



Chapter 8
INFRASTRUCTURE ELEMENT

INTRODUCTION

Cupertino's public infrastructure works in tandem with the built and natural environments to contribute to the exceptional quality of life enjoyed by local residents, visitors and workers. The city's public and private infrastructure – water, storm drains, telecommunications and solid waste – are vital to supporting the community's everyday activities.

This Element includes goals, policies and strategies for the development and maintenance of an exceptional system of high-quality and adequate infrastructure to support community needs and development anticipated in Community Vision 2040. It also ensures that the City's existing infrastructure is maintained, upgraded, replaced and expanded when needed. The City's commitment to environmental sustainability provides direction for innovative strategies to help the City conserve water and energy use, reduce waste, improve water and air quality, and reduce greenhouse gas emissions.

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CONTEXT

The City regularly prepares a Five-Year Capital Improvement Program (CIP) to identify capital projects and options for financing them. It is the City's primary mechanism for building and maintaining citywide infrastructure such as streets, medians and stormwater systems, and City-owned facilities, parks, trails and bridges.

Much of the City's infrastructure was built between the 1950s and 1970s when it was first incorporated and developed. Other areas that were later annexed into the city typically have older and/or outdated infrastructure. Planning for replacement and upgrades to these facilities will be important to ensure that all residents and businesses have access to excellent services. Identifying sustainable funding sources is also important to ensure that infrastructure improvements can be built in a timely manner and effectively maintained to meet community needs. The following is a summary of key infrastructure systems that currently exist in Cupertino.

Water

Cupertino has two major water suppliers: the California Water Company and the San Jose Water Company. Both retailers purchase their water supply from the Santa Clara Valley Water District, which receives water from the Rinconada Treatment Plant and wells fed by groundwater.

The Santa Clara Valley Water District, which is the groundwater management agency in Santa Clara County, manages groundwater recharge through percolation ponds and in-stream recharge of creeks. The McClellan Pond recharge facility (located in Cupertino) and the Stevens Creek Reservoir (located outside the city on its southwest boundary) also contribute to Cupertino's water supply.

In addition to the potable water supply, there is a potential recycled water system planned for the North Vallco Park Special Area as part of the Apple Campus 2. The City anticipates that recycled water will be used for groundwater recharge, irrigation, and will help to offset potable water use in areas served. The recycled water system can be potentially extended to serve other areas of the city in the future as capacity and demand increases and new distribution lines can be built.

Wastewater

Wastewater collection and treatment are provided to the City by the Cupertino Sanitary District and the City of Sunnyvale. The majority of the City is served by the Cupertino Sanitary District, while the City of Sunnyvale serves only a small portion of the Cupertino Urban Service area within the Rancho Rinconada area.

The Cupertino Sanitary District was formed in 1956 and is currently in the process of updating its 1964 Master Plan. The District collects and transports waste water collected in Cupertino to the San Jose/Santa Clara Water Pollution Control Plant located in North San Jose. The District maintains approximately one million linear feet of sewer lines and 500,000 linear feet of sewer laterals and 17 pump stations. While the physical condition of the infrastructure appears to be in relatively good condition, there are issues with the carrying capacity of a number of lines in the system. The lines serving the City Center development, Stevens Creek Boulevard between Randy Lane and Wolfe Road, Wolfe Road south of Interstate 280, Stelling Road and Foothill Boulevard are running either at capacity or over capacity. In order to accommodate future development, lines would have to be upgraded. Any necessary improvements are expected to be coordinated with development review, with new projects bearing their share of

the cost or partnering with the Sanitary District to provide improvements needed to increase capacity.

The City of Sunnyvale provides wastewater treatment service for Cupertino's commercial properties along Stevens Creek Boulevard, east of Finch Avenue, and a portion of the Rancho Rinconada neighborhood. While the City of Sunnyvale has adequate capacity to serve anticipated growth and can continue to provide treatment capacity for future growth in its Cupertino service area, there may need to be improvements to the distribution network to address future growth on the east side. Any necessary improvements are expected to be coordinated with development review, with new projects bearing their share of the cost or partnering with the City of Sunnyvale to provide improvements needed to increase capacity.

