



The Grant Road Corridor Project is Funded by the Regional Transportation Authority

GRANT ROAD Improvement Plan

Healing the Suburban Street Creating a Context-Sensitive Sustainable Street in the Urban Desert

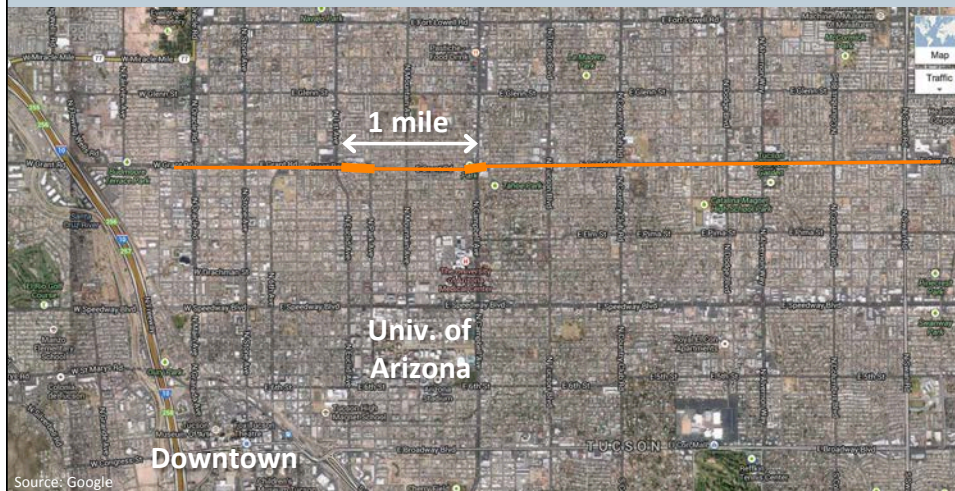
Tucson, Arizona



Phil Erickson, AIA
Oakland, California



5½ mile Segment of Grant Road



Grant Road Improvement Plan

- Largest Regional Transportation Authority (RTA) project, widen 5-lane to 6-lane arterial
- \$166 million budgeted for planning, design, construction, and right-of-way
- Planning & preliminary design: 2007-09
- Construction: Started in 2013



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Mobility | Vitality | Sustainability

Project Goals

- Improve travel efficiency & safety for all modes
- Enhance urban/economic vitality & sense of place
- Incorporate environmentally sensitive design principles
- Demonstrate innovation & best practices as model for future city projects



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Grant Road Challenges

- Congested, auto-oriented corridor
- Historic corridor
- Tight, fully urbanized, neighborhood corridor
- *A corridor in need of a unique planning approach*



Context Sensitive Solutions... meeting of 3 contexts



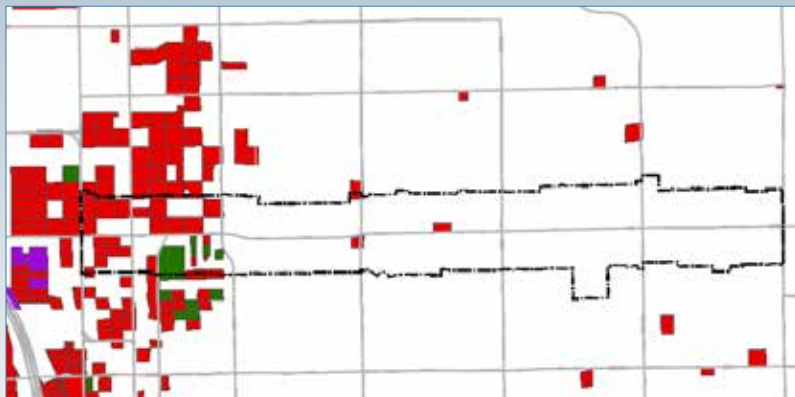
Citizen Task Force

- 18 members representing businesses, neighborhoods, the region, alternative modes, City Manager's Office and Planning Commission
- Over 30 meetings during 5-year project (still continues to meet as project moves through construction)



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Demographics



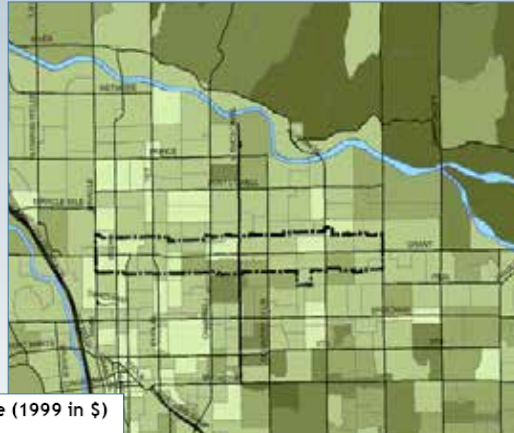
Most populous race/ethnicity (2000 census): ■ Hispanic ■ Black ■ American Indian
* Where no color is given, non-Hispanic white is most populous.

