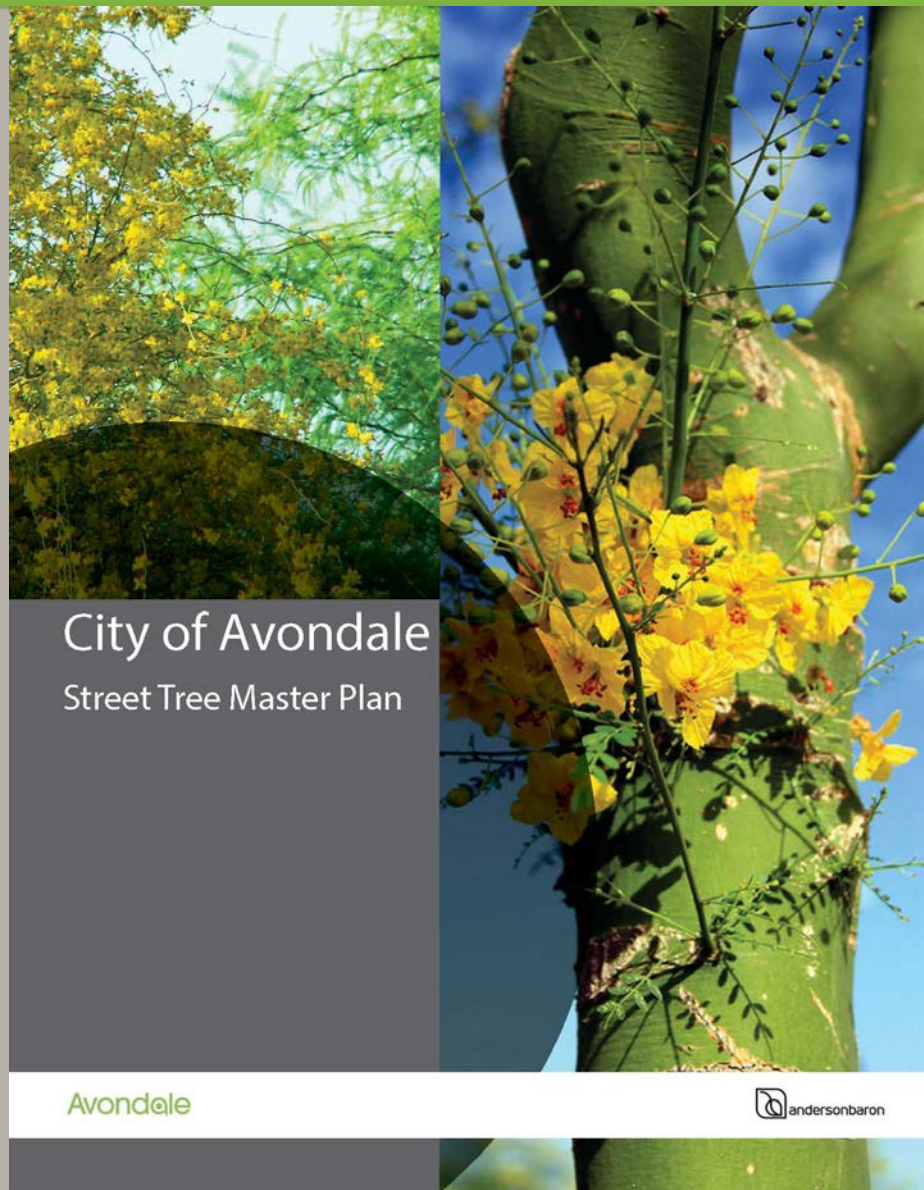
Avondale Street Tree Master Plan

March 9th
RTS 2.0

Drew Bryck

Environmental Program Manager



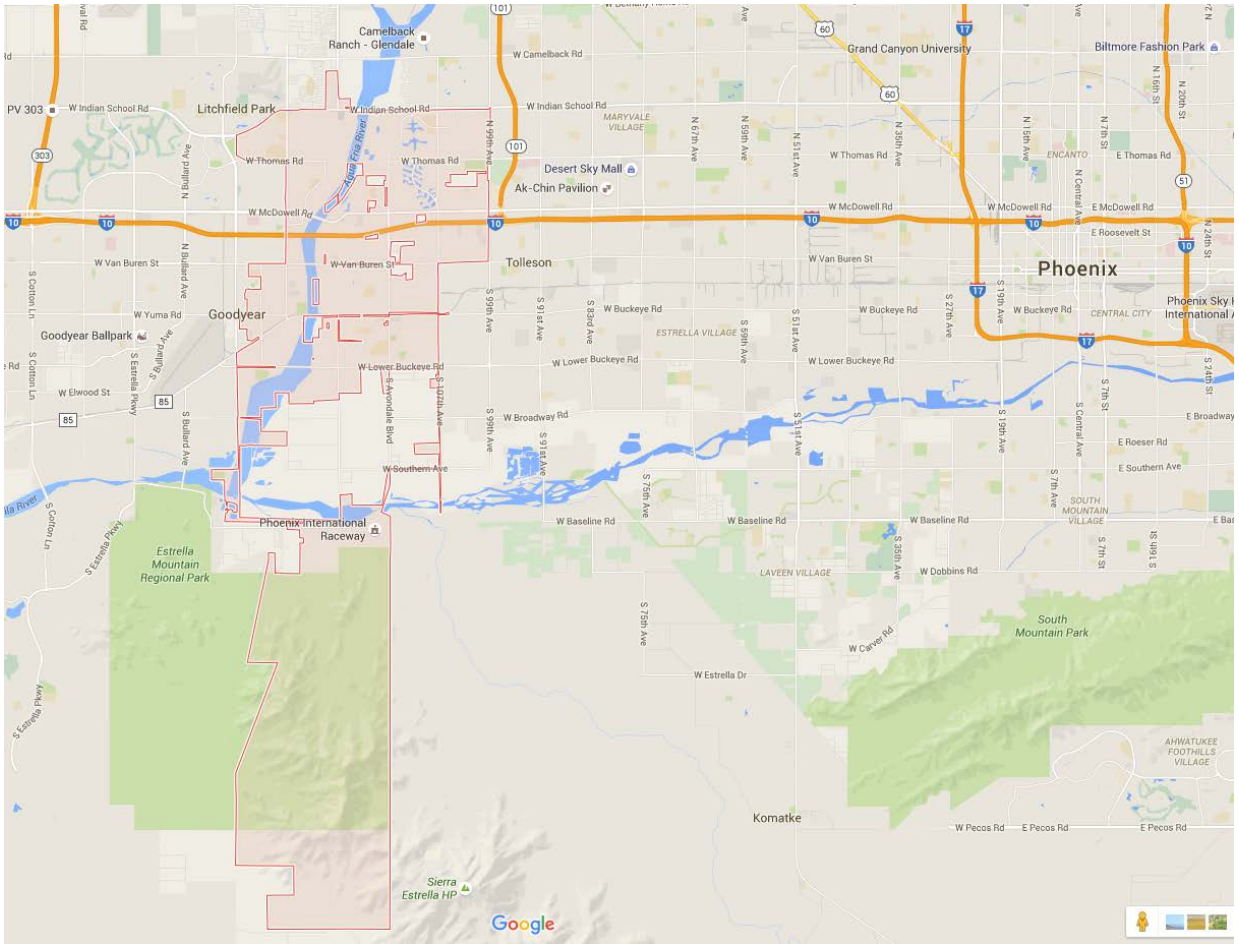
BACKGROUND

Tres Rios Nature Preserve

Phoenix International Raceway

NEED

- Avondale doubled in size between 2000 and 2010.



BACKGROUND

- General Plan 2030 Implementation Strategies
  - Quality of Life Theme
    - Develop gateway improvements such as special landscaping
    - Development of a Street Tree Master Plan
- Supports Sustainability Plan
  - Land Use, Transportation, Air Quality, and Ecosystems Sections

Municipal Sustainability Plan

BENEFITS OF TREES

ENVIRONMENTAL

- Absorb CO2 & provide Oxygen
- Reduce Storm Water Runoff
- Reduce Heat Island Effects

BENEFITS OF TREES

SOCIAL & PSYCHOLOGICAL

- Improve aesthetics & color along streets
- Calm Traffic Speeds
- Support multi-modal & social interaction
- Deflect, reflect and absorb traffic noise
- Provide buffers of unpleasant objects & add privacy

BENEFITS OF TREES

ECONOMIC

- Increase Property Values
- Street trees create slower and more appropriate urban traffic speeds and increase customer traffic to businesses

BACKGROUND

RESOLUTION NO. 3231-1214

A RESOLUTION OF THE COUNCIL OF THE CITY OF AVONDALE, ARIZONA, ADOPTING THE CITY OF AVONDALE STREET TREE MASTER PLAN.

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF AVONDALE as follows:

SECTION 1. The City of Avondale Street Tree Master Plan is hereby adopted in substantially the form and substance attached hereto as Exhibit A and incorporated herein by reference.

SECTION 2. The Mayor, the City Manager, the City Clerk and the City Attorney are hereby authorized and directed to take all steps necessary to carry out the purpose and intent of this Resolution.

PASSED AND ADOPTED by the Council of the City of Avondale, December 1, 2014.