Stormwater

Comprehensive stormwater management can reduce pollution and erosion, prevent flooding, recharge aquifers with clean water, and prevent Bay pollution. While efforts in early years focused on expanding storm drain capacity and wastewater treatment, the approach today is to reduce and filter runoff through project design and management.

Cupertino's storm drain system currently operates adequately, with some targeted upgrades or improvements likely over the next 25 years. There is only localized flooding in the storm drain system, limited primarily to unimproved streets. The City continues to update its infrastructure planning to ensure that future improvements include best practices for stormwater management.

The City, along with 76 other agencies throughout the Bay Area, is regulated by the Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit

(MRP). The MRP, which is issued by the California Regional Water Quality Control Board, requires the City to carry out a comprehensive stormwater pollution prevention program. In order to comply with these requirements, the City joined with 15 other adjoining agencies to form the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPP). SCVURPP works with the participating agencies and the Regional Board to develop solutions to control urban runoff quality. In addition, the City is required to prepare a city-specific Urban Runoff Management Plan. This plan identifies stormwater pollution control measures such as design, construction and operation best practices, inspections and water-quality monitoring. The regulations are expected to evolve and become more stringent in the future.

Telecommunications

Cupertino is located in Silicon Valley, which is home to the world's greatest technology companies, and is known for its forward-thinking and innovation. In order to ensure that the City can continue being an exceptional place to work and live, efforts will be made to expand access to telecommunications services. The City does not directly supply telecommunications utilities; however, it plays an important role by coordinating with providers, allowing access to public rights-of-way, and ensuring that proposed improvements or changes in service meet community expectations and are integrated in a compatible manner.

Solid Waste and Recycling

Nearly every human activity leaves behind some kind of waste. Households create ordinary garbage while industrial and manufacturing processes create solid and hazardous waste. Waste uses up limited landfill space, releases toxins and creates greenhouse gases that contribute to climate

change. The City uses recycling, reuse and reducing consumption as an effective way to manage solid waste.

The Air Resources Board, as a means to implement AB 32, has identifies in its Scoping Plan mandatory commercial recycling as one of the measures to reduce greenhouse gas emissions. Subsequently, AB 341 set a goal of 75 percent residential and commercial recycling by 2020. Recology currently provides garbage pickup and recycling services in Cupertino. City residents and businesses served by Recology have achieved a 69 percent diversion rate in 2012. The City is currently working with Recology to develop programs to boost that diversion rate even higher, reduce contamination, and boost organics composting by residents and businesses. With the proposed changes, the City hopes to achieve the 75 percent diversion rate by 2015.

To meet its future solid waste disposal needs, the City also executed a contract with Browning and Ferris to provide landfill capacity at Newby Island in Milpitas. The term of the agreement is 35 years and ends in 2023, or at the time the specified tonnage in the contract is reached.

LOOKING FORWARD

As the City continues to grow and develop, it will have to look at strategies for replacing and expanding the City's aging infrastructure to meet community needs. Whereas strategies in the past focused on expansion of facilities, the focus in the future will be looking for ways to reduce demand on infrastructure through sustainable measures and balancing modes of transportation. A key strategy moving forward will be finding new ways to fund infrastructure improvements and ongoing maintenance through new development, partnerships or other methods. The following are ways the City will address key challenges and opportunities facing Cupertino:

- 1. Sustainable methods.** The City will reduce the demand on infrastructure and services by exploring ways to expand water and energy conservation and waste diversion efforts.
- 2. Access.** The City will ensure that the entire community has access to all services. This will include identifying areas where access is not available and looking for strategies to retrofit and partner in the construction of necessary improvements.
- 3. Environmental health.** The City will prioritize methods that improve environmental and community health when exploring strategies to reduce demand and construct facilities.
- 4. New Technologies.** The City will utilize technology to deliver services efficiently and effectively. This includes supporting emerging technologies in information services and infrastructure to better serve the business and resident community.

