

Joint City Council and District Board

Study Session on Water Issues



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City of San José -- Water Policy Framework

- Integrated, comprehensive guide to ensure that policies and programs are mutually reinforcing
- Guide for current and future environmental actions
- Enhances City's ability to respond effectively to challenges
- Defines City's role in promoting sound water policies

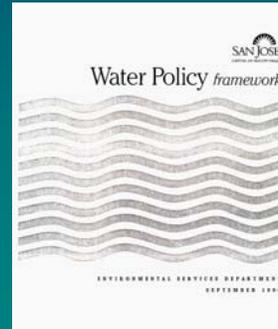


San José as a Sustainable City

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Water Policy Framework

- Wetlands and Riparian Area Protection
- Emerging Concerns—New Pollutants
- Disaster Preparedness
- Water and Energy Linkages
- Climate Change Impacts



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City Next Steps

- Review and Revise City Water Policies and General Plan Policies as needed to address key issues
- Prepare final recommendations for review
- Final recommendations to Planning Commission and City Council in late 2006
- Future Collaborative Efforts

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SANTA CLARA VALLEY WATER DISTRICT Comprehensive Water Management Resources Plan

- **Uses General Plan Format**
- **Integrates District Policies into a Single Document**
 - Balance Competing Interests for Sustainability



- **Future Oriented**

- Incorporates Key Issues and challenges
- Adaptation to Climate Change and Global Influences

- **Builds on Partnerships**

- Land Use and Development Patterns Essential to achieve Goals



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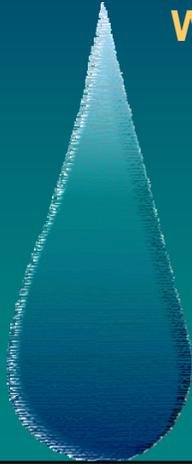
Comparison of City and District Supportive Policies

City	District
Cooperative action	Cooperative action
Infrastructure available and maintained	Infrastructure integrity maintained
Groundwater protection	Groundwater protection
Promote water conservation/efficient use of water	Promote Water Conservation
Support and promote use of recycled water	Use of recycled water increased
Protect reservoir water quality	Drinking water quality protected
Supply projections mutually developed	Diverse supply mix. Baseline supplies maintained and reliable

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ISSUE #1

WATER SUPPLY

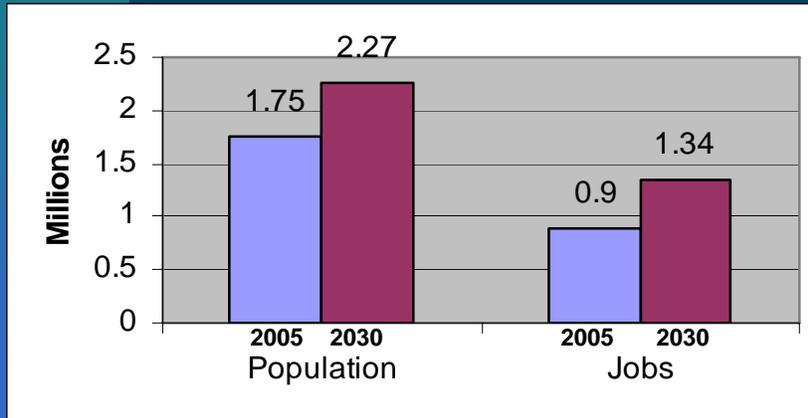


Where do we focus our efforts
to ensure a sustainable
water supply now
and into the future?



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Growth Projections (Santa Clara County)



520,000 more residents
(355,000 of those in San José)

440,000 more jobs
(240,000 of those in San José)

Source: ABAG 2005

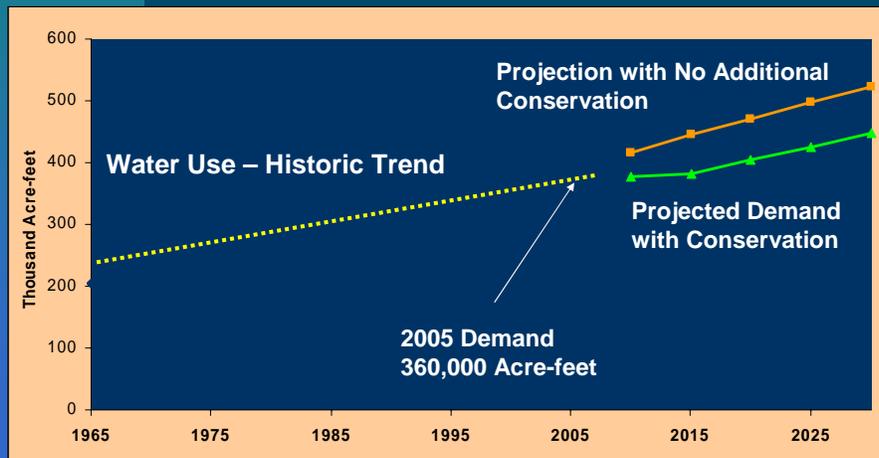
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Planned Growth Areas in San José