- Substantial ethnic diversity in area neighborhoods, especially in the west end

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Demographics

- Grant Road's population is lower income compared to the county
- Median household income is -
 - Grant Rd.: \$26,697
 - County: \$36,758



Median Household Income (1999 in \$)

5000 - 20000
20001 - 35000
35001 - 50000
50001 - 75000
75001 - 110158

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Transportation



- The study area has areas with high levels of walking, cycling, and transit use
- Multi-modal infrastructure and amenities are inconsistent and need improvement

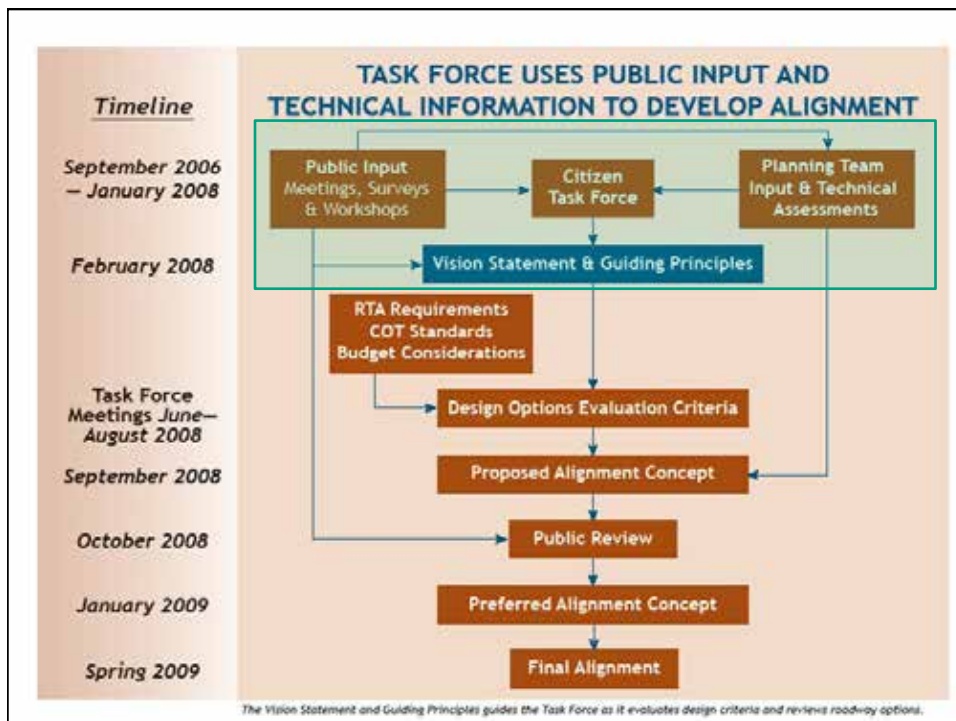
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Infrastructure



- Areas along Grant Road experience flooding

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Public Input on Vision & Guiding Principles

September 2006 - September 2008

- Conversations: 39 meetings with neighborhoods & businesses
- Attendance: 1,000 + participants
- Public Input: 1,250 + surveys completed, 5,000 + comments received



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Western Segment Oracle to 1st Ave.



36 Participants



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Guiding Principles—Mobility & Access

- Balance needs of all users:
 - Passing through or coming to the area
 - Pedestrians, bicyclists, transit riders, and disabled
- Make physical changes that support other Guiding Principles



