WELCOME TO

GILBERT SHADE & STREETSCAPE MASTER PLAN

gilbert arizona

OPEN HOUSE

08.12.2021

PRESENTATIONS @ 6:00PM & 7:00PM

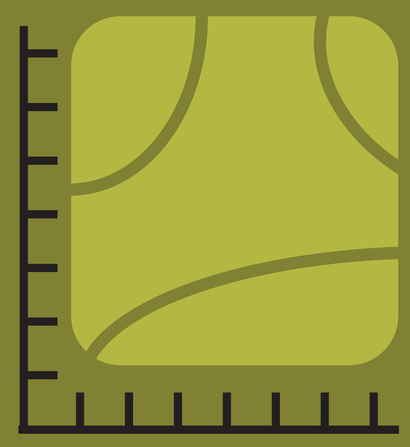
PLEASE SIGN IN AT THE CHECK-IN STATION AND ENJOY SOME REFRESHMENTS

THE DESIGN LABORATORY

GILBERT SHADE

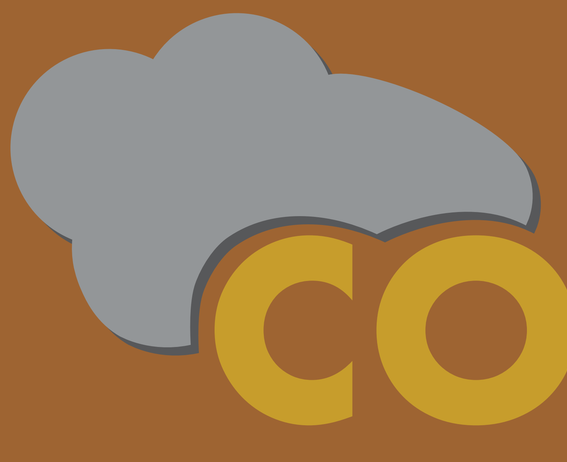
TREES FOUND IN GILBERT ARE
12% NATIVE TO ARIZONA.
34% NATIVE TO NORTH AMERICA.
25% EXOTIC TREE SPECIES ARE FROM ASIA.

7.3 SQUARE MILES OF TREE CANOPY ACROSS GILBERT



TOP 3 OXYGEN PRODUCING SPECIES CURRENTLY IN GILBERT ARE
1. PALO VERDE
2. CHINESE ELM
3. LIVE OAK

GILBERT TREES REDUCE THE AMOUNT OF AIR POLLUTION BY 225 TONS A YEAR. WHICH EQUATES TO $1 MILLION IN VALUE.



GILBERT TREES TAKE OUT 28,000 TONS OF CARBON A YEAR EQUATING TO A $1.2 MILLION VALUE.

TREES HELP REDUCE THE RUNOFF BY 40 MILLION GALLONS A YEAR ACROSS GILBERT.

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GILBERT SHADE & STREETSCAPE MASTER PLAN

MISSION STATEMENT

BUILDING A HEALTHIER, MORE LIVABLE COMMUNITY THROUGH STRATEGIC INVESTMENT IN MAINTENANCE AND GROWTH OF THE URBAN FOREST AND ENGINEERED SHADE

PROJECT GOALS

1. Increase Comfort & Shade (Trees & Structures)
2. Reduce Urban Heat Island Effect & Increase Urban Cooling
3. Create Public and Private Connections and Relationships
4. Long-term Shade Canopy Health
5. Low Impact Development & Green Infrastructure Techniques
6. Create Cool Temperature Hubs
7. Ensure Accessibility & Education
8. Continued Long-Range Processes

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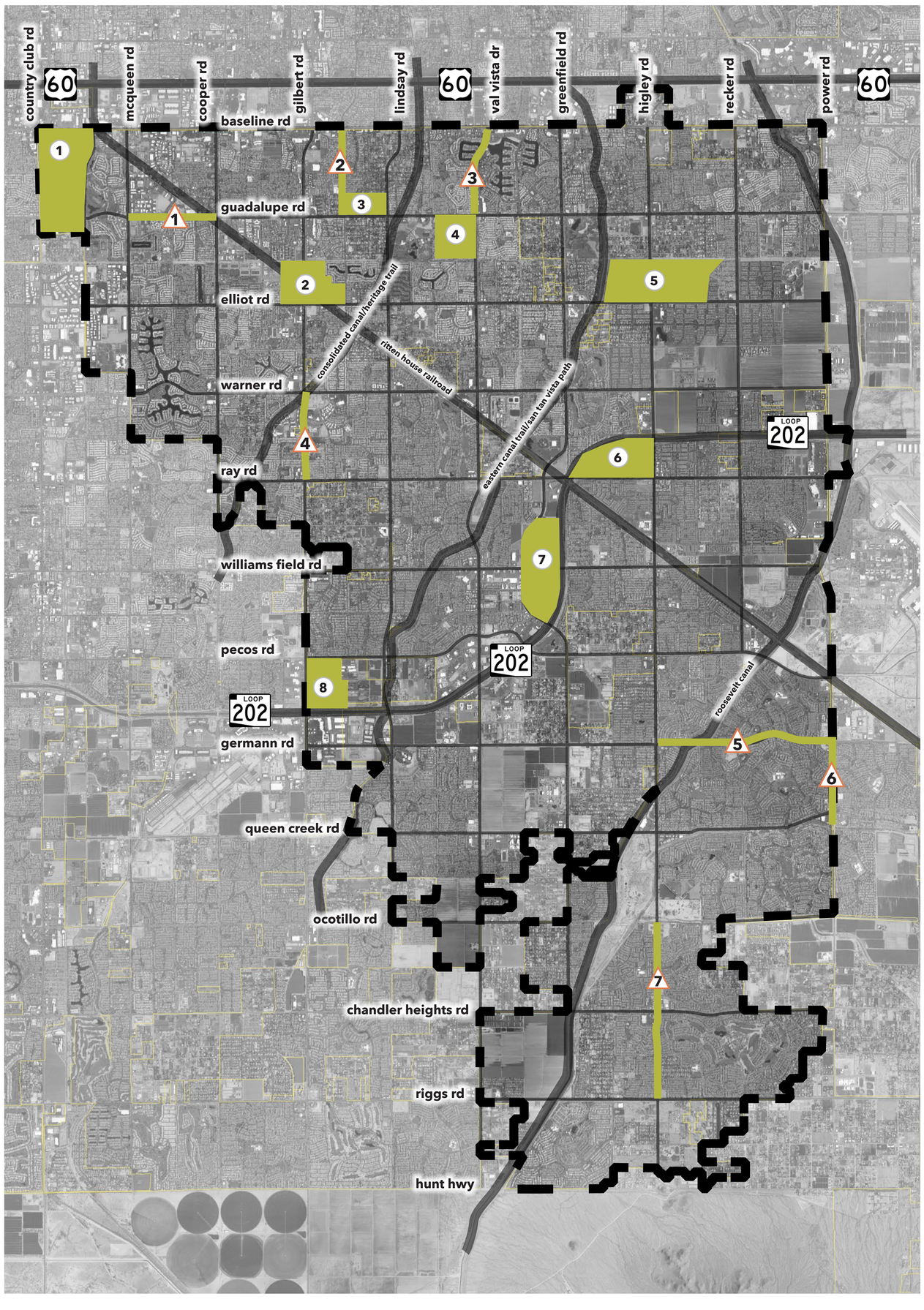
THE DESIGN LABORATORY