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Santa Clara County Water Demand



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Average year supply compared to projected demand



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Santa Clara County Water Supply Overview



Imported Supplies (190,500)

- State Water Project (SWP)
- Federal Central Valley Project (CVP)
- Hetch-Hetchy (SFPUC)

Local reservoirs & groundwater



Recycled Water

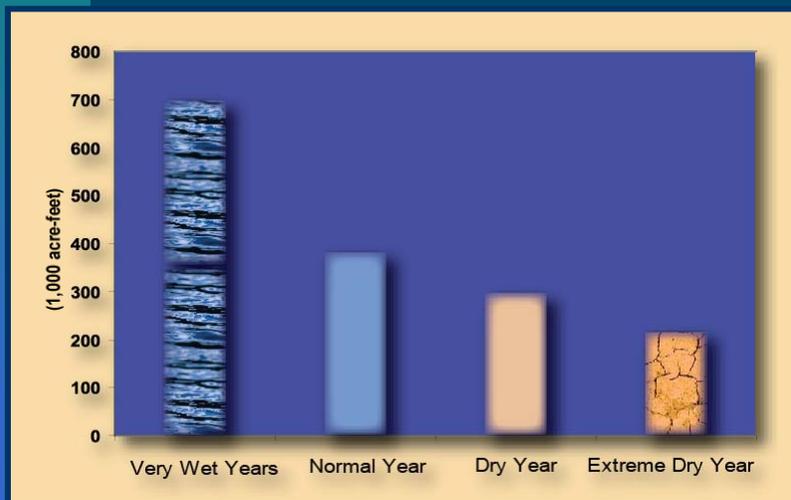
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50% of the Valley's Water is Imported



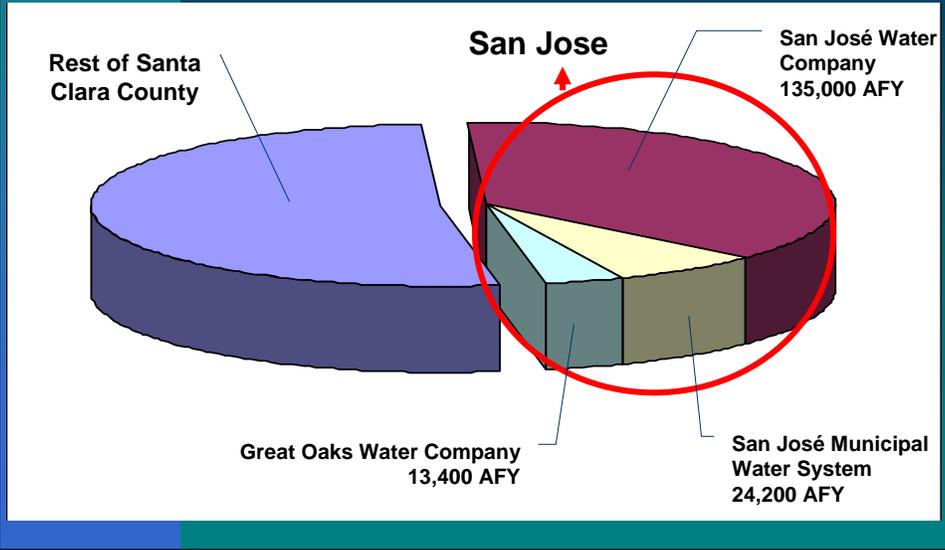
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Supply in Different Rainfall Years