- 5. Coordination.** The City will work with service providers to ensure that their infrastructure planning and maintenance goals meet community needs.
- 6. Community involvement.** The City will enlist the community in programs to achieve goals including recycling and conservation programs.
- 7. Funding.** The City will ensure a sustainable source of funding for construction, operation and maintenance of infrastructure.

GOALS AND POLICIES

Citywide Infrastructure

The City seeks to coordinate its municipal services with those of other service providers in order to build and maintain infrastructure that fully serves the current and future needs of the Cupertino community.

GOAL INF-1

ENSURE THAT THE CITY'S INFRASTRUCTURE IS ENHANCED AND MAINTAINED TO SUPPORT EXISTING DEVELOPMENT AND FUTURE GROWTH IN A FISCALLY RESPONSIBLE MANNER

Policy INF-1.1: Infrastructure Planning

Upgrade and enhance the City's infrastructure through the City's Capital Improvement Program (CIP) and requirements for development.

Strategy INF-1.1.1: Capital Improvement Program. Ensure that CIP projects reflect the goals and policies identified in Community Vision 2040.

Strategy INF-1.1.2: Design Capacity. Ensure that public infrastructure is designed to meet planned needs and to avoid the need for future upsizing. Maintain a balance between meeting future growth needs and over-sizing of infrastructure to avoid fiscal impacts or impacts to other goals.

Strategy INF-1.1.3: Private Development. Require new development to pay its fair share of, or to extend or construct, improvements to the City's infrastructure to accommodate growth without impacting service levels.

Strategy INF-1.1.4: Coordination. Require coordination of construction activity between various providers, particularly in City facilities and rights-of-way, to ensure that the community is not unnecessarily inconvenienced. Require that providers maintain adequate space for all utilities when planning and constructing their infrastructure.

Policy INF-1.2: Maintenance

Ensure that existing facilities are maintained to meet the community's needs.

Policy INF-1.3: Coordination

Coordinate with utility and service providers to ensure that their planning and operations meet the City's service standards and future growth.

Policy INF-1.4: Funding

Explore funding strategies for upgrades to existing infrastructure and ongoing operations and maintenance.

Strategy INF-1.4.1: Development. Require developers to expand or upgrade existing infrastructure to increase capacity, or pay their fair share, as appropriate.

Strategy INF-1.4.2: Economic Development. Prioritize funding of infrastructure to stimulate economic development and job creation in order to increase opportunities for municipal revenue.

Rights-of-way

The City will ensure that public, City-owned rights-of-way are protected in order to support future infrastructure needs and enhanced with sustainable features when possible, and that new infrastructure is placed underground as feasible.

GOAL INF-2
ENSURE THAT CITY RIGHTS-OF-WAY ARE PROTECTED FROM INCOMPATIBLE USES AND ENHANCED WITH SUSTAINABLE FEATURES WHEN POSSIBLE

Policy INF-2.1: Maintenance

Maintain the City's right-of-way and traffic operations systems.

Policy INF-2.2: Multimodal Systems

Ensure that City rights-of-way are planned for a variety of transportation alternatives including pedestrian, bicycle, automobile, as well as new technologies such as driverless cars, etc.

Policy INF-2.3: Green Streets

Explore the development of a "green streets" program to minimize stormwater runoff in City rights-of-way.

Policy INF-2.4: Undergrounding Utilities

Explore undergrounding of utilities through providers, public projects, private development and agency funding programs and grants.

Strategy INF-2.4.1: Public and Provider generated projects. Require undergrounding of all new infrastructure projects constructed by public agencies and providers. Work with providers to underground existing overhead lines.

Strategy INF-2.4.2: Development. Require undergrounding of all utility lines in new developments and highly encourage undergrounding in remodels or redevelopment of major projects.

Policy INF-2.5: Recycled Water Infrastructure

Plan for citywide access to recycled water and encourage its use.