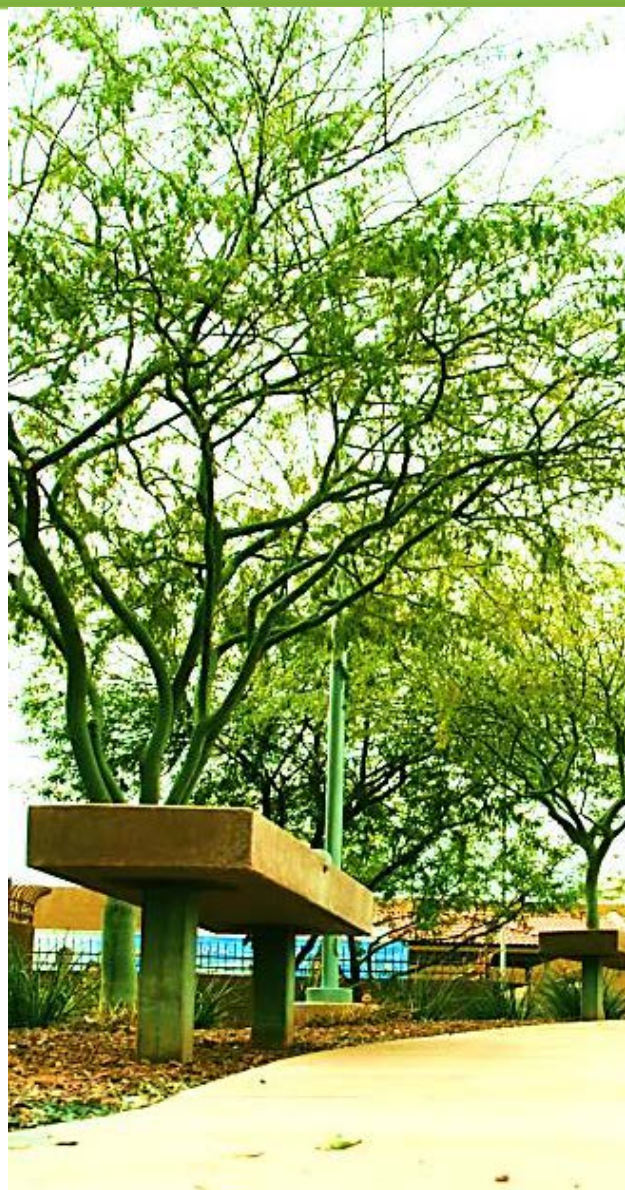
Kenneth N. Weise, Mayor

ATTEST:

Carmen Martinez, City Clerk

APPROVED AS TO FORM:

Andrew J. McGuire, City Attorney



STREET TREE MASTERPLAN

GOALS

- Create a unified street tree program for beautification of the City's right-of-way and community
- Define gateway entrances to the City
- Create a consistent tree canopy to encourage walkability, bicycling & social interactions
- Right Tree, Right Place: Designate trees best suited for our local environment
- Provide maintenance guidelines to ensure health and longevity of our trees

STREET TREE MASTERPLAN

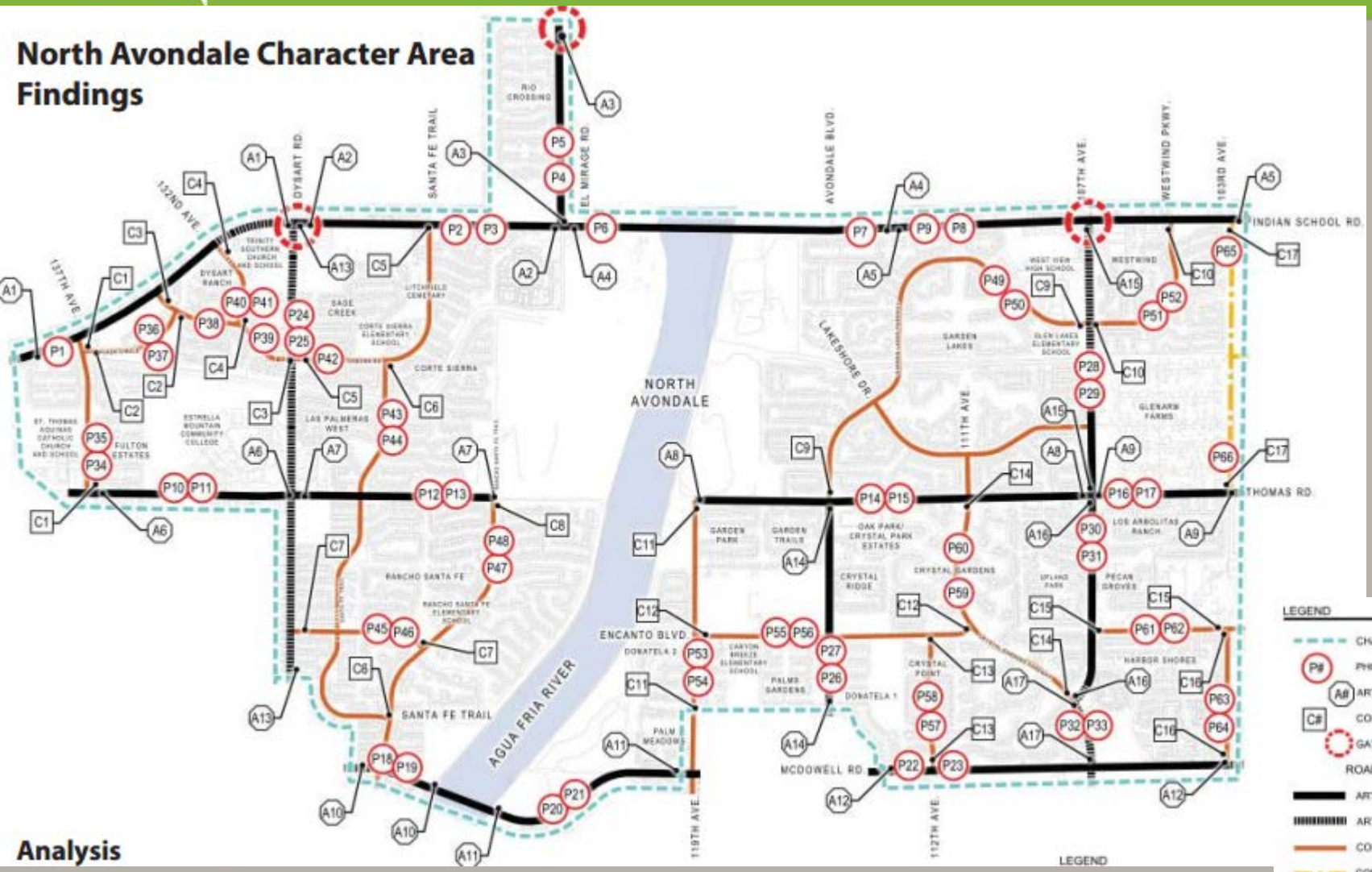
FOR:

- City Staff
- Landowners and Developers
- Landscape Contractors
- General Public

KEY OBJECTIVES

- Enhance quality of life for residents and visitors.
- Create a healthy urban forest that benefits all through multiple benefits.
- Identify species that provide large shade canopies.
- Utilize ISA and ANSI pruning standards.
- Serve as an example for private property owners.
- Promote walking, biking and outdoor activities.
- Encourage residents to voluntarily preserve and protect trees under their stewardship.

ANALYSIS


North Avondale Character Area Findings
NORTH AVONDALE
AGUA FRIA RIVER
SANTA FE TRAIL
ENCANTO BLVD
MCDOWELL RD
INDIAN SCHOOL RD.
THOMAS RD.
DYSART RD.
EL MIRAGE RD.
AVONDALE BLVD.
99TH AVE.
WESTWIND PKWY.
103RD AVE.
111TH AVE
119TH AVE
127TH AVE
132ND AVE
LAKESHORE DR.
LEGEND
CHARACTER AREA BOUNDARY
P# PHOTO POINT
A# ARTERIAL ROAD SEGMENT
C# COLLECTOR ROAD SEGMENT
GATEWAY
ROADWAY CLASSIFICATION
ARTERIAL
ARTERIAL W/ MEDIAN
COLLECTOR
COLLECTOR FUTURE
North
not to scale
Analysis

ANALYSIS

North Avondale Character Area Findings

A1 **Segment** - Indian School Rd from 137th Ave. to Dysart Rd.

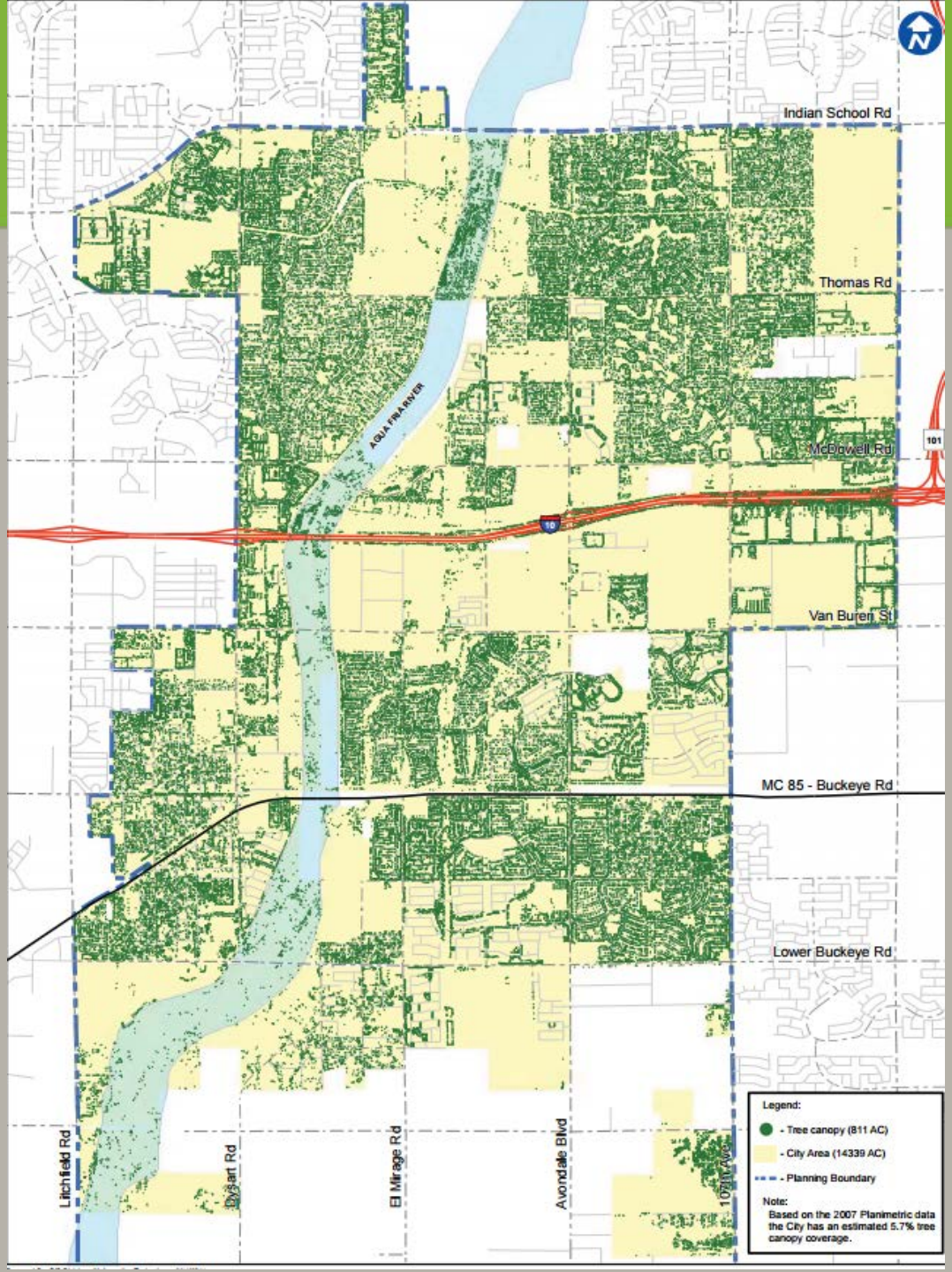
Street Type: Arterial
Orientation: e/w
Street Width: 4 travel lanes + center turn lane
Zoning: Medium Density Residential and Local Commercial
Raised Median: Yes at intersection of Dysart Rd.
Sidewalk characteristics: 8' detached meandering – south side only
Overhead utilities: Yes, north side, switches to south side after Wigwam Boulevard intersection
Canal or drainage way: Yes, south side