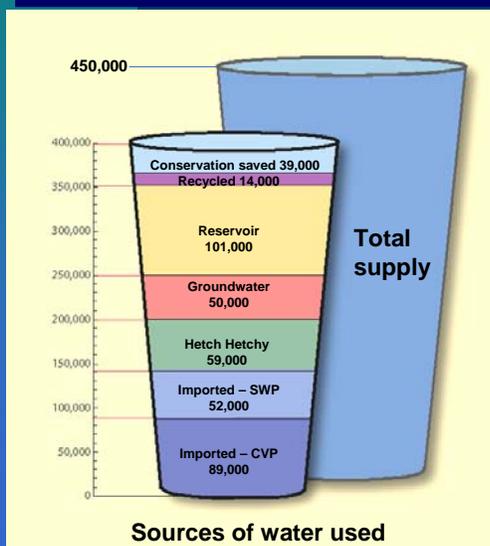
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Demand Supplied by Water Retailers 360,000 AFY Countywide - 2005



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Santa Clara County 2005 Water Supply



2005 was a wet year

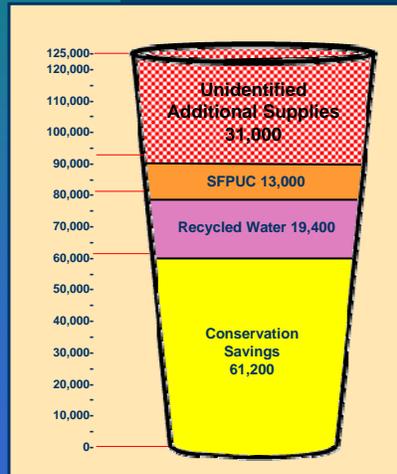
Total supply exceeded
450,000 Acre-feet

Conservation was
about 39,000 acre-feet.

All supply in excess of
demand goes to
Reserves

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Meeting 2030 Water Demand



In 2030 – We will need an additional 125,000 acre-feet of water.

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Conservation as of 2006

- 39,000 acre feet per year countywide
- 22,000 acre feet per year in San Jose
- Like other jurisdictions, local per capita water use has been decreasing.
- District and City efforts commensurate with those of other Bay Area water agencies.

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Future Water Conservation

- **Conservation Goal:**
 - 2030 goal: 100,000 acre-feet per year
- **Benefits:**
 - Most cost effective source to meet new demand
 - Saves energy
 - Reduces countywide CO2 emissions
 - Most equitable supply for new development
 - Reliable - locally controlled
 - Reduces wastewater flows

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How Do We Achieve Our Conservation Goals?

- **Continue existing programs and implement new technologies.**
- **Ensure Funding - Funding Sources include:**
 - District/retailers
 - City: wastewater funds for indoor, general fund for outdoor
 - Grants/cost sharing
 - Developers/businesses/homeowners
- **Cost-Effectiveness**
 - Varies by conservation program, cost of technology, savings/retrofit
 - Conservation is the most cost-effective solution when compared to securing additional sources of supply

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Agency Options to Encourage Conservation

Existing Developments

- City – adopt policies/ordinances such as “retrofit on resale”
- District/City – implement programs
- District/City – pursue grant funding
- District/City – continued cost sharing

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Agency Options to Encourage Conservation

New Developments

- City – policies/ordinances promoting/requiring maximum conservation measures such as high-efficiency fixtures and low-water landscapes
- District – promote policies/ordinances that ensure conservation is applied consistently across Santa Clara County
- District – promote realistic water supply assessments in planning documents (e.g. UWMP, Water Supply Assessments, EIRs).

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Hetch Hetchy Facts

- Provides water to 2.4 million people in Bay Area
- Generates \$500 million - \$1.5 billion in electricity
- Muni Water receives approximately 4.7 million gallons per day
- Hetch Hetchy represents 24% of total Muni Water supply
- Hetch Hetchy represents 16% of water supply countywide

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Hetch Hetchy

- Water System Improvement Program
- Cost \$4.3 billion
- Estimated completion date - April 2014
- Water Rates
- Current \$531/A.F.
- Projected by FY 2015 -16: \$1,577/A.F.
- Rate triples

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Hetch Hetchy

- Restoration of Hetch Hetchy valley – proposals but no legislation
- July 2006 – Dept. of Water Resources Study states that technically feasible to restore Hetch Hetchy valley at a cost of \$10 billion
- Environmental groups estimate cost at \$3 billion

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Climate Change

Potential Impacts:

- Loss of Sierra snow pack
- Changes in hydrology – less ability to capture and store water
- Longer drier droughts
- More intense flooding
- More very hot days – increased water demand
- Sea-levels to rise
- Significant economic effects

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For a Sustainable Water Supply Future, We Must:

- **Actively promote water conservation and water recycling**
- **Ensure Funding for**
 - Infrastructure Maintenance and replacement
 - New water sources especially local supplies
- **Adapt to Climate Change and Global Influences**
- **Support resolution of imported water supply issues (e.g.; Hetch Hetchy, Bay Delta)**



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ISSUE # 1

Water Supply - Where Should We Focus Our Efforts?

