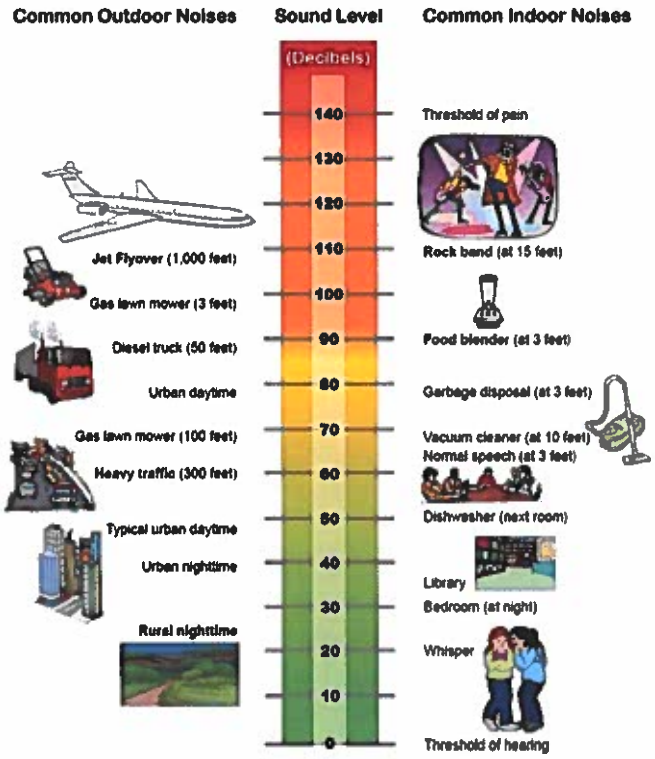
A comprehensive bicycle and pedestrian network contains various components and supporting facilities. Chapter 1000 of the Highway Design Manual (6th Edition) classifies bikeways into four major categories. These categories include Class I Bike Paths, Class II Bike Lanes, Class III Bike Routes, and Class IV Separated Bikeways. Fowler currently has Class II and Class III facilities for bicycle travel.

Public Transit

The primary transit provider in Fowler is the Fresno County Rural Transit Agency (FCRTA), which has extensive routes across Fresno County and provides fixed route services for Fowler. FCRTA has two bus routes that provide transit service to Fowler residents, the Southeast Transit route and the Kingsburg to Reedley College Transit route. The Southeast Transit route provides multiple scheduled round trip inter-city service from Kingsburg to the Fresno-Clovis Metropolitan Area (FCMA), with a stop in between in Fowler. The Kingsburg to Reedley College route also provides multiple scheduled roundtrip inter-city service from Kingsburg to Reedley College, with a stop in Fowler prior to reaching the college. FCRTA's Southeast Transit Route and the Kingsburg to Reedley College Transit Route is displayed in Exhibit 8.

Exhibit 8 - The City of Fowler Regional Transportation Map

Noise Assessment



In general, the city of Fowler area experiences noise levels that achieve the Federal Highway Administrations (FHWA) Noise Abatement Criteria (NAC). Surface streets and roadways adjacent to Freeway 99 and the Union Pacific Railroad (UP) will experience higher noise levels given the traffic volume, traffic speed, and percentage of heavy vehicles on the freeway and railroad operations (train horn) along the UP. Streets and roads in the Fowler Community are ideal for Active Transportation/Complete Streets/Community Landscapes enhancements given the minimal noise impacts and connectivity to commercial/retail centers, schools, etc.

Noise can generally be described as unwanted sound and has been cited as being a health problem, not just in terms of actual physiological damages such as hearing impairment, but also in terms of inhibiting general wellbeing and contributing to stress and annoyance. Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss. The louder the sound, the shorter the time period before hearing loss can occur. Sounds of less than 75 decibels are unlikely to cause hearing loss even after long exposure.[6] Typical indoor and outdoor noise levels are presented above.

Existing noise levels in Fowler are principally generated by transportation noise sources. Vehicular traffic noise is the dominant source in most areas, but amplified sound generated from commercial sites are also sources of environmental noise in the local areas surrounding these operations. In addition, noise generated from the UP adds to the overall noise environment in the Fowler.

Transportation Noise

Highway and roadway traffic noise levels are generally dependent upon three primary factors, which include the traffic volume, the traffic speed, and the percent of heavy vehicles on the roadway. Traffic generated noise is the result of vehicle engines, exhaust, tires, and wind generated by taller vehicles. Vehicles with defective mufflers or faulty equipment have the propensity to increase traffic noise. Traffic noise levels are reduced by distance, terrain, vegetation, and natural/manmade obstacles as noise receptors move away from the highway/roadway.

Traffic noise exposure is mainly a function of the number of vehicles on a given roadway per day, the speed of those vehicles, the percentage of medium and heavy trucks in the traffic volume, and the receiver's proximity to the roadway. Every vehicle passage on every roadway in the community radiates noise.

Existing high noise levels along major streets and highways are generally caused by traffic and congestion. Potential impacts along these facilities are generally classified as follows:

- **Low** – Ldn (day-night average sound level) 59 dB or below
- **Moderate** - Ldn 60 dB to 65 dB
- **High** - Ldn 66 dB or greater

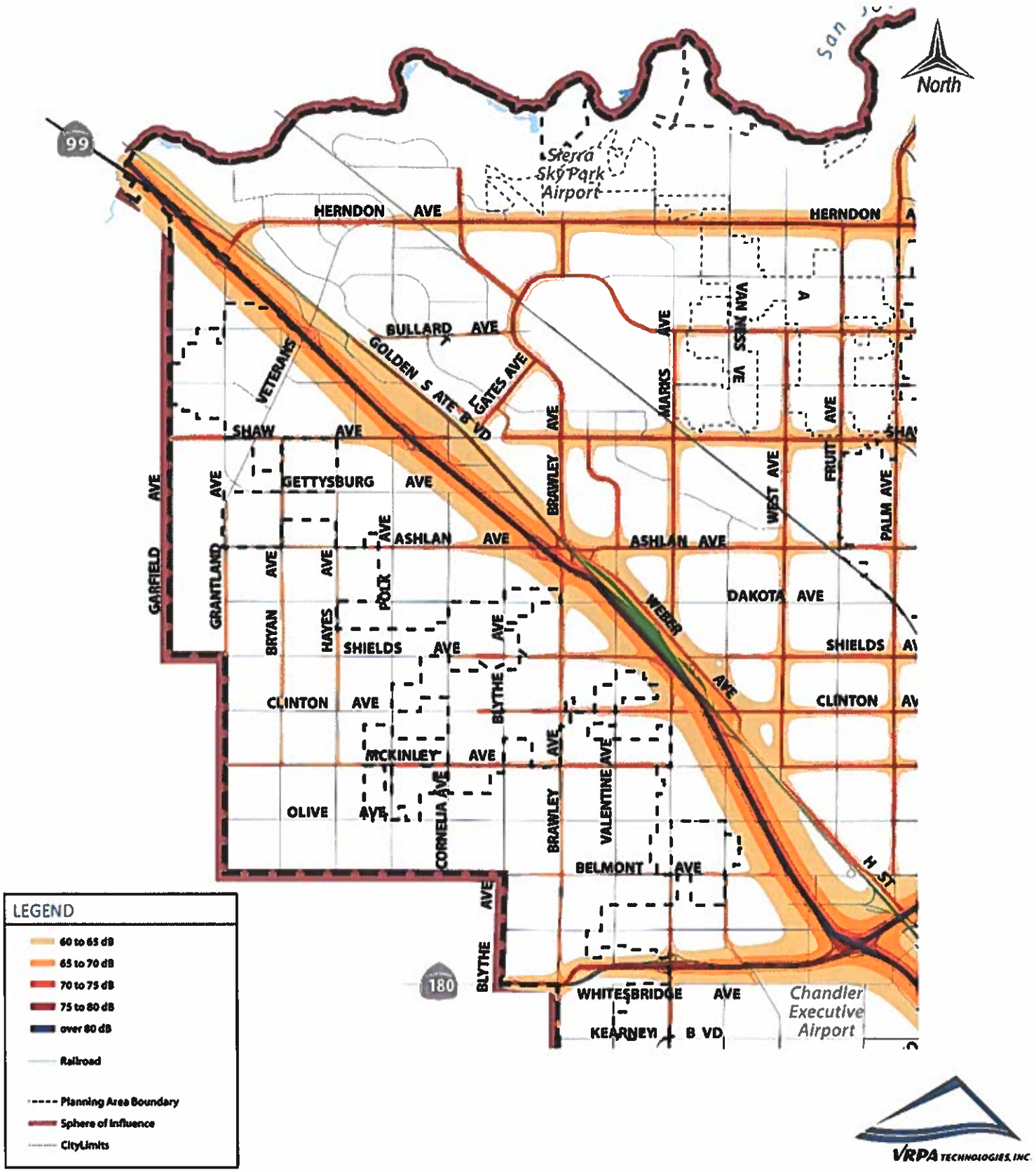
The potential for adverse noise impacts is generally low to moderate along most segments of Fowler streets. Exhibit 9 depicts the noise contours along streets and roads in the Fowler community. Potential noise impacts along a vast majority of the roadways and streets are generally classified as low considering Exhibit 9. Roadways and streets adjacent to and between Freeway 99 and the UP experience noise impacts generally classified as high. Noise levels of approximately 65 dBA are experienced from 325 feet west of Freeway 99 to 325 feet east of the UP railroad. Sensitive land uses, such as single or multi-family residences, located between and/or adjacent to Freeway 99 and the UP railroad experience noise levels that are at or above acceptable noise exposure levels.

Union Pacific Railroad Noise

The UP mainline runs parallel to Golden State Boulevard in the city of Fowler. The typical speed of trains is 50 to 65 miles per hour with approximately 19 to 29 daily train movements within the study area. Train operators are required to sound the warning horn when approaching within approximately 1,000 feet of a grade crossing. Railroad noise (with train horn) can achieve noise levels of 65 dB Ldn at approximately 300 feet (without barriers). As a result, train noise levels are higher at locations near grade crossings.

Industrial Noise

Noise is also generated from industrial land uses within the city of Fowler. A majority of the industrial land uses in the city are located at the southern end at South Avenue and Golden State Boulevard. Industrial land uses typically include the operation of forklifts, heavy duty machinery, and trucks which generate noise in the immediate area. Noise from warning tones when forklifts/trucks are reversing are around 90-95 dB(A) at the source. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations set by the Occupational Safety and Health Administration (OSHA) and Cal-OSHA, but exterior noise levels may exceed locally acceptable standards. Commercial, recreational, and public service facility activities can also produce noise that affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components that may be annoying to individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.



Source: Adopted City of Fresno General Plan

Exhibit 9 - Existing area noise contours.

Air Quality Assessment

In the San Joaquin Valley as a whole, a key air pollutant of concern is particulate matter (PM). Particulate pollution includes PM_{10}, or particles having a diameter of 10 micrometers or smaller, and $PM_{2.5}$, or particles having a diameter of 2.5 micrometers or smaller; for comparison, a human hair is about 70 micrometers in diameter (Exhibit 10). Particulate matter can be inhaled and cause serious health problems. Dust particles tend to be larger (PM_{10}) while particles emitted from car or truck exhaust tend to be smaller ($PM_{2.5}$). Some of the smallest particles can penetrate deep into the lungs and pass into the blood stream. In addition, $PM_{2.5}$ contributes to urban-scale smog, and the fine particles emitted by diesel-powered trucks and other mobile sources are identified by the California Air Resources Board (CARB) as a toxic air contaminant. The focus of this report is on identifying PM sources, including motor vehicles, industrial facilities, and agricultural operations which can contribute to PM pollution through the use of diesel-powered agricultural trucks and equipment, windblown dust, and other activities.

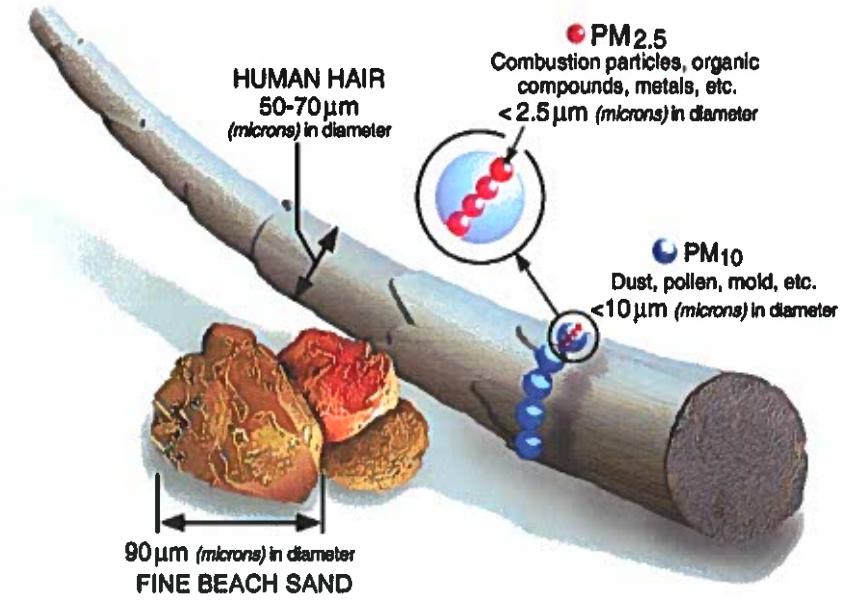


Exhibit 10 - Illustration of particulate matter PM size range; image source: U.S. EPA (https://www.epa.gov/pm-pollution/particulate-matter-pm-basics).

One of the most important population groups susceptible to air pollution-related health impacts are young children. Research shows that children exposed to air pollution suffer reduced lung development, increased rates of respiratory problems, and a greater risk of long-term health consequences than children who are in less polluted areas. In addition to identifying the location of pollution sources, our work also focused on identifying school sites; school locations are important since for most of the year children spend a large fraction of their day at school.

Key Sources of PM in Fresno County

Sources of PM in Fowler were identified using emission inventory data from CARB. CARB estimates the amount of pollutants discharged into the atmosphere by source, geographical area, and year. Table 2 summarizes three significant sources of PM air pollution in Fresno County by emission source category.

Table 2 - Major sources of PM emissions in Fresno County in 2016.

Emission Source Category	2016 PM Emissions Estimates (tons/year)
Agriculture (farming operations and equipment)	14,000
Facility (i.e., electric power plants, refineries)	1,047
Traffic (on-road mobile, including road dust)	9,500

Data sources: CARB CEPAM database, https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php (representing total PM mass).

Wind Climatology

A climatological analysis of wind data from 2013 to 2018 shows that winds in the area are frequently out of the northwest. Exhibit 11 depicts this wind data as a wind rose plot, where wind rose petals (segments) extend in the direction from which the wind originates and the length of each segment indicates the frequency of wind originating from that direction. Populations and regions downwind of pollution sources will be impacted more substantially compared to those that are upwind of pollution sources.

Prevailing winds help guide tree planting from an air quality perspective. Trees planted to the southeast of important ground-level air pollution sources may have an opportunity to help reduce exposure to air pollutants emitted near ground level from those sources for those who are immediately downwind (to the southeast) of the trees. The potential for air quality benefits will depend on the location of the emissions, meteorological conditions, the location of the target population of people exposed to air pollutants, and the density, height, and length of the vegetation to be planted.

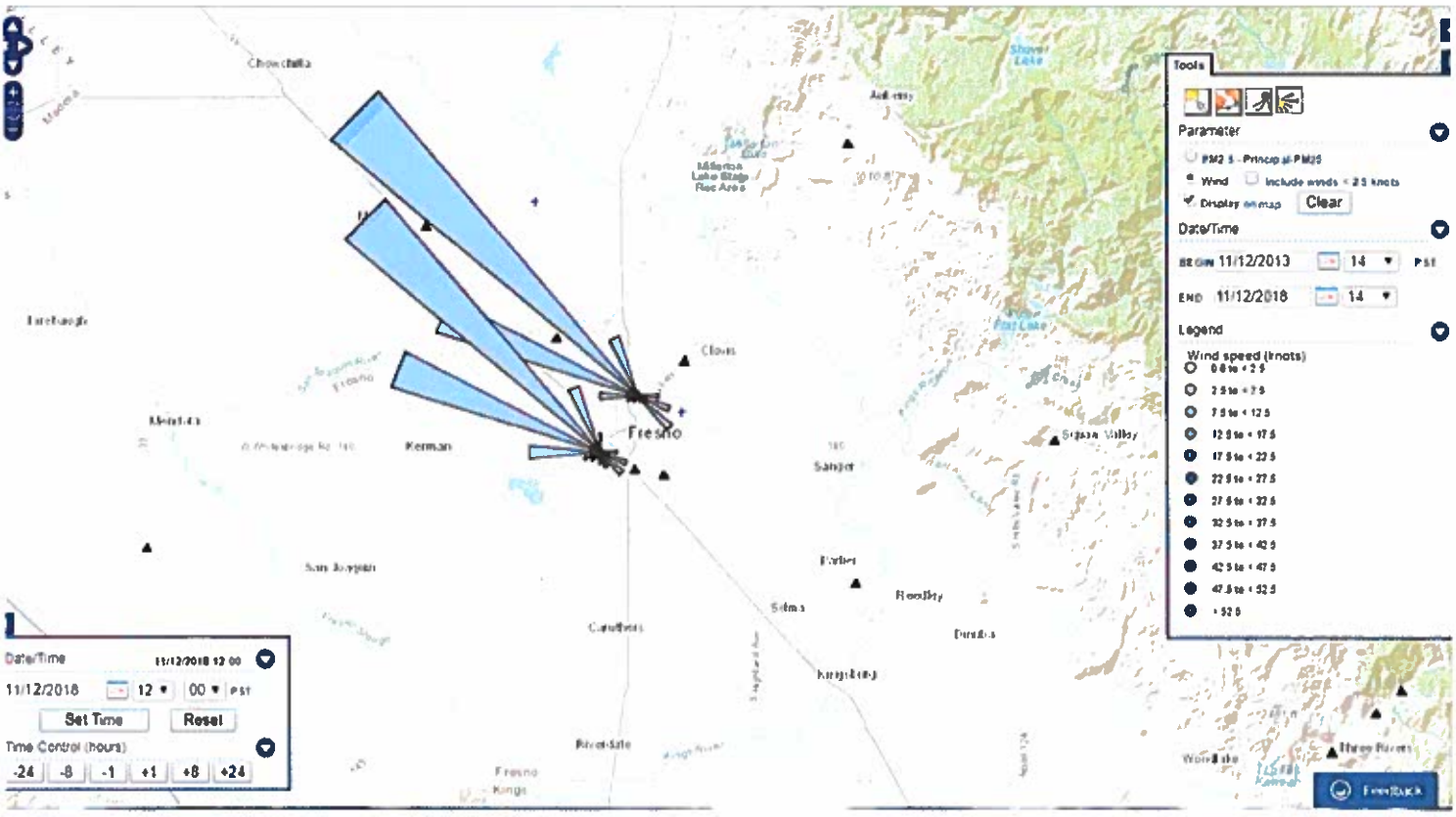


Exhibit 11 - Wind rose for Fresno region; winds are predominantly out of the northwest. Data source: U.S. EPA AirNow-Tech system.

Key PM Pollution Sources in Fowler

Exhibit 12 depicts the location of stationary pollution sources, school sites, agricultural lands, and traffic density in the Fowler region. Research shows that concentrations of traffic-related air pollutants are greater within a few hundred meters of major roads; to help visualize this important zone of concern, traffic density within 300 m of major roads was also mapped.

Exhibit 12 illustrates:

- The key sources of $PM_{2.5}$ air pollution in the Fowler region: agricultural land, traffic density, and facility emissions for 2016.
- School locations and school property throughout the region.

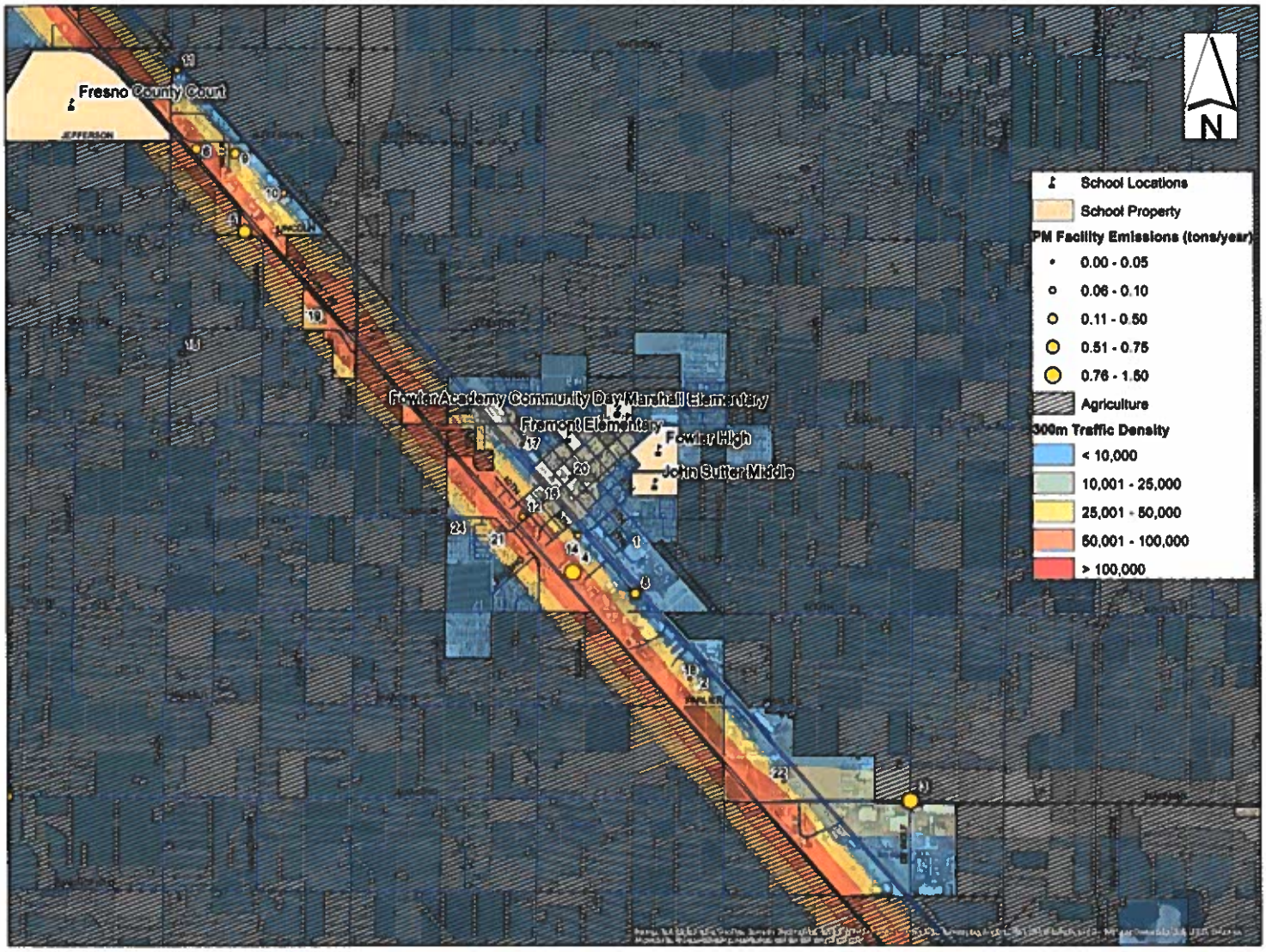


Exhibit 12 - Fowler mapping of schools, facility-level PM emissions, and traffic density. Data sources: traffic density, Caltrans; agricultural land use, Fresno County Division of Public Works and Planning (zoning data); PM facility emissions, CARB emissions.

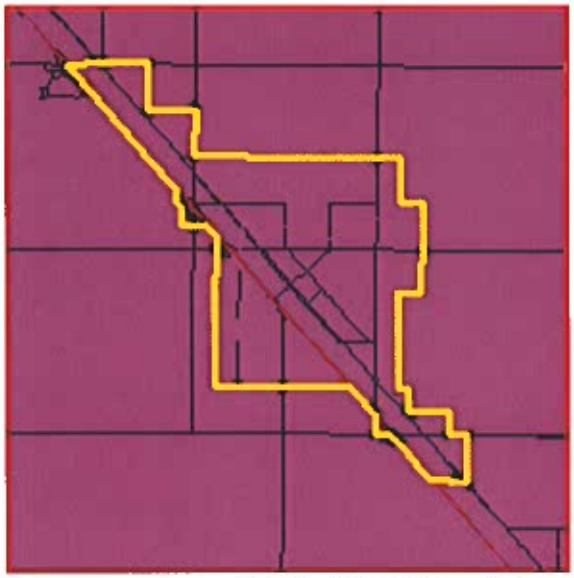
Public Health Assessment

The Fresno County Department of Public Health has created a mapping tool to help communities understand different health risks based on where an individual lives. This tool is used by land use planners, city officials, community groups, and citizens to determine the potential health risks throughout Fresno County. **The tool analyzes data from four different health measures including pollution burden, years of potential life lost (YPLL), composite mortality, and pre-term birth rate.**

The four measures are compiled over census tracts to determine an overall **Health Priority Index**, or HPI. The HPI was created by Fresno County Department of Public Health in collaboration with the Fresno Community Health Improvement Partnership (FCHIP) Land Use and Planning Workgroup and is revised every 5 years.

Pollution burden is determined using CalEnviroScreen 2.0 data, which compiles pollution data from sources such as particulate matter, ozone, contaminated water, hazard waste, etc. Years of Potential Life Lost, or YPLL, is calculated when an individual dies before the benchmark age of 75. The composite mortality index compiles mortality data from preventable diseases such as chronic lung disease, heart attack, diabetes, colon cancer, high blood pressure, and obesity. Pre-term birth is defined as a child born before 38 weeks of gestational age. Each metric is calculated by census tract and ranked throughout the county. The census tracts with rates in the 75th percentile or higher are considered burdened. According to the Fresno County Department of Public Health HPI assessment, Fowler is not burdened by YPLL, composite mortality, or pre-term birth. However, **Fowler is burdened by pollution**. A map of this assessment and details about pollution burden are presented in the following Exhibit 13.

Pollution Burden—The City of Fowler



- Pollution burden is determined using data from CalEnviroScreen 2.0, which measures 19 different indicators, including 12 pollution sources and 7 population characteristics.
- Pollution burden is calculated by census tract ranked throughout the county. The census tracts with pollution levels in the 75th percentile or higher are considered burdened.
- According to this map, the entire city of Fowler is burdened by pollution.
- Some of the pollution sources in the Fowler area discussed in the Air Quality section of this report include particulate matter from agriculture, transportation, and industrial emissions (Table 2).

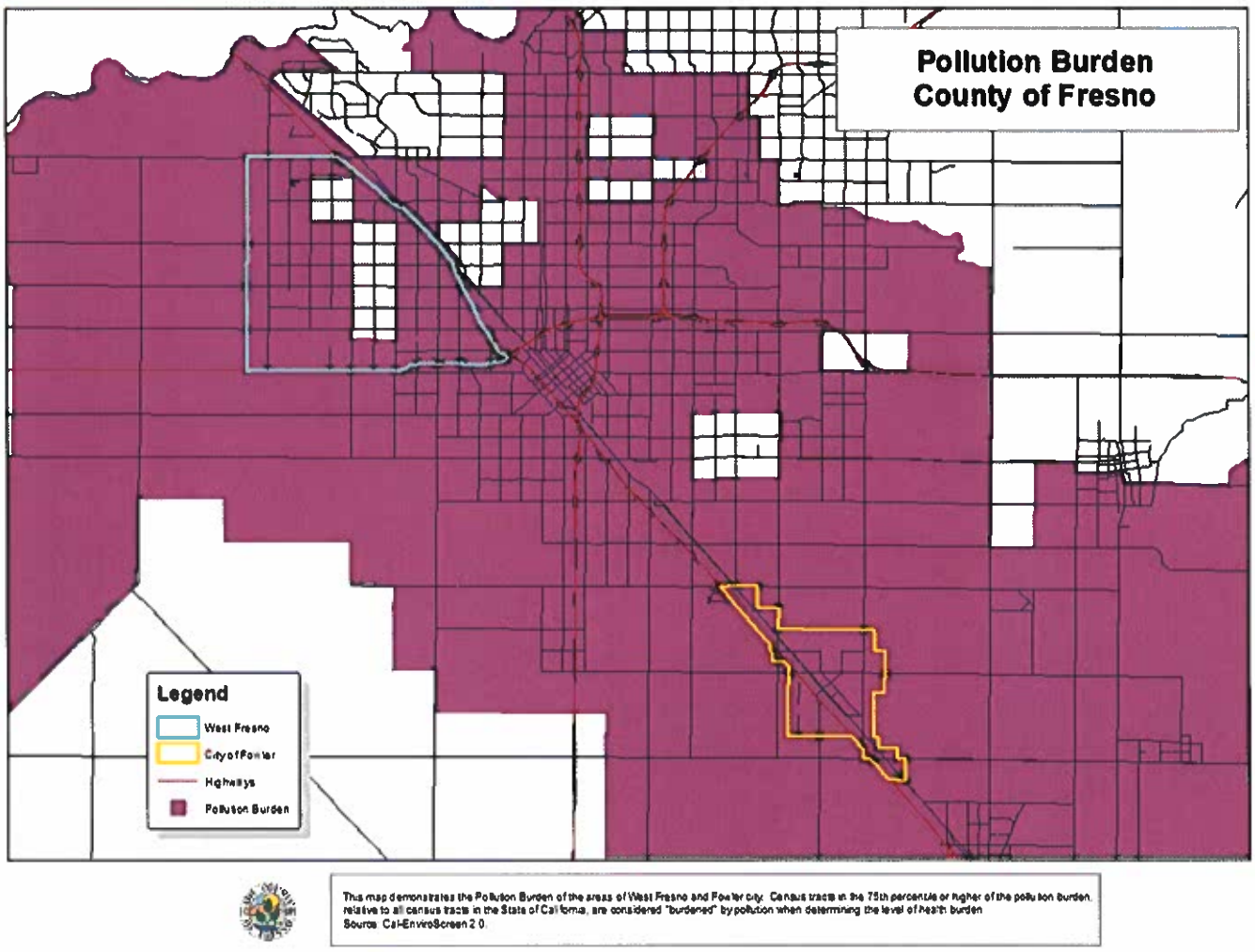


Exhibit 13 – Pollution Burden in the Fowler area assessed by the Fresno County Health Priority Index.
Source: Fresno County Public Health Department

Community Engagement

The city of Fowler CLP sought input through two major community engagement components, the Citizens Advisory Committee (CAC), and two public community engagement events. Each of these components allowed community members to learn about the CLP and participate in shaping the Plan. The CAC is comprised of city officials, community leaders, Tree Fresno, and Fresno COG.