Strategy INF-2.5.1: Availability. Expand the availability of a recycled water system through public infrastructure projects and development review.

Strategy INF-2.5.2: Use. Encourage private and public projects to incorporate the use of recycled water for landscaping and other uses.

Strategy INF-2.5.3: City Facilities. Design and retrofit City buildings, facilities and landscaping to use recycled water, to the extent feasible.

Water

The City will seek to identify ways to improve water availability, access and quality in order to maintain the long-term health of the Cupertino water system.

GOAL INF-3
CREATE A COORDINATED STRATEGY
TO ENSURE A SUSTAINED SUPPLY
OF POTABLE WATER THROUGH
PLANNING AND CONSERVATION

Policy INF-3.1: Coordination with Providers

Coordinate with water providers and agencies in their planning and infrastructure process to ensure that the City continues to have adequate supply for current needs and future growth.

Strategy INF-3.1.1: Maintenance. Coordinate with providers to ensure that water and recycled water delivery systems are maintained in good condition.

Policy INF-3.2: Regional Coordination

Coordinate with State and regional agencies to ensure that policies and programs related to water provision and conservation meet City goals.

Note: additional water conservation policies are discussed in detail in the Sustainability Element.

Stormwater

The City will seek to implement best practices in stormwater management in order to reduce demand on the drainage system, and reduce sediment and pollutions impacts on the Bay.

GOAL INF-4

IMPLEMENT BEST PRACTICES IN STORMWATER MANAGEMENT TO REDUCE DEMAND ON THE STORMWATER NETWORK, REDUCE SOIL EROSION, AND REDUCE POLLUTION INTO RESERVOIRS AND THE BAY

Policy INF-4.1: Planning and Management

Create plans and operational policies to develop and maintain an effective and efficient stormwater system.

Strategy INF-4.1.1: Management. Reduce the demand on storm drain capacity through implementation of programs that meet and even exceed on-site drainage requirements.

Strategy INF-4.1.2: Infrastructure. Develop a Capital Improvement Program (CIP) for the City's storm drain infrastructure that meets the current and future needs of the community.

Strategy INF-4.1.3: Maintenance. Ensure that City's storm drain infrastructure is appropriately maintained to reduce flood hazards through implementation of best practices.

Policy INF-4.2: Funding

Develop permanent sources of funding storm water infrastructure construction and maintenance.

Strategy INF-4.2.2: Ongoing Operations. Review other funding strategies to pay for the ongoing operations and maintenance of the storm drain system per State and regional requirements.

Note: additional policies that meet State and regional runoff reduction are described in the Sustainability Element.

Waste Water

The City will ensure that there is adequate and well-maintained waste water capacity through infrastructure enhancements and policies that reduce impact on sanitary sewer system, and that pollution in reservoirs and the Bay is minimized.

GOAL INF-5
ENSURE THAT THE CITY'S
WASTEWATER SYSTEM CONTINUES
TO MEET CURRENT AND FUTURE
NEEDS

Policy INF-5.1: Infrastructure

Ensure that the infrastructure plans for Cupertino's waste water system providers continue to meet the City's current and future needs.

Strategy INF-5.1.1: Coordination. Coordinate with the Cupertino Sanitary District on their Master Plan and the Sunnyvale Treatment Plant to develop a comprehensive capital improvement program to ensure adequate capacity for future development anticipated with General Plan buildout.

Strategy INF-5.1.2: Development. Require developers to pay their fair share of costs for, or in some cases construct, infrastructure upgrades to ensure that service levels are met.

Policy INF-5.2: Demand

Look for ways to reduce demand on the City's wastewater system through implementation of water conservation measures.

Telecommunications

The City will promote expansion of a citywide telecommunications system that provides excellent services to businesses and residents, and encourages innovative technologies for the future.

GOAL INF-6
ENCOURAGE INNOVATIVE
TECHNOLOGIES AND
COMMUNICATION SYSTEMS THAT
PROVIDE EXCELLENT SERVICES TO
BUSINESSES AND RESIDENTS

Policy INF-6.1: Telecommunications Master Plan

Maintain and update a Telecommunications Master Plan with regulations and guidelines for wireless and emerging technologies.