- **Conserve an additional 61,000 AF**
- **Expand Use of Recycled Water**
- **Protect Existing Supplies**
- **Ensure Infrastructure Reliability**
- **Upgrade SFPUC Hetch-Hetchy**
- **Invest in Additional Supplies**
 - Imported Water - Transfers
 - Desalination
 - Further expansion of Water Recycling
 - Increased Storage
 - Optimization and re-operations

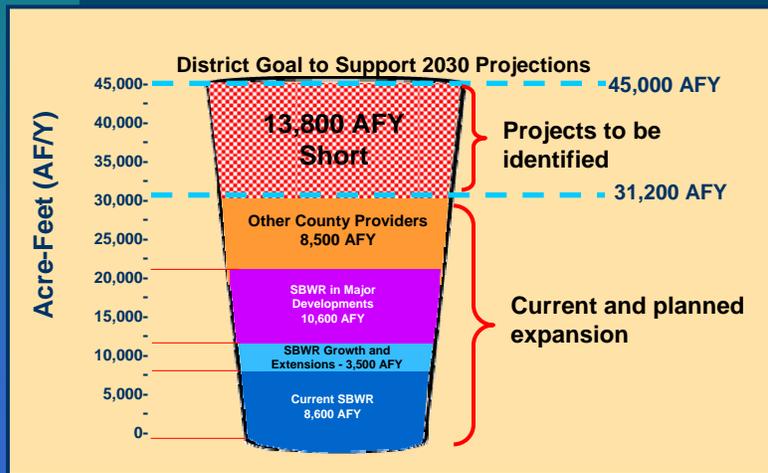
Expansion of Recycled Water

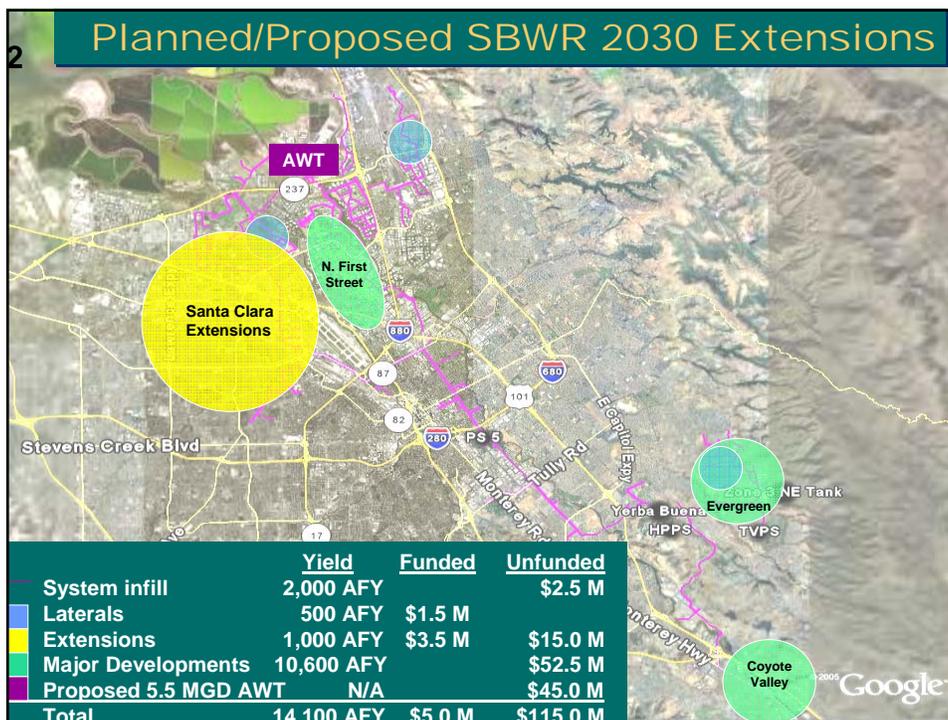
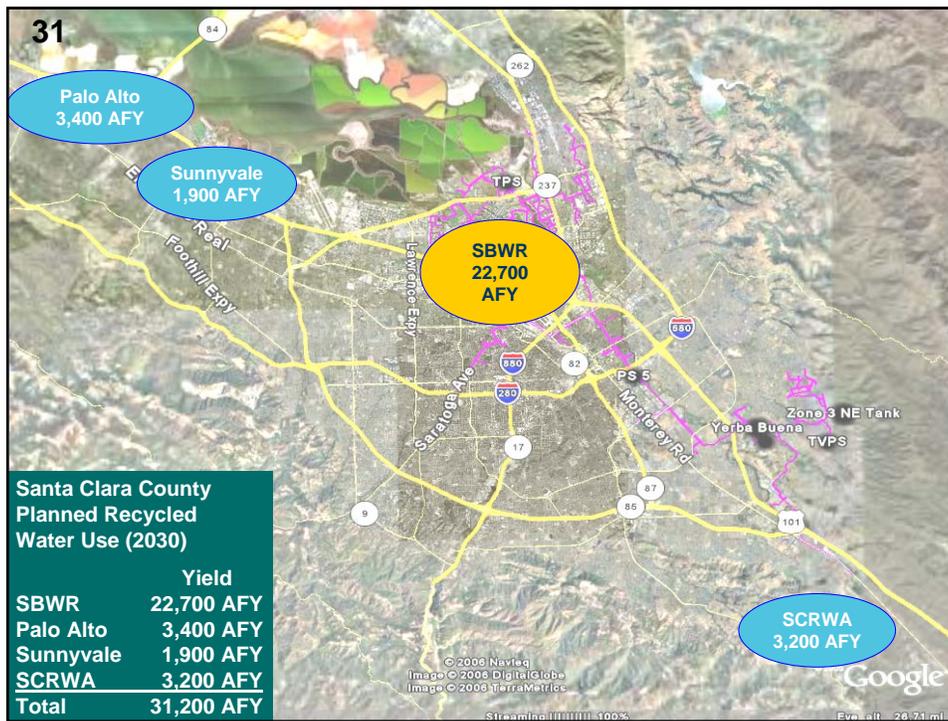


