

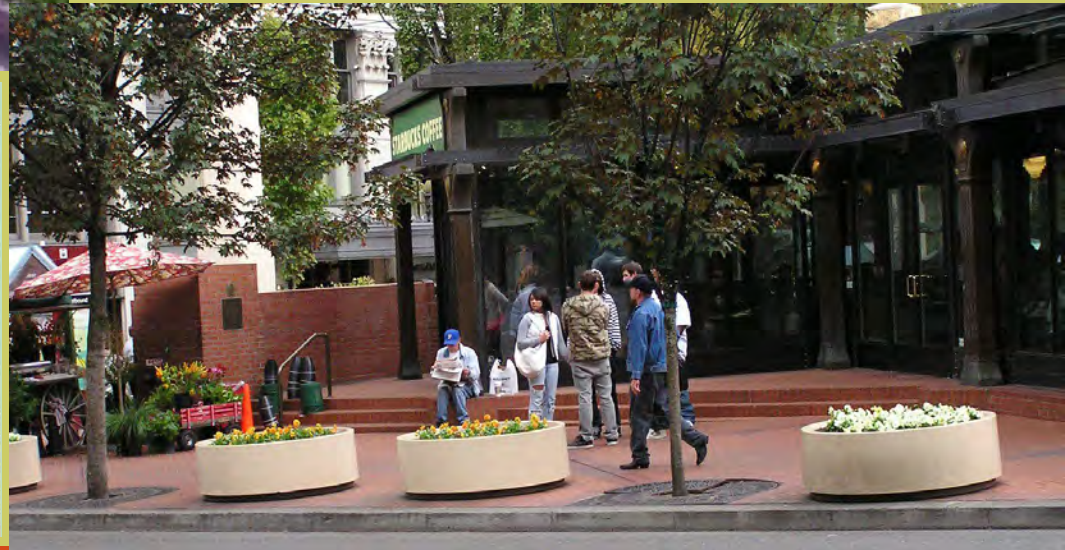
Street Design 101

Welcome



Active Transportation

Active transportation is any self-propelled, human-powered mode of transportation, such as walking or bicycling.



Urban Greening



Urban Greening refers to public landscaping and urban forestry projects that create mutually beneficial relationships between city dwellers and their environments.



Overview

ChAT & ChUG: Chinatown Complete Streets Project

Project Types: ATP (ChAT) and
Urban Greening (ChUG)

Applicant/Implementer:
City of Fresno

Location: Chinatown 93706

F Street: Fresno to Ventura

Kern: G to E

Mariposa: E to G

China Alley: Tulare to Ventura

TCC Funding: \$3.7M ATP (CAT)
\$4M UG (ChUG)

Match Funding: \$TBD

Total Budget: \$ 7.7M

The project is scalable



Project Area Map

Benefits and Impacts

Proposed improvements:

Sidewalks, street trees, lighting, curb ramps, bulbouts, green alley & parklets

- ATP project elements improve the walkability, visibility and accessibility of the area
- Urban greening elements provide shade and encourage active transportation
- Improvements support economic revitalization in Chinatown



Mariposa currently lacks trees



Bulbout reconstruction will increase pedestrian access



TCC Goals and Criteria

- Fulfills **GHG emission reduction goals** through active transportation and urban greening
- Fulfills **transit access and mobility goals** by providing pedestrian facilities for active transportation
- Fulfills **urban greening goals** by increasing the urban tree canopy & establishing a green alleyway

Street trees will provide shade for active commuters and help to cool nearby buildings while water permeable alley surfaces will reduce the risk of stormwater runoff and recharge groundwater



Readiness

- Fulfills TCC readiness requirements for Active Transportation Projects per appendix D
- CEQA clearance needed
- Preliminary Engineers Estimates and Exhibits prepared for scoping and costing purposes
- Site control for urban greening



Excerpt from conceptual drawing, Mariposa Street

Close

This project was initiated by Chinatown property and business owners, with a transformative vision for the area.