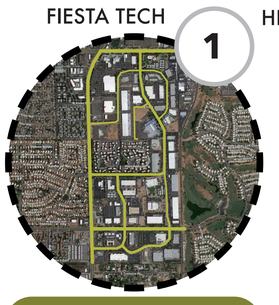
FOCUS AREAS & CORRIDORS



8 focus areas &
10 miles of roadways

8 AREAS OF FOCUS

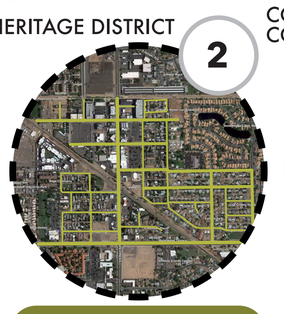
1 FIESTA TECH



18% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

7% SHADE COVERAGE ENTIRE STUDY AREA

2 HERITAGE DISTRICT



13% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

7% SHADE COVERAGE ENTIRE STUDY AREA

3 COLLEGE PARK COUNTRY ESTATES

19% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

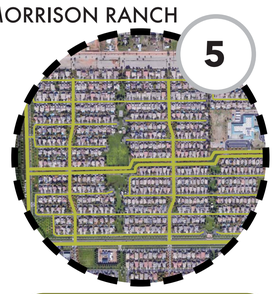
25% SHADE COVERAGE ENTIRE STUDY AREA

4 STONE CREEK

19% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

10% SHADE COVERAGE ENTIRE STUDY AREA

5 MORRISON RANCH



28% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

22% SHADE COVERAGE ENTIRE STUDY AREA

6 AGRITOPIA

23% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

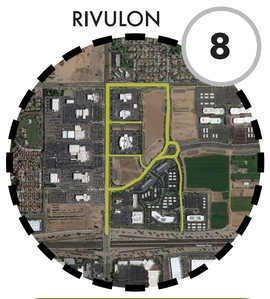
25% SHADE COVERAGE ENTIRE STUDY AREA

7 SAN TAN MALL

28% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

13% SHADE COVERAGE ENTIRE STUDY AREA

8 RIVULON

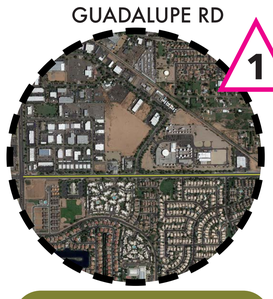


17% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS & OPEN SPACE

17% SHADE COVERAGE ENTIRE STUDY AREA

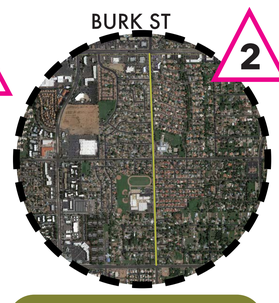
7 FOCUS CORRIDORS

1 GUADALUPE RD



23% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

2 BURK ST

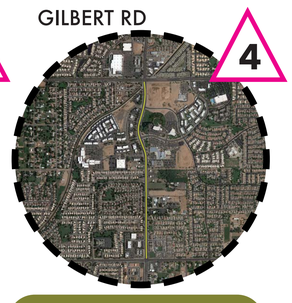


17% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

3 VAL VISTA DR

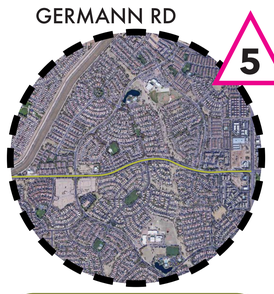
29% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

4 GILBERT RD



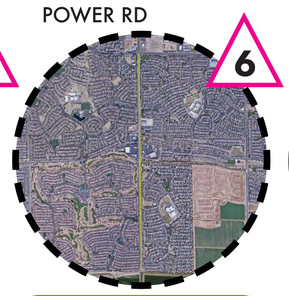
20%

5 GERMANN RD



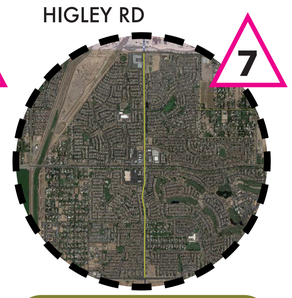
28% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