Where do we focus our efforts on expansion of recycled water?



Expansion of Recycled Water to 45,000 AFY by 2030





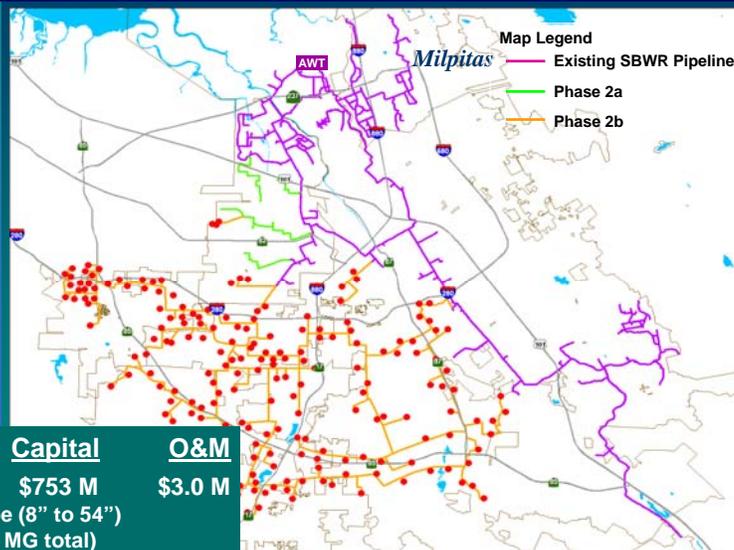
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Expansion Options to Reach 45,000 by 2030

- Option 1
Expanded Urban Water Recycling
- Option 2
Expanded South County Water Recycling
- Option 3
Groundwater Recharge Reuse

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OPTION # 1 Expanded Urban Recycling



<u>Yield (AFY)</u>	<u>Capital</u>	<u>O&M</u>
11,200	\$753 M	\$3.0 M
• 156 miles of pipe (8" to 54")		
• 2 reservoirs (10 MG total)		