The project will result in:

- A reduction of GHG emissions
- Chinatown revitalization
- Increased economic prosperity

Proposed improvements will enhance the vibrant history and cultural experience Chinatown offers



The Fresno Bee

Street Trees

- E Street – *Sapium sebiferum* (Chinese Tallow Tree)
- F Street – *Magnolia glandiflora* (Southern Magnolia)
- G Street – ALT *Quercus virginiana* (Southern Live Oak and *Zelkova serrata* “Village Green” (Japanese zelkova)
- Fresno Street ALT *Ginkgo biloba* “Autumn Gold” or “Fairmont” (Maidenhair Tree) and *Magnolia glandiflora* (Southern Magnolia)
- Mariposa Street – *Koelreuteria paniculate* (Goldenrain Tree)
- Tulare Street – ALT *Quercus virginiana* (Southern Live Oak) and *Pistacia chinensis* (Chinese Pistache); ACCENT *Lagerstroemia indica* “Indian Varietals” (Crape Myrtle “Indian Varietals”)
- Kern Street *Celtis senensis* (Chinese Hackberry)
- Inyo Street – *Fraxinus Americana* ‘Autumn Applause’ (Autumn Applause Ash)
- Mono Street – *Nyssa sylvatica* (Black Tupelo)
- Ventura Street – *Zelkova serrata* “Green Vase” (Sawleaf Zelkova)

Street Trees



Botanical name

Cedrus deodara

Common name

Deodar Cedar

Description

This fast-growing, coniferous evergreen is capable of reaching a size of 80' high by 40' wide. Its plural needles will show a light, silvery green color.

Urban form

Pyramidal



Botanical name

Celtis sinensis

Common name

Chinese Hackberry

Description

This deciduous tree grows 50' or taller and nearly as wide. The branches and leaves create a canopy which offers moderate shade in spring and summer. The leaves are bright green, oval, and 2"-5" long with finely toothed edges.

Urban form

Rounded, spreading



Botanical name

Cercis canadensis 'Oklahoma'

Common name

Oklahoma Redbud

Description

This deciduous tree with a rounded head is covered with small flowers of a rose pink color in the spring before the appearance of heart-shaped leaves. It can grow to 25' tall with an equal spread, a low-branching habit with a rounded form. Leaves turn yellow-green in the fall. Prefers neutral to acidic soils.

Urban form

Rounded, vase



Botanical name

Fraxinus americana 'Autumn Applause'

Common name

American Ash

Description

This tree is a dense, oval, male selection with good branch structure which exhibits beautiful reddish maroon fall color on narrow leaflets. It reaches 40' high x 25' wide with dark green color and fine texture.

Urban form

Oval, rounded



Street Trees



Botanical name
Ginkgo biloba 'Autumn Gold'

Common name
Ginkgo

Description
This deciduous tree can grow to 30' in height. It is symmetrical in shape, with a broadly conical habit; it has fan-shaped leaves that maintain a good fall color. This tree is tolerant of urban conditions.

Urban form
Pyramidal



Botanical name
Koelreuteria paniculata

Common name
Goldenrain Tree

Description
This is a medium-sized tree which grows 30'-40' tall with a 35-40' spread. It produces lacy foliage and upright yellow flower clusters in the summer. It is tolerant of urban conditions and various soil types. This is an excellent street tree for retail areas due to its open lacy nature.

Urban form
Rounded, vase



Botanical name
Lagerstroemia indica 'Indian Varietals'

Common name
Crape Myrtle

Description
This is one of the longest blooming tree varieties, with a season of 2-4 months long. Flowers usually appear in the summer and could be red, rose, pink, purple, or white. The Crape Myrtle variety to select is an upright tree. Some varieties are fast growing and mildew resistant. Some species have exfoliating bark that exposes a lovely cinnamon or gray colored bark.