Fowler Citizens Advisory Committee

Jeannie Davis - City Manager/City Clerk

Karen Mukai - Administrative Assistant to the City Manager/City Clerk

Manuel Lopez - Public Works Superintendent

Lucio Cortez - Principal, John Sutter Middle School

Maggie Courtis
Master Gardener

Bruce O'Neal
Tree Fresno

Lee Ayres
Tree Fresno

Allyson Smith
Tree Fresno

Jennifer Soliz
Fresno COG

The CAC was formed to assist Tree Fresno with providing insight into which water-wise trees and plants do well in their neighborhoods, what are some strategic properties that can be used as tree planting sites, and to learn how the CLP can increase their community identity while reducing greenhouse gases. The CAC met in January and March in Fowler for individual meetings, as well as attended February and March community engagement events. The CAC provided support for the final CLP report and will participate in presenting the CLP to the city of Fowler.

Community Engagement Event #1

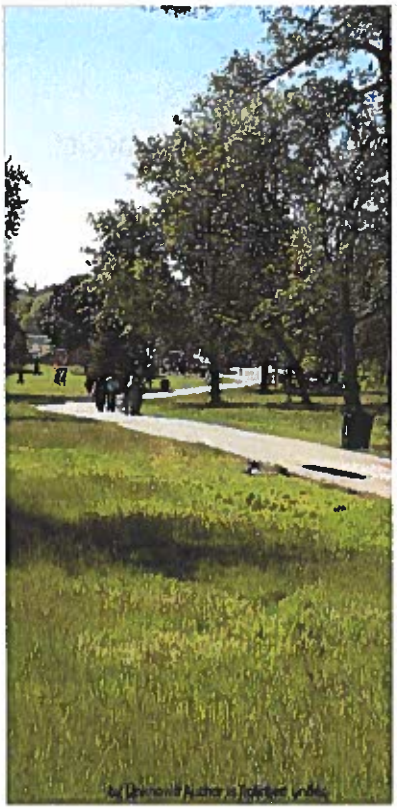
The goal of the Fowler community engagement events was to engage 50 or more community members at a community meeting offering free small tree giveaways, music, food, a large tree raffle, and presentations by experts. An event announcement was prepared and translated into Spanish. City of Fowler printed and delivered over 2000 copies in February's utility bill, while Tree Fresno delivered fliers to major businesses, the Senior Center, and library. The event was posted on the City of Fowler's community events page and displayed on Fowler Unified's school marquees.

On February 28, 2019 the Fowler community engagement event at John Sutter Middle School was well attended. School administrators, city officials, community members and their families, as well as a few citizens from outside the Fowler area came to learn about the Community Landscapes Plans. Presentations included the benefits of trees and assessments on land use, transportation, trees and soils, and landscape architecture. Presenters included Lee Ayres from Tree Fresno, Jeff O'Neal from Provost and Pritchard, Jason Ellard from VRPA Technologies, and John Pape from John Pape Consulting, LLC. An activities table was set up for the children who attended with their parents. Attendees enjoyed local food, music, small tree giveaways, and a raffle of six large trees.

Lee Ayres and Lucio Cortez, Principal of John Sutter Middle School, discuss trees at schools before the first Fowler Community engagement event.

Arborist John Pape describes a tree to be raffled at the first Fowler Community Engagement event.

Below is an excerpt from the Power Point slides presented at the first Fowler Community Engagement Event at John Sutter Middle School on February 28, 2019.



THE CITY OF FOWLER COMMUNITY LANDSCAPES PLAN

COMMUNITY ENGAGEMENT EVENT
JOHN SUTTER MIDDLE SCHOOL
FEBRUARY 28, 2019

The City of Fowler Community Landscapes Plan

- Granting Agency and Funding Source
- Project Goal
- Project Objectives
- Written Assessments by Experts
- Community Engagement
- Action Plan and Publication

CONSULTANTS

The City of Fowler
Community Landscapes Plan

John Pape	Kuthz Pape and Associates – Consulting Arborist
Rich Vaillancour	Robert Boro Landscape Architects Landscape Assessment
Sara Allinder	Provost and Prichard - Land Use Assessment
Georgiena Vivian	VRPA Technologies - Transportation Assessment
Doug Eisinger	Sonoma Technologies, Inc. - Air Quality Assessment
Jamie Hinrich	Environmental Historian
Kelaine Ravdin	Urban Ecos, LLC – Ecological Assessment
Allyson Smth	Fresno County "Health Priority Index"

Transportation Challenges Jason Ellard 2/20/2019

Roadways

- Manning Ave and SR 99 experience occasional traffic congestion during peak hours on weekdays

Manning Ave, east of SR 99

Bicycles

- As currently constructed, there is a moderate amount of bicycle travel facilities
- The City has identified additional bicycle facilities that will improve the lack on continuity between existing facilities

Sumner Ave, west of Sunnyside Ave

Transportation Challenges Jason Ellard 2/20/2019

Pedestrians

- One of the primary challenges facing pedestrian travel are existing gaps in the pedestrian network, which includes discontinuity of sidewalks along Adams, Armstrong, and Walter Ave.

Adams Ave, west of 1st St.

Transit

- Fresno County Rural Transit Agency (FCRTA) provides transit service to Fowler residents via the Southeast Transit route and the Kingsburg to Reedley College Transit route. The frequency of bus service can be challenging for residents commuting to these destinations

Bus shelter at Merced St & 7th St.

Potential Features of the Existing and Planned Transportation Network

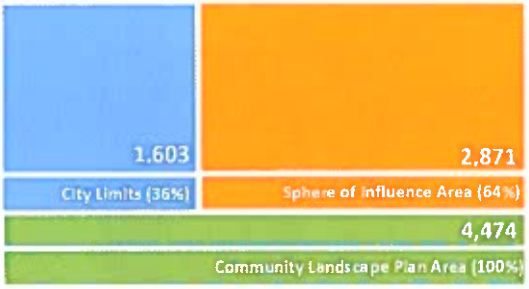
Jason Ellard 2/20/2019

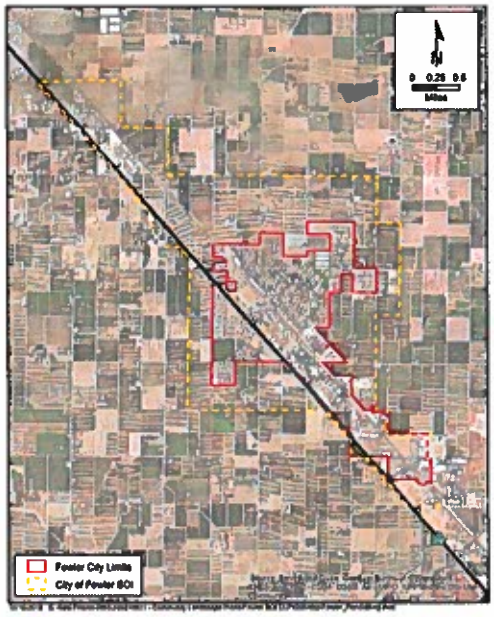
City of Fowler Community Landscape Plan Area

Jeff O'Neal 2/20/2019

Total Acreage
4,474 (just under 7 square miles)

Distribution of Acreage





Jeff O'Neal 2/20/2019

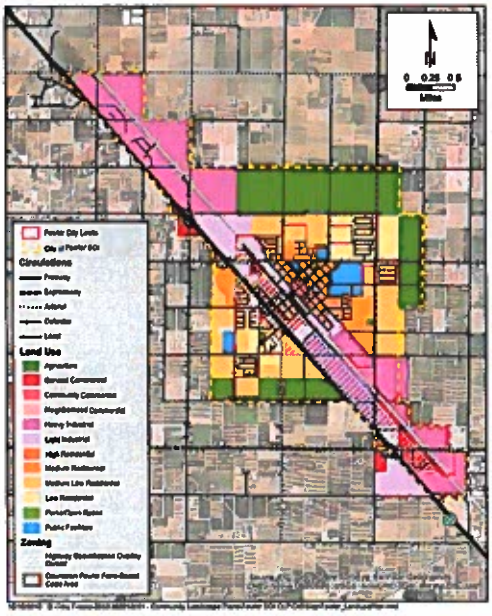
Land Use Assessment Observations

Transportation Network Disruptions and Limitations

Planning Efforts Intended to Provide Clear Policy Direction

Opportunity to Influence through Regulations

City of Fowler Does Not Control All Land Use Decisions

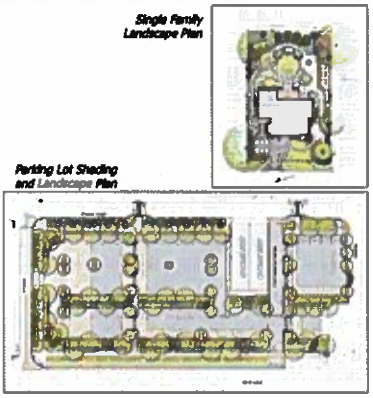


Opportunity to Influence Implementation through Regulations

Jeff O'Neal 2/20/2019

Zoning Regulations:

- Address development primarily on private property, including:
  - How much and what type of landscaping or open space is required
  - How many trees are required

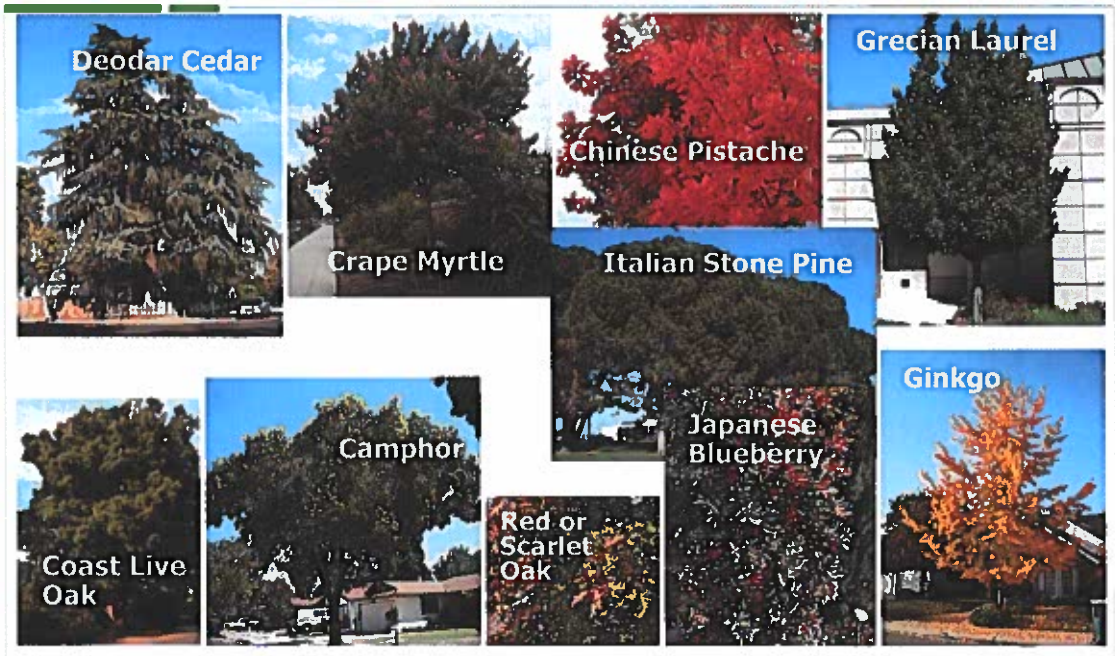


Subdivision Regulations:

- Address design and improvement of private and public property related to subdivisions, including:
  - How properties connect to surrounding uses through streets, sidewalks, and trails
  - How streets are designed to accommodate for pedestrians and bicyclists
  - How parks are integrated

Trees Performing Well in the City of Fowler

John Pape 2/20/2019



Inappropriate Trees in the City of Fowler

John Pape 2/20/2019

The City of Fowler Landscape Assessment

IMPRESSION
- Definition
- Continuity
- Edge
- Identity
- Opportunity

SENSE OF PLACE
- Tree Canopy
- Defined Space
- Accent Boundary
- Environmental Control

HEALTHY COMMUNITY
- Clean Air
- Shade / Heat Gain
- Environmental Interaction

Rich Vaillancour 2/20/2019

Community Engagement Event #2

The second Fowler Community Engagement Event was held on March 28, 2019 at John Sutter Middle School. Presentations included the Action Plan for land use, transportation, trees, and landscape architecture. Presenters included Lee Ayres from Tree Fresno, Jeff O'Neal from Provost and Pritchard, Jason Ellard from VRPA Technologies, Maggie Courtis, Master Gardener, Rich Vaillancour from Robert Boro Landscape Architects, and John Pape from John Pape Consulting, LLC. Attendees enjoyed local food, small tree giveaways, music, and a raffle for six large trees.

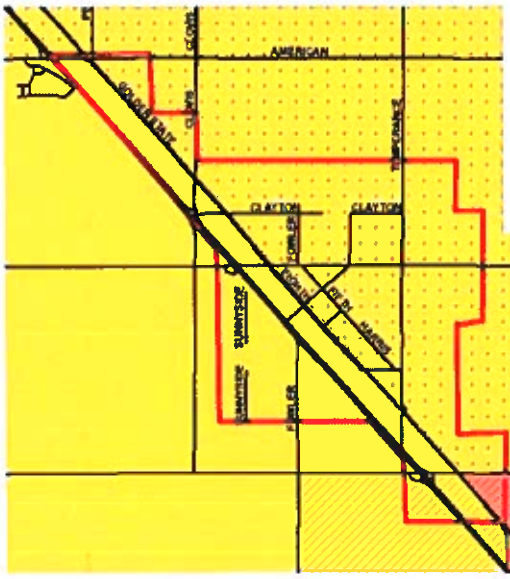
Large trees were raffled at each of the two community engagement events. Each participant was given a free small tree. Large trees funded by a Calfire CCI grant.

Below is an excerpt from the Power Point slides presented at the second Fowler Community Engagement Event at John Sutter Middle School on March 28, 2019

THE CITY OF FOWLER COMMUNITY LANDSCAPES PLAN

COMMUNITY ENGAGEMENT EVENT
JOHN SUTTER MIDDLE SCHOOL
MARCH 28, 2019

Fresno County Health Priority Index



Health burden (colored areas on map) is determined using 4 health measures

1. pre-term birth rate
2. pollution burden
3. years of potential life lost
4. composite mortality index

(Fresno Co. Health Improvement Partnership)

Key Sources of PM Air Pollution in the Fowler Region

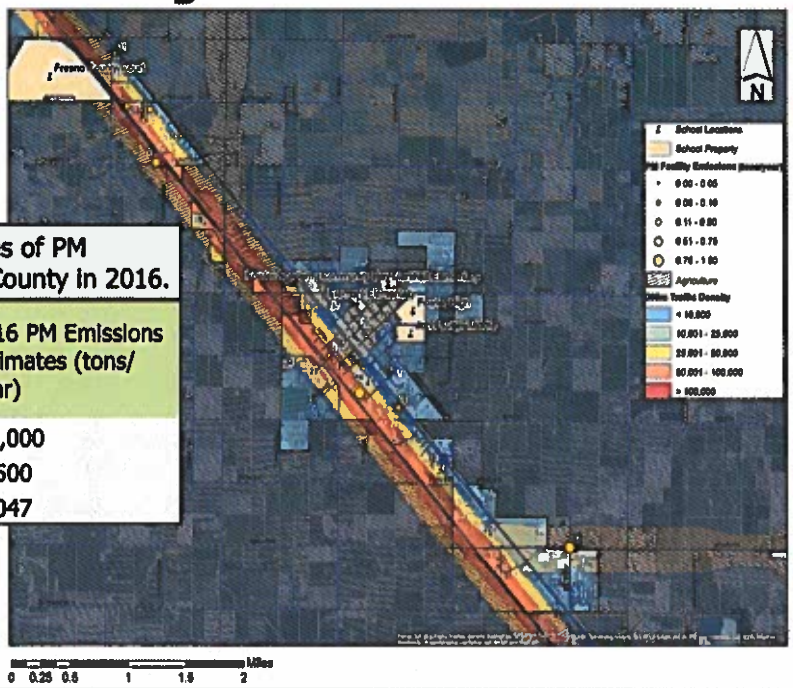
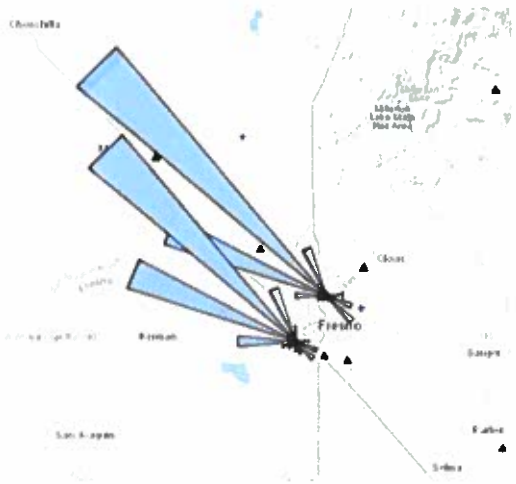


Table 1. Major sources of PM emissions in Fresno County in 2016.

Emission Source Category	2016 PM Emissions Estimates (tons/ year)
Agriculture	14,000
Traffic	9,500
Industrial	1,047

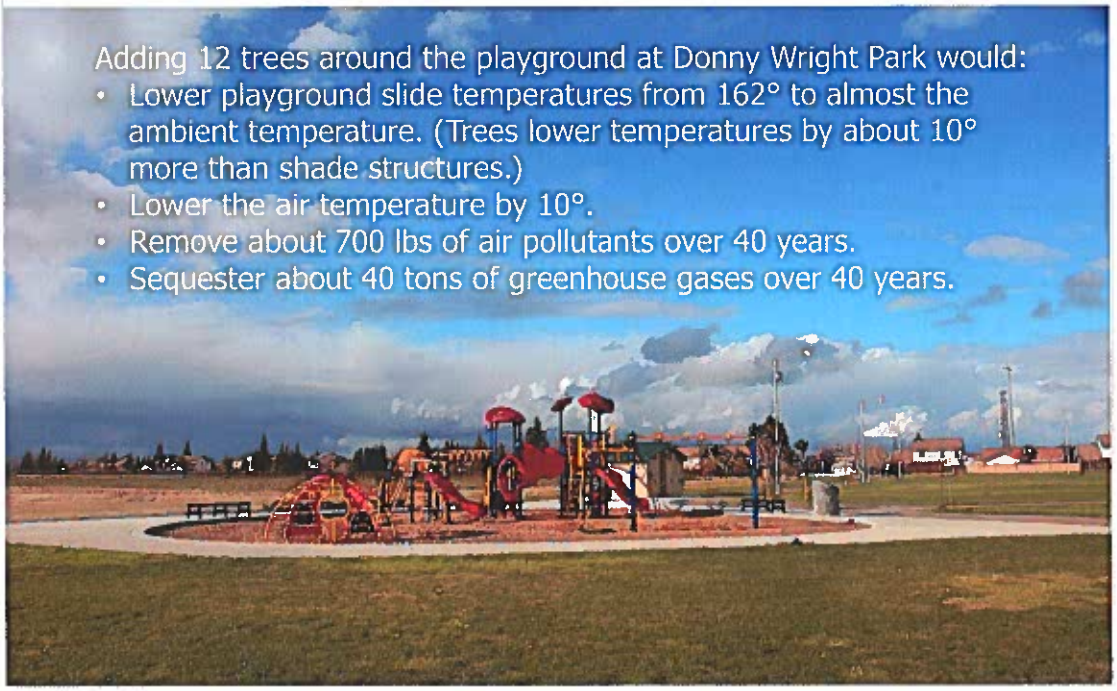
Wind Direction and Air Quality Recommendations for Schools

Tree planting provides a barrier from PM emissions occurring directly upwind of the site. Prevailing winds dominate from the northwest, but originate from all directions.



- Tree planting near schools in the Fowler region provides a barrier from agricultural-related PM emissions
- Preference should be given to any future school locations within 300 m of CA-99, a major route with significant car and heavy duty truck traffic.
- Tree plantings to the west and north of the Fremont school property (i.e., along north 5th street and East Adams Avenue), may help reduce exposure to rail and roadway-related pollution.

Donny Wright Park



Big trees, to shade us in summer

And the habitat, sense of place and beauty these trees bring

Land Use Policy Recommendations

Objective: Increase the sense of community and beauty.	Objective: Increase the tree canopy.	Objective: Create an integrated transportation system.
Recommendations: **1:** Map identifiers **2:** Identify additional park space needs **3:** Create a landscape palette	**Recommendations:** **4:** Review/update existing ordinances **5:** Prepare informational materials **6:** Coordinate with existing and ongoing planning efforts	**Recommendations:** **7:** Influence new projects **8:** Look for existing opportunities to complete pedestrian and bicycle connections

Land Use Policy Recommendations

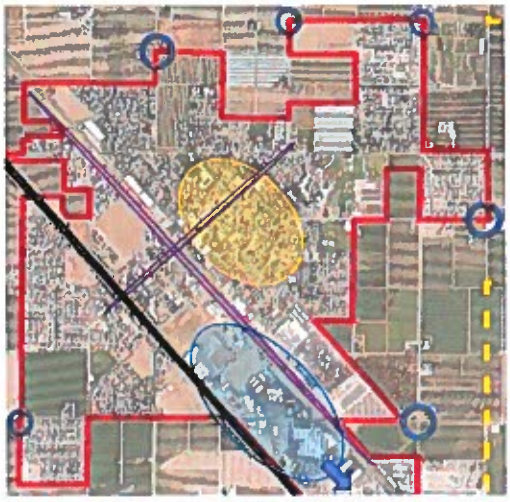
Objective:

Increase the sense of community and beauty with the implementation of tree collections for each district, major corridor, and major entrance.

Recommendation 1:

Map out community identifiers and features within the City of Fowler Landscape Plan Area.

- Districts, generally larger-scale
  - Downtown
  - Commercial Core
  - Industrial Area
- Corridors, major
- Gateways, major and minor



Land Use Policy Recommendations

Objective:

Increase the tree canopy, resulting in significant greenhouse gas reductions.

Life Cycle of a Tree (From a Regulatory Perspective)

Stage 1: The Number of Trees

The zoning ordinance and other regulatory documents require a certain number of trees to be planted.

- Number of trees per property
- Enough trees to meet a performance standard

Stage 2: The Type of Trees

Implementing documents and policies provide direction on the types of trees required or allowed.

- Parking Lot Shading Policy
- Street Tree List

Stage 3: The Care of Trees

Tree preservation ordinances typically provide guidance on the care of trees.

Land Use Policy Recommendations

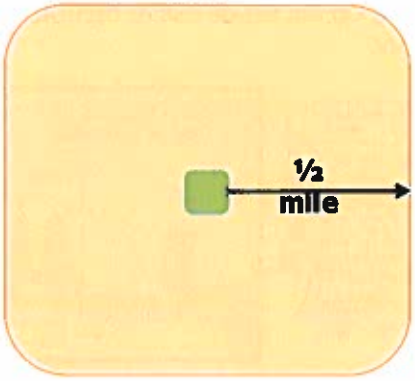
Objective:

Create an integrated transportation system that reduces emissions, improves health and access to green spaces, saves money, and reduces noise, air pollution, and respiratory illness.

Recommendation 7:

Influence how new projects are designed and reviewed.

- Density does make a difference.
- Create connections and increase accessibility options.



1 square mile

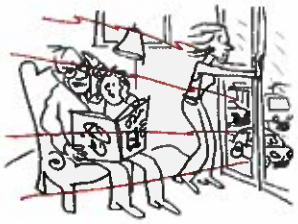
5 du/ac =
3,200 du
9,888 persons

7 du/ac =
4,480 du
13,843 persons

Difference:
3,955 persons

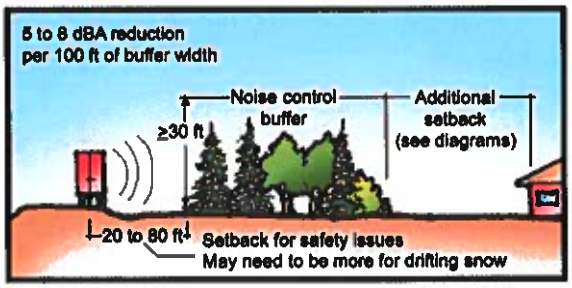
Transportation Noise

- Noise can generally be described as unwanted sound and has been cited as being a health problem, not just in terms of actual physiological damages such as hearing impairment, but also in terms of inhibiting general wellbeing and contributing to stress and annoyance. Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss.
- Highway and roadway traffic noise levels are generally dependent upon three primary factors, which include the traffic volume, the traffic speed, and the percent of heavy vehicles on the roadway.

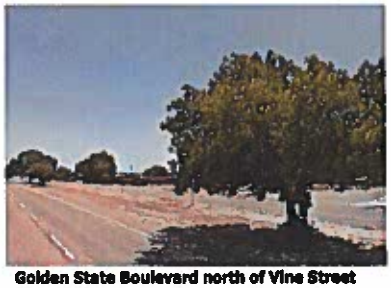


Transportation Noise Abatement

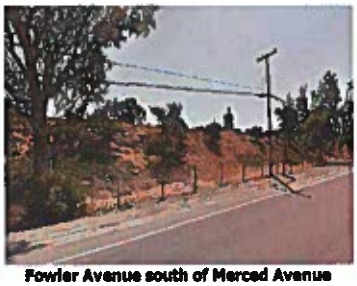
- Noise abatement should only be considered where frequent human use occurs and where a reduced noise level would be of benefit.
- Noise abatement should be designed for a substantial reduction in noise, which is defined as a 5-decibel (dB) minimum reduction. This reduction represents a "readily perceptible change" in the noise level.
- Traffic noise levels are reduced by distance, terrain, vegetation, and natural/manmade obstacles as noise receptors move away from the highway/roadway.



Transportation Noise Abatement



Golden State Boulevard north of Vine Street

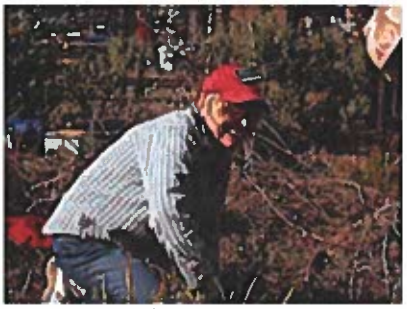


Fowler Avenue south of Merced Avenue (Adjacent to SR 99)

Temperance Avenue south of Adams Avenue

South Avenue east of Sunnyside Avenue

Master Gardener
UCCE



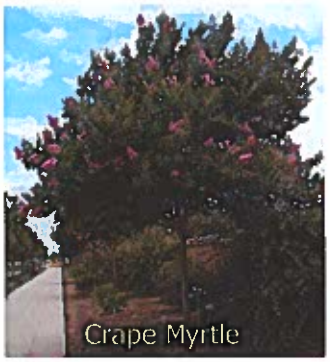
Maggie Boyajian Courtis

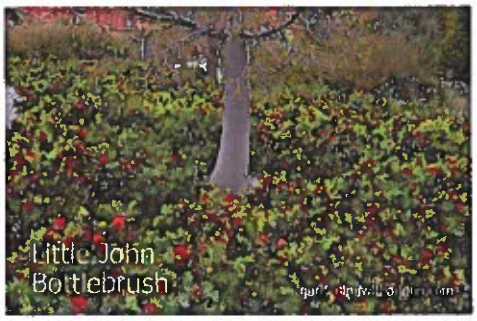
- Plant Botany
- Plant Diseases
- Insects, Vertebrate Pests
- Weed science
- Home vegetable gardening
- Fruit Trees
- Grapes
- Landscape Trees
- Turf
- Diagnosing Plant Problems

Tree and Shrub Palette Concepts, Rural

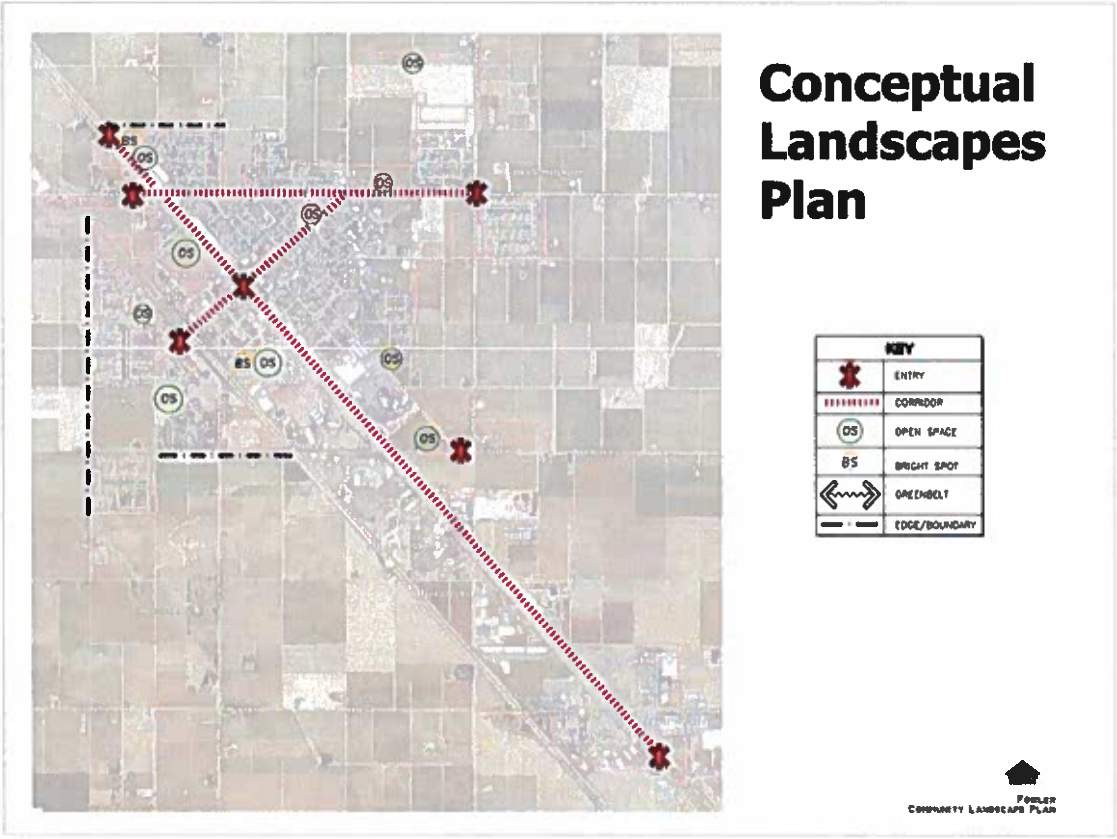
Howard McMinn Manzanita

Tree and Shrub Palette Concepts, Suburban





Tree and Shrub Palette Concepts, Industrial – Golden State


Conceptual Landscapes Plan
KEY
ENTRY
CORRIDOR
OS
OPEN SPACE
BS
BRIGHT SPOT
GREENBELT
EDGE/BOUNDARY
FOWLER
COMMUNITY LANDSCAPE PLAN

Community Shaping Plan

Key Proposals

COMMUNITY SHAPING PLAN – LIFE CHANGING AND SAVING PROPOSALS

- **Canopy Coverage**: We propose that the City of Fowler set an immediate goal of 15% with the expectation that we would work toward a 30% canopy as the health benefits of trees become widely understood.
- **"Fowler Green" Development Standards:** We propose that the city develop an alternative development standards package that will increase the landscape ratios to 30% by a combination of higher densities and reduced street widths, parking ratios and building footprints. The "Fowler Green" Development Standards could provide an alternative within existing annexed areas and, perhaps, could be required for future annexation. Benefits would include the following:
    - Increase green space, the tree canopy, walkability and the number of housing units;
    - Improve air quality, environmental health, mental health, student achievement and property values; and
    - Reduce the greenhouse gases, energy use, the amount of asphalt, street maintenance expenses and the demand for law enforcement services.
- **Rose Garden**: To celebrate the History of Fowler, enhance a property in the Merced Avenue Business District to serve as "bookend" with Panzak Park. This may become a signature feature for the future Community Landscapes Plans.
- **Golden State Boulevard**: We seek to restore and add to the landscaping that was removed from the COG plans for budget reasons as part of the Forest District.
- **Forest District:** We wish to create a "sponge" and deflector for near-road and railroad air pollution from Freeway 99, Golden State Boulevard and the Union Pacific Railroad property. Development projects would be guided by the objective to protect residents and employees from noise and air pollution with green vegetation and trees.
- **Central District:** We wish to preserve and enhance the sense of place provided by the Merced Avenue corridor which is perpendicular to the railroad. The tree and plant collections will add definition and substance to the heart of Fowler.
- **North, East and West Districts:** These districts provide a form for development and infrastructure planning; as well as tree & plant-based identity for visitors and residents.
- **Entrances:** The proposed trees and plants will enhance the main entrances to the City and the "arrival experience" for visitors and residents. See page 95 for the location of key entrances and the tree and plants we are proposing.
- **Land Use:** In order to **reduce greenhouse gases**, achieve State of CA housing objectives and create a healthier environment, adopt "Fowler Green" development standards to be implemented in newly annexed areas and within the existing city limits when feasible. Paradoxically, Freeway 99, Golden State Boulevard and the Union Pacific Railroad - can be leveraged to create special places by the planting of forested landscapes.