P1

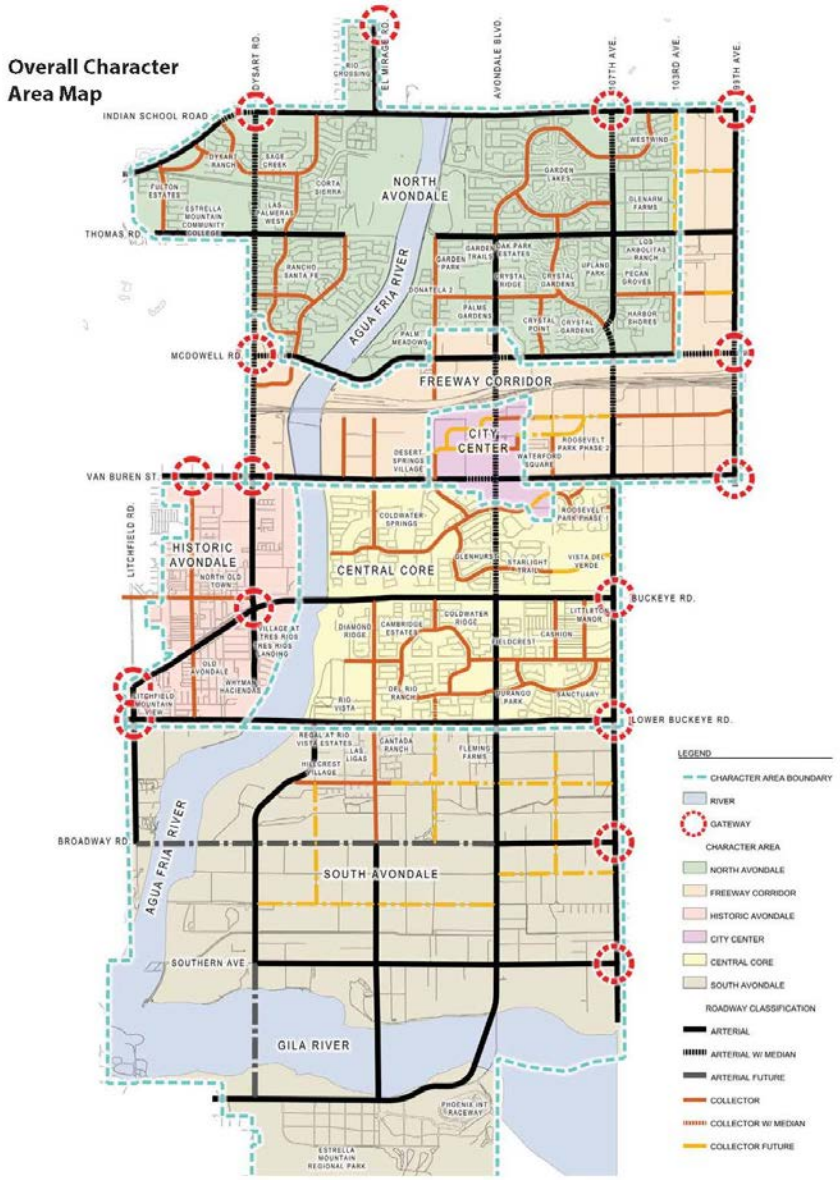
Existing Street Tree Species: Palo Verde and Ash (located in adjacent land uses).

Findings
This stretch of Indian School Road is void of physical plant material. The north side contains no sidewalk but has a varying 10' to 20' wide landscape area between curb and subdivision perimeter wall, with overhead power lines. The south side contains an 8' detached meandering sidewalk with a varying 2' to 8' wide landscape area between curb and sidewalk.

Recommendations
The existing right-of-way, adjacent landscape areas and tract provide sufficient landscape area to create a shaded walkable environment. Provide a tree palette to accentuate the entrance into the City of Avondale and locate shade canopy trees between the curb and sidewalk to improve shade qualities. Extend raised planted median to provide visual relief and assist in unifying the streetscape. Streetscape planting should meet current zoning ordinance for right-of-way landscape. New and replacement trees will be used to develop a primary street tree theme, providing a consistent and unified aesthetic. Functions utilized: Accentuation, Community Continuity and Moderation of Air Temperatures.