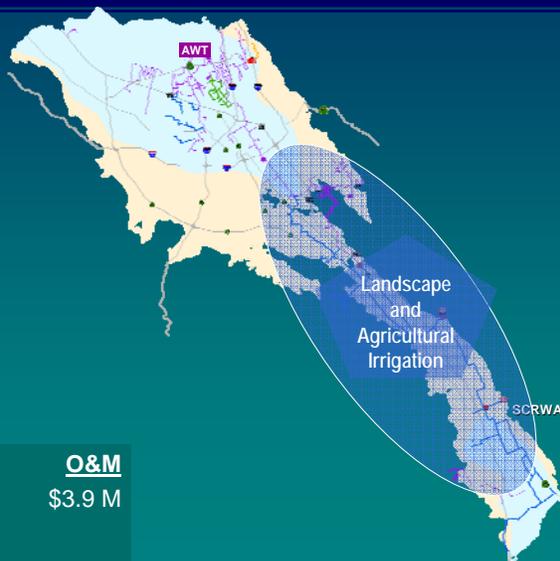
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OPTION # 1 - Issues

- Pipeline construction in urban areas costly, disruptive
- Irrigation improvements may be needed for use on some sites
- It may be appropriate to advance treat over some aquifers or for some uses (not included in these cost estimates)

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OPTION # 2: Expanded South County Recycling



<u>Yield (AFY)</u>	<u>Capital</u>	<u>O&M</u>
20,200	\$607.7M	\$3.9 M
• 148 miles of pipe (8" to 42")		
• 4 reservoirs (16 MG total)		

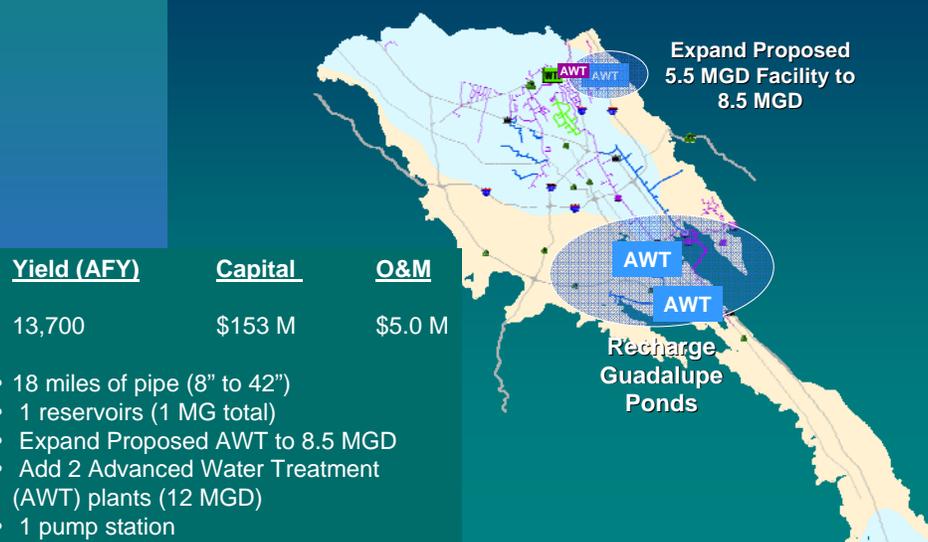
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OPTION # 2 - Issues

- Irrigation improvements may be needed for use on some sites
- It may be appropriate to advance treat over some aquifers or for some uses (not included in these cost estimates)
- Public perception issues if water transferred between basins

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OPTION # 3: Groundwater Recharge Reuse



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OPTION # 3 - Issues

- Advanced treatment (MF/RO, UV/OX) required to meet DHS standards
- Potential to double yield to 25,000 AFY with additional investment
- Requires public support
 - Perceived public health risk
 - Need for education, outreach

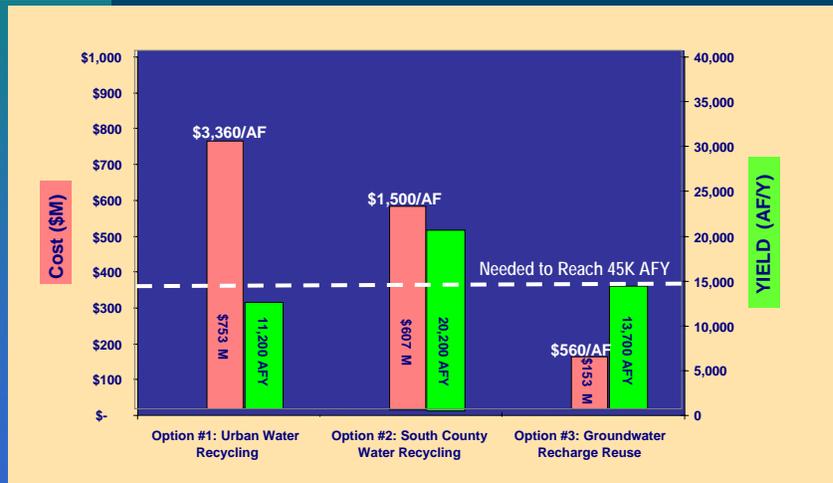
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Public Outreach Investments Yield Successful Projects