6 POWER RD



28% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

7 HIGLEY RD



11% SHADE COVERAGE OF ROADWAY LANDSCAPE AREAS

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TOWN WIDE SHADE STUDY BY THE NUMBERS

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THE DESIGN LABORATORY

POTENTIAL TREE SELECTION

USE YOUR DOTS TO LET US KNOW YOUR FAVORITE TREES

CHARACTER DEFINING TREES

Chinese Pistache

PLACE DOTS WITHIN THE BOX

Live Oak

PLACE DOTS WITHIN THE BOX

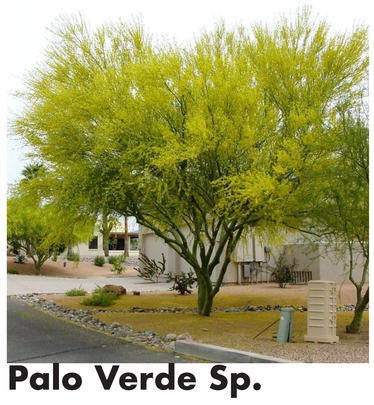
Chinese Elm

PLACE DOTS WITHIN THE BOX

Tipu Tree

PLACE DOTS WITHIN THE BOX

SUPPORTING TREES



Palo Verde Sp.

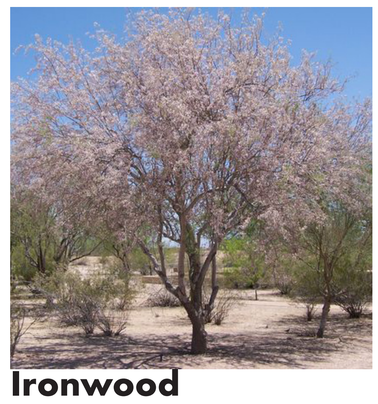
PLACE DOTS WITHIN THE BOX

Ghost Gum

PLACE DOTS WITHIN THE BOX

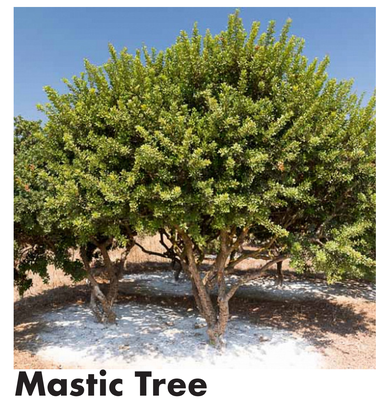
Yellow Bird of Paradise

PLACE DOTS WITHIN THE BOX



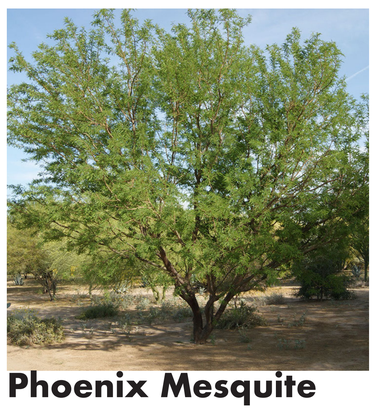
Ironwood

PLACE DOTS WITHIN THE BOX



Mastic Tree

PLACE DOTS WITHIN THE BOX

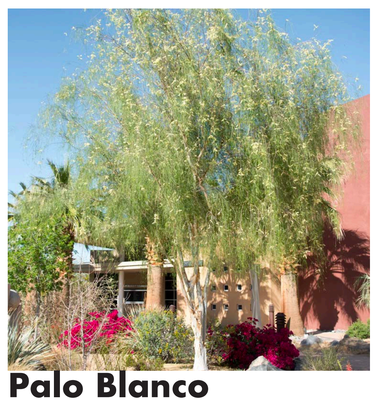


Phoenix Mesquite

PLACE DOTS WITHIN THE BOX

Shoe String Acacia

PLACE DOTS WITHIN THE BOX

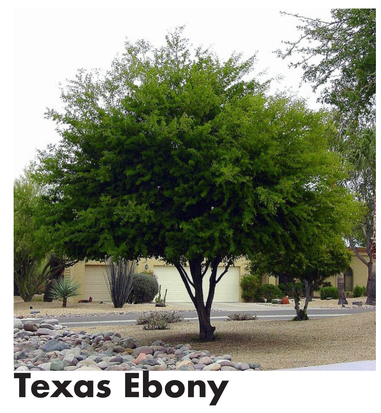


Palo Blanco

PLACE DOTS WITHIN THE BOX

Anacacho Orchid

PLACE DOTS WITHIN THE BOX

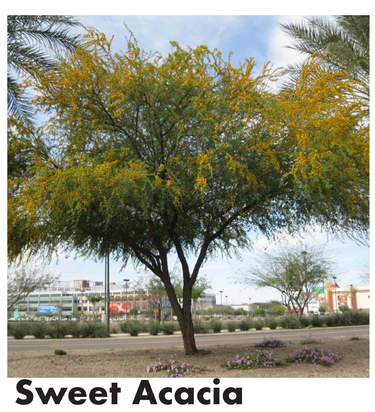


Texas Ebony

PLACE DOTS WITHIN THE BOX

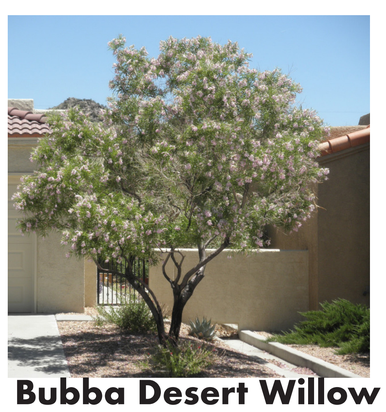
Seedless Mesquite

PLACE DOTS WITHIN THE BOX



Sweet Acacia

PLACE DOTS WITHIN THE BOX

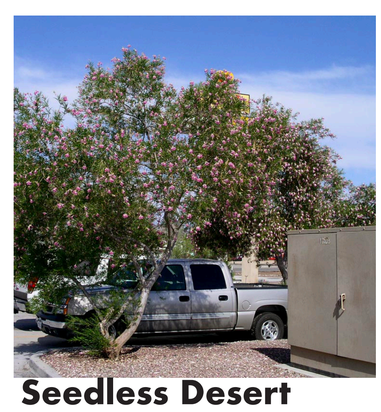


Bubba Desert Willow

PLACE DOTS WITHIN THE BOX

Texas Mtn Laurel

PLACE DOTS WITHIN THE BOX

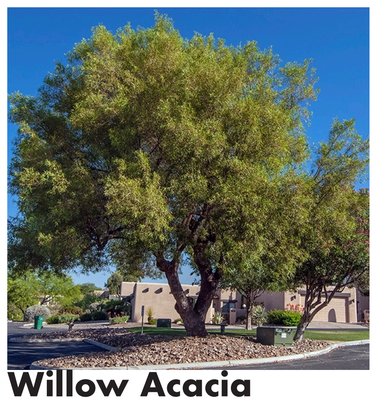


Seedless Desert Willow