Policy INF-6.2: Coordination

Coordinate with providers to improve access and delivery of services to businesses and homes.

Strategy INF-6.2.1: Facility Upgrades. When possible, require service providers to upgrade existing facilities as part of permit or lease renewals. Encourage use of newer technologies that allow the facility components to be reduced in size or improve screening or camouflaging.

Strategy INF-6.2.2: Improved Access. Work with providers to expand service to areas that are not served by telecommunications technologies.

Strategy INF-6.2.3: City Facilities. Encourage leasing of City sites to expand access to telecommunications services. Develop standards for the incorporation of telecommunications systems and public use.

Strategy INF-6.2.4: Agency and Private Facilities. Encourage the installation of communications infrastructure in facilities owned by other public agencies and private development.

Strategy INF-6.2.5: Communications Infrastructure. Support the extension and access to telecommunications infrastructure such as fiber optic cables.

Policy INF-6.3: Emerging Technologies

Encourage new and innovative technologies and partner with providers to provide the community with access to these services.

Strategy INF-6.3.1: Strategic Technology Plan. Create and update a Strategic Technology Plan for the City to improve service efficiency.

Solid Waste

The City seeks to reduce solid waste and demands on landfills, reduce the release of toxins in the air (including greenhouse gas emissions) and improve community health.

GOAL INF-7

ENSURE THAT THE CITY MEETS AND EXCEEDS REGULATORY WASTE DIVERSION GOALS BY WORKING WITH PROVIDERS, BUSINESSES AND RESIDENTS

Policy INF-7.1: Providers

Coordinate with solid waste system providers to utilize the latest technology and best practices to encourage waste reduction and meet, and even, exceed State targets.

Policy INF-7.2: Facilities

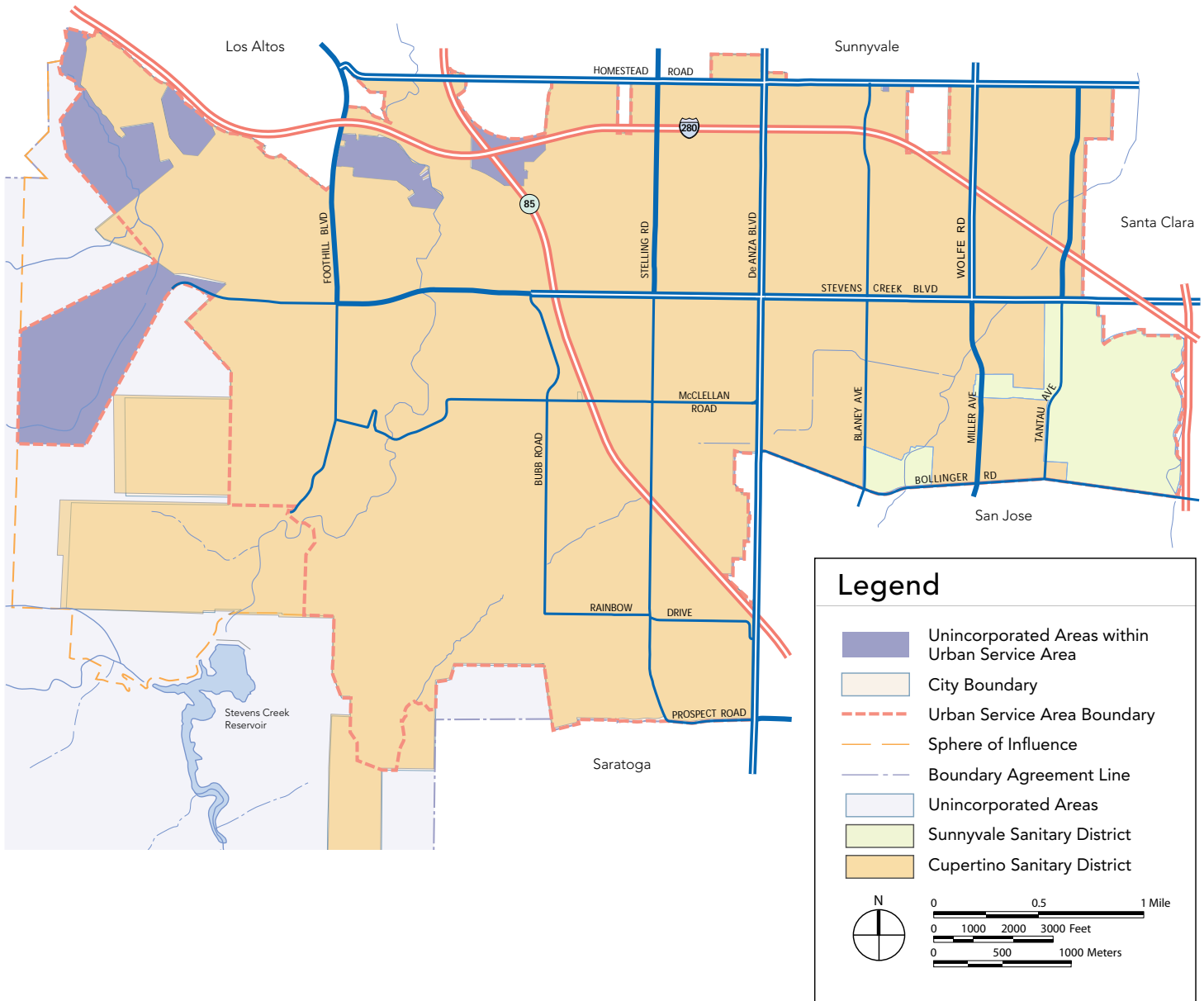
Ensure that public and private developments build new and on-site facilities and/or retrofit existing on-site facilities to meet the City's waste diversion requirements.