Project or Location	Outreach Budget (\$/yr)	Type of Reuse
SBWR (1995-1998)	\$100,000	nonpotable
Redwood City (2004-current)	\$250,000	nonpotable
OCWD (2000-current)	\$600,000	indirect potable and nonpotable

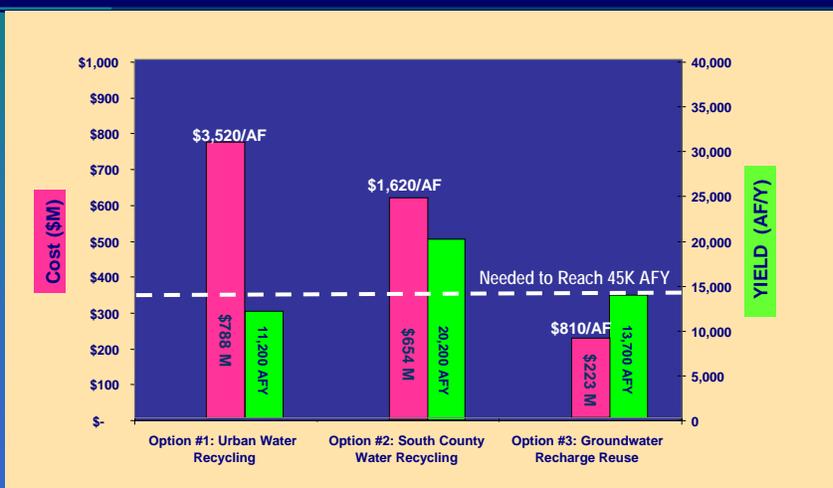
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Options 1, 2, and 3: Capital Cost Comparison



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Options 1, 2, and 3: Present value - Capital and O&M



*Present Value includes Capital and O&M at 5.5% over 20 Years

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ISSUE # 2

Expansion of Recycled Water -
Where should we focus our efforts?

- Option 1
Expanded Urban Water Recycling
- Option 2
Expanded South County Water Recycling
- Option 3
Groundwater Recharge Reuse

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ISSUE # 3

WATER SUPPLY INFRASTRUCTURE FUNDING

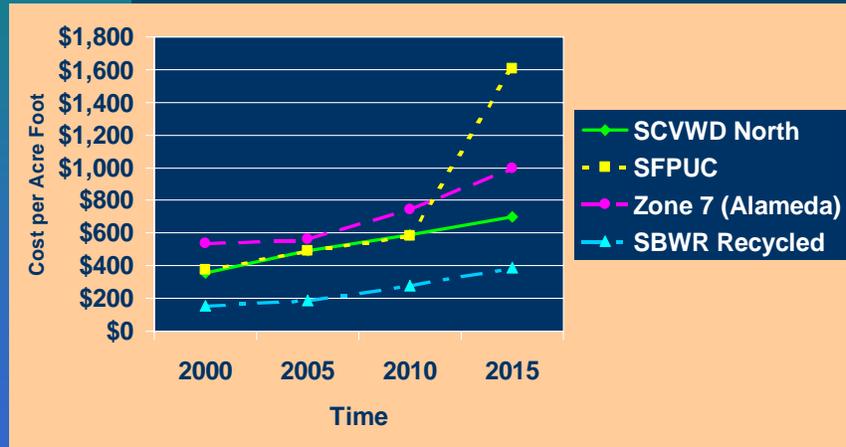
**How do we ensure that
needed water supply
investments are funded?**