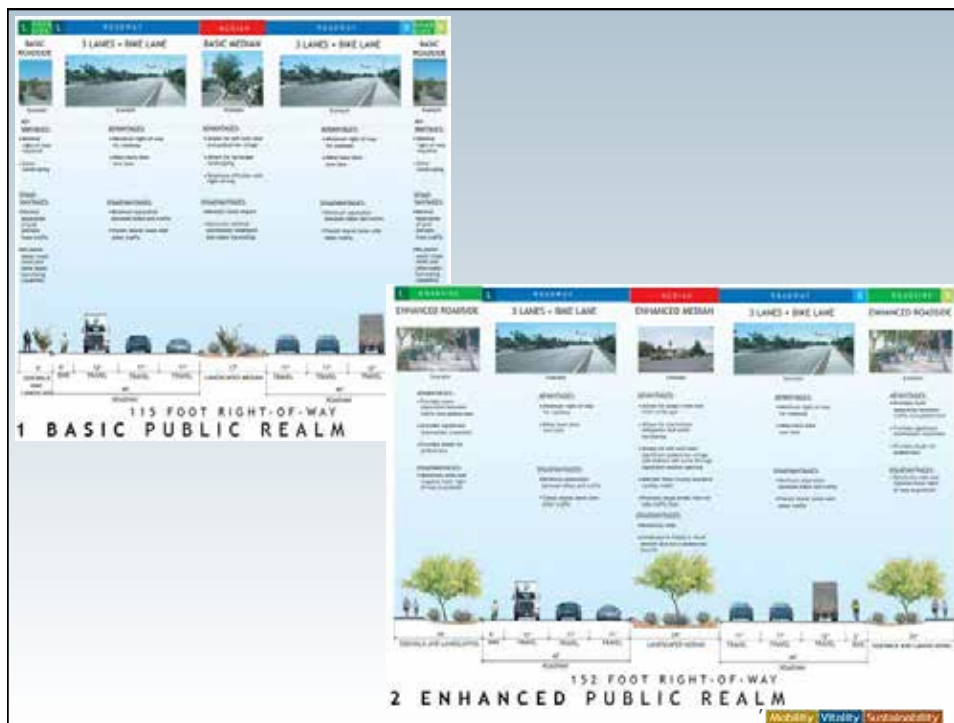
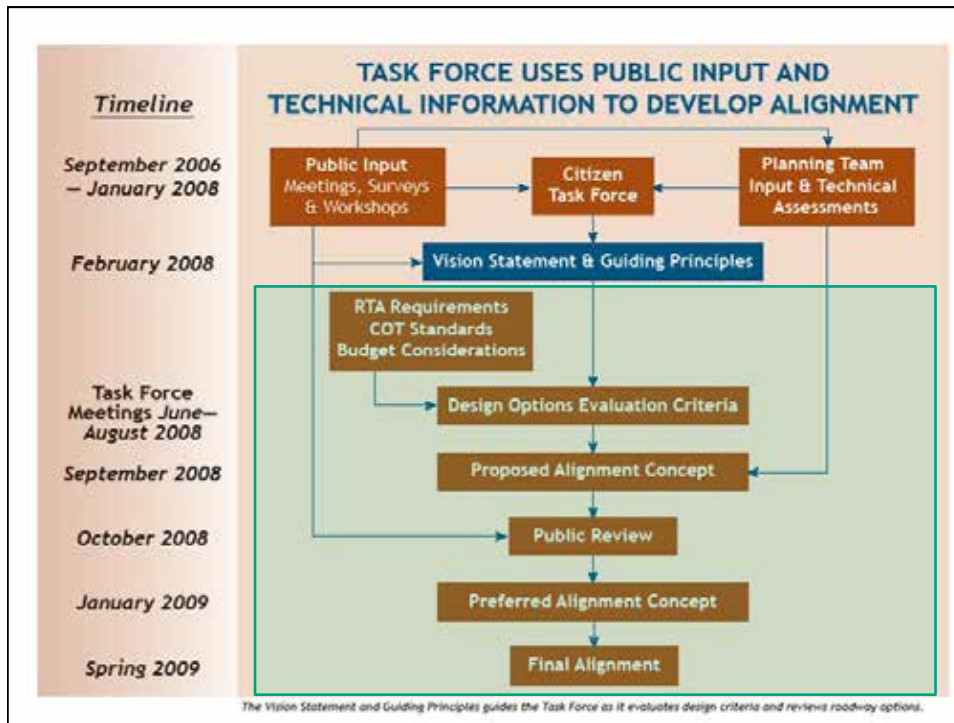
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Guiding Principles—Character & Vitality

- Preserve & Enhance
 - Neighborhood character & housing choices
 - Valued retail, services, & jobs
 - Varying character segments & districts
 - Community services & diversity
- Encourage private investment