- **Green Building Standards:** We propose that there be a concerted effort to reduce greenhouse gases emanating from our buildings, new and old. To this end, keeping the codes up to date and related community education would be appropriate.
- **Optimum Size**: In order to have a sustainable municipal corporation with a competitive level of services; and to create a greener Fowler with lower levels of Greenhouse gases, **we propose that the City develop alternative optimum size scenarios** which address the geographic area, land use, landscape ratios, asphalt ratios, population, tax base, tree canopy, and community service levels - supported by a cost-benefit analysis - **to guide the update of the General Plan**
- **Valley Arboretum:** Expand the Valley Arboretum, as adopted in the City of Fresno 2015 General Plan, **to create circumferential and intra-city greenways for the area within the City of Fowler sphere of influence.** See pages 168-171 for the map and narrative.
- **Strategic Properties**: Focus tree planting efforts on high visibility properties in order to demonstrate the recommended plants and trees and provide the benefits of trees. See pages 116-121 for the map and table. Focus on these properties with future grants and conditional use permits as the properties develop or redevelop.

Landscape Design Ideas

Residential, commercial, and public areas provide a unique opportunity to improve the look and feel of a community, while reducing water consumption and improving habitat for pollinators. The Tree and Plant palette as well as the Tree and Plant Portraits contain details on low-water-use plants that will perform well in the Fowler area. The suggested plants can be found at local nurseries.

When considering low-water yards, here are some organizations with helpful information on landscape design, irrigation design, and maintenance in the Fresno County area.

- Fresno County Master Gardeners – https://ucanr.edu/sites/mgfresno/
  Numerous resources including classes, gardening help line, and a demonstration garden.
- Clovis Botanical Gardens – https://clovisbotanicalgarden.org/
  A 3-acre public garden specializing in educating the public on water wise gardening.
- California Native Plant Society - https://www.cnps.org/
  The Sequoia Chapter specializes in promoting and advising on Central Valley native plants.

A cottage style garden can be attained by dense plantings and repeated color schemes.

Cactus and succulents can be paired with shrubs, ground covers, and grasses to create an easy maintenance front yard.

A big impact can be made in small spaces choosing low-water -plants.

Corridors, Entrances, Districts

Corridors

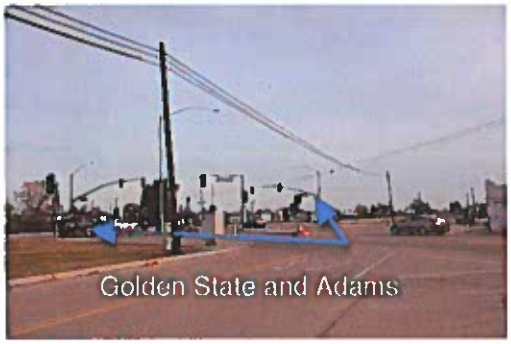
Three corridors have been proposed to create a theme with trees and other plant material based on their importance to the flow of traffic in Fowler. They are Adams Avenue, Merced Street, and Golden State Boulevard.

Entrances

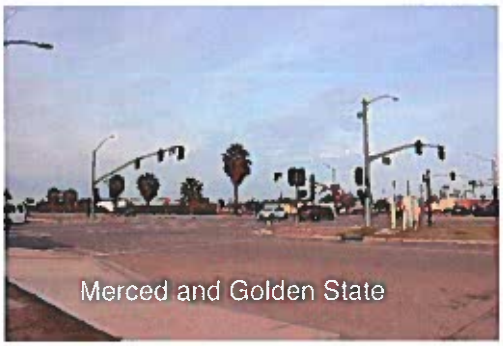
One unique Entryway Property lies on the south side of Adams Avenue just west of Temperance Avenue at the northeast corner of Fowler High School. This area of the school is the back side of the baseball fields, then further west a soccer field and football field. Trees could be planted along the east and north edges of these fields in some areas, as long as they were planted in between the field light and wouldn't interfere with visibility or safety.


Athletic Fields

A second Entryway Property is at Adams Avenue and Golden State Blvd with ample opportunity to plant and make a significant difference in quality and appearance of the location. There is room for planting on the parkway strips on each side of the road.


Golden State and Adams

Another Entryway Property is Merced Street and Golden State Blvd. This site is significant because it is also the entryway into the downtown area. It is similar to Golden State and Adams, with large parkway strips and medians.


Merced and Golden State

ENTRANCES

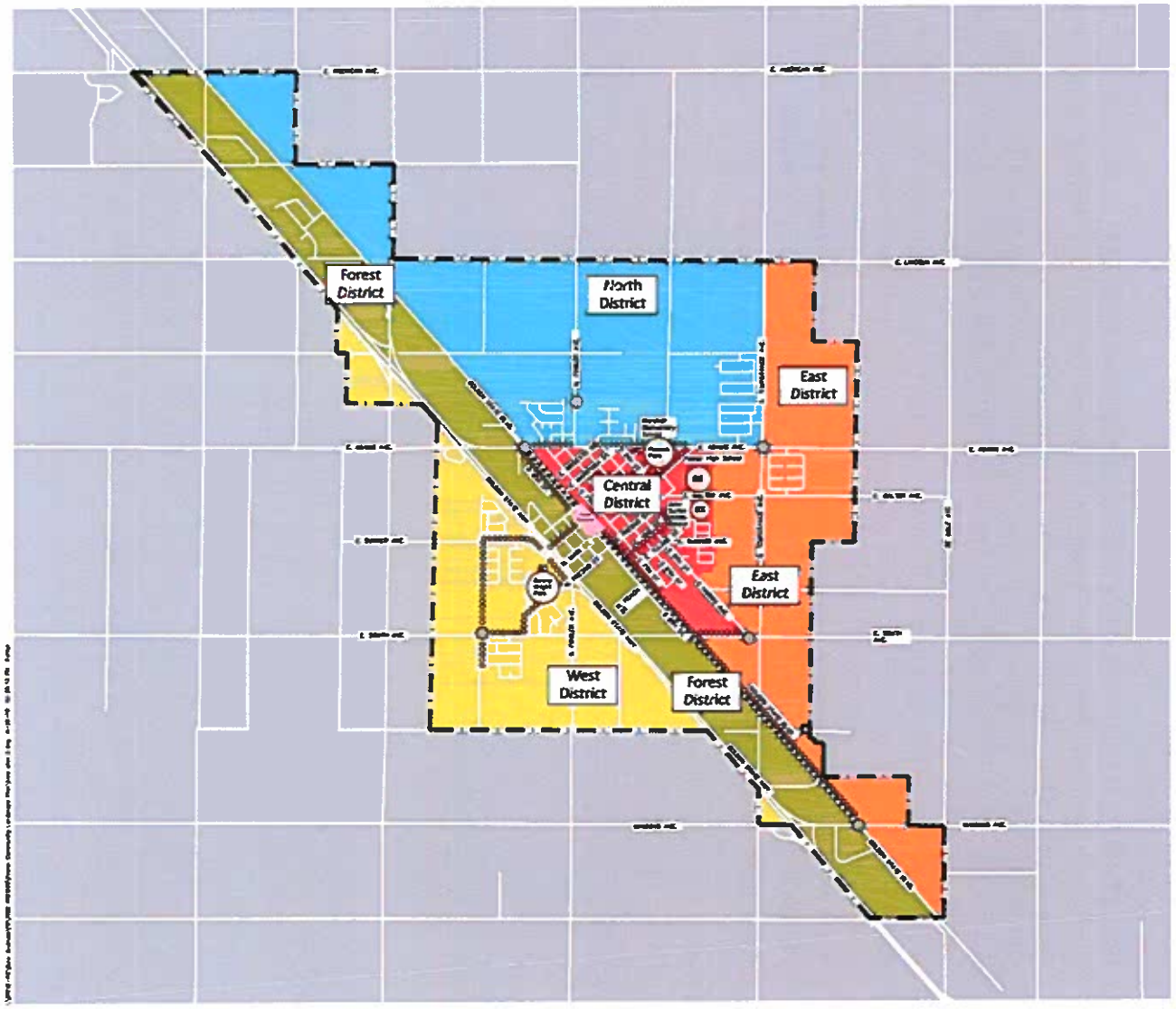
- Adams/Temperance
- Adams/Golden State
- Golden State at northern city limit
- Fowler at northern city limit
- Golden State/Merced St.
- 99/Merced St.
- South/Sunnyside Ave
- South/Temperance
- Golden State at southern city limit

Districts

The district map shown below indicates six major areas with distinct landscape opportunities. Each district has its own unique plant and tree palette, which helps define an area and give it a unified feel. Trees and understory plants for each district are displayed in the District Area Tree and Plant lists.

The names and locations of the six distinct areas of Fowler are described here:

- **North District** – This district begins at the northern boundary of the Sphere of Influence and is bordered by Temperance Ave to the east, Adams to the south, and Golden State Blvd to the west.
- **East District** – The north boundary of the East district begins at Lincoln Ave and Temperance Ave and follows the Sphere of Influence to the east and south, then is bound to the west by Golden State Blvd, the Central district, and the North district.
- **Central District** – The Central district encompasses many of the oldest parts of Fowler, from Adams Ave, past Fowler High School and John Sutter Middle School, down Harris Ave, and bound by Golden State Blvd to the west.
- **Rose Parterre** – This small area of Fowler, located at Merced and Golden State Blvd, is not considered a traditional district. It is a landscaped entryway into the Central District using water-wise, easy to grow rose varieties.
- **West District** – This area includes all of the land on the west of Highway 99.
- **Forest District** – The forest district encompasses the area between Highway 99, Golden State Blvd, and the Railroad.

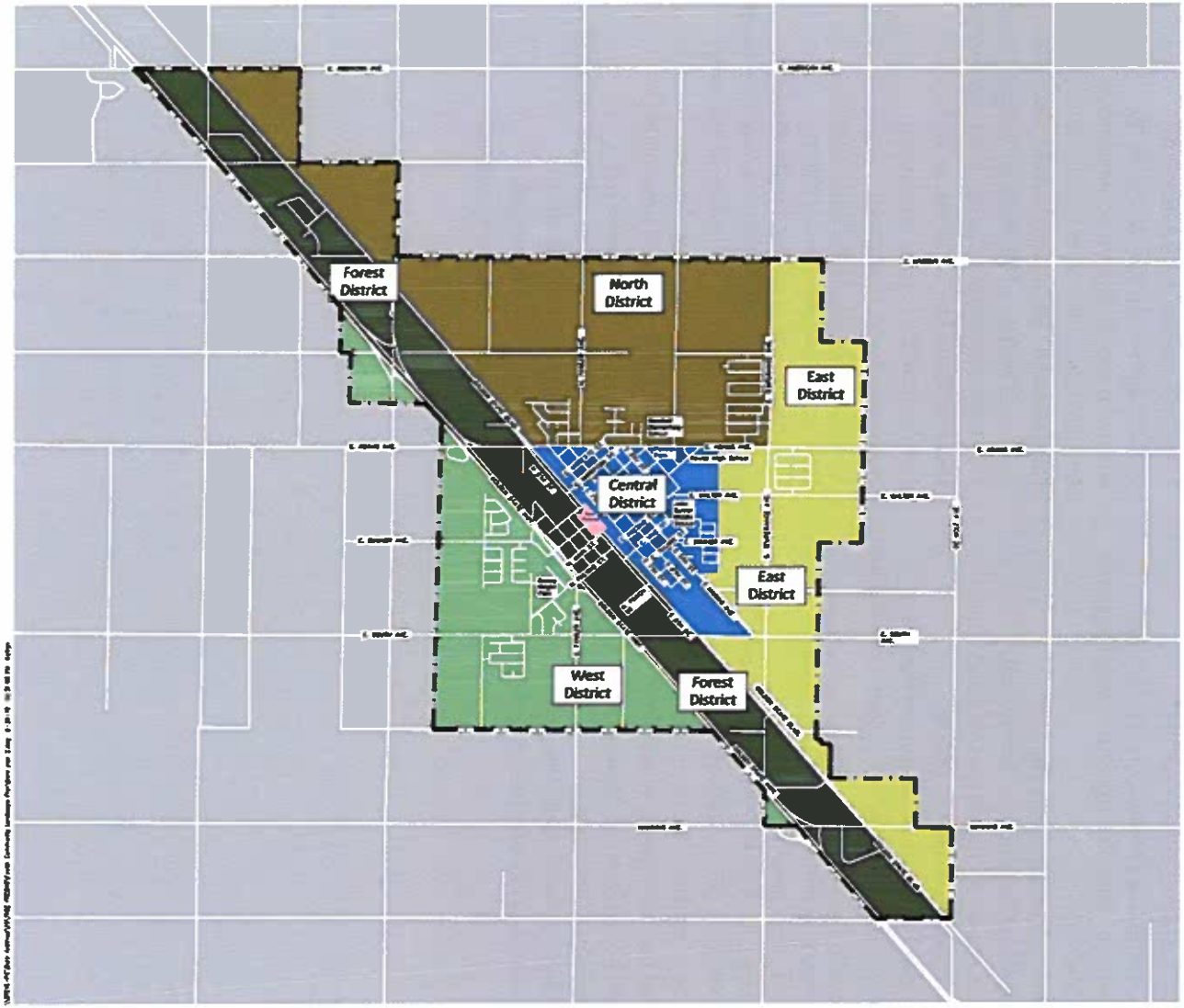


KEY

- NORTH DISTRICT
- EAST DISTRICT
- CENTRAL DISTRICT
- WEST DISTRICT
- FOREST DISTRICT
- ROSE PARTERRE
- SPHERE OF INFLUENCE
- GATEWAY/ENTRY ACCENT
- COMMUNITY BOULEVARD
- BICYCLE/WALKING TRAIL
- BRIGHT SPOT

1" = 1000'-0"

FOWLER
COMMUNITY LANDSCAPE PLAN
COMMUNITY SHAPING PLAN



DISTRICT TREES/PLANTS

COMMUNITY SIGNATURE TREE

TREES

EAST DISTRICT

TREES

PLANTS

CENTRAL DISTRICT

TREES

PLANTS

NORTH DISTRICT

TREES

PLANTS

WEST DISTRICT

TREES

PLANTS

PARKS & OPEN SPACES

TREES

FOREST DISTRICT

TREES

ROSE PARTERRE

PLANTS

ENTRIES

TREES

NORTH

1" = 600'-0"

FOWLER
COMMUNITY LANDSCAPE PLAN
TREE PLAN

Tree and Plant Palette

A summary of the suggested tree palette and complimentary understory plant list is featured below. The Tree and Plant Portraits section of the report provides details about each species, including images, plant size, and unique features.

TREES

Deodar dedar (*Cedrus deodara)*
Palo verde (*Cercidium* x 'Desert Museum')
Oklahoma redbud *(Cercis canadensis texensis 'Oklahoma')*
Desert willow (*Chilopsis linearis)*
Camphor (*Cinnamomum camphora)*
Italian cypress (*Cuppressus sempervirens*)
Maidenhair tree (*Ginkgo biloba)*
Chinese flame tree (*Koelreuteria bipinnata)*
Crape myrtle Indian series (*Lagerstroemia indica 'Natchez')*
Bay laurel (*Laurus nobilis)*
Italian stone pine (*Pinus pinea*)
Canary Island pine (*Pinus canariensis*)
Mondel pine (*Pinus eldarica*)
Chinese pistache (*Pistacia Chinensis)*
Coast live oak (*Quercus agrifolia)*
Scarlet oak (*Quercus coccinea*)
Cork oak (*Quercus suber*)
Southern live oak (*Quercus virginiana*)
Chaste tree (*Vitex agnus-castus*)

PLANTS

Pineapple guava (*Acca sellowiana*)
Smooth agave (*Agave desmettiana)*
Artichoke agave (*Agave parryi truncata* 'Huntington')
McMinn manzanita (*Arctostaphylos 'Howard McMinn'*)
Coyote brush (*Baccharis pilularis* 'Twin Peaks')
Japanese barberry (*Berberis thunbergii* 'Rose Glow')
Red bird of paradise (*Caesalpinia pulcherrima*)
Dwarf bottlebrush (*Callistemon 'Little John'*)
Purple rockrose (*Cistus purpureus*)
Rockrose (*Cistus* 'Sunset')
California fuchsia (*Epilobium canum*)
Red yucca (*Hesperaloe parviflora*)
Trailing lantana (*Lantana montevidensis*)
Texas ranger (*Leucophyllum frutescens* 'Green Cloud')
Pink muhly grass (*Muhlenbergia capillaris)*
Deer grass (*Muhlenbergia rigens*)
Sandalwood (*Myoporum parvifolium*)
Cat mint (*Nepeta* 'Walker's Low')
Flower carpet rose (*Rosa* x 'Flower Carpet')
Rosemary (*Rosmarinus* var.)
Autumn sage (*Salvia greggii*)
Little-leaf sage (*Salvia microphylla*)

Districts with Tree and Plant Lists

Organized by District

COMMUNITY SIGNATURE TREE

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Deodar cedar	*Cedrus deodara*	Evergreen, broad canopy, good roots, low water user

CENTRAL DISTRICT

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Oklahoma redbud	*Cercis canadensis texensis* 'Oklahoma'	Deciduous, fall color, brilliant flowering, provide accent, low water user
Chinese pistache	*Pistacia chinensis* 'Keith Davey'	Deciduous, brilliant, fall color, good roots, medium water user
Bay laurel	*Laurus nobilis*	Evergreen, medium canopy, good roots, low water user
Crape myrtle Indian series	*Lagerstroemia indica* 'Natchez'	Deciduous, fall color, flowering, provide accent, low water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Flower carpet Rose	*Rosa* cultivar	Deciduous, ground cover, spring / summer flower bloom, medium water user
Catmint	*Nepeta* 'Walker's Low'	Deciduous, ground cover, spring / summer flower
Red yucca	*Hesperaloe parviflora*	Evergreen, summer flower bloom, low water user

NORTH DISTRICT

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Scarlet oak	*Quercus coccinea*	Deciduous, broad canopy, medium water user
Desert willow	*Chilopsis linearis* 'Burgundy'	Deciduous, small canopy accent, brilliant flowering, low water user
Deodar cedar	*Cedrus deodara*	Evergreen, broad canopy, medium water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Little leaf sage	*Salvia microphylla*	Deciduous, spring/summer flowers, low water user
Purple rockrose	*Cistus purpureus*	Evergreen, spring flowers, low water user
Deer grass	*Muhlenbergia capilaris* 'Regal Mist'	Evergreen, low water user

WEST DISTRICT

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Camphor tree	*Cinnamomum camphora*	Evergreen, broad canopy, good roots, medium water user
Chinese flame tree	*Koelreuteria bipinnata*	Deciduous, fall color, good roots, spring flower, low water user
Oklahoma redbud	*Cercis canadensis texensis* 'Oklahoma'	Deciduous, fall color, brilliant flowering provide accent, low water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Pineapple guava	*Acca sellowiana*	Evergreen, spring flowers, low water user
Rosemary	*Rosmarinus officinalis*	Evergreen, ground cover, spring / summer flowers, low water user
Trailing lantana	*Lantana montevidensis*	Deciduous, summer flowers, low water user

EAST DISTRICT

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Cork oak	*Quercus suber*	Evergreen, broad canopy, good roots, low water user
Maidenhair tree	*Ginkgo biloba* 'Autumn gold'	Deciduous, yellow fall color, good roots, medium water user
Palo verde	*Cercidium* x 'Desert Museum'	Deciduous, small canopy accent, brilliant flowering, fall color, low water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Dwarf bottlebrush	*Callistemon viminalis* 'Little John'	Evergreen, spring flowers, low water user
Flower carpet rose	*Rosa* cultivar	Deciduous, ground cover, spring / summer flower bloom, medium
Catmint	*Nepeta* 'Walker's Low'	Deciduous, ground cover, spring / summer flower

FOREST DISTRICT

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Italian cypress	*Cupressus sempervirens*	Evergreen, upright vertical column form, low water user
Southern live oak	*Quercus virginiana*	Evergreen, broad canopy, good roots, medium water user
Coast live oak	*Quercus agrifolia*	Evergreen, broad canopy, medium water user
Italian stone pine	*Pinus pinea*	Evergreen, broad canopy, medium water user
Deodar cedar	*Cedrus deodara*	Evergreen, broad canopy, medium water user
Canary Island pine	*Pinus canariensis*	Evergreen, upright vertical, low water user
Mondell pine	*Pinus eldarica*	Evergreen, upright vertical, low water user
Desert willow	*Chilopsis linearis* 'Burgundy'	Deciduous, small canopy accent, brilliant flowering, low water user
Valley oak	*Quercus lobata*	Deciduous, broad canopy, medium water user
Palo verde	*Cercidium* x 'Desert Museum'	Deciduous, small canopy accent, brilliant flowering, fall color, low water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Texas ranger	*Leucophyllum frutescens*	'Green Cloud' evergreen, summer flowers, low water user
Japanese barberry	*Berberis thunbergii* 'Rose Glow'	Deciduous, colorful leaves, low water user
Coyote brush	*Baccharis pilularis* 'Twin Peaks'	Evergreen, ground cover, spring flowers, low water user

ENTRIES

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Desert willow	*Chilopsis linearis* 'Burgundy'	Deciduous, small canopy accent, brilliant flowering, low water user
Palo verde	*Cercidium* x 'Desert Museum'	Deciduous, small canopy accent, brilliant flowering, fall color, low water user
Maidenhair tree	*Ginkgo biloba* 'Autumn Gold'	Deciduous, fall color, good roots, low water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Yellow bird of paradise	*Caesalpinia pulcherrima*	Evergreen, spring flowers, low water user
Artichoke agave	*Agave parryi truncata* 'Huntington'	Evergreen, upright colorful stiff leaves, low water user
Autumn sage	*Salvia gregii*	Evergreen, fall flower bloom, low water user

PARKS AND OPEN SPACE TREES

Trees

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Cork oak	*Quercus suber*	Evergreen, broad canopy, low water user
Valley oak	*Quercus lobata*	Deciduous, broad canopy, good roots, medium water user
Deodar cedar	*Cedrus Deodara*	Evergreen, broad canopy for shade,
Maidenhair tree	*Ginkgo biloba* 'Autumn Gold'	Deciduous, fall color, good roots, low water user
Chaste tree	*Vitex agnus-castus*	Deciduous, late spring flower, branching charater, low water user
Camphor tree	*Cinnamomum camphora*	Evergreen, broad canopy, medium water user

Plants

COMMON NAME	BOTANICAL NAME	CHARACTERISTICS
Dwarf bottlebrush	*Callistemon viminalis* 'Little John'	Evergreen, spring flowers, low water user
California fuchsia	*Epilobium canum*	Evergreen, ground cover, long flower season, low water user
Sandalwood	*Myoporum parvifolium*	Evergreen, ground cover, spring flowers, low water user

Street Tree Recommendations

Chinese Flame Tree	*Koelreuteria bipinatta*
Goldenrain Tree	*Koelreuteria paniculata*
Holly Oak	*Quercus ilex*
Southern Live Oak	*Quercus virginiana*
Chinese Tallow Tree	*Sapium sebiferum*
Sawleaf Zelkova	*Zelkova serrata*
Camphor Tree	*Cinnamomum camphora*
Maidenhair Tree	*Ginkgo biloba "Autumn Gold"*
Crape Myrtle	*Lagerstroemia cultivars*
Bay Laurel Tree	*Laurus nobilis*
Scarlet Oak	*Quercus coccinea*
Chinese Pistache	*Pistacia chinensis*
Marina Strawberry Tree	*Arbutus "Marina"*
Chinese Fringe Tree	*Chionanthus retusus*
Chinese Elm	*Ulmus parvifolia*
Scarlet Maple	*Acer rubrum "October Glory"*
Cork Oak	*Quercus suber*
Deodar Cedar	*Cedrus deodara*

Soil Recommendations

The soil factors suggest some type of soil amendment should be added to adjust the pH in the surface depth of all three of the locations of the soil, along with adding calcium to the soil and increasing the calcium-to-magnesium ratio in the soil profile, while removing the high soluble salts (Ec), sodium levels, carbonate + bicarbonate levels, and chloride levels from the rooting zone in the soil profile.

Because the two areas have a high rate of soluble salts, the best amendment to apply to these soils is gypsum. Before the first application of gypsum, apply a large quantity of good quality water to help leach the sodium and salts below the root zone. Then make the first application of gypsum at a rate of 5–10 pounds per 100 square feet (50–100 pounds per 1,000 square feet). This should help to maintain the pH, increasing calcium levels and calcium-to-magnesium ratio, while helping to lower sodium that is building up in the soil profile.

Gypsum can be applied during any season. The amendment should be applied over the entire area that is being treated. Follow the soil amendment application with a large quantity of good quality water. Allow the amendment to work in the soil for a few weeks before planting. This gypsum amendment should be done twice per year. I suggest using easy-to-apply pelletized gypsum, such as "Soil Buster" brand. Apply as directed on the bag label, incorporate into soil if possible. If not, apply to the surface of the soil and water in.

The soil at the two sites needs no additional fertilizer, except the site at Armstrong and Adams could use some additional potassium. Additional potassium fertilizer should be considered for plants planted in the Armstrong and Adams area. An application of 3–4 pounds per 1,000 square feet should be considered.

For the site at Merced and 9th, adding an acidic fertilizer or a high level of soil sulfur to lower the pH would help keep fertility levels at their optimum. This should be applied at the rate of about 8.5 pounds per 1,000 square feet, once per year, during the spring, or fall.

The soil in both of the areas tested would physically be described as sandy loam. This means the soils are ideal for letting water drain through, while holding just the right amount for trees and plants, without holding so much that it causes the plants a problem. This is also good for retention of nutrients, without only a moderate build-up of destructive substances.

Once a tree is planted it is advisable to apply 3 to 4 inches of course organic mulch over the soil in the area of the root zone. This helps the soil to maintain its moisture level, stay cooler, and has a positive effect on soil microorganisms beneficial to plant roots. The mulch should never be up against the trunk of trees and plants but kept several inches away. Organic mulches such as ground or shredded bark, tree or lumber chips, etc. will slowly decompose adding more nutrients to the soil over time, so should be supplemented every few years.