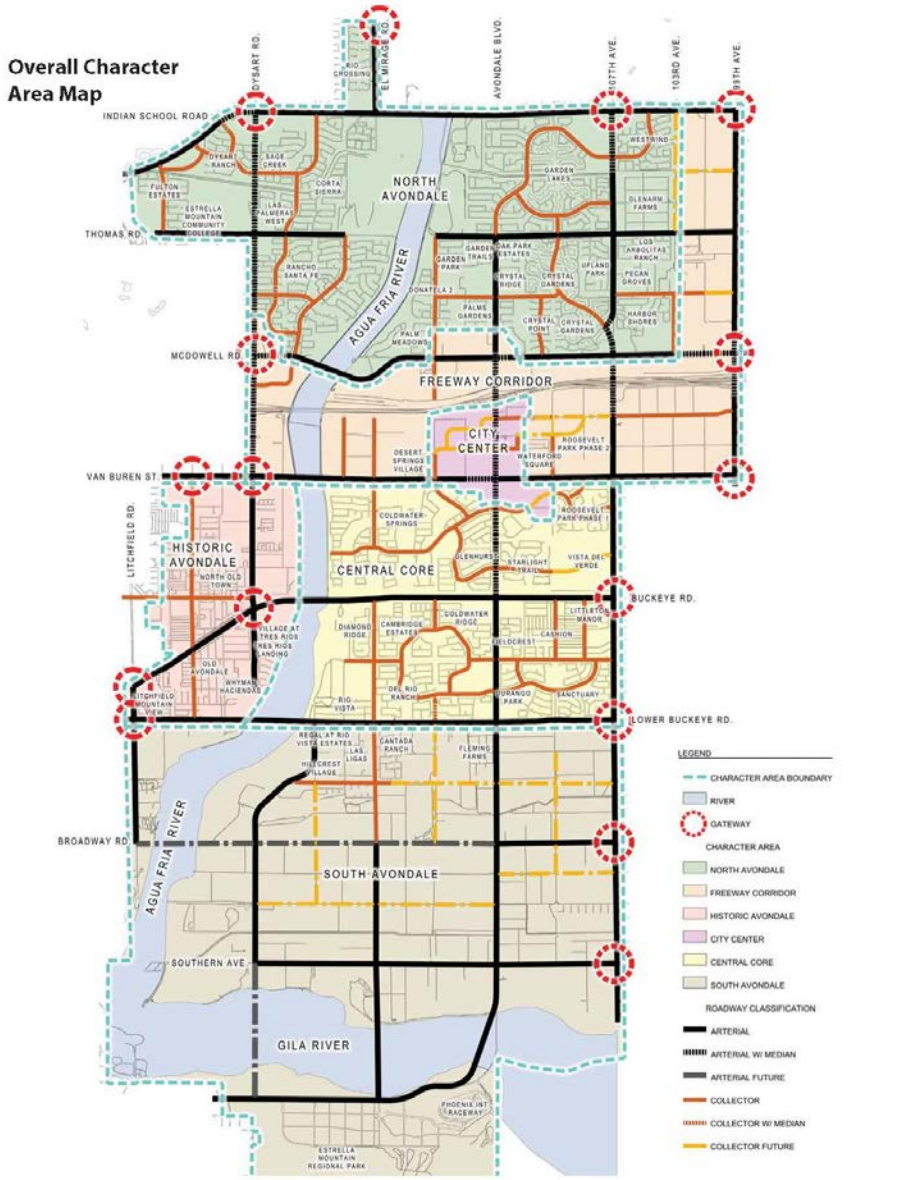

Indian School Rd
Thomas Rd
AGUA FRANER
McDowell Rd
101
10
Van Buren St
MC 85 - Buckeye Rd
Lower Buckeye Rd
Litchfield Rd
Dysart Rd
El Mirage Rd
Avondale Blvd
107th Ave
Legend:
- Tree canopy (811 AC)
- City Area (14339 AC)
- Planning Boundary
Note:
Based on the 2007 Planimetric data the City has an estimated 5.7% tree canopy coverage.

MASTER PLAN CHARACTER AREAS



- North Avondale
- Freeway Corridor
- City Center
- Historic Avondale
- Central Core
- South Avondale