PLACE DOTS WITHIN THE BOX

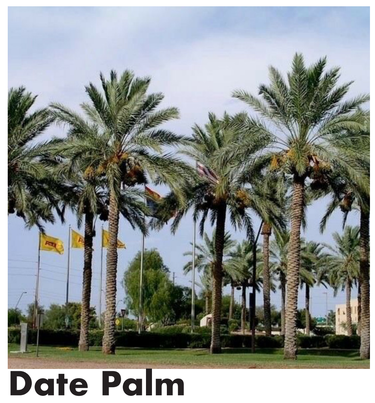
Mulga

PLACE DOTS WITHIN THE BOX



Willow Acacia

PLACE DOTS WITHIN THE BOX



Date Palm

PLACE DOTS WITHIN THE BOX

Swan Hill Olive

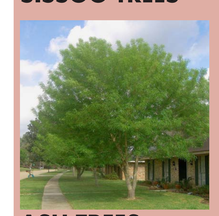
PLACE DOTS WITHIN THE BOX

PHASE OUT TREES

SISSOO TREES AND ASH TREES ARE COMMON TREES THAT HAVE BEEN IDENTIFIED AS TREES THAT ARE KNOWN FOR ISSUES WITH CONTINUED PLANTING IN THE GILBERT REGION.

KNOWN TO CAUSE HIGH AMOUNTS OF HARDSCAPE AND PROPERTY DAMAGE DUE TO LIFTING. MAY STILL BE ACCEPTABLE IN LARGE TURF AREAS OVER 30' FROM A HARDSCAPE ELEMENT SUCH AS A SIDEWALK.

SISSOO TREES



ASH TREES ARE CONTINUING TO HAVE SHORTER LIFE SPANS IN OUR DESERT REGION AND WITH THEIR HIGH WATER USE HAVE BEEN IDENTIFIED FOR POTENTIALLY PHASING OUT.

ASH TREES

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THE DESIGN LABORATORY

SHADE STRUCTURE PREFERENCES

USE YOUR DOTS TO LET US KNOW YOUR FAVORITES

CHARACTER DEFINING TREES

STRUCTURE TYPES

ART

- FUNCTIONAL(STRUCTURE)
- SECONDARY SHADE (NOT MEANT AS A SHADE STRUCTURE BUT DOES PROVIDE)
- VERTICAL PANELS

CONVENTIONAL

- RAMADAS
- BUILDINGS
- CANTILEVERED (BUILDING)
- ETC

FABRIC

- TENSION
- ROMAN

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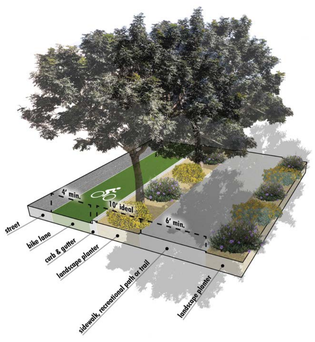


ARTERIAL/MAJOR COLLECTORS: NORTH + EAST SIDES

To best shade the pedestrian and bicycle facilities on the North and East Sides of a typical street corridor trees should:

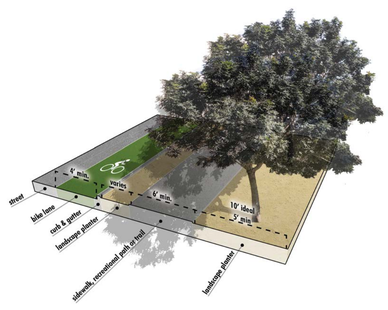
- be placed between the back of curb and the walkway.
- for best shade coverage, ensure trees are planted on both sides of the walkway.