Ecological Sustainability Recommendations

Environmental feature: Urban forest

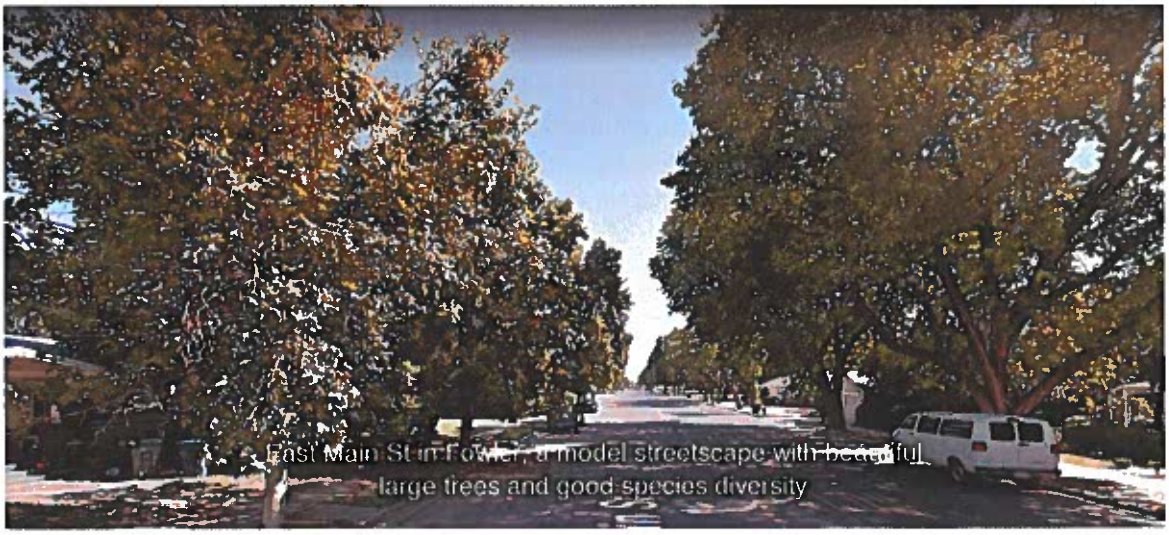
Recommendation: In the short term, work to *expand urban forest canopy cover* from current level of roughly 9% *to California average of 15%.* In the long term, aim to achieve 20% canopy cover as recommended in the 2018 Safeguarding California Plan, which recommends adaptation strategies to build climate resiliency.

BENEFITS PROVIDED BY EXPANDING THE URBAN FOREST:

- Climate change resiliency
- Air quality improvement
- Urban heat island reduction
- Energy conservation
- Storm-water management
- Groundwater recharge
- Flood reduction

CONCRETE ACTIONS:

- Pursue a grant (see suggestions below) to *carry out a public tree inventory and urban forest management plan.* This information will allow Fowler to create a shared vision and concrete plan for protecting and maximizing the benefits of the urban forest.
- Continue to *plant trees at schools*, where they will achieve not only the above goals, but will provide learning opportunities and a more welcoming environment for students. Consider a curricular component that would engage students in inventorying each campus's trees to prioritize planting sites.
- *Plant large, drought-tolerant, low-BVOC-emitting trees along Highway 99 and the train tracks.* Trees planted along major thoroughfares can reduce air pollutants from vehicles. However, some species of trees emit BVOCs, a precursor to smog, and these should be avoided where traffic is heavy.
- *Plant trees in parks.* Fowler's Panzak Park is a treasure, with a rich and diverse canopy of large trees. A similar vision is recommended for the areas of other parks that are not intended for sports. In particular, plant trees to shade play structures and picnic areas and to shade spectators around sports fields.
- *Plant large, drought-tolerant trees* along streets in the downtown area, using the streetscapes of E Main St between S 4th and S 2nd Sts and N 6th and 7th Aves between E Adams Ave and N Modesto Ave, as examples. Prioritize planting along Main St, and when trees along Merced St are due to be replaced, consider large species. These will form an arch over the street, providing shade, a sense of place, a welcome into Fowler, and by shading pavement, reduce street maintenance needs.



East Main St in Fowler, a model streetscape with beautiful large trees and good species diversity

- *Encourage planting on private property.* Most property is under private control, so increasing the urban tree canopy will require cooperation of residents.
- When planting trees, keep the following guidelines in mind:
    - Plant the *largest tree possible* for the space. Large trees provide a much greater level of environmental benefits than small trees.
    - Choose *a diversity of species.* Because we don't yet really know exactly what effects climate change will bring for California (More rain or less rain? An overall shift to warmer temperatures in all seasons or just some?), the best strategy for resiliency is to plant a wide variety of species. This provides insurance not only against climate change but also new pests and diseases.
    - Plant trees strategically to *provide shade*—over buildings, play structures, park visitors, streets, sidewalks, bike paths, and parking lots. The benefits of shade cannot be overstated! Shade reduces energy use, the urban heat island effect, greenhouse gas and air pollutant emissions, skin cancer, and street maintenance needs. Shade enables us to spend more time outside exercising and building community.
- Funding opportunities for large-scale tree planting projects include CAL FIRE's Urban and Community Forestry Grant Programs[7], the CA Natural Resources Agency Urban Greening Grants[8]. Smaller scale opportunities are available from California ReLeaf[9].

Donny Wright Park **today**

Envisioning a future that celebrates cultural heritage and natural history, supports wildlife, and improves recreation opportunities through shade.

Environmental feature: Open Space

Recommendation: Emphasize open space in land-use planning. Work to achieve the goal from the 2025 General Plan of 3 acres of parkland per 1,000 residents.

BENEFITS PROVIDED BY PROTECTING OPEN SPACE:

- Climate change resiliency
- Urban heat island reduction
- Groundwater recharge and flood reduction
- Wildlife habitat
- Increased opportunities for recreation and community
- Connection to natural history and environment

CONCRETE ACTIONS:

- Prioritize *acquiring land for parks*.
- *Protect and honor farmland*, both for the above benefits and for the connection it provides to the history of the San Joaquin Valley and the gift of food that it offers the world.
- Design *open space in diverse ways*: for active recreation, for passive recreation, with a natural history/cultural history/ecological/community focus.

Environmental feature: Bodies of water

Recommendation: Recognize and incorporate Fowler's water features (stormwater basins, irrigation canals) in land-use planning.

BENEFITS PROVIDED BY BODIES OF WATER:

- Urban heat island reduction
- Water pollution reduction
- Flood management
- Groundwater recharge
- Recreation opportunities
- Wildlife habitat, especially the many species of birds that migrate through the region
- Connection to natural history and environment

A stormwater basin in the area supports wildlife and recharges groundwater.

CONCRETE ACTIONS:

- Consider opportunities for *recreation along irrigation canals*[10].
- Improve the environmental and passive *recreation capacity of stormwater basins* through design[11].

OTHER CONCRETE ACTIONS FOR ACHIEVING SUSTAINABILITY:

- *Support alternative transportation methods* to improve air quality. Shaded, well-maintained bike paths and sidewalks and efficient public transportation will help reduce air pollution from vehicles—the leading contributors to the region's notorious poor air quality.
- Consider opportunities for small-scale stormwater management: bioswales, raingardens, and pervious pavement to increase groundwater recharge.

Land Use Planning Recommendations

Provost and Pritchard proposed the following land use recommendations for consideration in the City of Fowler Community Landscapes Plan. The eight recommendations listed here reflect ways in which three of the objectives from the CLP Scope of Work can be supported within the context of land use planning.

Objective 1: Increase the sense of community and beauty with the implementation of tree collections for each district, major corridor, and major entrance.

Recommendation 1: Map community identifiers and features within the City of Fowler Landscape Plan Area. (This recommendation is carried out in the Strategic Properties section.)

Recommendation 2: Consider park and open space needs, including the potential development of a Parks and Open Space Master Plan.

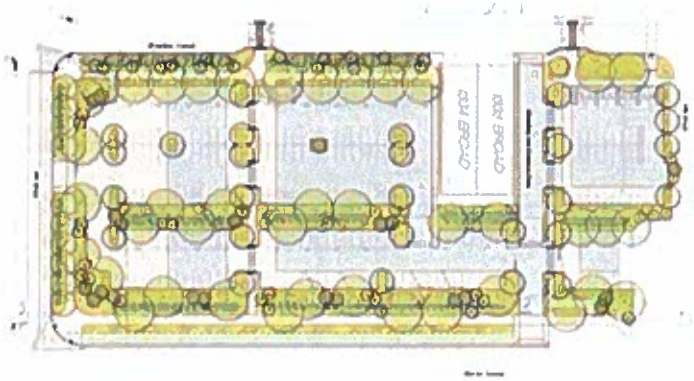
Recommendation 3: Develop a landscape palette for the identified districts, corridors, and gateways for consideration by the agencies to integrate into their plans and policies, particularly as these opportunities arise. (This recommendation is carried out in the Tree and Plant Palette Section.)

- Influence ongoing and future plans and policies, including the current General Plan Update
- Enforce existing plans and policies
    - Fowler General Plan
    - Highway Beautification Overlay
    - Form-Based Code District
    - Parking lot shading requirements

Objective 2: Increase the tree canopy, resulting in significant greenhouse gas reductions.

Recommendation 4: Review and update existing tree-related ordinances and policies.

- Verify that Title 7 (trees in the public realm) and Title 9 (trees on private and public property) of Fowler's municipal code are not in conflict (even internally) and can be easily understood and implemented.
- Review parking lot shading policy.
- Ensure that identified species remain relevant and appropriate and that different regulations do not conflict.
- Ensure that regulations are not prohibitive.



Thoughtful parking lot design can improve air quality, reduce the urban heat island effect, and beautify our communities.

Recommendation 5: Prepare materials to inform property owners and developers about the benefits of trees, tree selection, and tree care.

Recommendation 6: Coordinate with and participate in existing and ongoing planning efforts:

- Include relevant goals, objectives, and policies during the development of the current General Plan Update.
- Coordinate with the County of Fresno and Fowler Unified School District regarding development and implementation of all three agencies' regulations and policies.

Recommendation 7: Influence how new projects are designed and reviewed.

- Density does make a difference.
- Create connections and increase accessibility options.
- Consider changes to density requirements

Educating property owners and developers about the benefits of trees can result in an improved landscape.

Objective 3: Create an integrated transportation system that reduces emissions, improves health and access to green spaces, saves money, and reduces noise, air pollution, and respiratory illness.

Recommendation 8: Look for existing opportunities to complete connections.

- Identify gaps in the pedestrian and bicycle network.
- Accommodate trees where possible.

Transportation Solutions

Several key issues exist among the different modes of transportation for Fowler. These issues, and potential solutions for these issues are described below (Tables 4 and 5). Exhibit 14 presents some of these solutions within the context of Fowler's existing transportation network.

Roadways: As described earlier, SR 99 and portions of Manning Avenue are not meeting acceptable LOS (Level of Service) criteria, i.e., the traffic is not flowing as smoothly as desired. Potential solutions to this issue can include:

- Roundabouts for smooth traffic flow and safety along E Adams Ave.
- Additional lanes to roadways.

Bicycles: The city of Fowler currently has a limited number of routes suitable for bicycle travel. Among the solutions that can be explored to resolve this issue may include:

- Close gaps in bicycle routes particularly along E Parlier Ave, E South Ave, and E Clayton Ave. Closing these gaps would ensure that, once future bicycle paths are established, cyclists can experience continuous and safe rides.
- Provide separated bicycle facilities.

Pedestrians: An issue facing pedestrian travel in Fowler are gaps that exist in the pedestrian facilities network. Solutions to resolve the gaps in the pedestrian network include the following:

- Implement Complete Streets design. Complete Streets allow for safe access by everyone: pedestrians, cyclists, drivers, and transit. Although they can take many forms depending on a community's needs, they typically include landscaped areas, sidewalks, crosswalks, comfortable transit access, and narrower driving lanes to reduce speeds.
- Improve/add sidewalks throughout the community.
- Add crosswalks, pedestrian refuge areas in roadway median, and mid-block pedestrian signals.

Transit: A significant issue for transit is that service is underutilized. Solutions to improve the underutilization of transit service may include:

- Increase transit service/frequency.
- Improve access to transit stops.

Issues and Solutions	Issue: Traffic Congestion	Issue: Streets are designed to move motorized traffic	Issue: Limited facilities for bicycle travel	Issue: Gaps in the pedestrian facilities network	Issue: Lack of connectivity to schools, businesses, and other modes of transportation	Issue: Dangerous for bicyclists and pedestrians at railroads and freeways	Issue: Transit service is underutilized
Solution: Provide roundabouts for smooth traffic flow and safety	X	X					
Solution: Recommend complete streets with landscaping features		X	X	X	X		
Solution: Add lanes to street	X						
Solution: Bicycle gap closures			X		X		
Solution: Provide separated bicycle facilities		X	X		X		
Solution: Add landscaping features to existing and proposed bicycle and trail facilities			X	X			

Table 3 - Transportation Issues and Solutions

Issues and Solutions	Issue: Traffic Congestion	Issue: Streets are designed to move motorized traffic	Issue: Limited facilities for bicycle travel	Issue: Gaps in the pedestrian facilities network	Issue: Lack of connectivity to schools, businesses, and other modes of transportation	Issue: Dangerous for bicyclists and pedestrians at railroads and freeways	Issue: Transit service is underutilized
Solution: Separated bicycle and pedestrian facilities at railroad and freeway crossings			X	X	X	X	
Solution: Enhanced bicycle and pedestrian solutions at traffic signals		X	X		X		
Solution: Improve/add sidewalks				X	X		
Solution: Add crosswalks, pedestrian refuge area in roadway median, and mid-block pedestrian signals				X	X		
Solution: Convert Rail Lines to landscaped trails			X	X	X		
Solution: Increase transit service/frequency					X		X
Solution: Transit signal priority							X
Solution: Improve access to transit stops					X		X
Solution: Provide enhanced transit stops							X

Table 4 - Transportation Issues and Solutions

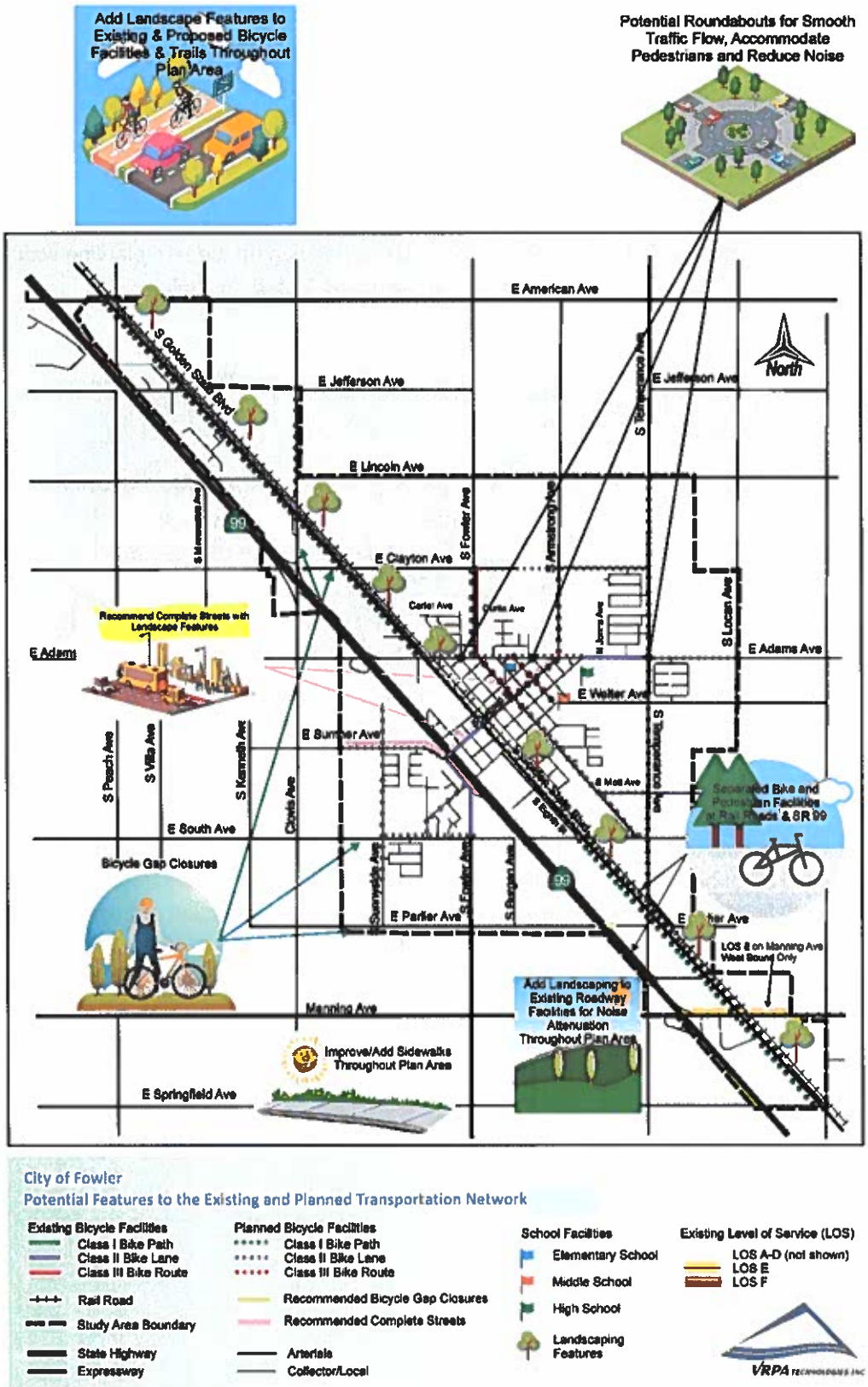
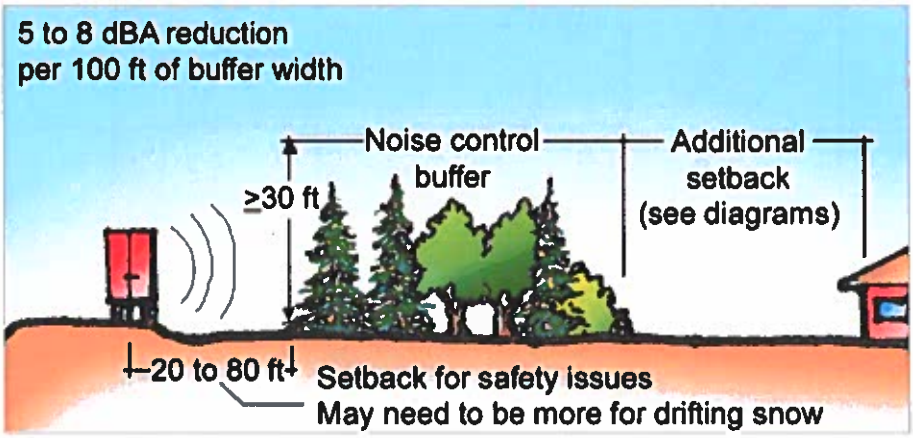


Exhibit 14 - Existing and Potential Transportation Network of the Fowler area.

Noise Abatement Solutions

Noise can generally be described as unwanted sound and has been cited as being a health problem, not just in terms of actual physiological damages such as hearing impairment, but also in terms of inhibiting general wellbeing and contributing to stress and annoyance. Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss. Highway and roadway traffic noise levels are generally dependent upon three primary factors, which include the traffic volume, the traffic speed, and the percent of heavy vehicles on the roadway.

Trees planted in densely packed areas can reduce noise depending on the tree planting width. Studies show that planting 100 ft tree buffers can reduce noise by 5-8 decibels[12].



Noise abatement should only be considered where frequent human use occurs and where a reduced noise level would be of benefit. Noise abatement should be designed for a substantial reduction in noise, which is defined as a 5-decibel (dB) minimum reduction. This reduction represents a "readily perceptible change" in the noise level. Traffic noise levels are reduced by distance, terrain, vegetation, and natural/manmade obstacles as noise receptors move away from the highway/roadway.

Air Quality Recommendations

Near-Road Pollution and Diesel Particulate Matter

Research shows that trees and other vegetation planted near roadways, especially within 150 meters of the roadway and when present in sufficient numbers and density, can establish a barrier that helps reduce exposure to air pollutants found in vehicle-related emissions.

Reducing human exposure to vehicle-related air pollutants, particularly DPM (diesel particulate matter), is especially important because of the potential for this pollutant to cause cancer, premature death, and other health problems. ARB (California Air Resources Board) estimates that DPM comprises about 8% of $PM_{2.5}$ in outdoor air as a statewide average, with higher percentages occurring near major sources like heavily traveled roadways[13].

The Multiple Air Toxics Exposure Study IV (MATES IV), a monitoring and evaluation study conducted in the South Coast Air Basin (Basin) that focused on the carcinogenic risk from exposure to air toxics, identified DPM as a key contributor to overall carcinogenic risk from air toxics. Exhibit 15, from the MATES IV Final Report, shows that in recent years DPM accounted on average for 68% of the total carcinogenic risk originating from air toxics[14].

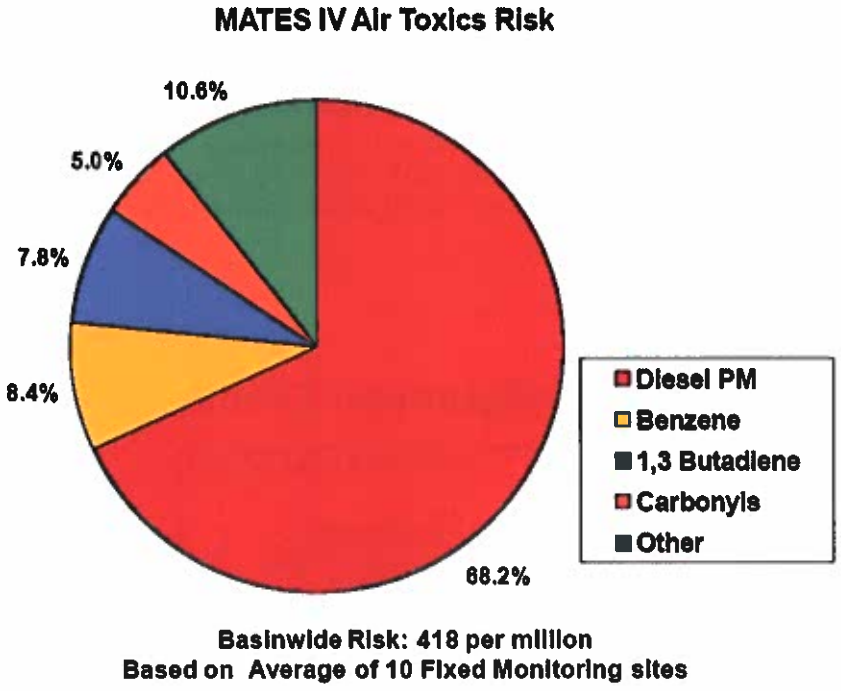


Figure ES-2 Average Risk from Monitoring Sites

Exhibit 15 - Diesel particulate matter is the major contributor to air toxics risk, accounting for approximately 68% of the risk, according to findings in the MATES IV study. Image source: reproduced from Figure ES-2 in the MATES IV Final Report Executive Summary.

Planting dense vegetative barriers within 150 meters (500 feet) of roadways is especially important because this is where vehicle-related air pollution concentrations are the highest. In a 2010 study that synthesized worldwide near-road pollutant measurements, Karner et al. found a rapid decrease in pollutant levels (>50%) within 150 meters of the road, a finding reported throughout the near-road literature (Exhibit 16). U.S. EPA charts illustrate how near-road pollution declines rapidly as distance from a road increases and how near-road barriers can reduce pollutant concentrations in the zone immediately downwind of the road (Exhibit 17).

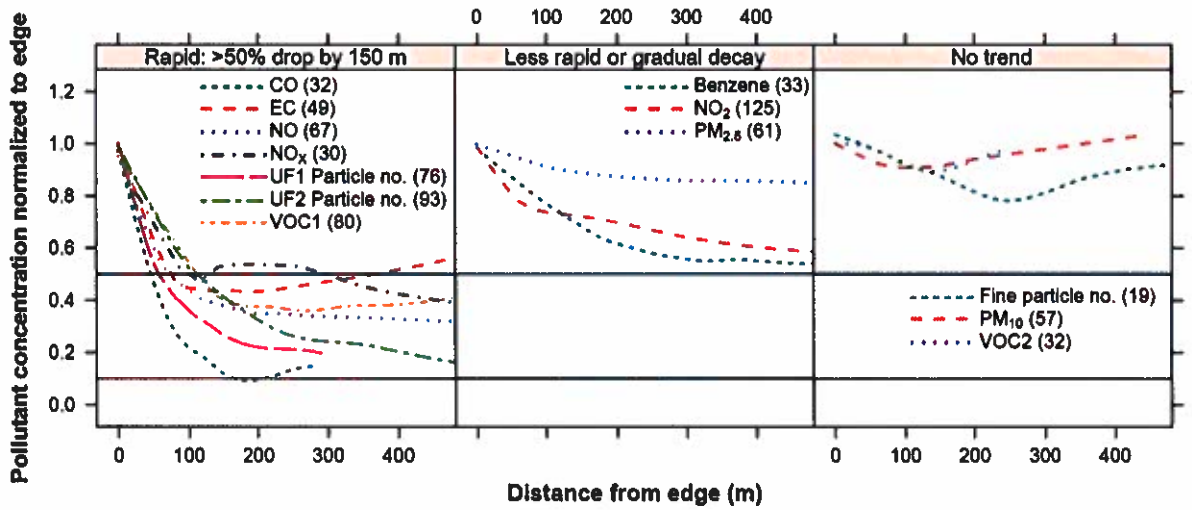


Exhibit 16 - Synthesis of worldwide near-road pollutant measurements, finding that many roadway pollutant concentrations decrease rapidly within 150m of the road. Image source: reproduced from Karner, Eisinger, Niemeier (2010) ES&T, 44, 5334-5344.

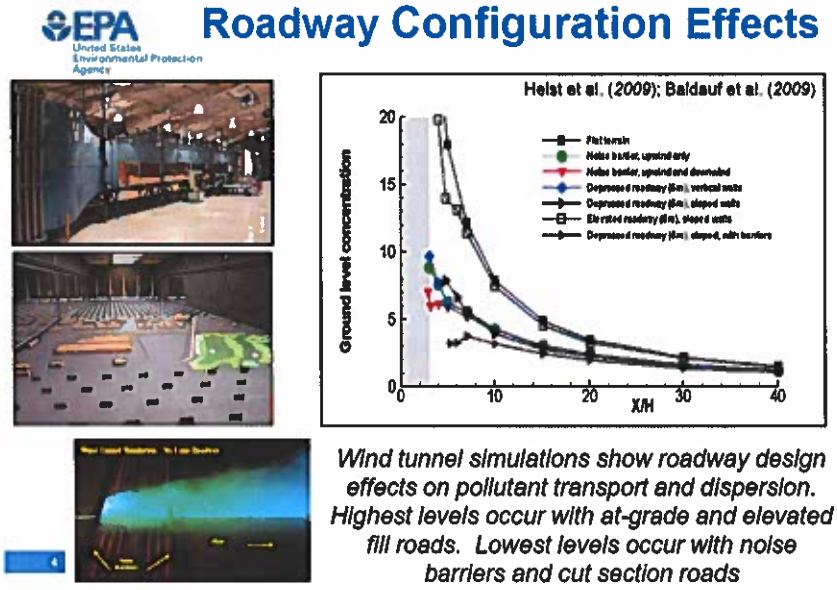


Exhibit 17 – Road Configuration Effects, (EPA).

Wind tunnel simulations show roadway design effects on pollutant transport and dispersion. Highest levels occur with at-grade and elevated fill roads. Lowest levels occur with noise barriers and cut section roads

Protecting Schools from Particulate Matter

Tree planting may also provide a barrier from agricultural-related PM emissions occurring directly upwind of the site, although it will be difficult for a single row or stand of trees or other vegetation to reduce pollution exposure at schools surrounded by agricultural operations or other pollution sources. Also, it is worth remembering that although the prevailing winds are out of the northwest, winds do originate from all directions. With this in mind, we have identified schools in the Fowler region that would potentially benefit from tree plantings:

- Tree planting near any of the schools in the Fowler region may provide a barrier from agricultural-related PM emissions occurring around the schools.
- Preference should be given to any future school locations within 300 m of CA-99, a major route with significant car and heavy-duty truck traffic.
- In addition, the Fremont Elementary School boundary is approximately 320 meters east of the rail line that parallels Golden State Boulevard. To the extent that truck traffic on Golden State Boulevard and diesel locomotive emissions contribute to increased nearby PM concentrations, tree plantings to the west and north of the Fremont school property (i.e., along north 5th street and East Adams Avenue), may help reduce exposure to rail- and roadway-related pollution.

Public Health Recommendations

According to the Health Priority Index (HPI) assessment of the City of Fowler, there is only one measure that the index suggests is a burden on the community. The pollution burden is widespread, covering the entire CLP area (Exhibit 13).

The benefits of trees provide a list of ways trees can help communities improve public health. Some of these benefits related to improving air quality are presented here. See the Benefits of Trees section for more details.

Trees Are Good for Our Lungs

Trees produce oxygen, and we need oxygen to breathe. Trees also settle and trap smoke, pollen, ash and dust, improving the overall air quality.