GATEWAYS



Gateway Intersections

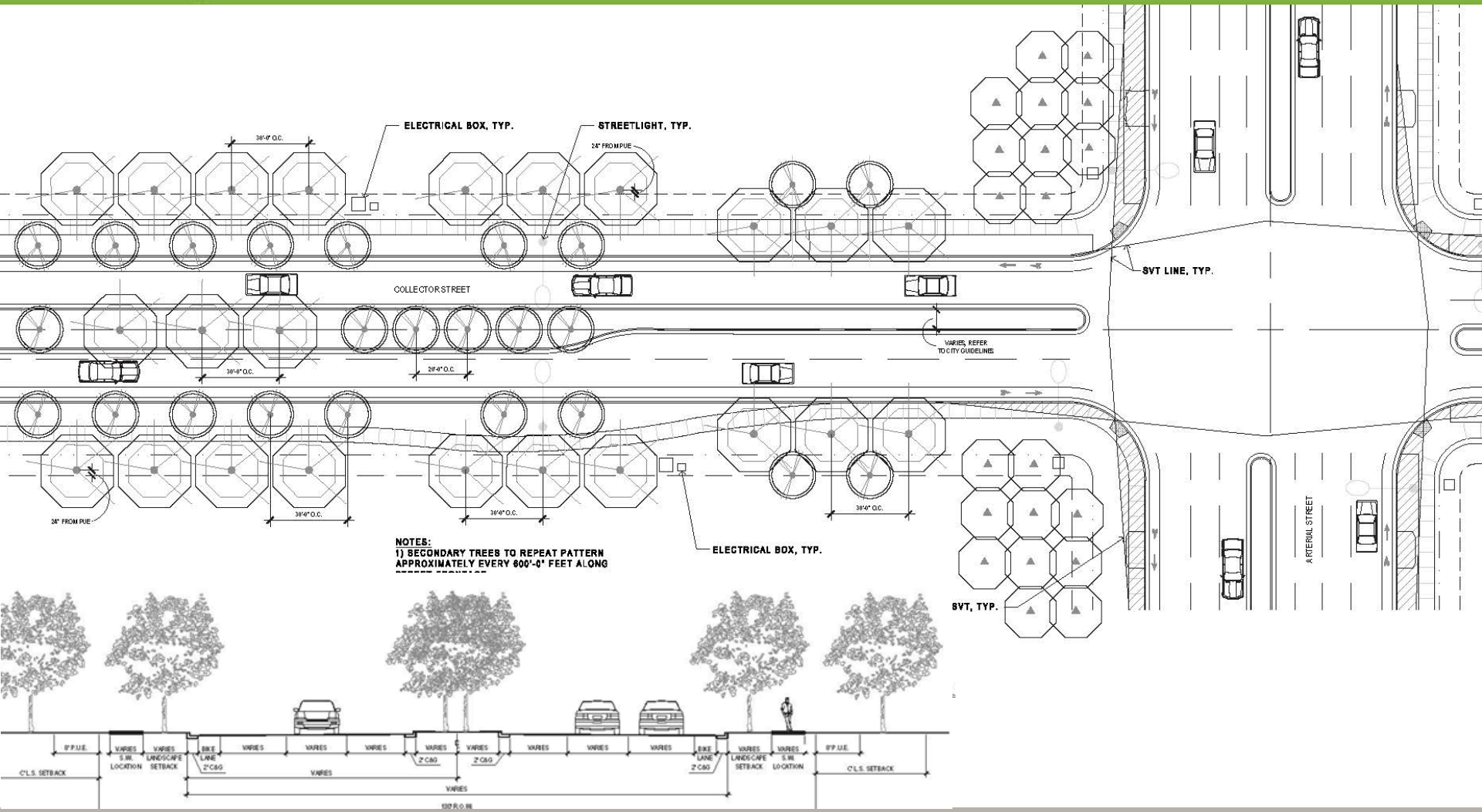
MONUMENTS AND WAYFINDING

CHARACTER SPECIFIC TREES

CHINESE ELM
EVERGREEN OAK
INDIAN ROSEWOOD
THORNLESS CASCALOTE
PALO VERDE
MULGA
SWEET ACACIA
THORNLESS MESQUITE
CHITALPA

WILLOW ACACIA
SWAN HILL OLIVE
DESERT WILLOW
MEXICAN REDBUD
RED PUSH PISTACHE
MASTIC
CHASTE
GHOST GUM
DATE PALM

CHARACTER SPECIFIC TREES



STREET PLANTING DIAGRAMS

RIGHT OF WAY MATRIX

Freeway Corridor Character Area Primary and Secondary Street Trees

		Arterial Streets								Collector Streets							
Key	X: Existing Condition P: Primary Tree S: Secondary Tree	Indian School Rd.	Thomas Rd.	McDowell Rd.	Van Buren St.	Dysart Rd.	Avondale Blvd.	107th Ave.	99th Ave.	Corporate Drive	Encanto Blvd.	Rancho Santa Fe Blvd.	119th Ave.	127th Ave.	El Mirage Rd.	Roosevelt St.	111th Ave.
Street Info	Raised Median			X		X	X	X	X								
Tree Common Names	Chinese Elm					P	P		P								P
	Evergreen Oak spp.			P						P	P	S	P	S	S		
	Indian Rosewood				S					S				P	P		S
	Palo Verde spp.		P			S		S	S							P	
	Red Push Pistache	P			P												
	Swan Hill' Olive											P					
	Sweet Acacia										S						
	Thornless Mesquite spp.			S			S	P					S			S	
	Willow Acacia	S	S														