MINIMUM RIGHT OF WAY

17' - edge of vehicular lane to back of path

ELEMENTS:

CC BS



ARTERIAL/MAJOR COLLECTORS: SOUTH + WEST SIDES

To best shade the pedestrian and bicycle facilities on the North and East Sides of a typical street corridor trees should:

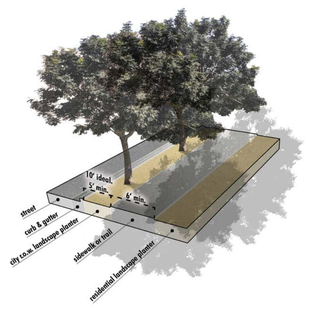
- be placed behind the back of the walkway
- for best shade coverage, ensure trees are planted on both sides of the walkway

MINIMUM RIGHT OF WAY

17' - edge of vehicular lane to back of path

ELEMENTS:

CC BS



RESIDENTIAL: NORTH + EAST SIDES

To best shade the pedestrian and bicycle facilities on the North and East Sides of a typical street corridor trees should:

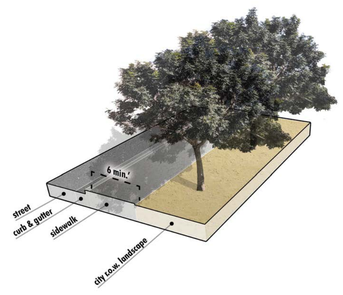
- be placed between the back of curb and the walkway
- for best coverage plant the backside of the walkway and encourage residents and property owners to plant the spaces as well

MINIMUM RIGHT OF WAY

11' - back of curb to back of sidewalk

ELEMENTS:

CC BS TR



RESIDENTIAL: SOUTH + WEST SIDES

To best shade the pedestrian and bicycle facilities on the North and East Sides of a typical street corridor trees should:

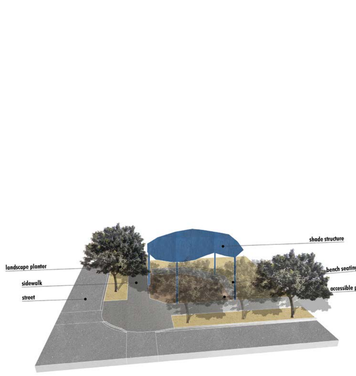
- be placed behind the back of the sidewalk
- for best coverage plant the front side of the walkway and encourage residents and property owners to plant trees beyond the ROW

MINIMUM RIGHT OF WAY

11' - back of curb to back of sidewalk

ELEMENTS:

CC BS TR



ART & SHADE: THE CORNER NODE

Implement a shade requirement as part of the monument art:

- on private and public development along the active transportation system
- include places for respite from the sun
- Include bike racks, water fountains and other amenities

MINIMUM RIGHT OF WAY

Will likely require public private partnership

ELEMENTS:

CC BS

ODE

URBAN & COMMERCIAL DEVELOPMENT

In urban development areas and within commercial developments shade structures should:

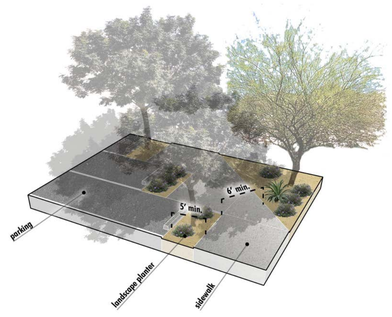
- be attach to the buildings with ample sidewalks/paths and trees.
- for best coverage include both structures and trees to increase the comfort of the spaces and encourage additional foot traffic along store and building fronts

MINIMUM RIGHT OF WAY

10' - building to back of curb. 16' min recommended for active areas

ELEMENTS:

CC BS



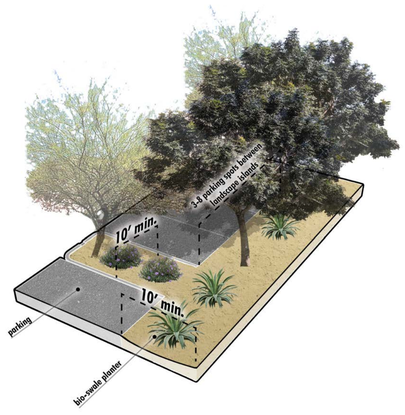
45° & 60° DEGREE PARKING

Within parking facilities either on-street or within parking lots that include 45° or 60° parking include:

- at grade planters in front of each parking space to provide room for green infrastructure bioswales and tree placement
- connections to attached sidewalks should be made to provide ease of access

ELEMENTS:

FC BS BU TG



90° DEGREE PARKING

Within parking facilities that are on-street or within parking lots that include 90° parking include:

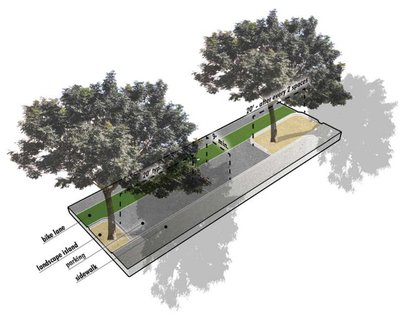
- planting islands every three to eight parking spots
- access to a center walkway with access to adjacent amenities such as business and public amenities.
- parking spaces with flush curbs for access to bioswales along landscape plantings as shown.
- access walkways and grates over bioswales

MINIMUM RIGHT OF WAY

11' - back of curb to back of sidewalk

ELEMENTS:

FC BS BU TR CC



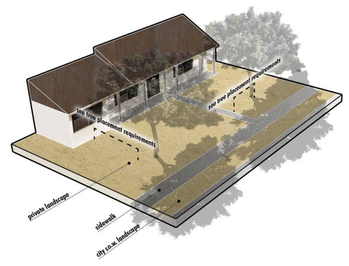
PARALLEL PARKING

Within parking facilities that provide parallel parking:

- planting islands should be placed every 2 spaces
- curb cuts should be included along curb-face for water to be flushed and infiltrate into the bioswales within the planter spaces.
- a minimum of one tree should be placed within each planter with a minimum width of 8'

ELEMENTS:

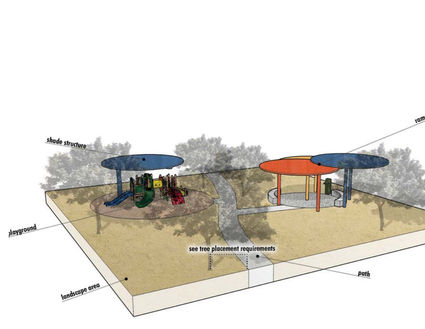
CC BS BU



RESIDENTIAL

Within residential and privately-owned properties utilize the following diagram for placing trees throughout the property:

- distance from buildings are shown in the tree elements portion of this document as well as distances from sidewalks/hardscapes.
- utilizing i-Tree on itreetools.org to guide planting the perfect tree for every location and the benefits of each planted tree



PARK TREE PLACEMENT

Trees and structures within a park are key to creating a habitable and comfortable space throughout the year. Ensuring walkways are shaded and potentially shading unprogrammed open space provides a great opportunity for the increase of Shade:

- Shade structures should be placed over all playgrounds at a coverage height and width that provides adequate shade throughout the day. structure should be 2x the size of the pay equipment
- Trees should be placed along the edge of walkways and around gathering spaces to provide a high level of shade
- Structures should be provided over gathering spaces with seating.

ELEMENTS:

GREEN INFRASTRUCTURE ELEMENTS

CURB CUT CC

Curb cuts along street and parking lot curbs should be used in conjunction with bioswales to capture water and retain water on-site. The curb cut must have a catchment basin behind it (bioswale) to ensure that the curb cut is functioning as intended. The curb cut is a minimum of 2' wide to ensure that water is able to be captured as the water moves along the curb face.

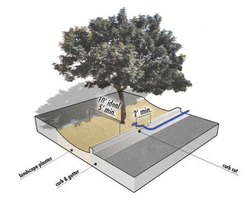


FIGURE 2-9: TOOLBOX - CURB CUT

BIO-SWALE/ BIORETENTION BS

Bioswales/bioretention basins should be implemented as a standard for all planting areas. This assures as much water as possible can be captured onsite. Ensure all planting spaces have a minimum 6" depression from the surrounding hardscape, e.g. sidewalks, pathways, streets, parking lots, and more. Bioswales and bioretention basins assist in catching the first flush run-off during storm events.

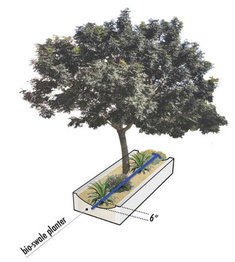


FIGURE 2-10: TOOLBOX -BIO-SWALE BIORETENTION

TREE GRATE TG

A tree grate is a metallic grating installed at the same level as the pavement surrounding a tree; they allow the soil underneath to stay uncompacted and for pedestrians to walk near the tree without stepping onto soil. When utilized along a curb face, a curb cut should be utilized to allow for water to enter into the trees root zone and act as additional water catchment. In addition to the tree grate, the use of a permeable pavement, such as pavers, is recommended surrounding the trees; this will ensure water and oxygen infiltration to the trees drip zone.

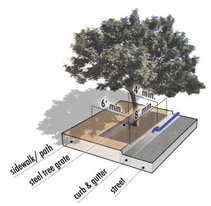


FIGURE 2-11: TOOLBOX - TREE GRATE

TRENCH GRATE TR

Trench grates are to be used in conjunction with sidewalks that must cross over small bioswales and bioretention areas. These areas should be no deeper than 8" without proper bumpers and rails to ensure safety while crossing.

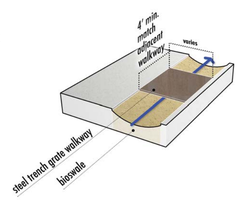


FIGURE 2-12: TOOLBOX - TRENCH GRATE

PARKING BUMPER STOPS BU

Bumper stops and curbs should be placed a minimum of 3' from any tree that is to be placed within a planting space that adjoins a parking area. This ensures that cars do not inadvertently drive into trees causing damage to either the vehicle or the tree.

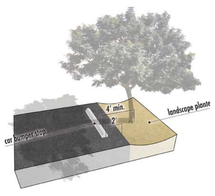


FIGURE 2-13: TOOLBOX - PARKING BUMPER STOPS

FLUSH CURB FC

Flush curbs provide a hard edge for asphalt while allowing for drainage to flow into adjacent landscape areas. Flush curbs provide a clear visual distinction to the edge of asphalt and help to maintain pavement edge.

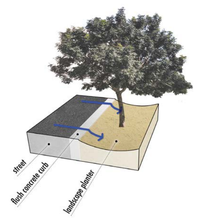


FIGURE 2-14: TOOLBOX - FLUSH CURB

RECLAIMED WATER RW

Reclaimed water will help to offset the costs and impacts of additional water use for tree from the potable water system. As development continues throughout the town alternative sources should be looked at to allow the shade canopy to increase within ongoing drought conditions.