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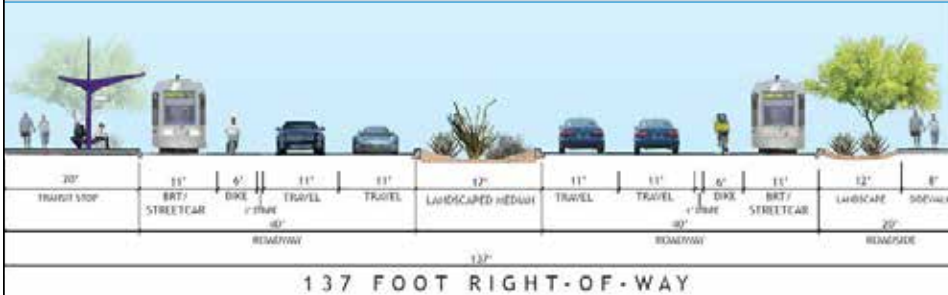
Multi-Modal Street Section



- Wider 8-foot sidewalks
- Expanded landscape buffer for pedestrians
- Wider 6-foot bike lane
- Landscaped median
- 47-57 feet wider than existing right of way

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Accommodating Future Transit



137 FOOT RIGHT-OF-WAY
STANDARD STREET SECTION
WITH "SIDE RUNNING" BRT OR STREETCAR

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Crossings & Access

Pedestrian Crossings



Bike & Pedestrian Crossings

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Water Harvesting



LEGEND

Passive Water Harvesting

Components

- Surface flow only
- Curb cuts to direct water to landscaped areas
- Grading and contouring to direct and slow water

Location

- Throughout corridor:
- Typical roadway sections: median
- Super Elevated roadway sections: median & high road side
- Double Crown roadway sections: median & road sides



Hybrid Water Harvesting

Components

- Curb cuts to direct water to inlet
- Large underground perforated pipe holds water for percolation
- Subsurface improvements to increase percolation and storage capacity in landscaped areas for prolonged use (more porous subsurface soils)

Location

- Typical roadway sections: road sides
- Super Elevated roadway sections: low road side

Active Water Harvesting

Components

- Subsurface storage in cisterns for later use
- Curb cuts direct water to inlets
- Filtering, pumping, and distribution to irrigation system

Location

- Locations must meet two requirements:
- Bottom of the water shed, greatest availability of water to store
- Adjacent to new storm sewer to collect overflow



Storm Drainage

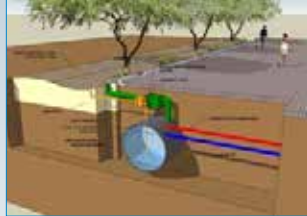
- Most logical location(s) to intercept water from storm drainage flows