Freeway Corridor Character Area Street Tree Palette Matrix

Key		Size (small, med, large)	Height (average)	Width (average)	Form	Exposure	Water Use	Growth Rate	Tree Type	Litter	Spines or Thorns	ADWR Approved	SRP & APS Approved
Tree Size: Small (<25 ft), Medium (25-40 ft), Large (>40 ft) Form: Round (R), Spreading (S), Palm (PA), Pyramidal (P), Oval (OV), Conical (C), Vase (V), Columnar (CO), Open (O), Weeping (W) & Irregular (I) Exposure: Full sun (F), Full/Reflected sun (FR), Partial Shade (PS), Reflected Sun (RS) & Shade (SH) Tree Type: Deciduous (D), Evergreen (E), Semi-evergreen (SE) & Palm (P) Water Use: Low (L), Medium (M) & High (H) Growth Rate: Fast (F), Moderate (M), & Slow (S) Litter: Leaves (L), Flowers (F), Seeds/Cones/Fruit (S) *: Not for use in Right-of-way		S, M, L	(feet)	(feet)	R, S, P, OV, C, V, CO, O, W & I	F, FR, P, SH	L, M, H	S, M, F	D, E, S	L, F, S	Yes or No	Yes or No	Yes or No
Common Name	Botanical Name												
Chinese Elm	Ulmus parvifolia spp.	L	40	40	S	F, RS	M	M	D	L, F	N	Y	N
Evergreen Oak spp.	Quercus virginiana spp.	L	60	80	R, OV	F, RS	M	M	E	S	N	Y	N
Indian Rosewood	Dalbergia sissoo	L	50	30	R, OV	F	M, H	M	E	L, S	N	Y	N
Palo Verde spp.	Parkinsonia spp.	M	30	30	R	F, RS	L	M	D	L, F, S	Y	Y	N
Red Push Pistache	Pistachia x 'Red Push'	M	30	30	R	F	M	M	D	L	N	Y	Y
Swan Hill Olive	Olea europaea 'Swan Hill' Olive	M	30	30	O	F, RS, PS	L, M	S	E	L	N	Y	N
Sweet Acacia	Acacia farnesiana	M	25	25	V	F	L	M	E	L, F	Y	Y	Y
Thornless Mesquite spp.	Prosopis x Hybrid "Thornless"	M	30	30	R, S	F, RS	L	F	D	L, F	N	Y	N
Willow Acacia	Acacia salicina	L	40	20	W	F	L	F	E	L	N	Y	N

MAINTAINING HEALTHY TREES

PRUNING GUIDELINES

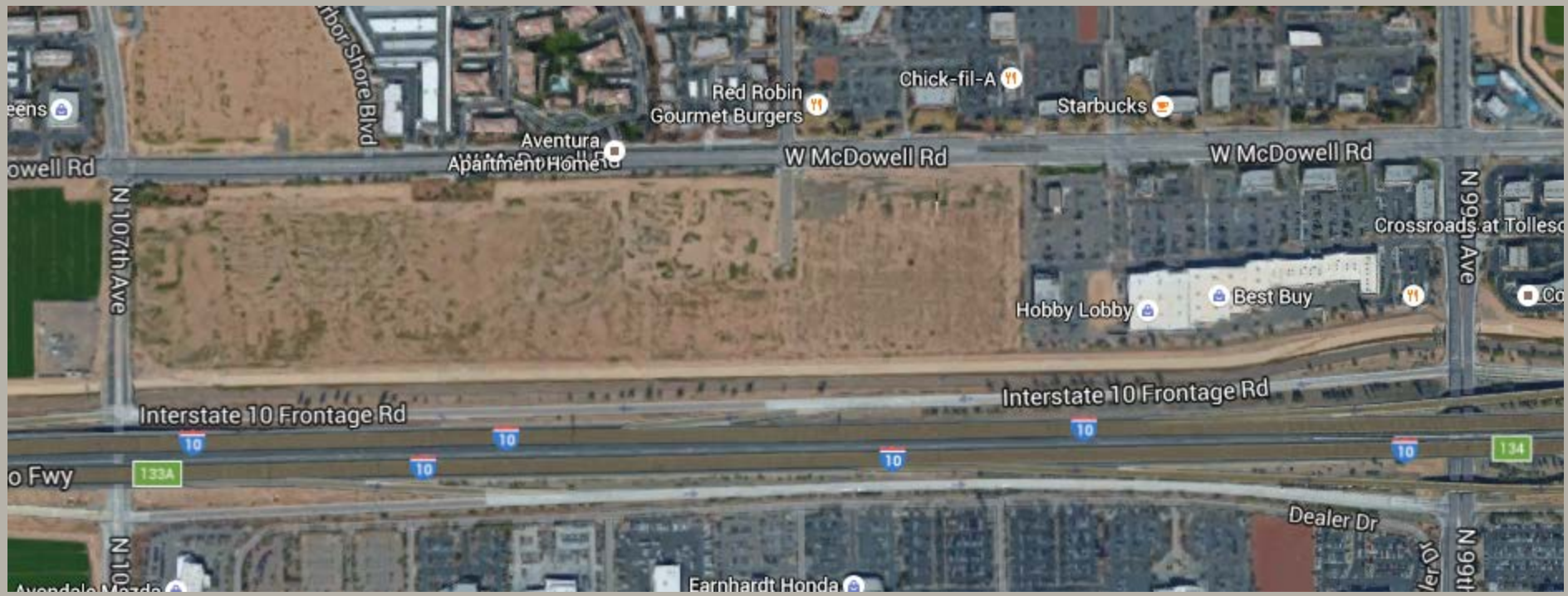
- Tree health
- Public Safety
- Aesthetics
- Follows ANSI A300 and ISA Pruning Standards

FERTILIZATION & WATERING

- Frequency Guidelines
- Depth of watering
- Seasonality stipulations

NEXT STEPS/IMPLEMENTATION

- Maricopa County Justice Center – Van Buren & 105th Avenue.
- McDowell Road Corridor between 99th Avenue and 107th Avenue.



Questions