Trees Reduce Car Pollution

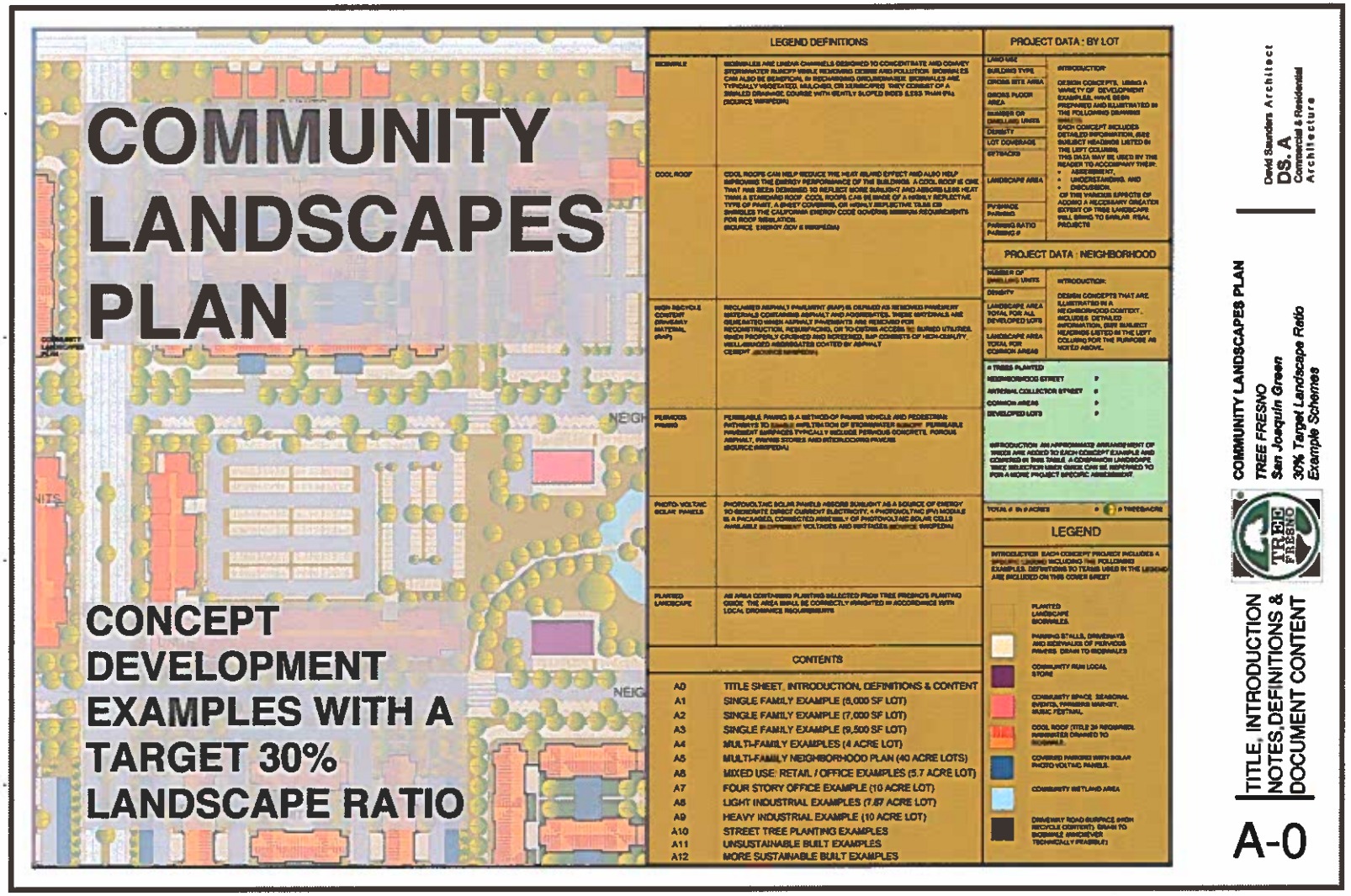
Trees planted around a work-place parking lot will help keep cars cooler (up to 40-50 degrees F cooler) throughout the day, and cooler cars emit less air pollution.

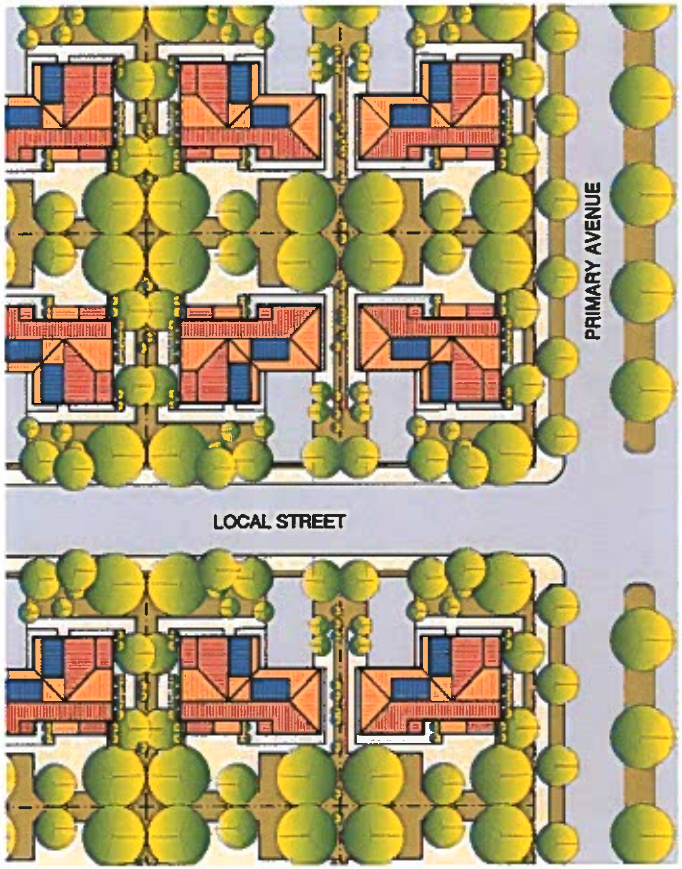
Fowler Green – Development Standards

- **Landscape Ratio**: Institute a 30% landscape ratio in order to achieve tree canopy, mental health, cognitive development, energy and water conservation, outdoor play, and aesthetic benefits;
- **High-Density Zoning**: Institute multi-story housing and industrial buildings along Golden State Boulevard, Freeway 99 and the Union Pacific Railroad with appropriate vegetative and masonry walls to mitigate noise and near-road air pollution and to meet and exceed the State of California housing goals.
- **Asphalt Coverage**: Implement a "grid-lite" option – within quadrants defined by arterial and collector streets - to reduce the asphalt ratio, urban heat island effect and city street maintenance expenses.
- **Storm Water:** Retain 100% of storm water with green vegetation and dry wells; the irrigation district would be a back-up.
- **Irrigation Canals:** Require a 30' landscape easement on each side to plant trees and plants recommended.
- **Entrances, Corridors, Districts and Strategic Properties:** Implement the proposed tree and plant palette for each development project.

The following illustrations, titled "Community Landscapes Plan – Concept Development with a Target 30% Landscape Ratio", help illustrate how developments can incorporate landscape plans with a higher ratio of trees and plants.

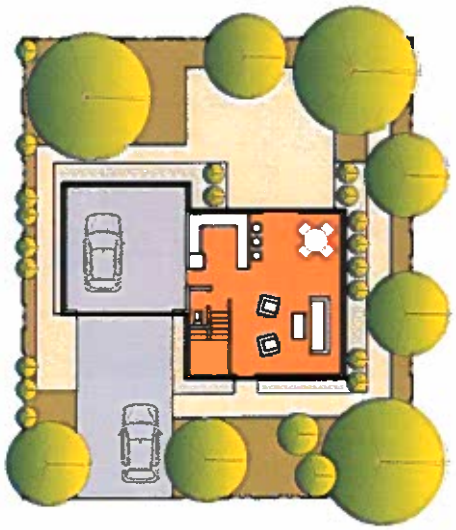
Landscape Ratio Exhibits





1 COMMUNITY PLAN: WITH 5,000 SF LOT SCALE: 1/16" = 1'

3 FLOOR PLANS SCALE: 1/16" = 1'



2 5,000 SF LOT SCALE: 1/8" = 1'

PROJECT DATA : SINGLE FAMILY	
LAND USE	SINGLE FAMILY MEDIUM DENSITY
BUILDING TYPE	2 STORY HOUSE WITH ATTACHED GARAGE, 4 BEDS, 2.5 BATHS
GROSS FLOOR AREA	2,167 SF
LOT SIZE	5,000 SF (0.11 ACRE)
DENSITY	8.7 DU / ACRE
LOT COVERAGE	34%
FLOOR AREA RATIO	0.4
SETBACKS	FRONT = 13' REAR = 10' SIDES = 5' & 10' AT STREETS
LANDSCAPE AREA	1,200 SF, 30% OF LOT AREA
# TREES PLANTED:	
SHADE = O_1	11
SCREEN = O_2	28

LEGEND

PLANTED LANDSCAPE (30% OF LOT AREA)

AREA AVAILABLE FOR +20% PLANTED LANDSCAPE / POOL / JACUZZI ETC. BY OWNER

PAVERS (STALLS, DRIVEWAYS AND SIDEWALKS OF PERVIOUS PAVERS DRAIN TO BIOSWALES

DRIVE SURFACE (HIGH RECYCLE CONTENT) DRAIN TO BIOSWALES

COOL ROOF (TITLE 24 REQUIRED) RAINWATER DRAINED TO BIOSWALE

SOLAR PHOTO VOLTAIC PANELS

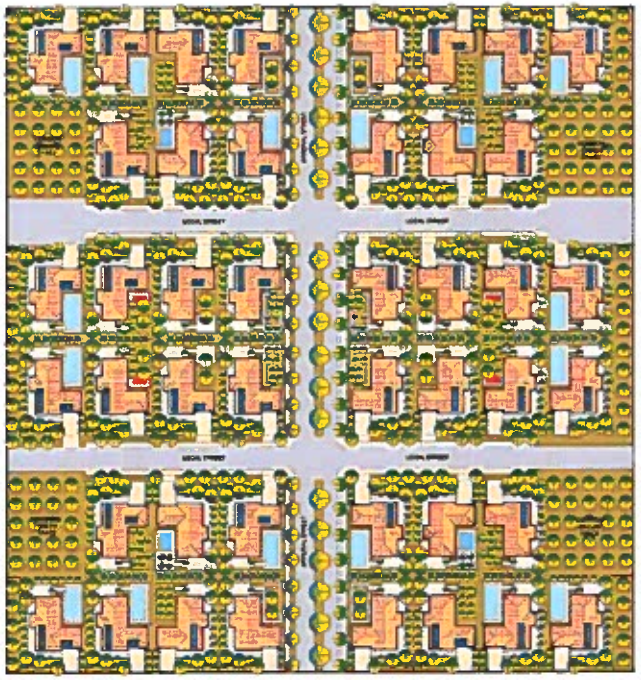
PLANTED TREES: GENERIC SIZE AND LOCATION CAN BE MADE PROJECT SPECIFIC BY APPLYING TREE TYPE RECOMMENDATIONS THAT ACCOMPANY THESE PLANS

David Saunders Architect
DS. A
Commercial & Residential Architecture

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

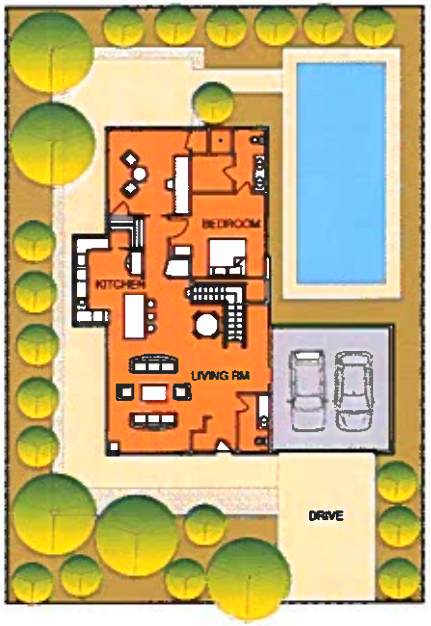
SINGLE FAMILY EXAMPLE (5,000 SF LOT)

A-1



1 COMMUNITY LANDSCAPES PLAN
10 ACRE BLOCK

SCALE: 1"=50'



2 7,000 SF LOT
SINGLE FAMILY HOME

SCALE: 1/8" = 1'

PROJECT DATA : SINGLE FAMILY	
LAND USE	SINGLE FAMILY LOW DENSITY
BUILDING TYPE	2 STORY HOUSE WITH ATTACHED GARAGE, 4 BEDR. 2.5 BATHS
GROSS FLOOR AREA	2,600 SF + 550 SF GARAGE
LOT SIZE	7,000 SF (@ 10 ACRE)
DENSITY	6.25 DU / ACRE
LOT COVERAGE	39%
FLOOR AREA RATIO	0.57
SETBACKS	FRONT = 20 REAR = 20' SIDES = 5' & 10'
LANDSCAPE AREA	3,150 SF, 30% OF LOT AREA

PROJECT DATA : 10 ACRE BLOCK	
# OF SINGLE FAMILY HOMES	44
DENSITY	4.4 DU / ACRE
LANDSCAPE AREA TOTAL FOR ALL DEVELOPED LOTS	2,163 SF x 34 =73,488 SF =1.64 ACRES
LANDSCAPE AREA TOTAL FOR COMMON AREAS	59,000 SF (1.37 ACRES)
TOTAL LANDSCAPE	132,488 SF (3 ACRES) 30%
# TREES PLANTED	
NEIGHBORHOOD STREET	48
ARTERIAL COLLECTOR STREET	66
COMMON AREAS	140
DEVELOPED LOTS	1,012
TOTAL # IN 10 ACRES	1,278
	127 TREES/ACRE

LEGEND

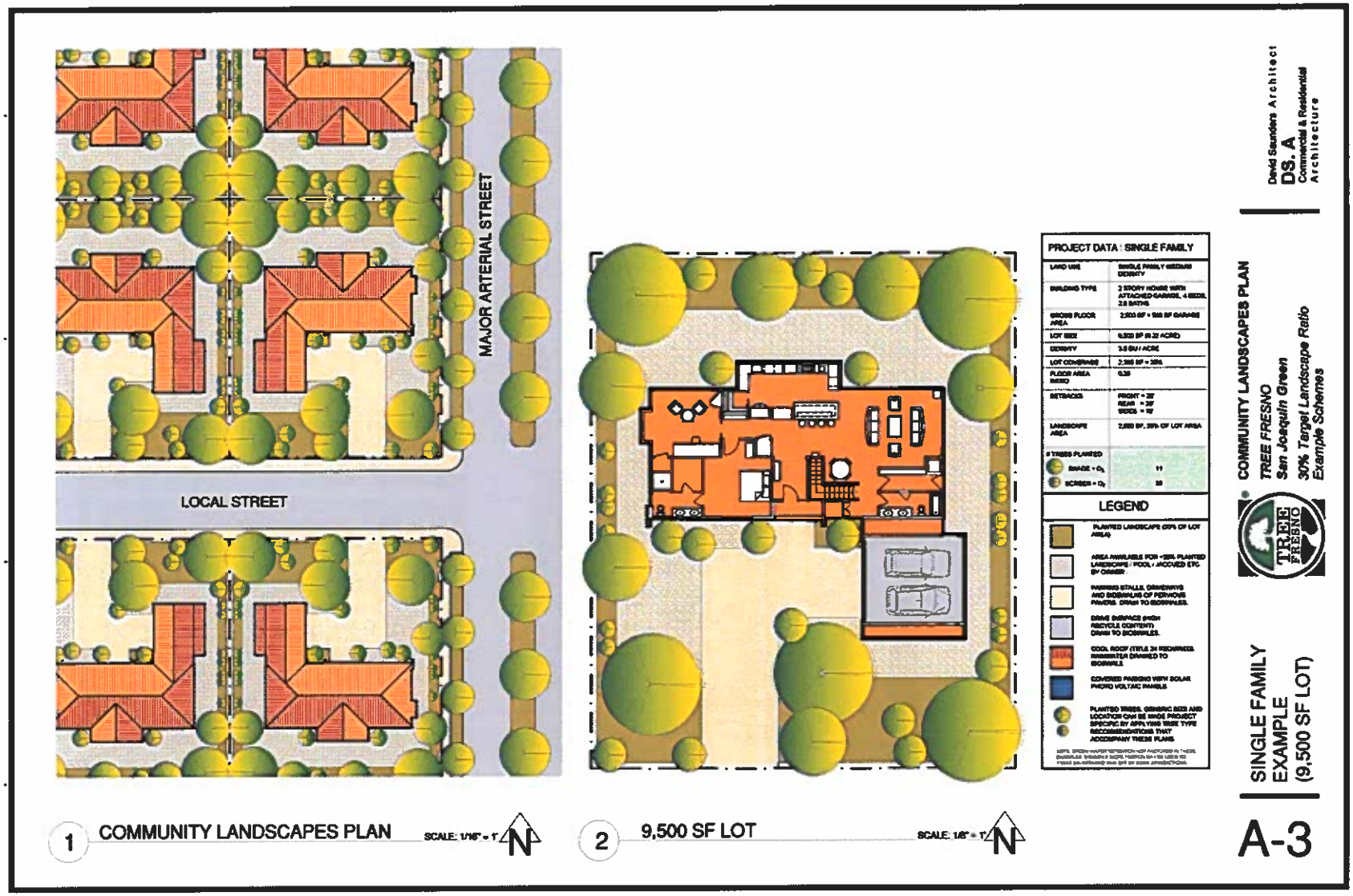
- PLANTED LANDSCAPE (30% OF LOT AREA)
- AREA AVAILABLE FOR >30% PLANTED LANDSCAPE / POOL / ACCESS ETC. BY OWNER
- PARKING STALLS, DRIVEWAYS AND SIDEWALKS OF PERVIOUS PAVERS. DRAIN TO BIORWALES.
- DRIVE SURFACE (HIGH RECYCLE CONTENT) DRAIN TO BIORWALES
- COOL ROOF (TITLE 24 REQUIRED) RAINWATER DRAINED TO BIORWALE
- PHOTO VOLTAIC SOLAR PANELS
- PLANTED TREES (GENERIC SIZE AND LOCATION CAN BE MADE PROJECT SPECIFIC BY APPLYING TREE TYPE RECOMMENDATIONS THAT ACCOMPANY THESE PLANS.

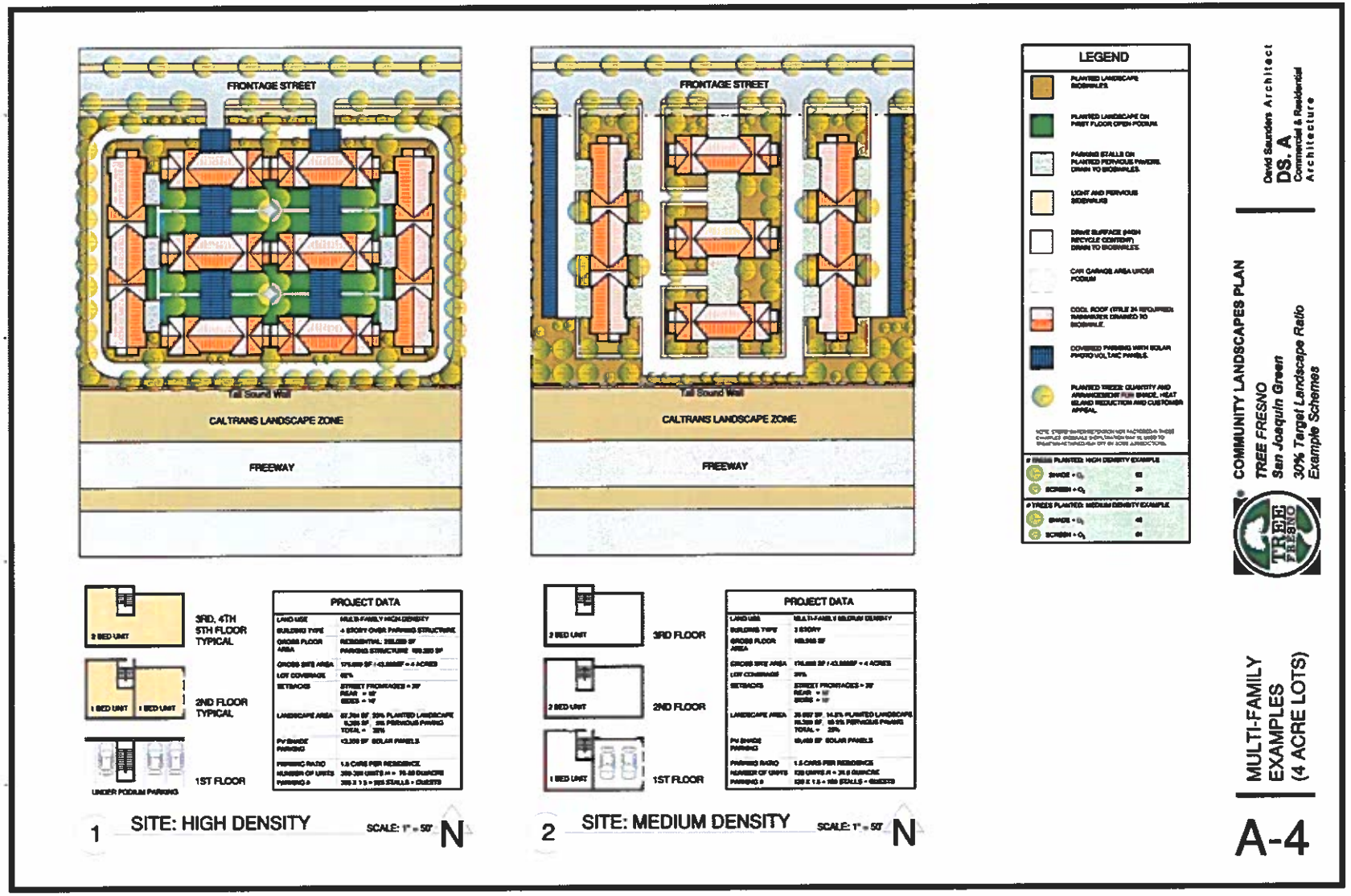
David Saunders Architect
DS. A
Commercial & Residential Architecture

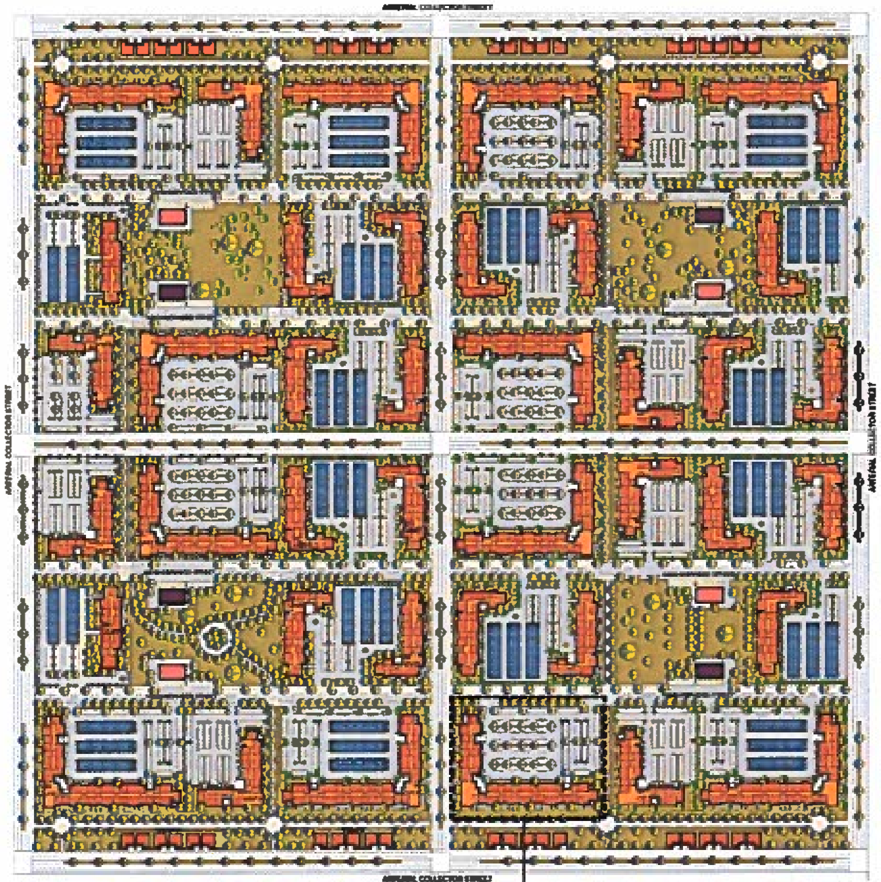
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

SINGLE FAMILY EXAMPLE (7,000 SF LOT)

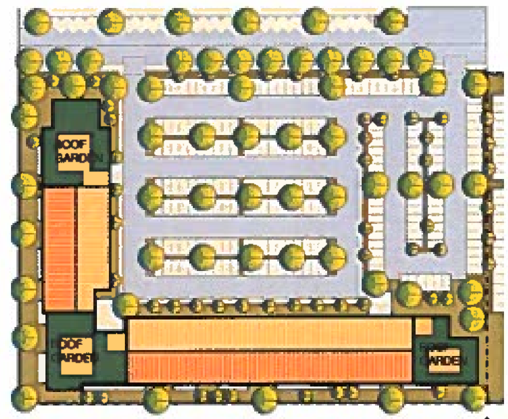
A-2


MAJOR ARTERIAL STREET
LOCAL STREET
1 COMMUNITY LANDSCAPES PLAN
SCALE: 1/16" = 1'
2 9,500 SF LOT
SCALE: 1/8" = 1'
PROJECT DATA : SINGLE FAMILY
LEGEND
David Saunders Architect
DS. A
Commercial & Residential Architecture
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes
SINGLE FAMILY EXAMPLE (9,500 SF LOT)
A-3


FRONTAGE STREET
Tall Sound Wall
CALTRANS LANDSCAPE ZONE
FREEWAY
FRONTAGE STREET
Tall Sound Wall
CALTRANS LANDSCAPE ZONE
FREEWAY
LEGEND
PLANTED LANDSCAPE BIOSWALES
PLANTED LANDSCAPE ON FIRST FLOOR OPEN PODIUM
PARKING STALLS ON PLANTED PERVIOUS PAVERS. DRAIN TO BIOSWALES.
LIGHT AND PERVIOUS SIDEWALKS
DRIVE SURFACE (HIGH RECYCLE CONTENT) DRAIN TO BIOSWALES.
CAR GARAGE AREA UNDER PODIUM
COOL ROOF (TITLE 24 REQUIRED) RAINWATER DRAINED TO BIOSWALE.
COVERED PARKING WITH SOLAR PHOTO VOLTAIC PANELS.
PLANTED TREES: QUANTITY AND ARRANGEMENT FOR SHADE, HEAT ISLAND REDUCTION AND CUSTOMER APPEAL.
TREES PLANTED: HIGH DENSITY EXAMPLE
SHADE + O2
SCREEN + O2
TREES PLANTED: MEDIUM DENSITY EXAMPLE
SHADE + O2
SCREEN + O2
2 BED UNIT
3RD, 4TH 5TH FLOOR TYPICAL
1 BED UNIT
1 BED UNIT
2ND FLOOR TYPICAL
UNDER PODIUM PARKING
1ST FLOOR
PROJECT DATA
LAND USE
BUILDING TYPE
GROSS FLOOR AREA
GROSS SITE AREA
LOT COVERAGE
SETBACKS
LANDSCAPE AREA
PV SHADE PARKING
PARKING RATIO
NUMBER OF UNITS
PARKING #
1 SITE: HIGH DENSITY
SCALE: 1" = 50'
N
2 BED UNIT
3RD FLOOR
2 BED UNIT
2ND FLOOR
1 BED UNIT
1ST FLOOR
PROJECT DATA
LAND USE
BUILDING TYPE
GROSS FLOOR AREA
GROSS SITE AREA
LOT COVERAGE
SETBACKS
LANDSCAPE AREA
PV SHADE PARKING
PARKING RATIO
NUMBER OF UNITS
PARKING #
2 SITE: MEDIUM DENSITY
SCALE: 1" = 50'
N
David Saunders Architect
DS. A
Commercial & Residential Architecture
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes
MULTI-FAMILY EXAMPLES (4 ACRE LOTS)
A-4



1 MULTI-FAMILY NEIGHBORHOOD LANDSCAPES PLAN
40 ACRE BLOCK DEVELOPMENT (4 BLOCKS ILLUSTRATED)
SCALE: 1" = 160'



2 2 STORY, 4 ACRE LOT
78# 1 & 2 BED UNITS
SCALE: 1" = 50'
SCALE: 1" = 1/16"

PROJECT DATA : 4 ACRE LOT	
USE	[illegible]
BUILDING TYPE	2 STORY WRAP
GROSS SITE AREA	[illegible] / 4 ACRES
GROSS FLOOR AREA	[illegible]
NUMBER OF DWELLING UNITS	[illegible]
DENSITY	[illegible] / ACRE
LOT COVERAGE	[illegible]
SETBACKS	[illegible]
LANDSCAPE AREA	[illegible]
PV SHADE PARKING	[illegible] SOLAR PANELS
PARKING RATIO PROVIDED	[illegible]

PROJECT DATA : 40 ACRE BLOCK		
NUMBER OF DWELLING UNITS	[illegible]	
DENSITY	14.7 DU / ACRE	
LANDSCAPE AREA TOTAL FOR ALL DEVELOPED LOTS	[illegible]	
LANDSCAPE AREA TOTAL FOR COMMON AREAS	[illegible]	
# TREES PLANTED:		
NEIGHBORHOOD STREET	[illegible]	
ARTERIAL COLLECTOR STREET	[illegible]	
COMMON AREAS	[illegible]	
DEVELOPED LOTS	[illegible]	
TOTAL # [illegible] ACRES	[illegible]	[illegible]

1 BEDROOM RESIDENCE

2 BEDROOM RESIDENCE

LEGEND

- PLANTED LANDSCAPE BIOSWALES
- PARKING STALLS, DRIVEWAYS AND SIDEWALKS OF PERVIOUS PAVERS. DRAIN TO BIOSWALES.
- COMMUNITY [illegible] LOCAL STORE
- COMMUNITY SPACE: SEASONAL EVENTS, FARMERS MARKET, MUSIC FESTIVAL.
- COOL ROOF (TITLE 24 REQUIRED), RAINWATER DRAINED TO BIOSWALE.
- COVERED PARKING WITH SOLAR PHOTO VOLTAIC PANELS.
- PLANTED TREES: GENERIC SIZE AND LOCATION CAN BE MADE PROJECT SPECIFIC BY APPLYING TREE TYPE RECOMMENDATIONS THAT ACCOMPANY THESE PLANS.