Water Harvesting

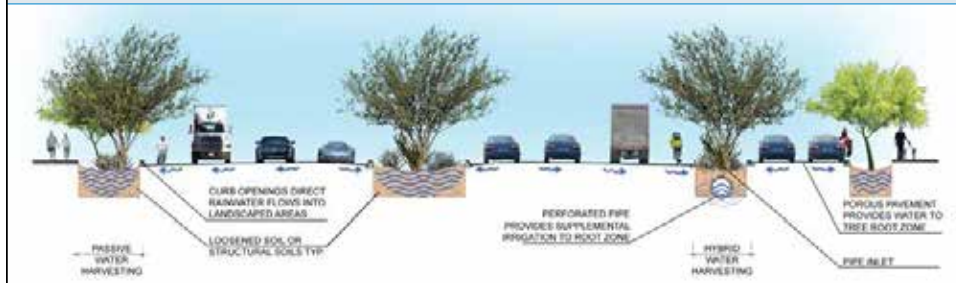
Passive Water Harvesting



Active Water Harvesting



Hybrid Water Harvesting



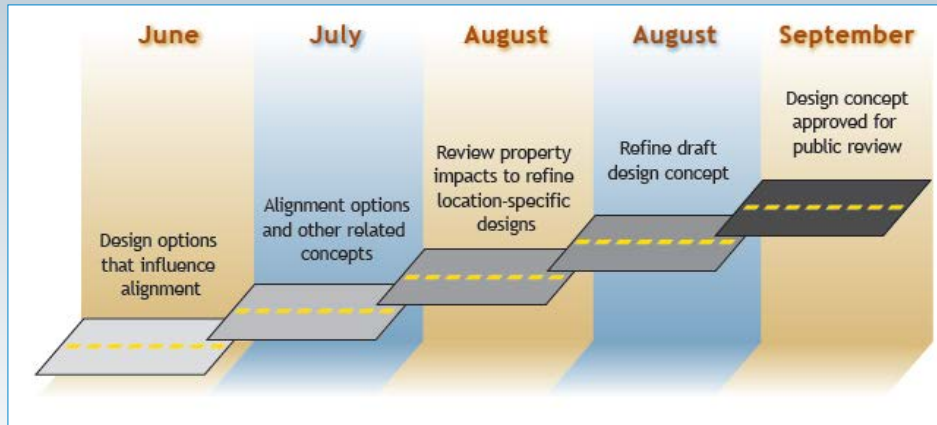
Local Examples

Roadway and Streetscape



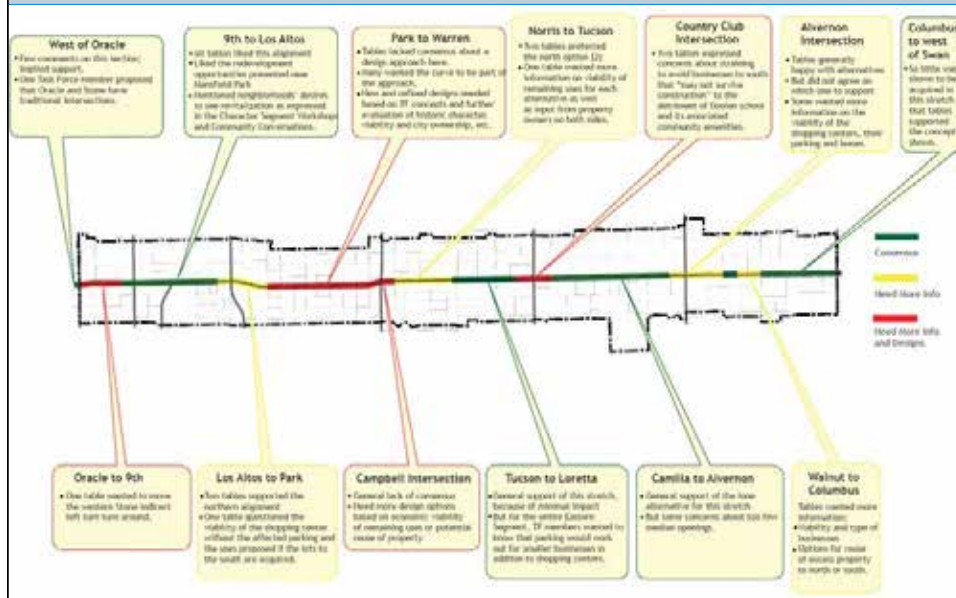
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Building the Grant Road Design Concept