Urban form
Rounded, spreading



Botanical name
Laurus nobilis 'Saratoga'

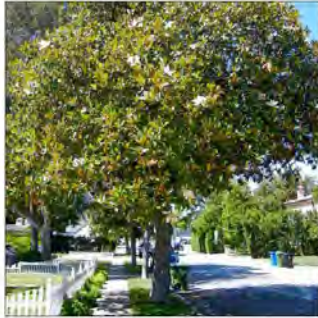
Common name
Sweet Bay

Description
Slow grower 15 to 25 feet tall and wide. Large, leathery dark green leaves and highly aromatic. Clusters of small yellow flowers in spring are followed by dark purple berries in fall. The 'Saratoga' variety has a more tree-like habit than the Mediterranean Sweet Bay that is used for cooking.

Urban form
Rounded, spreading



Street Trees



Botanical name
Magnolia grandiflora

Common name
Southern Magnolia

Description
This is a large tree that can reach up to 80 feet tall with a 60 foot spread when mature. Flowers are powerfully fragrant white blossoms at the end of spring through the beginning of summer. Seed cones are large with bright red seeds that are often used for decoration.

Urban form
Oval, spreading



Botanical name
Malus Hopa

Common name
Flowering Crabapple

Description
This deciduous tree grows to a height of about 25' and has a rounded shape with spreading branches and oval, green leaves that emerge just after the flower buds. In mid-spring, the buds, which are red, arise all along the bare branches and open to pink, fragrant blossoms.

Urban form
Rounded, Oval



Botanical name
Nyssa sylvatica

Common name
Sour Gum

Description
This deciduous, fast-growing, moderate to large tree produces foliage about 4" long and 1.5" wide. Sour Gum is one of the most consistent to color in the fall, turning a deep red.

Urban form
Oval, pyramidal



Botanical name
Pinus canariensis

Common name
Canary Island Pine

Description
This graceful, slender-growing pine has a pyramidal form to about 70' in height. Its needles are long and drooping in bundles of 3. The foliage is a blue-green color, maturing to a dark green shade.

Urban form
Narrow, pyramidal



Street Trees



Botanical name
Pistacia chinensis

Common name
Chinese Pistache

Description
This deciduous tree has broad, spreading growth to 50' in height. Its leaves have 10-16 leaflets, and the fall coloring arrives in beautiful shades of red, orange and yellow. The young trees are often gawky, but become shapely with age.

Urban form
Umbrella



Botanical name
Platanus acerifolia 'Columbia'

Common name
Columbia Plane Tree

Description
This deciduous tree is fast growing and reaches a size 40'-80' high by 30'-40' wide. Its leaves are 3-5 lobed, with a width of 4"-10". This plant is tolerant of most soils, smog, dust and reflected heat.

Urban form
Oval, pyramidal



Botanical name
Podocarpus gracilior

Common name
Fern Pine

Description
This evergreen tree grows up to 30'-50' tall with a branch spread of 25'-35' wide. It has bright green new growth and dark green mature leaves. With lower limbs removed it grows in a rounded vase or oval shape creating dense shade beneath and is well adapted to Downtown, restricted-soil planting sites.

Urban form
Rounded, Vase



Botanical name
Pyrus Calleryana

Common name
Callery Pear

Description
This deciduous tree grows up to 49'-66' tall, often with a conic to rounded crown. The leaves are oval, 1.6-2.8" long, glossy dark green above, and slightly paler below. The white, five-petaled flowers, about 0.8-1.2" in diameter, are produced abundantly in early spring, before the leaves expand fully.

Urban form
Rounded, conic



Street Trees



Botanical name

Quercus ilex

Common name

Holly Oak

Description

This evergreen oak has a moderate growth rate up to 30'-60' tall and as wide. The leaves are 1.5"-3" long, .5"-1" wide, and either toothed or smooth-edged. It has a rich, dark green leaf color.