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

David Saunders Architect
DS. A
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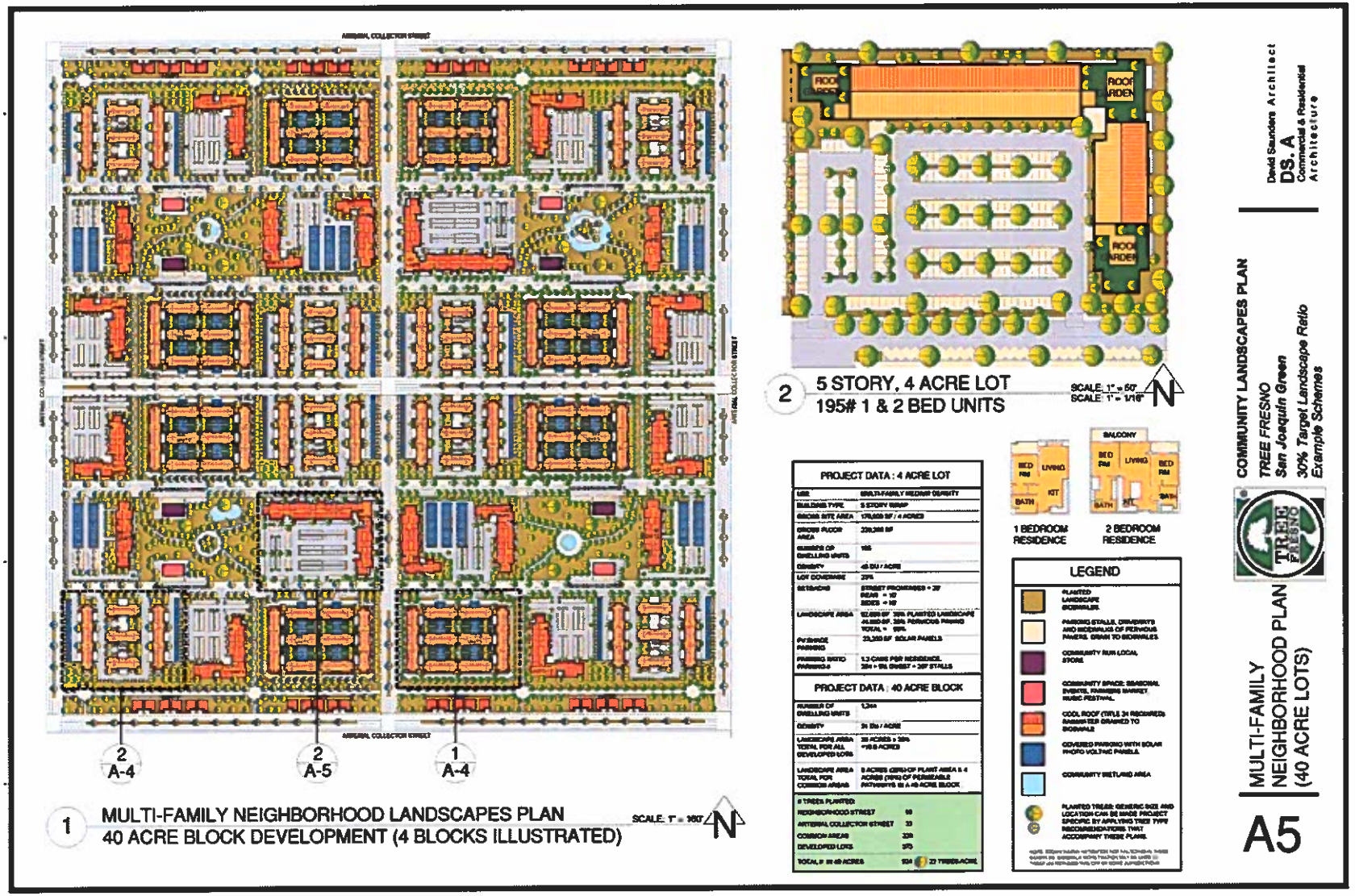
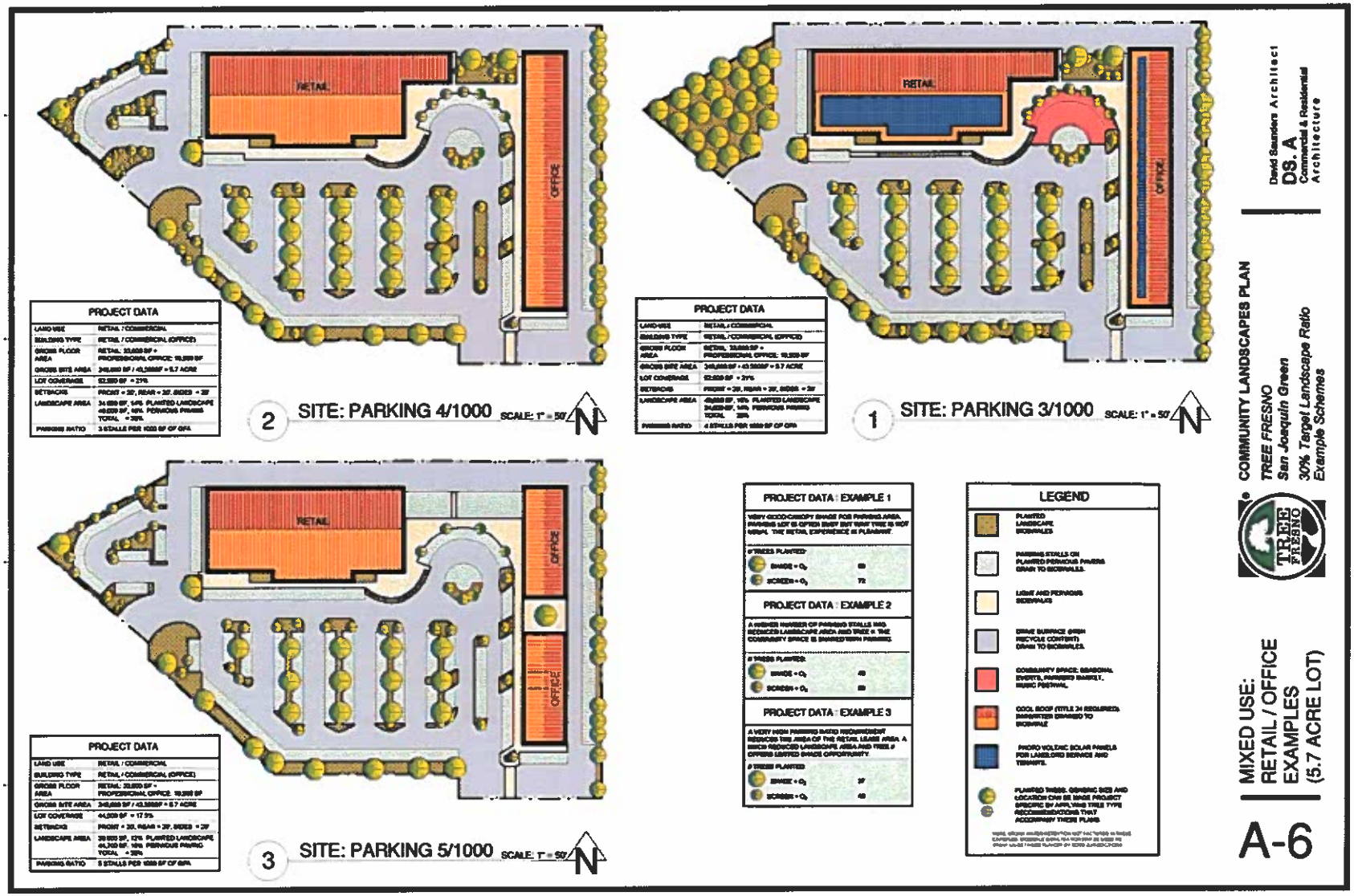
2 STORY MULTI-FAMILY NEIGHBORHOOD PLAN (40 ACRE LOTS)

A5


2
A-4
2
A-5
1
A-4
1 MULTI-FAMILY NEIGHBORHOOD LANDSCAPES PLAN
40 ACRE BLOCK DEVELOPMENT (4 BLOCKS ILLUSTRATED)
SCALE: 1" = 100'
2 5 STORY, 4 ACRE LOT
195# 1 & 2 BED UNITS
SCALE: 1" = 50'
SCALE: 1" = 1/16"
PROJECT DATA : 4 ACRE LOT
PROJECT DATA : 40 ACRE BLOCK
1 BEDROOM RESIDENCE
2 BEDROOM RESIDENCE
LEGEND
David Saunders Architect
DS. A
Commercial & Residential Architecture
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes
MULTI-FAMILY
NEIGHBORHOOD PLAN
(40 ACRE LOTS)
A5


RETAIL
OFFICE
PROJECT DATA
2 SITE: PARKING 4/1000 SCALE: 1" = 50'
1 SITE: PARKING 3/1000 SCALE: 1" = 50'
3 SITE: PARKING 5/1000 SCALE: 1" = 50'
PROJECT DATA : EXAMPLE 1
PROJECT DATA : EXAMPLE 2
PROJECT DATA : EXAMPLE 3
LEGEND
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes
David Saunders Architect
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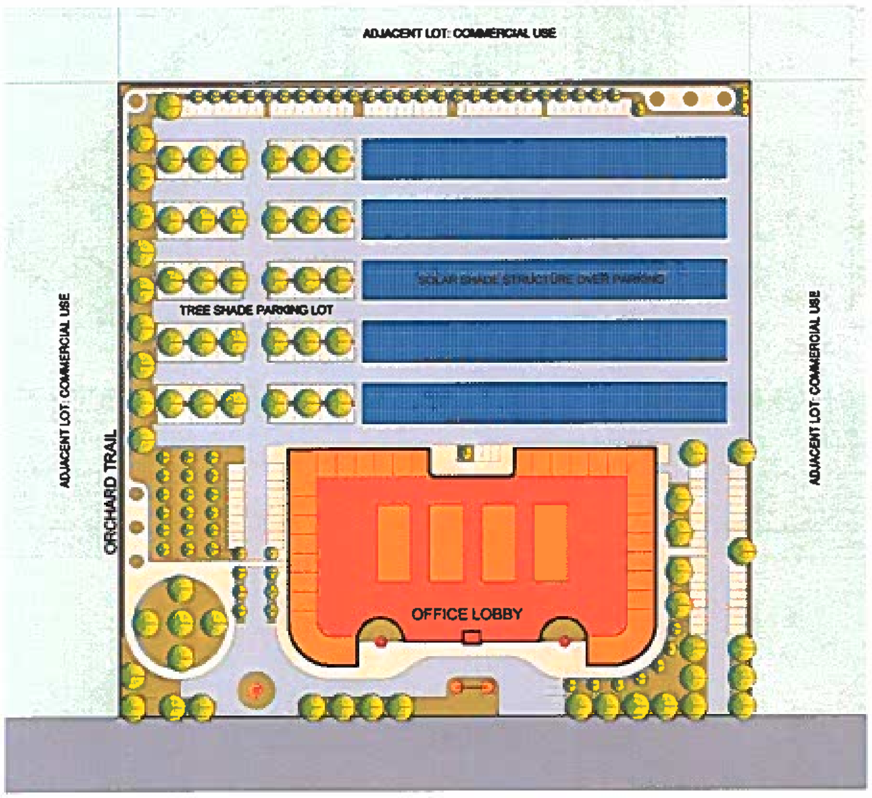
Commercial & Residential
Architecture
MIXED USE:
RETAIL / OFFICE
EXAMPLES
(5.7 ACRE LOT)
A-6



1 FOUR STORY OFFICE ON 10 ACRE LOT LANDSCAPES PLAN

SCALE: 1" = 50' N

PROJECT DATA : OFFICE	
USE	CLASS 'A' OFFICE
BUILDING TYPE	4 STORY
LOT AREA	10 ACRES ([illegible] SF)
GROSS FLOOR AREA	[illegible]
LOT COVERAGE	17%
SETBACKS	STREET FRONTAGES = [illegible] [illegible]
LANDSCAPE AREA	[illegible] TOTAL = [illegible]
PV SHADE PARKING	[illegible] SOLAR PANELS [illegible]
PARKING RATIO PARKING =	[illegible] STALLS
# TREES PLANTED:	
SHADE	[illegible]
SCREEN	[illegible]

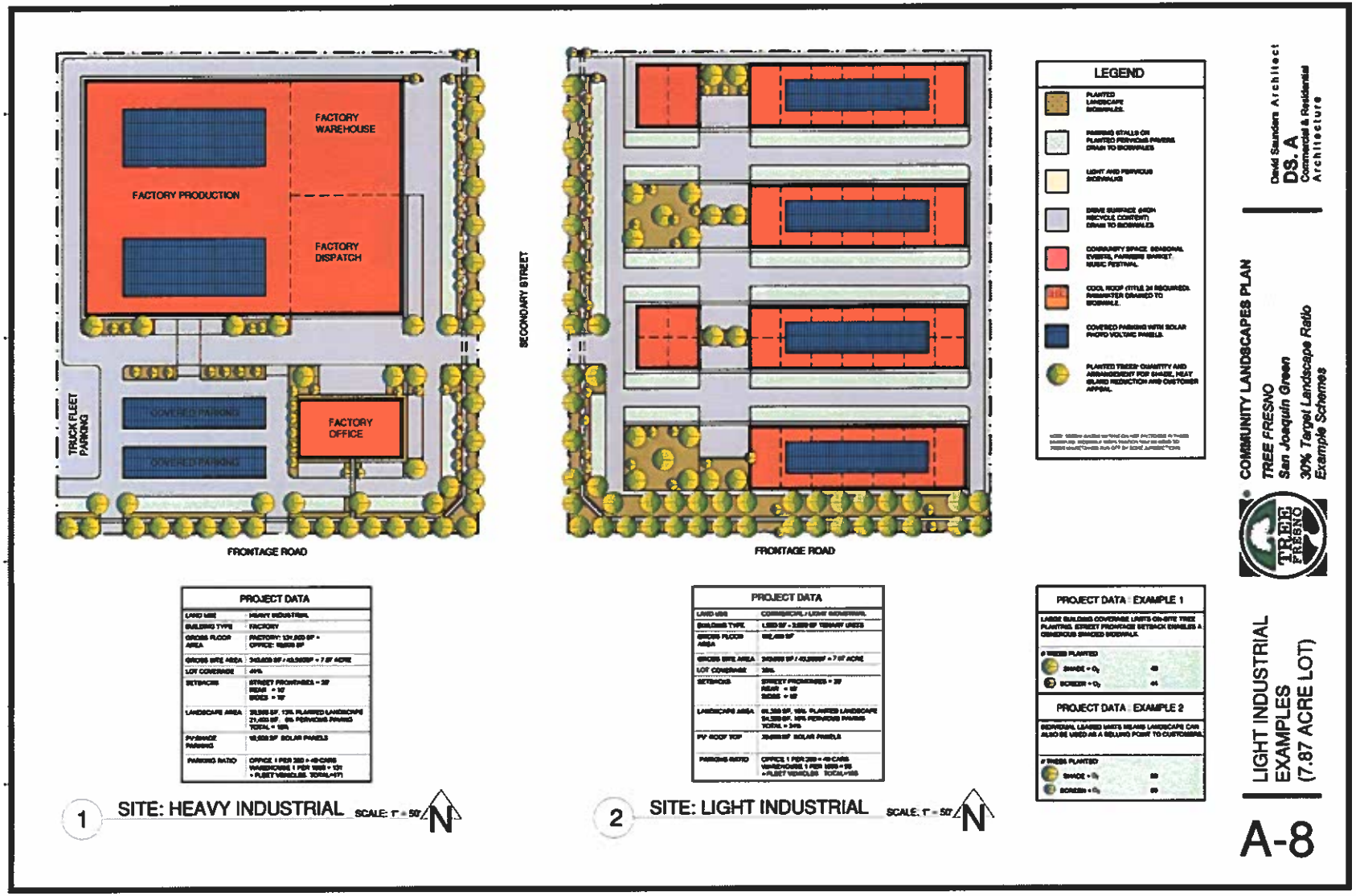
LEGEND	
	PLANTED LANDSCAPE BIOSWALES
	PARKING STALLS, DRIVEWAYS AND SIDEWALKS OF PERVIOUS PAVERS. DRAIN TO BIOSWALES.
	DRIVE SURFACE (HIGH RECYCLE CONTENT) DRAIN TO BIOSWALES.
	OFFICE BUILDING INTERIOR AREAS
	COOL ROOF (TITLE 24 REQUIRED). RAINWATER DRAINED TO BIOSWALE.
	COVERED PARKING WITH SOLAR PHOTO VOLTAIC PANELS.
	PLANTED TREES. GENERIC SIZE AND LOCATION CAN BE MADE PROJECT SPECIFIC BY APPLYING TREE TYPE RECOMMENDATIONS THAT ACCOMPANY THESE PLANS.

A7

FOUR STORY OFFICE
EXAMPLE
(10 ACRE LOT)

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

David Saunders Architect
DS. A
Commercial & Residential
Architecture

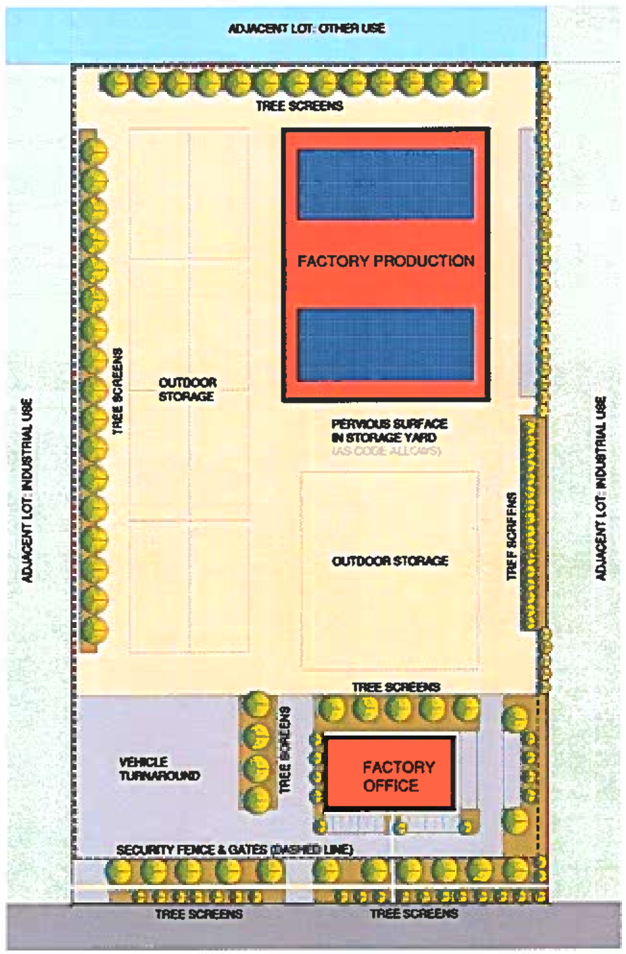


David Saunders Architect
DS_A
Commercial & Residential Architecture

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

LIGHT INDUSTRIAL EXAMPLES (7.87 ACRE LOT)

A-8



1 INDUSTIAL WITH EXTERIOR STORAGE ON 10 ACRE LOT LANDSCAPES PLAN SCALE: 1" = 50'

PROJECT DATA : FACTORY	
LAND USE	LIGHT-MEDIUM INDUSTRIAL
BUILDING TYPE	METAL BUILDING, OUTDOOR STORAGE
LOT AREA	[illegible]
GROSS FLOOR AREA	FACTORY = [illegible] SF OFFICE [illegible] = [illegible] SF TOTAL = [illegible] SF
LOT COVERAGE	[illegible]
SETBACKS	STREET FRONTAGE = [illegible] REAR = [illegible] SIDES = [illegible]
LANDSCAPE AREA	[illegible]
PV SHADE PARKING	[illegible] SOLAR PANELS [illegible]
PARKING RATIO PARKING #	OFFICE = [illegible] STALLS [illegible] FACTORY = [illegible] STALLS [illegible]
TREES USED FOR SCREENING BOTH FOR SECURITY AND BETWEEN OTHER USES SUCH AS RESIDENTIAL AREAS. WHILE TOTAL LANDSCAPE AREA WILL BE COMPETING WITH OWNERS LAYDOWN STORAGE REQUIREMENTS THE TOTAL NUMBER OF TREES CAN BE HIGH DUE TO THE LONG PROPERTY PERIMETERS.	
# TREES PLANTED	
SHADE • [illegible]	[illegible]
SCREEN • [illegible]	[illegible]

LEGEND	
(brown)	PLANTED LANDSCAPE BIOSWALES
(cream)	PARKING STALLS, DRIVEWAYS AND SIDEWALKS OF PERVIOUS PAVERS. DRAIN TO BIOSWALES
(light purple)	DRIVE SURFACE (HIGH RECYCLE CONTENT). DRAIN TO BIOSWALES
(red)	COOL ROOF (TITLE 24 REQUIRED). RAINWATER DRAINED TO BIOSWALE
(blue)	COVERED PARKING WITH SOLAR PHOTO VOLTAIC PANELS
(tree symbols)	PLANTED TREES. GENERIC SIZE AND LOCATION CAN BE MADE PROJECT SPECIFIC BY APPLYING TREE TYPE RECOMMENDATIONS THAT ACCOMPANY THESE PLANS.

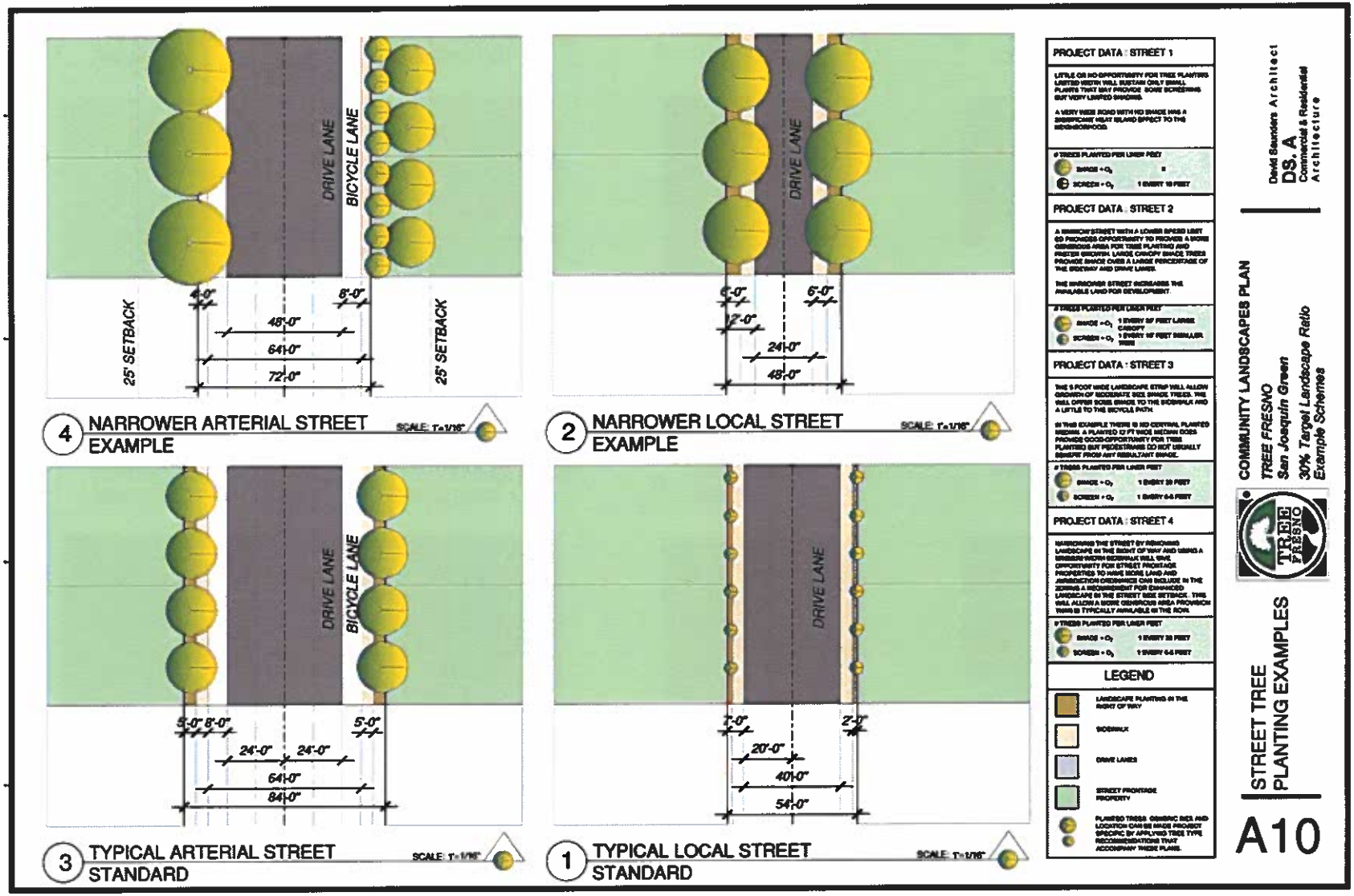
[illegible]

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

David Saunders Architect
DS. A
Commercial & Residential Architecture

HEAVY INDUSTRIAL EXAMPLE (10 ACRE LOT)

A9


DRIVE LANE
BICYCLE LANE
25' SETBACK
25' SETBACK
4'-0"
8'-0"
48'-0"
64'-0"
72'-0"
4 NARROWER ARTERIAL STREET EXAMPLE
SCALE: 1"=1/16"
DRIVE LANE
6'-0"
6'-0"
12'-0"
24'-0"
48'-0"
2 NARROWER LOCAL STREET EXAMPLE
SCALE: 1"=1/16"
DRIVE LANE
BICYCLE LANE
5'-0"
8'-0"
5'-0"
24'-0"
24'-0"
64'-0"
84'-0"
3 TYPICAL ARTERIAL STREET STANDARD
SCALE: 1"=1/16"
DRIVE LANE
7'-0"
2'-0"
20'-0"
40'-0"
54'-0"
1 TYPICAL LOCAL STREET STANDARD
SCALE: 1"=1/16"
PROJECT DATA : STREET 1
PROJECT DATA : STREET 2
PROJECT DATA : STREET 3
PROJECT DATA : STREET 4
LEGEND
LANDSCAPE PLANTING IN THE RIGHT OF WAY
SIDEWALK
DRIVE LANES
STREET FRONTAGE PROPERTY
David Saunders Architect
DS. A
Commercial & Residential Architecture
COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes
STREET TREE PLANTING EXAMPLES
A10

54 FOOT WIDE STREETS WITH NO TREES AND HOUSES WITH SMALL YARDS.

1 SINGLE FAMILY LANDSCAPES

IMAGE SOURCE: GOOGLE EARTH

GOOD PLANTING AREA FOR SHADE TREES.

2 MULTI-FAMILY LANDSCAPES

IMAGE SOURCE: GOOGLE STREET IMAGE

NO STREET TREES OR ON-SITE TREES. SIGNIFICANT HEAT ISLAND EFFECT.

3 RETAIL LANDSCAPES

IMAGE SOURCE: GOOGLE EARTH

PARKING AND PATH TO OFFICE INCLUDES ONLY MARGINAL PLANTING OPPORTUNITY.

4 OFFICE LANDSCAPES

IMAGE SOURCE: GOOGLE STREET IMAGE

ZERO TREES - ZERO LANDSCAPE

5 INDUSTIAL LANDSCAPES

IMAGE SOURCE: GOOGLE EARTH

TREELESS PARKING LOT AND RECREATION AREA

6 PARKING LOT LANDSCAPES

IMAGE SOURCE:GOOGLE STREET IMAGE

A BLEAK SUBURBAN TREELESS WIDE STREET

7 STREETS LANDSCAPES

IMAGE SOURCE: GOOGLE STREET IMAGE

TREELESS UNDER SERVICED URBAN AREA

8 NEIGHBORHOOD LANDSCAPES

IMAGE SOURCE: GOOGLE STREET IMAGE

David Saunders Architect
DS. A
Commercial & Residential Architecture

COMMUNITY LANDSCAPES PLAN
TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

UNSUSTAINABLE BUILT EXAMPLES

A-11

CONNECTING WITH SHADED SIDEWALKS

GREEN SPACE WITHIN REACH

VERTICAL PLANTING IN TIGHT SPACES

USE OF LARGE TREE SHADE CANOPY

GENEROUS RIGHT OF WAY PLANTING

RECREATION IN NATURE WITHIN REACH

DWELL LONGER IN THE SHADE

NATURE CONNECTION IN WORK PLACE

1 SINGLE FAMILY LANDSCAPES

IMAGE SOURCE: GOOGLE IMAGE

2 MULTI-FAMILY LANDSCAPES

IMAGE SOURCE: HUMPREYS ARCHITECTS

3 RETAIL LANDSCAPES

IMAGE SOURCE: PACHECO PLAZA, NOVATO, CA

4 OFFICE LANDSCAPES

IMAGE SOURCE: GOOGLE IMAGE

SITE PERIMETER LOW WATER LANDSCAPES

SHADE, SUN'S ENERGY & PERM PAVEMENT

URBAN LARGE TREE SHADE CANOPY

SUBURBAN: LARGE TREE SHADE CANOPY

COMBINING NATURE AND SECURITY

PERVIOUS PAVER PARKING LOT

WIDE PLANTED MEDIANS SHADE & DIVIDE

SEMI-PRIVATE COMMUNITY SPACES

5 INDUSTRIAL LANDSCAPES

IMAGE SOURCE: SC EDISON REHAB PROJECT

6 PARKING LOT LANDSCAPES

IMAGE SOURCE: BELFAST UK WEB IMAGE

7 STREETS LANDSCAPES

IMAGE SOURCE: HUMPHREY ARCHITECTS

8 NEIGHBORHOOD LANDSCAPES

IMAGE SOURCE: HARLEN RANCH, CLOVIS CA

COMMUNITY LANDSCAPES PLAN

TREE FRESNO
San Joaquin Green
30% Target Landscape Ratio
Example Schemes

David Saunders Architect
DS. A
Commercial & Residential
Architecture

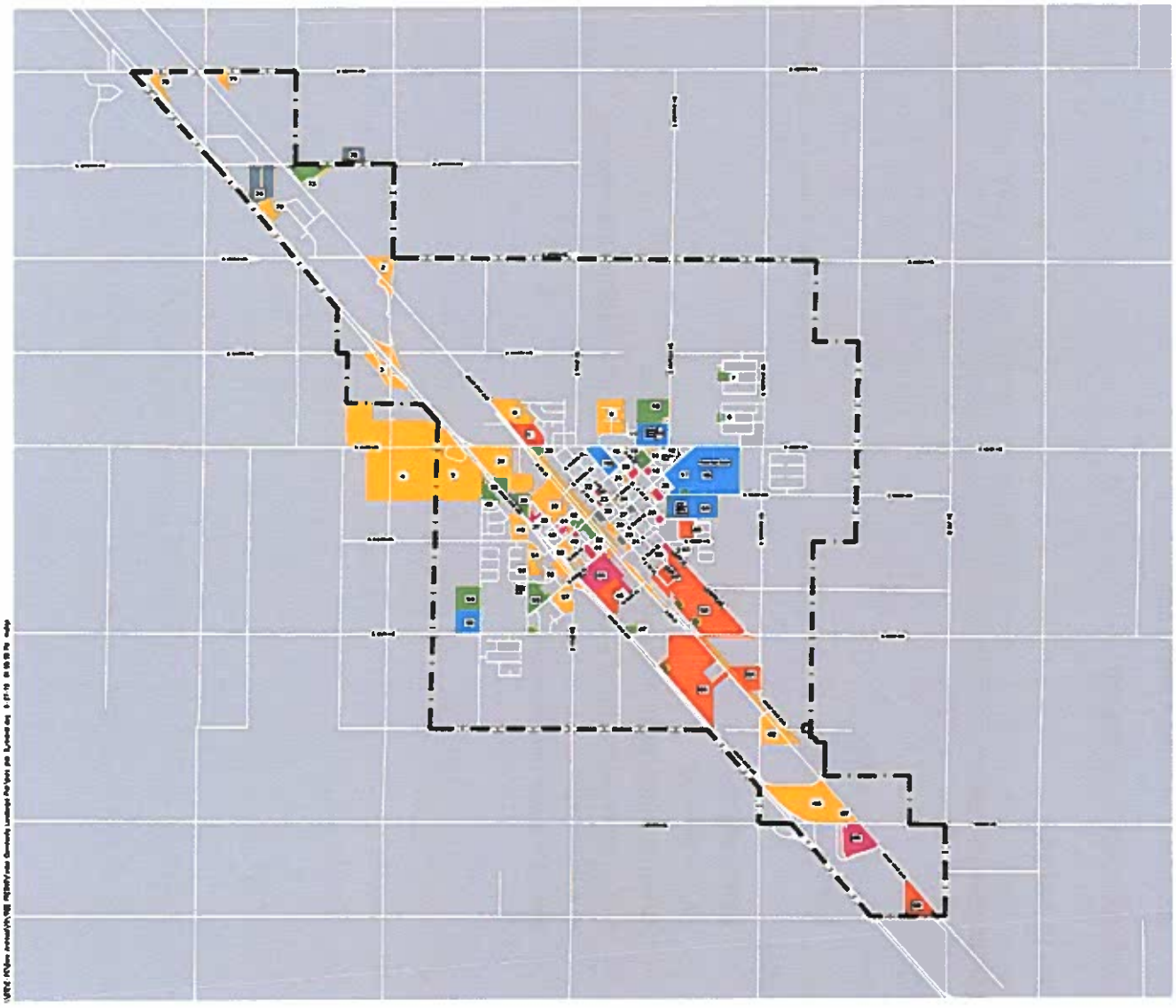
MORE SUSTAINABLE BUILT EXAMPLES

A12

Strategic Properties

Strategic Properties are one of the key components of the Community Landscape Plan. The Strategic Properties Map and Table provide a comprehensive list of areas that the City of Fowler can use to implement the CLP. The Forest District along Golden State Boulevard is rich with opportunities for planting, which would also help in lessening near-road pollution. The medians and parkway areas along Golden State Boulevard to Freeway 99 have ample open space for planting. Some other areas suggested in these Strategic Properties include both private and public lands, including major employers, churches, private landowners, schools, drainage basins, and public agency facilities. Within the Fowler CLP, there are 75 mapped Strategic Properties, providing ample locations for planting trees and complementary understory plants as suggested in the Tree and Plant Palette.