Policy INF-7.3: Operations

Encourage public agencies and private property owners to design their operations to meet, and even, exceed regulatory waste diversion requirements.

Strategy INF-7.3.1: City Facilities and Events. Design new City facilities and retrofit existing facilities and event venues with recycling and trash collection bins to facilitate easy disposal of recyclable and compostable waste by staff and the public.

Figure INF-1
Waste Water Service



Strategy INF-7.3.2: Construction Waste. Encourage recycling and reuse of building materials during demolition and construction of City, agency and private projects.

Strategy INF-7.3.3: Recycled Materials. Encourage the use of recycled materials and sustainably harvested materials in City, agency and private projects.

Policy INF-7.4: Product Stewardship

Per the City's Extended Producer Responsibility (EPR) policy, support statewide and regional EPR initiatives and legislation to reduce waste and toxins in products, processes and packaging.

GOAL INF-8 DEVELOP AND ENHANCE PROGRAMS THAT REDUCE, REUSE AND RECYCLE WASTE

Policy INF-8.1: Reducing Waste

Meet or exceed Federal, State and regional requirements for solid waste diversion through implementation of programs.

Strategy INF-8.1.1: Outreach. Conduct and enhance programs that promote waste reduction in schools, businesses and homes through partnerships with schools, the Chamber of Commerce and the City's neighborhood programs.

Strategy INF-8.1.2: Hazardous Waste. Work with providers and businesses to provide convenient hazardous and e-waste facilities for the community.

Strategy INF-8.1.3: Preferential Purchasing. Maintain and update a City preferential purchasing policy to products that reduce packaging waste, greenhouse gas emissions, toxic contaminants and are reusable.

Strategy INF-8.1.4: Reuse. Encourage reuse of materials and reusable products. Develop a program for reuse of materials and reusable products in City facilities and outreach programs for community-wide participation by promoting community-wide garage sales and online venues.

Strategy INF-8.1.5: Collaboration. Collaborate with agencies and large businesses or projects to enhance opportunities for community-wide recycling, reuse and reduction programs.