Urban form

Rounded



Botanical name

Quercus robur 'Fastigiata'

Common name

English Oak

Description

This slow growing deciduous tree with simple deep green almost bluish leaves and little fall color, has a narrow columnar form reaching a height 50'-60' with a width 10'-15'. The elongated columnar form with a short trunk makes a striking landscape specimen. Leaves can persist into winter.

Urban form

Columnar



Botanical name

Quercus virginiana

Common name

Southern Live Oak

Description

This normally evergreen oak tree is native to the southeastern United States. The bark is dark, thick, and furrowed longitudinally. The leaves are stiff and leathery, with the tops shiny dark green and the bottoms pale gray. Typical open-grown trees reach 60 feet in height, with a limb spread of nearly 80 feet.

Urban form

Rounded, spreading



Botanical name

Sapium sebiferum

Common name

Chinese Tallow

Description

This deciduous tree with a roundish head grows up to 35', exhibits light green leaves that are 2" in length, and are similar to those of the poplar. Beautiful colors such as red, plum, purple, oranges, and yellow are seen during the fall season.

Urban form

Oval



Street Trees



Botanical name

Sophora japonica 'Regent'

Common name

Japanese Pagoda

Description

This deciduous tree grows to 50'-60' tall with a round head and green bark. In the late summer, lovely panicles of white flowers will be seen. This plant is a dependable shade tree, should be grown under sunny conditions, and it is very drought- and heat-tolerant.

Urban form

Rounded



Botanical name

Tilia cordata 'Greenspire'

Common name

Little-leaf Linden

Description

This large deciduous tree can reach 30'-50' tall, and creates a dense pyramid that can be used as a screen. It blooms with white fragrant flowers and does well in urban settings. Should the native soil be of a clay-like nature, plant the tree high to allow for drainage.

Urban form

Oval, pyramidal



Botanical name

Ulmus parvifolia 'Drake'

Common name

'Drake' Chinese Elm

Description

A fast-growing, nearly evergreen tree, 'Drake' Chinese Elm forms a graceful, spreading, rounded canopy of long, arching, and somewhat weeping branches which are clothed with 2"-3" long, shiny, dark green, leathery leaves. It typically grows to a height of 40'-50', but can reach as high as 80'.

Urban form

Umbrella



Botanical name

Zelkova serrata 'Green Vase'

Common name

Sawleaf Zelkova

Description

This moderately growing deciduous tree mimics the American Elm. It has a narrower vase shape and usually reaches a size 50'-60' high and as wide. Its elm-like leaves are 2"-2" long and 1-1/2" wide, the fall foliage colors range from yellow to red shades and it is very drought, heat, and pollution tolerant.

Urban form

Vase



Botanical name

Zelkova serrata 'Village Green'

Common name

Japanese Zelkova

Description

This moderately growing, deciduous tree usually reaches a size 50'-60' high and as wide. Its elm-like leaves are 2"-2" long and 1-1/2" wide. The fall foliage color ranges from yellow to red shades.

Urban form

Vase



Bicycle Infrastructure

Buffers



Speed bumps, obstructions
and roundabouts



Bicycle Infrastructure

Signage



Paint



Traffic Signals



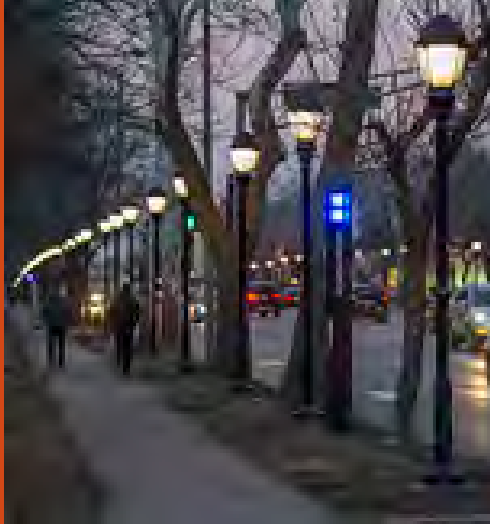
Park spaces



Park spaces



Lighting



Lighting



Street Design 101

Thank you