John C. Fremont School has some available tree planting opportunities.



FOWLER
COMMUNITY LANDSCAPE PLAN
STRATEGIC PROPERTIES

Strategic Property Categories and Color Codes

BRIGHT SPOT – a strategic property that dramatically demonstrates the value of wise tree selection and beautiful landscaping

- **Bright Spot** – an existing property with Bright Spot qualities
- **Bright Spot Opportunity** – a residential, commercial or industrial space with the potential to become a Bright Spot

CHURCHES AND HOSPITALS

PUBLIC AGENCY

MAJOR EMPLOYER

SCHOOL

- **School** – existing
- **School** – planned

PARK

- **Park** – existing
- **Park** – planned
- **Green Space** – open area with trees and no facilities
- **Potential Rose Parterre** – formal rose garden used to enhance the entryway of a landscape
- **Basin** – water retention basin

Table 5 – List of Strategic Properties

LABEL	CATEGORY	DESCRIPTION	ADDRESS
1	Major Employer	FDS Manufacturing w/Basin on Site	9 E Adams Ave, Fowler, CA 93625
2	Commercial Bright Spot Opportunity	Golden State Blvd. & Clovis Ave - N,E,S,W	
3	Commercial Bright Spot Opportunity	99 & Clovis Ave - N,E,S,W	
4	Commercial Bright Spot Opportunity	Clovis Ave & Adams Ave - N,E,S,W	
5	Commercial Bright Spot Opportunity	99 & Adams Ave - West of 99	
6	Commercial Bright Spot Opportunity	East of 99 North of FSD Manufacturing	
7	Basin	Basin inside of Kensington Estates	1011 E Heidi, Fowler Ave, Fowler, CA 93625
8	Future Park	Ahronian Estates	NW Corner Adams Ave & Temperance Ave
9	Residential Bright Spot	La Crosse Ave & 4th Ave	
10	Future Park	North of Marshall Elementary School	
11	School	Marshall Elementary School	142 N Armstrong Ave, Fowler, CA 93625
12	Park	Fowler Veterans Memorial Park	E Merced St, Fowler, CA 93625
13	Park	Panzak Park	Merced St between 2nd St & 3rd St
14	Residential Bright Spot Opportunity	LOTS 4-6 SIERRA VISTA FOWLER RS BK 8 PG 27	115 N 2ND ST
15	Residential Bright Spot	SE Corner of Adams Ave & 3rd St - LOTS 22-27 BLK 7 FOWLER	215 N 3RD ST
16	Church	Fowler Baptist Church	507 E Merced St, Fowler, CA 93625
17	School	Fowler High School w/basin on Site	701 E Main St, Fowler, CA 93625
18	School	Fowler Academy Continuation School	975 E Adams Ave, Fowler, CA 93625
19	School	Fremont Elementary	306 E Tuolumne St, Fowler, CA 93625
20	Church & Bright Spot	Presbyterian Church of Fowler	408 E Merced St, Fowler, CA 93625
21	Commercial Bright Spot Opportunity	NW Corner Merced Ave & 4th St	104 N 4TH ST
22	Church	Fowler Christian Church	SW Corner of 6th St & Toulumne St
23	Potential Rose Parterre	Merced St & 7th - Next to DC Baseball	

24	Commercial Bright Spot Opportunity	SE Corner of Merced St & 6th St	
25	Church & Bright Spot	Saint Gregory the Illuminator Armenian Apostle Church & Markarian Hall	220 S 3rd St, Fowler, CA 93625
26	Public Agency	United States Postal Service	19 E Merced St, Fowler, CA 93625
27	Public Agency	Fowler Fire Station	SW Corner 5th St 7 Main St
28	Church	Fowler Apostolic Church Fountain of Hope	NW Corner 4th St & Vine St
29	Commercial Bright Spot Opportunity	Between Library and Post Office	
30	Public Agency & Bright Spot	Fresno County Library Fowler	306 S 7th St, Fowler, CA 93625
31	Commercial Bright Spot Opportunity	Between Library and Vine St	
32	Potential Rose Parterre	SW Corner of Merced St & 8th St	
33	Basin	SE Corner Adams Ave & Golden State Blvd	
34	Commercial Bright Spot Opportunity	16.62 AC IN LOT 13 NORRIS COL & SEC 16 T15R21	
35	Green Space	East of 99 West of 10th St	
36	Basin	East of 99 West of 10th St	
37	Church	Church of God in Christ	West of Rose of Sharon Church
38	Church	Rose of Sharon	310 N 10th St, Fowler, CA 93625
39	Commercial Bright Spot Opportunity	15.65 AC IN LOTS 86-88 FOWLER VILLA LOTS	
40	Church	Second Baptist Church	117 N 10th St, Fowler, CA 93625
41	Commercial Bright Spot Opportunity		110 N 9th St
42	Margaret Cowings Park	Near corner of Merced & 9th St	
43	Church	St Paul Ame	102 S 9th St
44	Church	Buddhist Church of Fowler	210 S 9th St
45	Medical & Bright Spot	Valley Children's Adventis Health	201 W Fresno St
46	Major Employer	Borga	300 W Peach St
47	Basin	Golden State Blvd. & E. South Ave.	
48	Green Space	2.04 AC IN NW1/4 OF NE1/4 SEC 16 T15R21	
49	Commercial Bright Spot Opportunity	5.66 AC OUTLOT A TRACT NO 5212 SUMNER RANCH NO 5	
50	Commercial Bright Spot Opportunity	102 S 10TH ST & 1.17 AC BLK 82 TOWN OF FOWLER VILLA LTS BK 5 PG 7	

51	Commercial Bright Spot Opportunity	Wright Oil Cell Tower	114 N Sumner Ave
52	Commercial Bright Spot Opportunity	S of 76 Gas Station	104 S Fowler Ave
53	Commercial Bright Spot Opportunity	S of Wright Oil	
54	Future Park		5470 E South Ave
55	Future School		5470 E South Ave
56	Park	Donny Wright Park	546-638 W Fresno St, Fowler, CA 93625
57	Residential Bright Spot Opportunity	5.70 AC IN LOTS 91 93 FOWLER & VILLA LOTS	
58	Church	Saint Lucy's Catholic Church	504 S 5TH St
59	Major Employer	National Raisin	626 S 5TH St
60	Major Employer	Bee Sweet Citrus	416 E South Ave, Fowler, CA 93625
61	Major Employer	Mid Valley Packaging & Supply	2004 S Temperance Ave
62	Commercial Bright Spot Opportunity		2566 S Golden State Blvd
63	Future Park	Near 1407 HARRIS CT	
64	School	John Sutter Middle School	701 E Walter Ave
65	Major Employer & Bright Spot	Walnut Grove Villa Apartments	1446 E Sumner Ave
66	Commercial Bright Spot Opportunity	North of Manning Avenue South of Valley Drive Between 99 & Golden State	2729 E Manning Ave, Fowler, CA
67	Commercial Bright Spot Opportunity	NW Corner of Manning & Golden State-next to El Mexicano	2833 E Manning Ave
68	Church	The Worship Center	2830 Manning Ave, Fowler, CA 93625
69	Major Employer	Fresno Valve & Castings	7736 E Springfield Ave, Selma, CA 93662
70	Commercial Bright Spot Opportunity	SE Corner American Ave & 99	
71	Commercial Bright Spot Opportunity	SE Corner American Ave & Golden State Blvd	
72	Public Agency	Fresno Irrigation District	
73	Basin	SE Corner Jefferson Ave & Golden State Blvd	
74	Public Agency	Waste Management Fresno Transfer Station	5608 S Villa Ave Fresno, CA 93725
75	Commercial Bright Spot Opportunity	2.74 AC PAR 10 P/M #8020 BK 69 PGS 38-42	

Benefits of Trees

Objectives of the Fowler CLP

The Community Landscape Plan (CLP) is based on the scientifically proven benefits of trees, as described by the Arbor Day Foundation[15]. The following exhibits are grouped into three specific themes, including Economic (Exhibit 18), Physical (Exhibit 19), and Spiritual (Exhibit 20)

Objectives of the CLP:

- Increase the tree canopy with significant greenhouse gas (GHG) reductions.
- Transition all properties to have beautiful, water-wise landscapes.
- Increase the sense of community and beauty with the implementation of tree collections for each district, major corridor, and major entrance.
- Build community with collaborative education, planning, policy development and project implementation.
- Create an integrated transportation system which reduces emissions, improves health and access to green spaces, saves money, reduces noise, air pollution and respiratory illness.
- Foster healthy living practices that increase longevity, improve student achievement, reduce the incidence of obesity, and reduce contagious disease.
- Identify land use changes that would reduce greenhouse gases and help implement the Community Landscapes Plan.

The Benefits of Trees exhibits presents 24 ways that trees will enable Fowler to achieve the Objectives of the CLP (see below).

Exhibit 18 – The Economic Benefits of Trees (https://www.arborday.org/trees/treefacts/)

Exhibit 19 – The Physical Benefits of Trees (https://www.arborday.org/trees/treefacts/)

Exhibit 20 – The Spiritual Benefits of Trees https://www.arborday.org/trees/treefacts/

Tree Portraits

Camphor Tree

Cinnamomum camphora

Collection – Shade Tree

Why We Love This Tree

- **Fragrant Flowers:** sweet-smelling, yellow springtime flowers add pops of color to the greenery of yards
- **Aromatic Leaves:** leaves smell of camphor when crushed, and shift from pink, to bronze, and then mature to a shiny yellow-green – a delightful color show in yards
- **Year-round Shade:** provides ample shade to yards all year

Good To Know!

- Evergreen
- Height: to 60ft
- Width: 50 – 60ft
- Irrigate to a depth of 18"; will lift concrete if not deep watered
- Ogren Allergen Rating: 8

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Canary Island Pine

Pinus canariensis

Collection – Accent Tree

Why We Love This Tree

- **Water-wise:** once established, requires little watering
- **Elegant Shape:** forms a graceful pyramidal shape when mature
- **Lovely Coloring:** has bluish-green needles, glossy-brown cones, and reddish-brown fissured bark

Good To Know!

- Evergreen
- Height : 50 – 80ft
- Width: 20 – 35ft
- Ogren Allergen Rating: 4
- Requires ample space to grow
- Needle drop can be an issue

"Trees are the answer"

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559-221-5556

Chaste Tree

Vitex agnus-castus

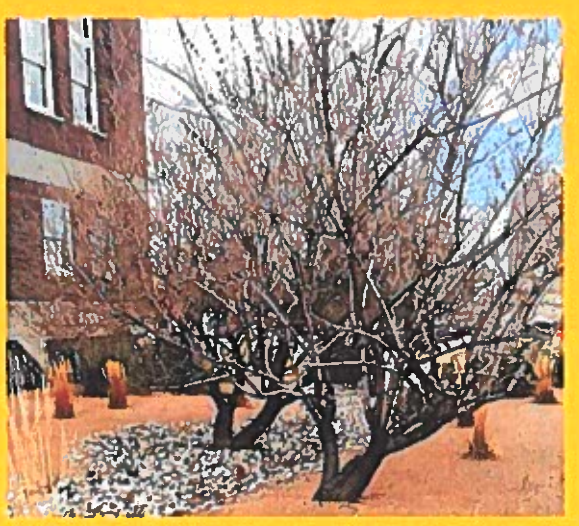
Collection – Accent Tree

Why We Love This Tree

- **Fragrant Flowers:** violet-blue flowers bloom in summer, attracting butterflies to yards
- **Minimum Height** : In warm areas reaches a maximum height of 25 feet, so well-suited for any-size yard
- **Thrives in Heat** : an excellent choice for California yards, even in arid conditions

Good To Know!

- Deciduous
- Usually grown as a multi-trunk tree or perennial shrub
- Height: 8 – 10ft;
  - To 25ft in warm areas
- Width: 8 - 10ft
- Ogren Allergen Rating: 4



"Trees are the answer"

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Chinese Flame Tree

Koelreuteria bipinnata

Collection – Shade Tree

Why We Love This Tree

- **Whimsical Accents:** orange, red, or salmon-colored papery fruit capsules that resemble Japanese lanterns replace yellow flowers and last through autumn
- **Provides Shade:** the wide canopy provides shade to front yards and sidewalks. Also is a good tree to plant under
- **Deep Rooted:** Won't create cracks in or damage to sidewalk

Good To Know!

- Deciduous
- Some leaf littler and clean up for fruit capsules
- Ogren Allergen Rating: 4
- Height & Width: 20 – 40ft

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Chinese Pistache

Pistacia chinensis

Collection – Shade Tree

Why We Love This Tree

- **Fantastic Fall Color:** light green foot-long leaves consisting of 10-12 narrow leaflets transform into stunning red & orange hues
- **Provides Shade:** wide canopy will shadow and cool yards or streets in the hot summer months
- **Deep Rooted:** won't create cracks in or damage to sidewalks

Good To Know!

- Deciduous
- Ogren Allergen Rating:
  - 1 (female)
  - 8 (male)
- Leaf litter in autumn
- 30 – 60ft height and spread, so plant with sufficient space away from buildings and power lines
- 'Keith Davey' (male cultivar) does not produce berries

"Trees are the answer"

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Coast Live Oak

Quercus agrifolia

Collection – Shade Tree

Why We Love This Tree

- **Provides Shade:** as an evergreen with dense foliage, it will provide consistent shade throughout the year
- **Low Water Use:** once established, is a great choice for arid landscapes & drought conditions
- **California Native:** a *natural* choice for landscapes & yards

Good To Know!

- Evergreen
- Ogren Allergen Rating: 9
- Height: 20 – 70ft (and usually an even broader width).
- Needs to be planted with sufficient space from buildings and power lines

"Trees are the answer"

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Crape Myrtle Indian Series

Lagerstroemia indica 'Natchez

Collection – Shade Tree

Why We Love This Tree

- **Colorful Accents:** has vibrant orange-red leaves in fall and beautiful white flowers in the summer
- **Water-Wise** : once established, will survive Californian dry spells
- **Shade Provider**: Perfect for light shading around decks and patios

Good To Know!

- Deciduous
- Height : 30 - 35ft
- Width : 25ft
- Ogren Allergen Rating: 5
- Leaf litter in autumn
- Not suitable under power lines

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Cork Oak

Quercus suber

Collection – Shade Tree

Why We Love This Tree

- **Year-round Shade:** its broad, evergreen canopy creates continuous shade all year.
- **Handsome Tree:** its thick, corky bark creates a textured contrast to its smooth, green foliage.
- **Resilient Tree:** heat and drought tolerant, one of the best oaks for desert climates.

Good To Know!

- Evergreen
- Height: 30 – 60ft
- Width: 30 – 60ft
- Ogren Allergen Rating: 9

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Deodar Cedar

Cedrus deodara

Collection – Accent Tree

Why We Love This Tree

- **Water-Wise**: once established, will thrive with little watering
- **Graceful Appearance** : branches sweep down to the ground, almost in a bowing stance, making it the weeping-willow of the evergreens
- **Provides Shade**: With a 40ft spread, this evergreen gives shade year-round to parks and yards

Good To Know!

- Evergreen
- Ogren Allergen Rating:
  - Male : 6 (produces a good amount of pollen)
  - Female: 1
  - Mondoecious: 4
- Height : 80ft
  - Ill-suited for small yards
- Width: 40ft (at ground level)

"Trees are the answer"

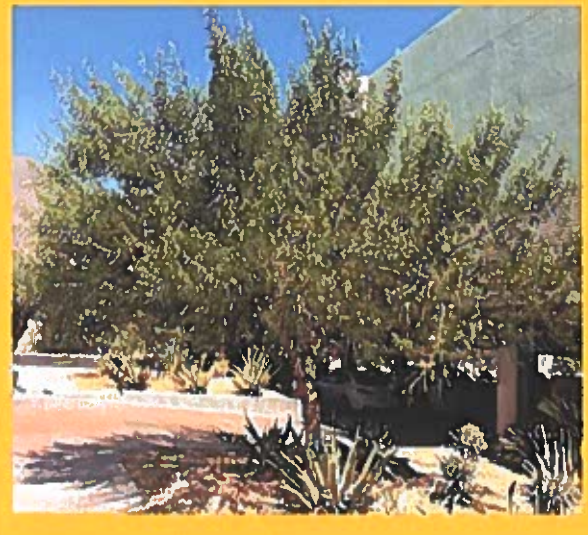
3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Desert Willow

Chilopsis linearis

Collection – Accent Tree



Why We Love This Tree

- **Beautiful Blooms** : fragrant, trumpet-shaped flowers of various colors present from spring to fall
- **California Native:** a *natural* choice for landscapes, yards, and native gardens
- **Water-wise:** once established, requires little watering; tolerates aridity and poor soils

Good To Know!

- Deciduous
- Height : 15 – 30ft
- Width: 10 – 20ft
- Ogren Allergen Rating: 4
- Art's Seedless variety alleviates problem of long seed pods.
- Initially fast growing (3ft per year) then slows

"Trees are the answer"

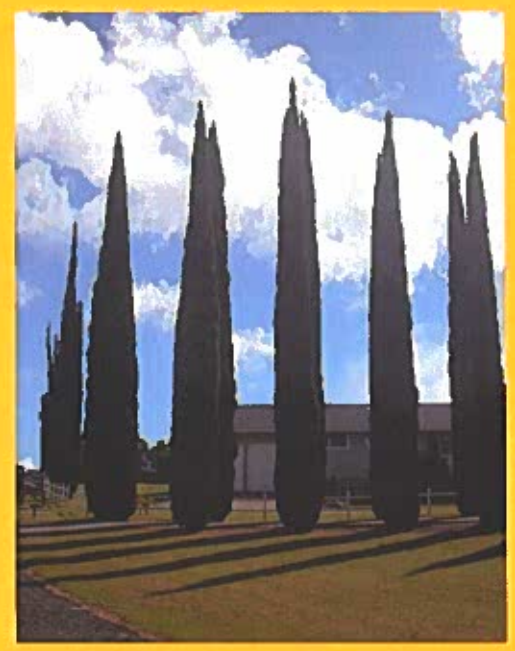
3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Italian Cypress

Cupressus sempervirens

Collection – *Screen Tree*



Why We Love This Plant

- **Unique Foliage:** This narrow, upright, fast growing tree has dark green leaves and produces small, 1-inch brown cones.
- **Hearty:** This tree requires little maintenance and can tolerate a wide range of soils, however, make sure it is well drained.
- **Screen:** Plant in rows 3-5' apart to produce a screen or wall.

Good To Know!

- Evergreen
- Height: 40-60'
- Width: 5-15'
- Ogren Allergen Rating: 10
- All evergreens loose a potion of their leaves, producing some debris.

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Italian Stone Pine

Pinus pinea

Collection – Shade Tree

Why We Love This Tree

- **Water-Wise:** Once established, will thrive with little watering and does well in heat
- **Umbrella Shape:** its broad, flat-top shape sets it apart from the typical pyramidal profile of pines
- **Provides Shade:** Gives shade year-round to parks and other large properties

Good To Know!

- Evergreen
- Ogren Allergen Rating: 4
- Height : 40 – 80ft
- Width: 40 – 60ft
- Requires ample space to grow; ill-suited for most suburban yards

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Maidenhair Tree

Ginkgo biloba

Collection – Shade Tree

Why We Love This Tree

- **Captivating Coloring**: the light green leaves of spring and summer and golden leaves in fall make this an attractive tree year-round
- **Fan-Shaped Leaves**: uniquely-shaped leaves will dance in the breeze and shine in the sunlight
- **No Mess**: the male "Autumn Gold" has all the beauty of the Maidenhair Tree but without the fruit litter

Good To Know!

- Deciduous
- Height: 35 – 50ft
- Width: 25 – 35ft
- Ogren Allergen Rating:
  - 7 (male)
  - 2 (female)
- Female "Golden Girl" has malodorous berries when stepped on; plant away from sidewalks

"Trees are the answer"

3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Mondell Pine

Pinus eldarica

Collection – Shade Tree

Why We Love This Tree

- **Water-wise:** once established, requires little watering – a great pine for the San Joaquin Valley
- **Resilient Tree:** thrives in heat, wind and poor soil, making it one of the best pines for desert-like climates
- **Lovely Coloring:** has dark green needles and reddish-brown oval cones

Good To Know!

- Evergreen
- Height : 30 – 80ft
- Width: 15 – 25ft
- Ogren Allergen Rating: 4
- Requires ample space to grow

"Trees are the answer"

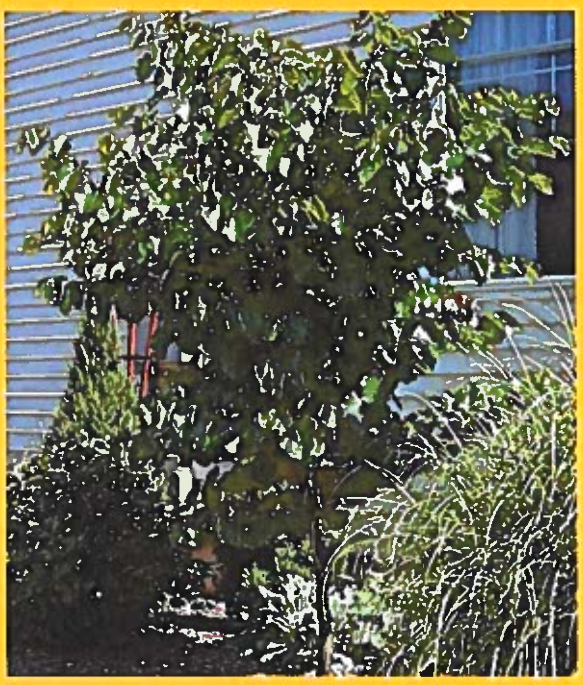
3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Oklahoma Redbud

Cercis reniformis 'Oklahoma'

Collection – Accent Tree



Why We Love This Tree

- **Heart-shaped Leaves:** the deciduous leaves, shift colors throughout the season, and have a wax-like surface that glistens in the sun

- **Longer Bloom:** wine-red flowers stay in bloom longer than the Western Redbud and attract butterflies and birds

Good To Know!

- Deciduous
- Better suited as a single trunk (compared to Western Redbud), and requires some pruning in the early years
- Height: to 25ft
- Width: 10 – 20ft
- Ogren Allergen Rating: 5
- Leaf litter in autumn

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Palo Verde

Parkinsonia 'Desert Museum'

Collection – Accent Tree

Why We Love This Tree

- **Lovely Flowers:** yellow flowers bloom in spring and summer
- **Water-wise:** once established, does well in extreme heat and with minimal watering
- **Beautiful Bark:** green bark adds color to landscapes year-round

Good To Know!

- Deciduous
- Height: to 20ft
- Width: to 20ft
- Ogren Allergen Rating: 6
- Cultivar 'Desert Museum' is thornless

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Scarlet Oak

Quercus coccinea

Collection – Shade Tree

Why We Love This Tree

- **Fabulous Fall Color:** leaves transform to a stunning scarlet in autumn; hangs onto leaves until new growth in spring
- **Provides Shade:** its broad canopy cools parks and large properties
- **Deeply Rooted:** roots won't damage lawn surfaces or sidewalks

Good To Know!

- Deciduous
- Height: 60 – 80ft
- Width: 40 – 60ft
- Ogren Allergen Rating: 8

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Southern Live Oak

Quercus virginiana 'Heritage'

Collection – Shade Tree

Why We Love This Tree

- **Year-round Shade:** its broad, evergreen canopy creates continuous shade all year.
- **Handsome Tree:** the most attractive of the evergreen oaks with shiny dark-green leaves & oval acorns.
- **Heat Tolerant:** will thrive in hot interior climates.

Good To Know!

- Evergreen
- Height: 40 – 80ft
- Width: 2x height
- Ogren Allergen Rating: 9

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Sweet Bay

Laurus nobilis

Collection – Accent Tree

Why We Love This Tree

- **Aromatic Leaves:** dark green, leathery leaves give off a delicious scent and were traditionally used in cooking
- **Natural Screen:** compact and dense character make it an excellent visual or wind screen
- **Lovely Flowers:** yellow flowers bloom in spring

Good To Know!

- Evergreen
- Height & Width: 12-40ft
- Ogren Allergen Rating:
  - Male: 9
  - Female: 2
- Tolerant of a variety of soils.

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Plant Portraits

Artichoke Agave

Agave parryi truncata

Collection – *Groundcover*

Why We Love This Plant

- **Unique foliage:** This shorter variety of agave has gray-blue spiny leaves forming compact rosettes. Agaves create structural interest in a low water use garden. Bloom stalks grow 15-20' tall at full maturity.
- **Low maintenance:** No pruning or trimming necessary.
- **Low water use:** Once established, agaves need very little supplemental water.

Good To Know!

- Size: 2-3 ft high and wide
- Ogren Allergen Rating: 4
- Full Sun
- Keep away from pedestrian areas as plant leaves contain many spines. Plant in well drained soil.

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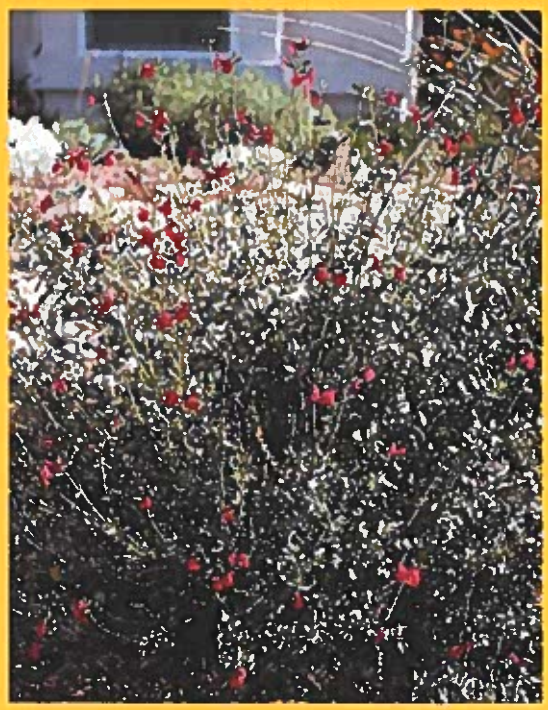
Autumn Sage

Salvia greggii

Collection – *Ground Cover*



Why We Love This Plant

- **Color:** Varieties of this plant have flowers that range from light to dark pink and red. Dark green foliage may be deciduous or evergreen depending on variety.
- **Attracts pollinators:** Bees and hummingbirds love to feed from this plant.
- **Long Bloom Period:** Long lasting blooms beginning in spring throughout fall.

Good To Know!

- Height: 1-4 ft
- Width: 1-4 ft
- Ogren Allergen Rating: 2
- Full Sun to Part Shade
- Trim dead flower stems for continuous blooms. Size can be controlled by pruning.