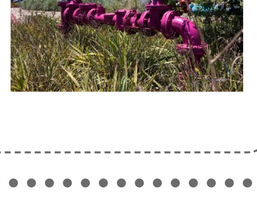
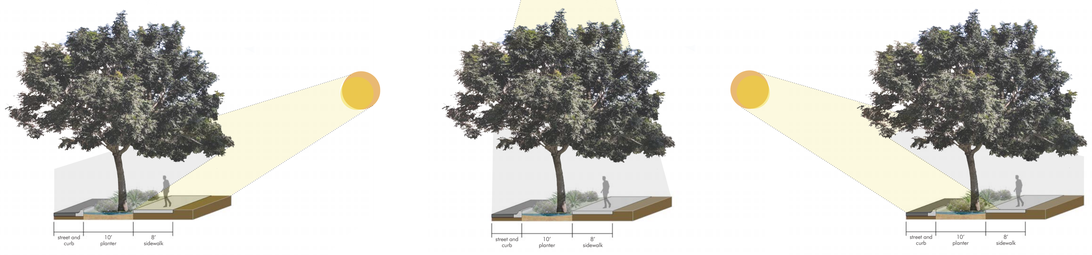
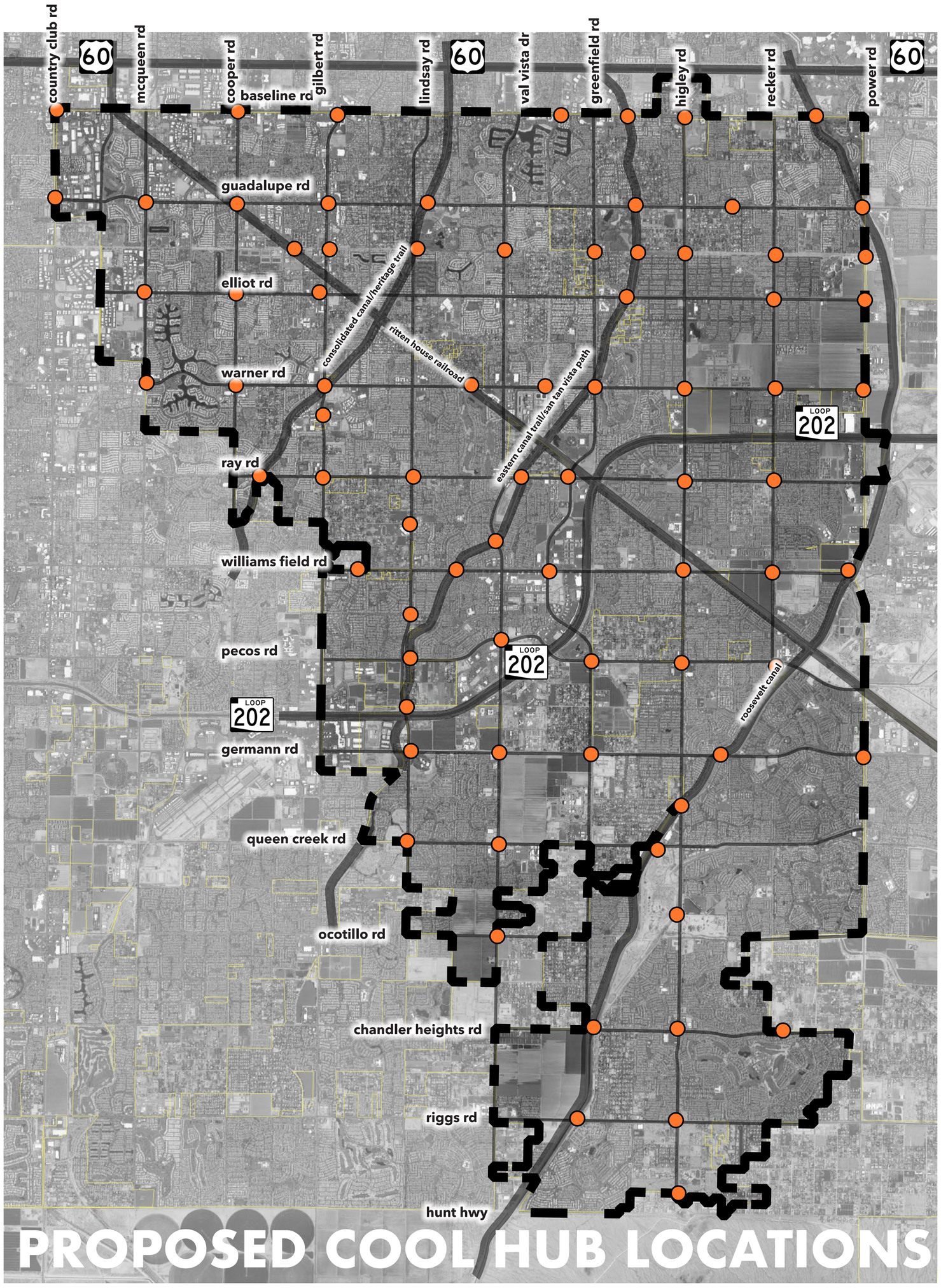


FIGURE 2-14: TOOLBOX - FLUSH CURB

Right Tree.
Right Place.
Right Shade.