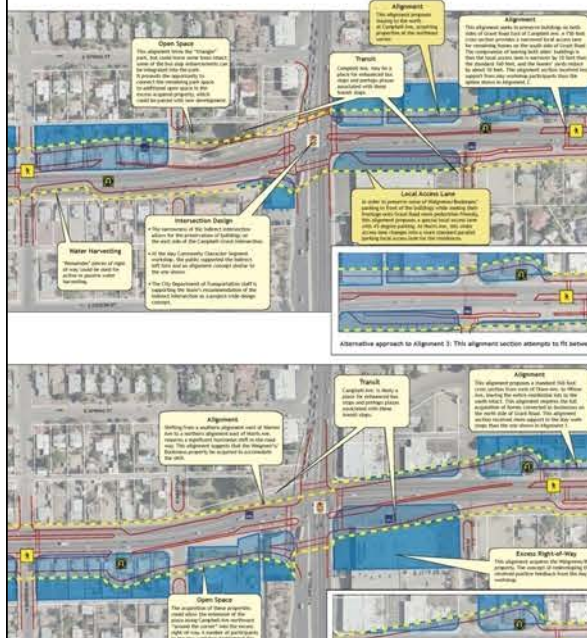


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Task Force Endorsement



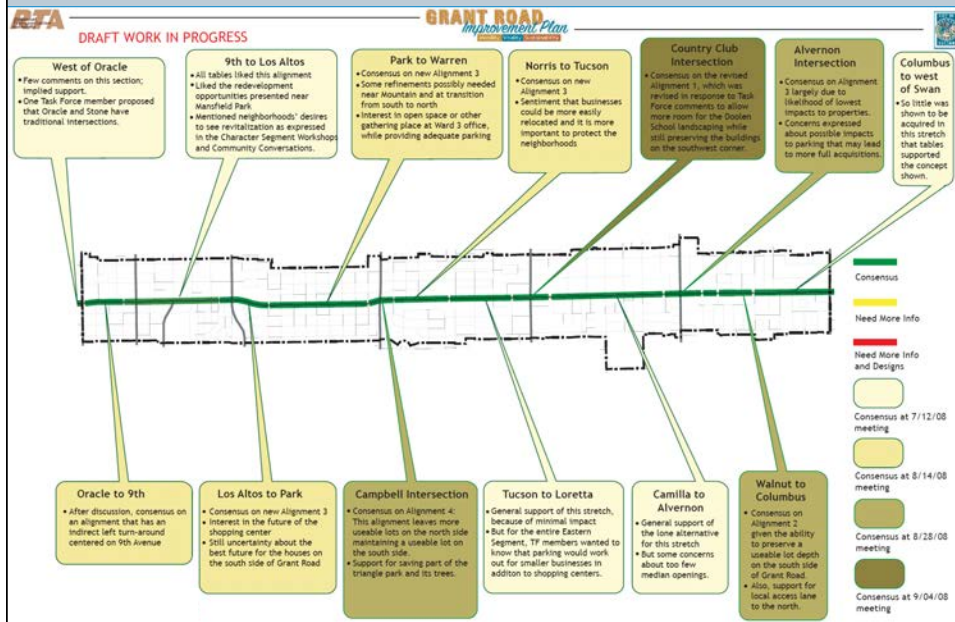
Campbell Intersection



- Multiple alignments designed and assessed

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Task Force Alignment Endorsement



Alignment Approved by M/C!

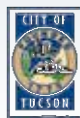


- Recommended Alignment reviewed with property owners, EOs & public
- Approved by M/C, 6 to 1
- Limited adverse property owner testimony
- Recommended Alignment became Approved Alignment (as-is)



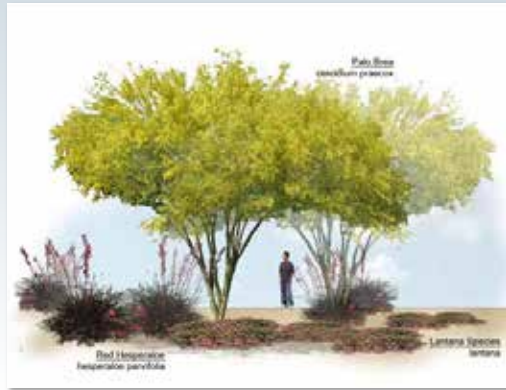
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Landscape & Streetscape Concepts



Pedestrian Mixed Use Centers Zone

- Highest pedestrian activity
- Indicator plants include: Palo Brea, Red Hesperaloe



Residential Zone

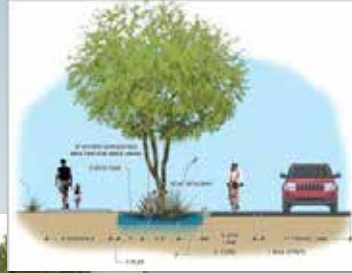
- Reflects residential character of adjacent neighborhoods
- Indicator plants include: Acacia, Yucca, Brittle Bush



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Rainwater Harvesting

- Passive design:
Infiltration areas in
most landscape



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Pedestrian Crossings— Base Channelized Right Turn

- Speed table calms traffic
- Informational signage for the center
- Concentrating understory landscaping



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Community Character & Vitality

Achieving the Centers & Districts Vision



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Centers and Districts Vision Concept Implementation



Moving from vision to land use policy



Reconstruction Projects



Oracle
15th Ave.
to
Castro

Stone -1st
Castro to Fremont

Campbell
Fremont to
Plumer

Country Club
Plumer to Sparkman

Alvernon
Sparkman to Bryant

Swan
Bryant to Arcadia

Early Intersection
Project

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Early Intersection Project Grant/Oracle Intersection



Mostly completed in October 2013 **GRANT ROAD**
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Grant Road and Oracle Road



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Grant Road and Oracle Road



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Grant Road and Oracle Road



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Bus stop near Oracle Road



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Bus stop near Oracle Road



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Bus stop near Oracle Road



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