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California Fuchsia

Epilobium canum

Collection – *Ground Cover*

Why We Love This Plant

- **Attracts pollinators:** The bright orange, trumpet-shaped flowers are beloved by hummingbirds. Also attracts butterflies.
- **California Native:** Native plants are well adapted to our climate and attract native wildlife.
- **Long Bloom Period:** This plant begins to bloom in mid spring and continues through fall.

Good To Know!

- Height: 1.5 ft
- Width: 2-3 ft
- Ogren Allergen Rating: 6
- Full sun
- Cut back to the ground in late fall/early winter to encourage spring growth.

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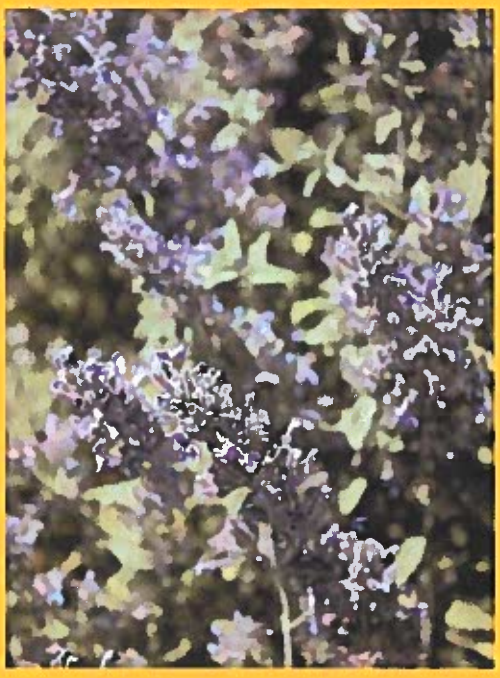
Cat Mint

Nepeta 'Walker's Low'

Collection – *Ground Cover*



Why We Love This Plant

- **Color:** This fast growing, easy care perennial produces a profusion of blueish-purple flowers in spring, early summer and fall.
- **Foliage:** The silvery green leaves add contrast to gardens.
- **Attracts pollinators:** Bees, butterflies and birds love this plant.

Good To Know!

- Height: 2-3 ft
- Width: 2-3 ft
- Ogren Allergen Rating: 2
- Full Sun to Part Shade
- Cut back plant to the ground to encourage new growth in summer and late fall.

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Coyote Brush

Baccharis piluaris 'Twin Peaks'

Collection – *Shrub/Hedge*

Why We Love This Plant

- **Tough:** Can be planted in areas with poor soil, low water, and requires little maintenance. Cut back in spring to maintain healthy growth and size.
- **Revegetation:** Plant in areas that need widespread coverage with low maintenance.
- **California Native:** Native plants attract native wildlife such as insects and birds.

Good To Know!

- Height: 2-3' Width: 8'
- Ogren Allergen Rating: 10
- Full Sun
- Although this plant is tough, like many natives, it does not tolerate dust. Female plants produce cottony seed clusters. Use male plants for lower maintenance.

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Deer Grass

Muhlenbergia rigens

Collection – *Ground Cover*

Why We Love This Plant

- **Provides Interest:** This large native bunchgrass has narrow green leaves with long tan feathery flowering stalks that produce a fountain effect.
- **California Native:** This native plant is well suited to our Mediterranean climate.
- **Tough:** Thrives in a broad range of environments.

Good To Know!

- Height: 3-5 ft when flowering
- Width: 3-5 ft when flowering
- Tolerates sun or part sun
- Needs minimal care. If desired, trim back thatch to 3" in the fall or shape as needed.

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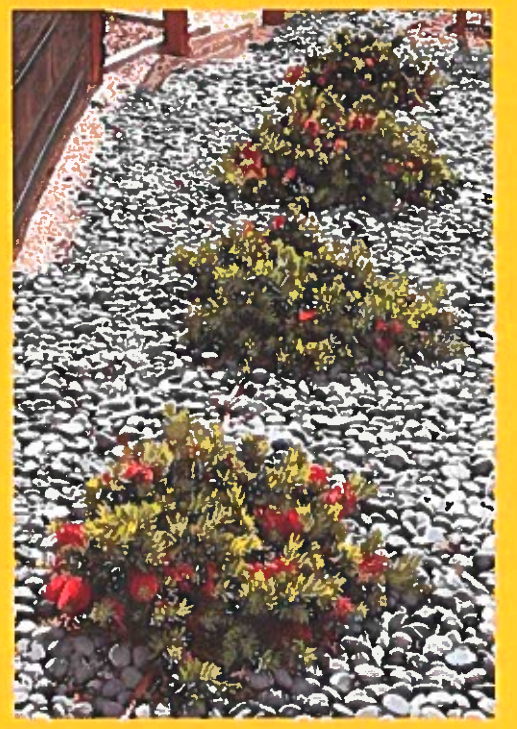
Dwarf Bottlebrush

Callistemon 'Little John'

Collection – *Ground Cover*



Why We Love This Plant

- **Color:** Has bright green foliage with red flowers that can bloom almost year round.
- **Slow growth:** Allows for easy maintenance.
- **Unique flowers:** Lovely red spiky flowers attract pollinators.
- **Compact clusters:** Planting in clusters or rows provides attractive borders or edging.

Good To Know!

- Evergreen
- Height: 3ft
- Width: 5ft
- Ogren Allergen Rating: 9
- Full sun

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Flower Carpet Rose

Rosa 'Flower Carpet White'

Collection – *Ground Cover*

Why We Love This Plant

- **Easy Maintenance:** This is one of the easiest to grow, prolific varieties of roses and is resistant to disease. Only needs to be trimmed back in late winter or early spring or shape as needed.
- **Long Lasting Color:** White fragrant 2" blooms continue from spring until the first frost.

Good To Know!

- Height: 2'
- Width: 3'
- Ogren Allergen Rating: 2-6
- Full Sun
- Plant in rich, well draining soil with moderate water.

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Japanese Barberry

Berberis thunbergii 'Rose Glow'

Collection – *Shrub/Hedge*

Why We Love This Plant

- **Tough:** Can be planted in poor moderately well drained soil. Tolerates heat and pollution. Water well until established.
- **Color:** The leaves, stems, and berries show vivid shades of purple, pink and red.

Good To Know!

- Height and Width: 4-6'
- Ogren Allergen Rating: 3
- Full sun
- Prune if preferred in spring. Plant away from pedestrian areas as branches contain thorns.

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Little Leaf Sage

Salvia microphylla

Collection – *Shrub/Hedge*

Why We Love This Plant

- **Versatile:** This evergreen shrub has small dark green leaves and 1" flowers and comes in many varieties to suit different garden color schemes.
- **Color:** Has a variety of colors from pink, red and purple.
- **Attracts pollinators:** The small flowers attract bees and hummingbirds.
- **Blooms:** Vigorous blooms throughout spring and fall.

Good To Know!

- Height and width: Varies depending on which variety chosen. Both large and compact varieties are available.
- Ogren Allergen Rating: 2
- Full sun
- Trim back dead flower stalks to promote future growth.

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McMinn Manzanita

Arctostaphylos 'Howard McMinn'

Collection – *Shrub/Hedge*

Why We Love This Plant

- **Color:** The smooth, dark red stems on this shrub hold shiny dark green leaves and small pink flower clusters that bloom in spring.
- **Easy to Grow:** This variety of manzanita can tolerate a wide range of soils. Control the size of this shrub by pruning in late summer.
- **Attracts Wildlife:** Birds, bees, butterflies and moths love this plant.

Good To Know!

- Evergreen
- Height: 6-10 ft
- Width: 6-12 ft
- Ogren Allergen Rating: 2
- Full Sun to Part Shade

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Pineapple Guava

Feijoa sellowiana

Collection – Shrub/Hedge

Why We Love This Plant

- **Natural Fencing:** Can be pruned as a shrub or small multi trunked tree.
- **Creature Charmer:** Sweetly-scented blooms are beloved by bees & birds.
- **Edible Foliage:** Edible flowers bloom in spring and small green fruits can be eaten in fall.

Good To Know!

- Evergreen
- Height : 18-25' but can be pruned to remain small
- Width: 18-25' but can be pruned to remain small
- Ogren Allergen Rating: 3
- Full sun to part shade

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Pink Muhly Grass

Muhlenbergia capillaris

Collection – *Ground Cover*

Why We Love This Plant

- **Unique foliage:** This graceful green ornamental grass contains pink flower stalks that blow in the breeze.
- **Color:** Create texture and dimension in a landscape with clusters of this grass.
- **Fast Growing:** Plants can become established quickly once planted. Water regularly until established, then water only occasionally.

Good To Know!

- Height and Width: 3' with flower stalks to 5'
- Ogren Allergen Rating: 7
- Full Sun
- Cut back old leaves and flower stalks before new growth emerges.

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559-221-5556

Purple Rockrose

Cistus purpureus

Collection – *Ground Cover*

Why We Love This Plant

- **Spreading:** Similar to *Cistus* Sunset, this quick growing, easy to maintain plant can be used to cover large areas, including slopes, and highways.
- **Color:** Light pink flowers have dark purple spot at the base of each petal.
- **Attracts Pollinators:** Bees and butterflies enjoy abundant nectar and pollen.

Good To Know!

- Evergreen
- Height: 4ft Width: 4ft
- Ogren Allergen Rating: 3
- Full Sun
- Plant this variety of rockrose in large areas. This plant can handle extreme conditions including poor soil.

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Rockrose

Cistus 'Sunset'

Collection – *Ground Cover*

Why We Love This Plant

- **Spreading:** Great plant to cover large areas, including slopes. Highway friendly.
- **Tolerates Extreme conditions:** This plant can handle extreme heat and poor soil.
- **Color:** Dark pink flowers continue from spring to fall.
- **Attracts Pollinators:** Bees and butterflies enjoy abundant nectar and pollen.

Good To Know!

- Height: 24-36"
- Width: 6-8 ft
- Ogren Allergen Rating: 3
- Full sun
- Plant this variety of rock rose in large areas. For an alternative rockrose for smaller areas see *Cistus purpureus.*

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559-221-5556

Red Bird of Paradise

Caesalpinia pulcherrima

Collection – *Shrub/Hedge*

Why We Love This Plant

- **Unique foliage:** This fast-growing shrub is semi-evergreen, keeping its leaves in mild climates and becoming deciduous in colder areas. The dark green fern-like leaves
- **Unique flowers:** Red-orange to yellow showy flowers contain long red stamens that produce seed pods.
- **Attracts pollinators:** Loved by birds, bees, and butterflies alike.

Good To Know!

- Size: 10' tall and wide
- Ogren Allergen Rating: 3
- Full Sun
- Can be cut at the base in spring to promote dense growth. Plant in well-drained soil. Seeds and pods are poisonous.

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559-221-5556

Red Yucca

Hesperaloe parviflora

Collection – *Cactus/Succulent*

Why We Love This Plant

- **Interesting foliage:** Thin, long leaves clump at the base, producing a dramatic effect.
- **Unique flowers:** Long stalks produce small, bright pink flowers along the length of the stalk.
- **Attracts Hummingbirds:** Pink tube-shaped flowers provide a source of nectar for hummingbirds.
- **Simple Maintenance:** Cut back flower stalks after blooms are finished for a clean look.

Good To Know!

- Evergreen
- Height: Foliage 3-4 ft
  Flowers 4-6 ft
- Width: 3-4 ft
- Ogren Allergen Rating: 1
- Full Sun to light shade
- Thrives in well drained poor soils and tolerates pollution.

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559-221-5556

Rosemary

Rosmarinus officinalis

Collection –*Ground Cover/Shrub*

Why We Love This Plant

- **Easy to Grow:** Rosemary comes in many varieties to suit different landscaping needs with both large and low ground cover varieties.
- **Unique Foliage:** This evergreen plant has thin, 1" dark green fragrant leaves. Flowers range from bluish to purple and bloom for a short time in spring.
- **Low Maintenance:** Does not need any pruning.
- **Attracts Bees:** When flowering, bees will surround this plant.

Good To Know!

- Height and Width: Depends on variety
- Ogren Allergen Rating: 6
- Full Sun
- Planting specifics: Leave plenty of room to let this plant spread. Requires very little water once established.

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3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Sandalwood

Myoporum parvifolium

Collection – *Ground Cover*

Why We Love This Plant

- **Fast Growing:** This evergreen perennial groundcover spreads vigorously with moderate water. Cut back to control growth.
- **Color:** Spring growth produces numerous small white flowers. After blooming, a lush bright green carpet of 1" long thin leaves remains.

Good To Know!

- Height: 3-6"
- Width: 9'
- Ogren Allergen Rating: 2
- Full Sun
- Plant in well drained soil. This delicate plant does not tolerate foot traffic.

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3150 E Barstow Ave, Fresno, California, 93740

559-221-5556

Smooth Agave

Agave desmettiana

Collection – *Ground Cover*

Why We Love This Plant

- **Unique Texture:** This agave has dark green smooth leaf clusters 2" wide and up to 4' tall. Creates structural interest in a low water use garden.
- **Low maintenance:** No pruning or trimming necessary.
- **Low water use:** Once established, agaves need very little supplemental water.

Good To Know!

- Height: 2-4'
- Width: 2-3'
- Ogren Allergen Rating: 4
- Full Sun
- Cactus and succulents need well drained soil to grow successfully.

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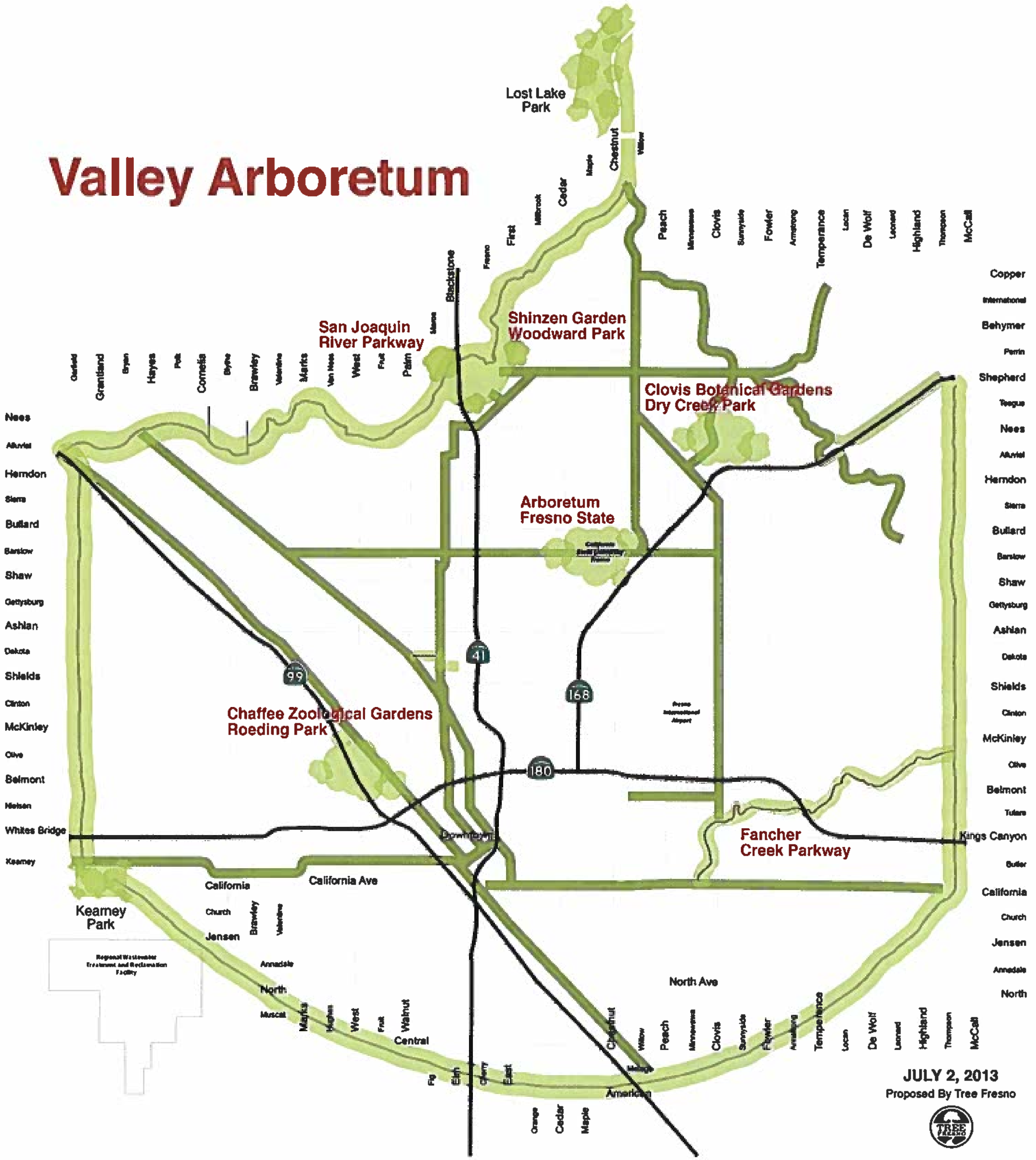
Valley Arboretum


Valley Arboretum
Lost Lake Park
San Joaquin River Parkway
Shinzen Garden Woodward Park
Clovis Botanical Gardens Dry Creek Park
Arboretum Fresno State
Chaffee Zoological Gardens Roeding Park
Fancher Creek Parkway
Kearney Park
Downtown
California Ave
North Ave
JULY 2, 2013
Proposed By Tree Fresno

Presented herewith is a description of the Valley Arboretum with a companion map (above). We seek to establish a signature amenity for our region, a greenway system to serve many purposes: education, environmental stewardship, economics, health, recreation, wildlife habitat, and transportation, land use planning, earth science and aesthetes.

The Valley Arboretum been in the Vision Statement for Tree Fresno since September, 2012. It was adopted by reference in the City of Fresno General Plan in December, 2014.

Next steps: Expand to include the City of Fowler Sphere of Influence. Prepare a definitive plan.

Proposed and existing botanical resources and greenways include the following:

- **Botanical Gardens**: the Fresno State Arboretum, the Clovis Botanical Gardens at Dry Creek Park, the Shinzen Garden at Woodward Park, the Chaffee Zoological Gardens at Roeding Park. Opportunities: create botanical gardens in other regional parks and undertake a joint-venture at Forestierie Underground Gardens.
- **The San Joaquin River Parkway**: An existing greenway from the Friant Dam to US 99 with Lost Lake Park, Woodward Park and the Eaton Trail - 23 miles.
  Opportunities: Extend the Eaton Trail from US 41 to Palm Avenue - 2 miles. Build a veterans' memorial in collaboration with the Clovis Veterans Memorial District; regional park at Ball and Jensen Ranches in collaboration with developers in Madera County.
- **The Garfield Corridor**: A proposed greenway connecting the San Joaquin River Parkway with Kearney Park along the west side of the Garfield Road right of way. Opportunities: Obtain a grant to acquire agriculture easements and build a trail.
- **The Emerald Necklace**: A proposed greenway from Kearney Park to McCall Avenue via the SW Treatment Plant, the Regional Sports Park, and the SE Treatment Plant.
- **The McCall Corridor**: A proposed greenway connecting the Dry Creek Reservoir at CA 168 with Jensen Avenue along the east side of McCall Avenue.
- **Sugar Pine/Old Town Clovis Trail**: an existing landscaped trail from River Park Shopping Center to Dakota Ave via Sheppard and Willow Avenues and Clovis Avenue, 11 miles. Opportunity: Extend the greenway from Dakota to the Fancher Creek Parkway along Clovis Avenue - 3 miles.
- **The Old Fig Corridor**: A proposed greenway (enhanced streetscape) connecting the River Park Shopping Center with Fulton Mall via the Old Fig Garden and Tower Districts, 8 miles.*
- **Willow Corridor**: An existing and proposed greenway (landscaped trail) from Barstow Avenue to the Eaton Trail along Willow Avenue, 7 miles.
- **Enterprise & Dry Creek Trails**: Existing and proposed greenways (landscaped trails) as provided in the Clovis General Plan and illustrated on the enclosed map.

* Route to downtown: west along wide sidewalk on the south side of Nees to N. San Pablo (pedestrian only); as a sharrow south on N San Pablo to W El Paso; west to Maroa using existing sidewalks and bike lanes; south on Maroa to Herndon crossing light; cross Herndon using existing cross walks; resume sharrow south on Maroa Avenue to Fairmont, south on Wishon to Olive Avenue, transition to Fulton Avenue, south to the Fulton Mall. Designate for enhanced streetscapes and traffic calming to invite more bicycle and pedestrian use; retain the bike lanes next to the auto travel lanes. Immediate opportunity: implement a "road diet" between Herndon and Bullard on Maroa.

- **Kearney Trail**: An existing and proposed greenway from Kearney Park to Eaton Plaza via Kearney Boulevard and Fresno Street – 9 miles. Opportunities: improve the trail in the unincorporated area, improve the frontage roads for non-auto use along Kearney Boulevard in the city, and widen sidewalks under the RR.
- **Golden State Corridor**: a proposed greenway from the Kings River to the San Joaquin River. A connection from the Kings River to Kingsburg has not been designed. The section from the City of Kingsburg to American Avenue in Fresno has been designed as part of a Measure C project. Future sections to consider: a) American Avenue to Fresno Street via Golden State Blvd. and G Street; b) Fresno Street to Belmont Avenue via H Street and Weber; c) Belmont to the San Joaquin River Parkway via Weber and Golden State Blvd. Opportunities: Prepare the conceptual design for sections a, b & c.
- **Herndon Canal Corridor**: A proposed greenway from West at Ashlan to Clovis at McKinley Avenues via the irrigation canal – 10 miles. Opportunities: prepare a conceptual design for the corridor with project engineering for the section from US 41 to Fresno Ave along Shields Avenue.
- **Fancher Creek Parkway**: An existing and proposed greenway along Fancher Creek from Temperance to the SJV RR, via Fowler, Clovis, Kings Canyon Blvd, and Butler - 4 miles. Opportunities: Complete the engineering and improvements for section from Kings Canyon to Clovis Ave via Butler and the RR - 1.3 miles. Next: conceptual design for the section from Temperance to Fowler to Clovis Ave to Kings Canyon, about 2 miles.
- **McKinsey Trail**: An existing greenway (landscaped trail) from Clovis to Winey Avenues Opportunities: Improve the crossing at Peach Avenue and landscaping and maintenance.
- **Mid-Town Trail**: An approved landscaped trail along the FID canal from Manchester Mall to the Old Town Clovis Trail, via Shields, McKinley and Clovis Avenues, about 7 miles. Opportunities: Develop prototypes for future landscaped pathways along irrigation canals.
- **Barstow Avenue**: A proposed greenway (enhanced streetscape) from Willow Avenue to the BNSF RR - 7 miles.
- **SJV RR Trail**: A proposed greenway (rails to trails) from the city limit to downtown Fresno, along California Street – 7 miles.
- **BNSF Trail**: A proposed greenway (rails to trails) downtown Fresno to the San Joaquin River – 8 miles. Opportunity: Prepare conceptual engineering design and initiate discussions with BNSF, funded by Measure C funds.
- **Freeways**: Improve the existing landscaped freeway to become assets for our region. Opportunity: Complete the update of the Highway 99 master landscapes plan.

Let's pursue all available opportunities to develop our greenway system.

Thanks,

Lee Ayres

Chief Executive Officer

Appendices

Appendix A – Soil Analysis Results from D&D Agricultural Laboratory Inc.

AGRICULTURAL LABORATORY, INC

5750 E. Shields Ave. Suite 104 Fresno, CA 93727
Office 559/348-1818 Fax 559/348-1208
Email: ddaglab@pacbell.net

Soil Analysis

Customer: Kubitz Pope Consulting
Location: Tree Fresno
Crop/Variety: SOIL- LANDSCAPE

Date Submitted: 09/27/2018
Date Reported: 10/05/2018
I.D. #: 18-8800

Lab #	Block/Field	SP	pH	Soluble Ece (dS/m)	Ca+ Mg (meq/L)	Na+ (meq/L)	ESP	Carb+Bicarb (meq/L)	Chloride (meq/L)	Free Lime	Ca+ Exch (meq/100g)	Mg+ Exch (meq/100g)	Na+ Exch (meq/100g)	CEC	Nitrate Nitrogen (ppm)	P+ (Sod-Bicarb) (ppm)	K+ (Avail) (ppm)	Zinc (ppm)	Boron (ppm)
8800	4 F	28.0	7.34	2.73	20.0 / 4.9	1.4	0.2	6.0	13.6	None	8.6	0.9	0.8	10.9	51.6	26.0	192.0	11.1	0.83
8801	5 F	20.0	6.68	2.79	18.6 / 5.5	3.6	0.2	1.0	6.0	None	4.3	1.0	0.6	6.2	32.4	30.0	103.0	4.8	0.24
	Optimum Range		6.5-7.8	less than 2	3.0 - 15.0	0.1 - 3.5	Below 10	0.1 - 2.5	0.2 - 5.0	Low	7.5 +		less than 1		10 +	8 - 20	150 +	2.0 +	Below 1

Lab #	Block/Field	Percent Base Saturation						Micro-Nutrients		Organic Matter
		Salt	Ca	Mg	Na	K		Mn (ppm)	Fe (ppm)	Ca (ppm)	% O.M.
8800	4 F	4.5	80.1	8.4	7.0			12.53	9.62	2.34	1.7
8801	5 F	4.3	69.4	16.1	10.2			12.25	20.38	1.08	0.8
	Optimum Range	0- 10%	2 - 5%	65 - 75%	10 - 15%	1 - 5%		14-22 ppm	20-30 ppm	1-2 ppm	> 2.0%

Appendix B – Tree City USA Requirements

Tree City USA®

Take Pride in a Greener Community

You have seen the signs along the road and perhaps a Tree City USA flag flying at city hall in other communities. Towns and cities that have received their Tree City USA recognition take pride in this distinction. And the people who live there enjoy the valuable benefits of having a greener, healthier community.

Tree City USA is a national recognition program that began in 1976 and is sponsored by the Arbor Day Foundation in partnership with the U.S. Forest Service and National Association of State Foresters. By meeting four fundamental standards, an incorporated municipality of any size can qualify.

Applying for the Tree City USA award is easy and the recognition is outstanding. There are now thousands of communities that proudly receive roadside signs, fly the flag of Tree City USA and — knowing the value of participation — renew their application every year.

"Tree City USA is a great way to get the community involved in green space. A community that feels involved will take better care of their environment."

– ALISON LITCHY, FORT SMITH, AR

FUNDAMENTAL COMPONENTS OF TREE CITY USA

STANDARD 1: A TREE BOARD OR DEPARTMENT

The formation of a tree board or department often stems from a group of citizens. In some cases a mayor or city officials have started the process. Either way, the benefits are immense. Involving residents and business owners creates wide awareness of what trees do for the community and provides broad support for better tree care.

STANDARD 2: A TREE CARE ORDINANCE

City ordinances reflect the values of a community. That is, they speak about what its residents believe are worth protecting to create or maintain their quality of life and an environment that is both safe and pleasant. Trees are certainly worthy of this formal attention for the common good.

A public tree care ordinance encourages beautification, air cooling and purification, noise abatement, property value enhancement, and all the other attributes of trees in cities of all sizes. It also enables city government to prevent and control destructive insects and diseases, avoid unnecessary costs and liability from hazardous trees and tree-related accidents, and protect residents from unscrupulous or careless operators.

STANDARD 3: A COMMUNITY FORESTRY PROGRAM WITH AN ANNUAL BUDGET OF AT LEAST $2 PER CAPITA

Most communities probably already spend at least $2 per capita. Also, community trees — when cared for — can actually save money. A managed program can ensure benefits that surely outweigh costs. It does require dollars to plant and keep trees in healthy condition, but this should not be a barrier to becoming a Tree City USA.

STANDARD 4: AN ARBOR DAY PROCLAMATION AND OBSERVANCE

The importance of this tree-planting holiday provides an excellent opportunity to educate about trees and tree care. It also creates pride within the community and can help garner public support for the city's entire urban forestry program.

Part of the fun of Arbor Day is creating something that will be enjoyed by the whole community. Visit **arborday.org/celebrate** for ways to make your community celebration a memorable one.

Arbor Day Foundation
100 Arbor Avenue • Nebraska City, NE 68410

HOW TO EARN TREE CITY USA RECOGNITION

1. Get Your Community Interested — Find Allies and Partners
2. Contact Your State Urban and Community Forestry Coordinator
3. Work Together to Fulfill the Four Tree City USA Standards
4. Celebrate Arbor Day!
5. Submit your Application

Communities that receive Tree City USA recognition receive support that helps make the celebration easy to plan and conduct. Here is some of what you will receive in your first year:

- Two road signs.
- A 4' x 6' Tree City USA flag.
- Beautiful wall plaque.

With a bit of organizing, virtually any community — large or small — can qualify for Tree City USA recognition. The end result will be safer community trees, better informed citizens, and a higher quality of life for residents and businesses.

TREE CITY USA®: *Your Community Is Ready*

As the first step in helping your town or city become a Tree City USA community, an important person for you to contact is the urban and community forestry coordinator in your state forester's office.

Visit **arborday.org/coordinators** for your contact's information and a directory list of all states.

Your state coordinator is the resource for beginning your Tree City USA application. He or she will have answers to your questions and will be more than happy to help your community become a Tree City USA.

How to Apply

Simplicity is one of the principles of the Tree City USA application and annual recertification process. Experience has shown that getting started as a Tree City USA often results from a single individual or a small group taking the lead. Here is all you have to do:

A Talk with the person in your community currently responsible for trees (city forester, park superintendent, public works director, etc.). Also discuss with your mayor, city manager, city clerk, a key council person, or whomever else in your city government should be informed and whose support you will need.

B Go to **portal.arborday.org**. The Tree City USA application can easily be completed online.

C The application is normally completed by the city forester or other person responsible for trees, or the tree board chair. Once your application is submitted, it's reviewed at a state level and then it will be reviewed by the Arbor Day Foundation at a national level. To learn more about applying and your state's deadlines visit **arborday.org/treecityusa.**

Arbor Day Foundation
100 Arbor Avenue • Nebraska City, NE 68410

Appendix C – List of Sources

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