45 Water Supply Funding in 2006 Overview



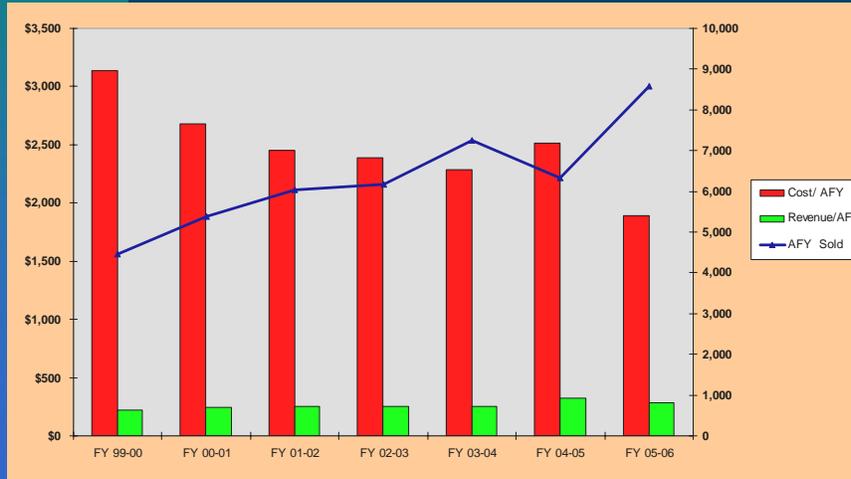
46 Wholesale Water Rate Comparison



Note: Dramatic increase in SFPUC rate projection driven by large investment required to address aging infrastructure

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South Bay Water Recycling Cost per Acre Foot sold



Note: Recycled water revenue shown includes SCVWD \$115/AF Reimbursement

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Average Monthly Retail Water Rates September 2006

Gilroy	\$19.22
Great Oaks	\$31.68
San Jose Muni	\$31.71
San Francisco	\$34.85
San Jose Water	\$43.76
Palo Alto	\$62.44

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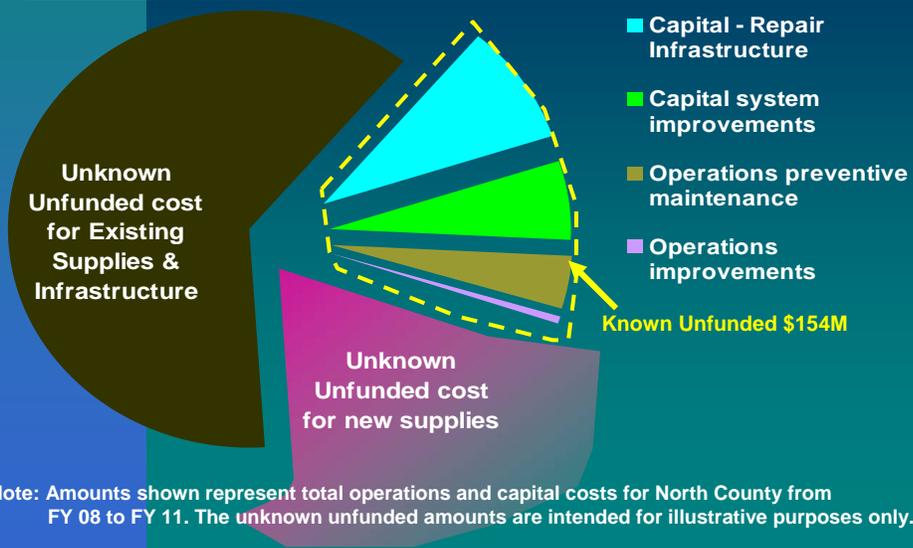
District Budget and Capital Improvement Plan



Note: Amounts shown represent total operations and capital costs for North County from FY 08 to FY 11

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Illustration of what is unfunded in District Budget and Capital Improvement Plan



Note: Amounts shown represent total operations and capital costs for North County from FY 08 to FY 11. The unknown unfunded amounts are intended for illustrative purposes only.

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Potential Revenue Sources

	Revenue Source	Funding Agency	Primarily used to Fund
County-wide Water Supply	District Water Rates	District	Projects authorized under the District Act
City-Area Specific Supply	Community Facilities District Tax (collected on City Property Tax Bill)	City	New Infrastructure Development
	Water Capacity / Major Facilities Fee	City- in Municipal Water Service Area	Capital and New Infrastructure Development

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ISSUE # 3 Infrastructure Funding

How do we ensure that needed water supply investments are funded?

- Significant investment needed to maintain existing system
- Addition investment also needed to meet new demands
- Any funding increases will require support from both agencies
- Which projects/funding mechanisms best meet community needs