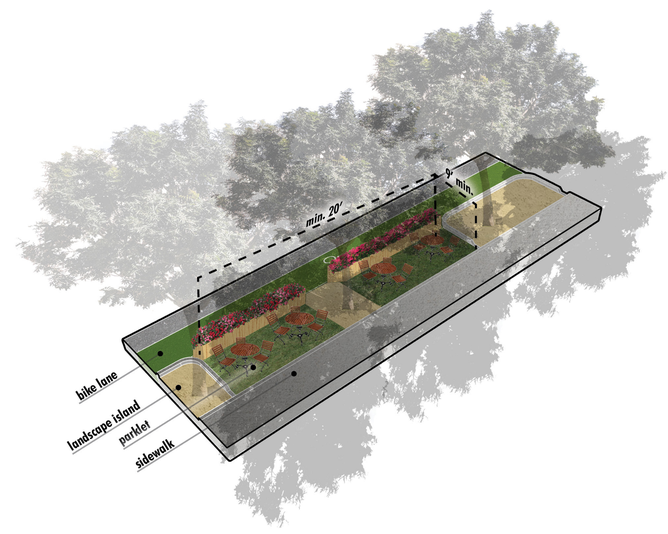
IMPLEMENTATION STRATEGIES



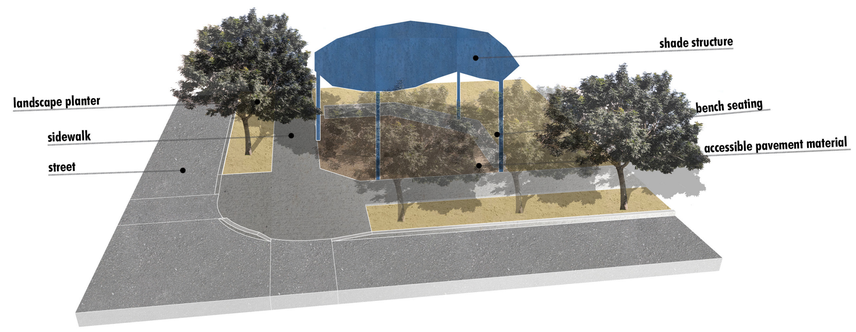
PROPOSED COOL HUB LOCATIONS

"COOL HUB" PROTOTYPES

PARK & PATH HUB

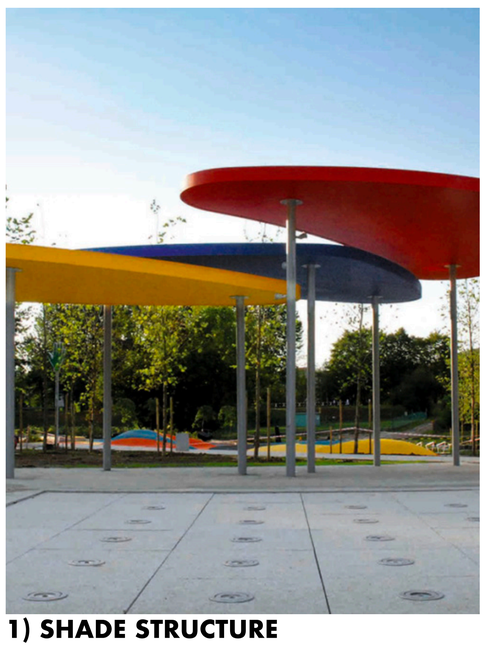


PARKLET HUB



CORNER NODE

5 KEY PIECES TO CREATE COOL HUBS

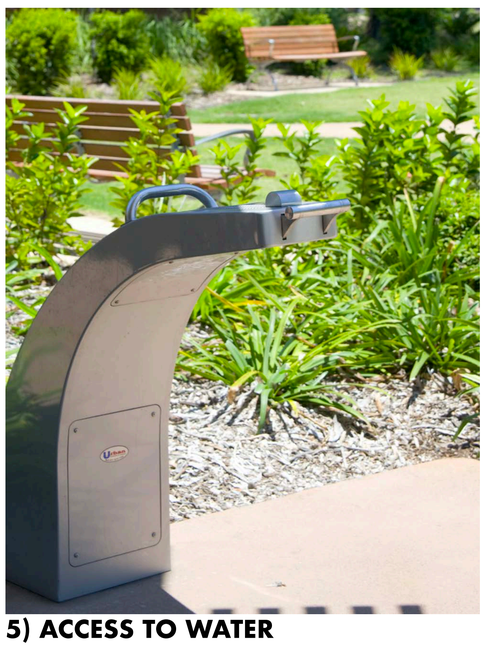


1) SHADE STRUCTURE

2) TREES

3) ADDITIONAL VEGETATION

4) SEATING



5) ACCESS TO WATER

COOLING HUBS

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PROJECT PRIORITIZATION METHODOLOGY

Weight	×	Improvement Categories & Criteria	Range	=	Value
3	×	**Improve Shade** 0.Project involves no additional shade already meet established goals. 1.Project increases shade within the project site by at least 10% 2.Project will ensure the area meets the establish goals for the land-use	(0-6)	=	
3	×	**"Piggy-Back" With Other Already Planned Projects (roadway repair, traffic congestion, drainage, utilities and other public infrastructure improvements)** 0.No nearby planned projects could be included. 1.At least one nearby planned private project could be included. 2.At least one nearby public project could be included.	(0-6)	=	
3	×	**Provide Shade to Bicycles and Pedestrians** 0.Project does not add shade to bicycle and pedestrian facilities. 1.Project adds shade to bicycle or pedestrian facilities. 2.Project adds shade to both bicycle and pedestrian facilities.	(0-6)	=	
2	×	**Close a Gap** 0.Project does not close a gap in shade. 1.Project closes a gap providing up to 1 mile of shade along a usable and continuous bike or pedestrian corridor. 2.Project closes a gap providing greater than 1 mile of shade along a usable and continuous bike or pedestrian corridor.	(0-4)	=	
2	×	**Link to Destinations** 0.Project provides little to no improved access to destinations (e.g. Town Hall, schools, parks, employment centers, trails) 1.Project somewhat or indirectly improves access to at least one destination. 2.Project provides direct access to one or more destinations.	(0-4)	=	
2	×	**Focus on Heavy Use Corridors or Area** 0.Project is along a corridor or area with low existing or potential use. 1.Project is along a corridor or area with moderate existing or potential use. 2.Project is along a corridor or area with heavy existing or potential use.	(0-2)	=	

Total Score

PROJECT PRIORITIZATION

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WHAT SHOULD WE KNOW?

USE MARKERS, POST-IT NOTES TO MARK WHERE YOU THINK WE NEED MORE SHADE OR ANYTHING WE SHOULD KNOW ABOUT TREES AND SHADE IN GILBERT

PLACE ADDITIONAL NOTES HERE OR ON THE MAP

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THE DESIGN LABORATORY

WHAT SHOULD WE KNOW?

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